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**UNIVERSITY FOR DEVELOPMENT STUDIES**

**FACULTY OF EDUCATION**

**THE PERCEPTION OF STUDENTS ON THE STUDY OF AGRICULTURE SCIENCE**

**IN JUABOSO AND BIA SENIOR HIGH SCHOOLS IN WESTERN REGION OF**

**GHANA**

**BY**

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**(UDS/MEA/0015/14)**

**THESIS SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES, UNIVERSITY  
FOR DEVELOPMENT STUDIES - TAMALE, IN PARTIAL FULFILLMENT OF THE  
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**SEPTEMBER, 2016.**

UNIVERSITY FOR DEVELOPMENT STUDIES



**DECLARATION**

I, Bronyah Andrews, hereby declare that this work herein submitted as a thesis for a Masters in Agricultural Education at the University for Development Studies is the results of my own research and that no previous submission for a degree or master in agricultural education has been made in this University or elsewhere. Work by others, which served as a source of information, has been duly acknowledged by references to the authors.

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## **DEDICATION**

This work is dedicated to my family, especially my mother, Georgina Akosua. I also dedicate this work to Boatemaa Yaa Ixmael, Ampong Kofi Victor, Sie Kofi Benjamin, Addae Bartholomew, Mr. Isaac Armah and Priscilla Twenewaa who have helped me in diverse ways throughout my studies.



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## ABSTRACT

The study sought to examine student's perception on the study of agriculture science in Senior High schools in Juaboso and Bia west districts of western region of Ghana. The general objective of the study was to examine student's perception on Agriculture Science at the Senior High school in Juaboso and Bia West Districts in western region of Ghana. The study was premised on Robert Kreitner perception model on organizational Behavioral. The study adopted a descriptive survey research design using questionnaires as the main data collection instrument. 120 students pursuing Agriculture subject in secondary schools in Juaboso and Bia senior High schools were selected using simple random sampling technique. The quantitative data was analyzed using descriptive statistics (means and standard deviation) and aided by the statistical package for social sciences (SPSS) computer programme version 20.0. The major findings were that although, there was a declining enrollment trend, the enrolled students had positive attitudes towards Agriculture subject. However, the teaching and learning of the subject was constrained by inadequate instruction resources especially the tools, demonstration land and agricultural equipment. It was therefore recommended that, the subject should remain an elective subject due to limited land and equipment. Special training beyond the secondary schools to make learners acquire modern agricultural techniques through internet and E-learning mode.



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## LIST OF ACRONYMS

FAO	Food and Agriculture Organization
FASDEP	Food and Agriculture Sector Development Policy
GDP	Gross Domestic Product
GLSS	Ghana Living Standard Survey
GPRS	Growth and Poverty Reduction Strategy
GSS	Ghana Statistical Service
ISSER	Institute for Social Science and Economic Research
IMF	International Monetary Fund
JDA	Juaboso District Assembly
MOFA	Ministry of Food and Agriculture
NGO	Non Governmental Organization
NDPC	National Development Planning Commission
PAFN	Agricultural and Forestry Network
UNICEF	United Nations International Children Emergency Fund
YIAP	Youth in Agriculture Programme



## CHAPTER ONE

### 1.1 GENERAL INTRODUCTION

Approximately 35.1% of unemployed persons in Ghana are youth, most of which live in rural areas and lack formal education and vocational or professional skills (Ghana Housing and Population census, 2010). Agriculture sector has a huge potential of absorbing large numbers of the unemployed youth. In spite of this, youth participation in agriculture has been relatively low in the country. This may be partly attributed to, among other factors, the poor perception of the youth in agriculture. Agriculture remains the backbone of Ghana's economy contributing over 31.8% of Gross Domestic Product (GDP), Ghana Statistical Service, 2010). The sector provides over 64.8% of employment opportunities in the country but remains unattractive to the youth especially students (GSS, 2010). This implies that most of Ghana's youths are not fully engaged in productive economic activities in agriculture sector. However, if the perception of the youth towards agriculture is not changed they will remain a big burden to the society and their families as a whole.

Despite attempts made by the Government of Ghana (GoG) through the introduction of Youth in Agriculture programme (YIAP) to encourage youth participation in agriculture, the efforts have not reflected in the age distribution of farming population. The average age of a farmer in Ghana is 55years and life expectancy averages between 55-60years (MOFA, 2011). Farming is fast becoming the preserve of the aged in Ghana and most African countries. Young people find farming an unattractive venture not worthy of their time and energies (MOFA, 2013). Agriculture being one of the foundation pillars of any society can only function as such if the insufficient youth participation in agriculture is reversed (Mangal, 2009). Mangal stressed that there is insufficient youth participation in the agricultural sector even though this class of people is the most productive of any society as it contains people in the prime of their lives physically



and mentally. With less than 2% of the youths into agriculture, the long-term future of the agriculture sector is in question (Okeowo et al 1999). This is because a larger population of youths represents the link between the present and the future as well as a reservoir of labour and entrepreneurship (Okeowo et al 1999). The development of agricultural sector depends on young people, more especially students and rural youths. Most of the youths and students do not perceive agriculture as lucrative. Arokoyo and Ekong cited in Chikezie (2012) noted that the youth have the energy to take up agriculture production but do not believe or have the knowledge that agricultural production can really be a profitable venture. Thus, there is an urgent need to really educate them on the prospects associated with agriculture or farming.

It has been shown that secondary school agriculture broadens the learner's capacity, makes them effective, self-reliant, resourceful and capable of solving farming problems (Saina et al, 2012). Currently in primary school curriculum, agriculture is integrated into the science curriculum. In secondary school, it is a separate subject in the school curriculum. Secondary school agriculture is an attempt to inculcate values, attitudes and knowledge in learners needed to improve agricultural production (Wanjoi, 2006). Motivation is necessary in learning and teachers have a responsibility of motivating student's to learn a subject (Brophy, 1998). It has been noted that teaching and learning are exciting when students are highly motivated and when the teacher knows their subject well (Posler, 2003). Secondary School is the bridge between the primary and tertiary levels. Secondary school curriculum contains subject that is capable of preparing its recipients to live a useful life in the society and also prepares them for higher education. One of the subjects that help to achieve this objective is Agricultural Science. Agricultural Science is taught in the secondary school as a vocational subject. Vocational agriculture is an aspect of vocational education which emphasizes skills, knowledge and attitude required in all areas of agriculture for proficiency in agricultural production. One of the principles of vocational agriculture is learning by doing. Teaching of agriculture in secondary schools aims at ensuring





that the learner is exposed to and taught the basic principles that are important to agricultural production in the country and exposing and involving learners in various practical and projects that will help them develop the necessary skills and abilities required in agricultural production. Practical classes are always organized to ensure that practical skills are imparted to students to enable them become self-reliant, resourceful and useful to the society. However, Ssekamwa (2009) pointed out that the real approach to the teaching of agriculture was discouraging. Agricultural Science Subject is taught theoretically and has failed to make an impression on society.

Olaitan (1988) noted that many students from farming homes come to school with farming problems like weed control, which crops to grow and what fertilizers to apply. He advised that such problems can only be solved when students are exposed to these situations practically. Learners learn better when they hear, see and feel or touch, which is the principle of “learning by doing”. This principle is best achieved by engaging oneself in practical activities (Osinem, 2008). Practical activities in the school farm promote students’ interest to enter into production and marketing of crops and livestock in the society after graduation. According to Awuku and Baiden (2001), the performance of the students in agricultural science should match student’s interest and practice of the subject. He further stated that lack of instructional materials, educational qualification of teachers, poor funding of practical agriculture and intellectual ability of the teachers are some of the factors that influence the outcome of the teaching–learning process. Connery (1990) opined that students do not understand agricultural science when it is taught by an ineffective teacher. Izumi and Eves (2002) buttressed this by saying that teacher quality is the most important among other critical factors like quality curricula, funding, small class size and learning situation. George (2004) attributed poor achievement of students in agricultural science to teacher qualification, inadequate instructional materials as well as administrative factors.

Common problems of teaching agricultural practical in developing country like Ghana include: inadequate facilities, low professional and efficiency levels of teachers, poor attitudes of teachers, poor funding, school administrators and parents towards agricultural education, and political lapses (Anamuah, 2009). According to Adewale et al cited in Naamwintome (2013), poor societal value orientation is considered a major constraint to students and youth involvement in agriculture. Sherry et al (2010) asserted that much research has been done in the field of students 'attitudes towards certain subjects and their subsequent enrolment in those subjects and academic achievement. Research has shown that a large number of students' performance are affected by their attitudes towards specific subjects, education and academics in general (Richlin and Cox, 2014). It has been suggested that when students demonstrate weak commitment to their academics then they are bound to underperform. Additionally, some students with an unrealistic view themselves may perform poorly too. For instance, those who tend to be over confident or naive about the requirements of their academics may register very poor performance (Broughton, 2011).

Conversely, when students do not believe in themselves or when they have low self-esteem, then the chances are that they will underachieve (powers, 2006). Sometimes, some students may think of themselves as people who cannot control their own destiny. They imagine that they are victims of the education system and this can lead to academic failure. In other sceneries, some students may be proud to ask for assistance when they encounter a problem in their study (Bowen and Richman, 2000). Also, some students find it difficult to grow or develop because they tend to resist change and this impedes academic progress. In other situations, a student may not work well in groups yet this is a necessary part of the academic environment (Orodho, 2014). Lastly, some students tend to avoid those areas (subjects) where they perform poorly such as Science or Mathematics, these and many more aspects of students' attitudes can be the causes of academic failure (Orodho, 2014). Writing on school-based factors, Wawen (2013) contend that school





context is depicted through certain avenues. These avenues can either lead to excellent performance or poor performance depending on how they are implemented, (Power, 2006). In certain schools, the education systems may be too bureaucratic to the point that both teachers and students cannot do their jobs. This eventually leads to poor performance (Richman and Bowen 2000). In other situations, teachers lack the skills to impart knowledge and this may cause failures. Additionally, there are certain schools environments that are influenced by the external world to such a large extent that the students cannot concentrate on what they are meant to do. Such schools lack discipline and effective management (Okumbe, 1999). Against this theoretical backdrop, it is necessary to look at how important these two factors are and exactly how these factors affect students' outcomes. Thus, this study is focused on examining the perception of students on the study of Agriculture science in senior High schools in Juaboso and Bia west in western region of Ghana.

## **1.2 STATEMENT OF THE PROBLEM**

A large population of unemployed youth enter the job market every year. Most of these teaming unemployed youth enter the job market looking for white collar jobs in the formal sector. The formal sector however, has shown over the years that it is not able to create sufficient employment opportunities to absorb the large chunk of youth who enter the job market. According to Brooks et al, (2013), agriculture is currently the employer of most Africa young people and is likely to remain so in the future. For generation of young people entering adulthood, agriculture offers the best opportunities to move out of poverty and build satisfying lives. As such, the government of Ghana considers the agricultural sector as an immediate source of employment for the youth, students and those in rural areas (MOFA, 2011). However, there are strong indications to suggest that youth participation especially students in agriculture sector



is very low because it is unattractive. Young people often regard agriculture (farming) as a “dirty activity” without proper facilities (Future Agriculture, 2011). In Ghana, farming is not even regarded as a “job” by many young people, who will rather reverse the term for other forms of employment requiring clean clothes and “desk”. The youth are less willing to engage in agriculture as their main occupation because they perceive it as providing low income. They also hold the perception that it is meant for the rural poor, the uneducated and unskilled people, (MOFA, 2011). In view of the above, it is clear that even though the agriculture has a potential of providing employment for the unemployed youth, the Ghanaian youth appear to be more attracted to the formal sector employment and “clean jobs”. However this growing negative perception has not been well researched or established by research particularly in the Juaboso and Bia districts. It is therefore imperative to examine the perception of students on the study of agriculture science in Senior High Schools to mobilize students to participate in agriculture and serves as a catalyst for change.

### **1.3 RESEARCH QUESTIONS:**

#### **1.3.1. General Research question;**

The general research question the research sought to answer is “what has been the perception of students towards agriculture science subject in Juaboso and Bia Senior High Schools”

#### **1.3.2. Specific Research Questions:**

1. What has been the enrolment trend in agriculture science from 2010 – 2015?
2. What is the perception of students towards the study of agriculture science as a subject?
3. What resources are available for teaching and learning of agriculture science?
4. What challenges are faced in the teaching and learning of agriculture science?



## **1.4 OBJECTIVES OF THE STUDY**

### **1.4.1 General Objectives**

The general objective of the study is to examine students' perception on the study of agriculture science in Juaboso and Bia Senior High School in western region of Ghana.

### **1.4.2 Specific Objectives**

The specific objectives are:

1. Assess the enrolment trend in agriculture from 2010 to 2015.
2. Investigate the perception of students regarding the study of agriculture as a subject in school.
3. Examine the availability of learning resources for teaching of agriculture science.
4. The challenges faced in the teaching and learning of agricultural science.

## **1.5 THE SIGNIFICANCE OF THE STUDY**

The pre-occupation of government is to provide jobs for the teeming unemployed youth. Examining the perception of students on the study of agricultural science contributes to reverse the negative image associated with agriculture to inspire the youth to take up agriculture as a profession is imperative. The study will help expel the poor perception towards agriculture as a last resort for under achievers and a "dirty job" (PAFP Net, 2011 -2014). The study is therefore relevant in terms of creating awareness among the youth on the potentials of agriculture to increase students' engagement in agriculture and also help solve the issue of ageing farming population in Ghana. The average age of a farmer in Ghana is 55 – 60 years (MOFA, 2011). Motivating more young people to enter into farming will therefore be of tremendous benefit to the country. The youth are very energetic and have the ability to produce more than the ageing farming population in Ghana. This will therefore inform policy makers on strategies that need to



be employed in training and building capacity of the youth especially students to take up agriculture as a profession.

### **1.6 LIMITATIONS OF THE STUDY**

The study was faced with three major constraints. First, the availability of data especially from the two institutions (Juaboso and Bia Senior High Schools). The institutions were unwilling to release data on the academic reports of their students to ascertain their performance. The researcher in trying to address the challenge assured the institutions of the confidentiality of the information provided and that under no circumstances would they be exposed to any form of risk by providing the information. Due to the long distances between the two secondary schools (Juaboso and Bia Senior High) in the study area, coupled with poor road network, it was difficult to travel from one district to another to collect data. Time available for data collection was extremely short but this did not affect the quality of data gathered because all necessary data was obtained within that limited period.

### **1.7 ORGANIZATION OF THE STUDY**

The dissertation is put into five chapters which linked up to achieve the objectives of the study. Chapter one presents a general introduction to the study. It begins with a background which throws light on the main issues of the study. It is followed by the problem statement, research questions and objectives to be achieved. Chapter two discussed the literature on issues relevant to the topic under review. The chapter is focused on relevant research carried out on agriculture sciences by other scholars. Chapter three is focused on the profile of the study area and the methodology used to carry out the research. The chapter ends with tools used for analyzing the data collected. The fourth chapter presents an analysis and discussion of data. The output of the



analysis is presented into tables and bar charts. Chapter five sums up the key findings made from the analysis of the data as well as the recommendations



## CHAPTER TWO

### 2.0 LITERATURE REVIEW

#### 2.1 STATE OF AGRICULTURE IN GHANA

Agriculture is the third largest economic sector in Ghana, accounting for 31.8% of the GDP, the third highest contributor to GDP and most of the foreign exchange in this sector is earned from cocoa export and provides employment for over 64% of the population (IMF, 2006) report on GPRS cited in Naawintome (2008). Agriculture employs the majority of the labour forces in Ghana (GSS, 2009). Agriculture is very important in economic growth and development of Ghana. Notwithstanding being the largest provider of employment in Ghana, agriculture is faced with many challenges. Agriculture in Ghana is predominantly on a small holder basis, although there are few large farms and plantations particularly for oil palm, cocoa and citrus. Another challenge facing the agriculture sector is the low levels of income of farmers. Farmers often earn very low incomes from their farming activities. The low income's earned by farmers over the years are caused partly by poor harvest, which mainly result from limited knowledge of improved technology (Akinbode, 2002). According to MOFA (2013), the average age of a farmer in Ghana is 55 years and life expectancy averages between 55-60 years. This is enough evidence of an ageing farmer population in the country which must be addressed to ensure sustainability in agriculture production. Farming is fast becoming the preserve of the aged in Ghana and most Africa countries. Young people find farming an unattractive venture not worthy of their time and energies. Arokoyo cited in Chickezie et al (2012) noted that youths who have the energy to take up agricultural production do not believe or have the knowledge that agricultural production can really be a profitable venture. According to Government of Ghana (GoG)cited in Naamwintome (2011), ensuring Ghana's youth who are about 20-30% of Ghana's active population in agriculture is paramount as this will mitigate the following: Ageing farmer population in the country which averages 55 years, continuous rise of food import especially for rice, frozen



chicken and meat and youth unemployment particularly in the rural areas. The following observation was made from assertion made by GoG cited Naamwintome (2009), improving the state of agriculture in Ghana would cut our food imports, to be able to achieve this, the image of agriculture has to be changed to make it more attractive to the youth.

## **2.2. GOVERNMENT INTERVENTION PROGRAMME IN AGRICULTURE**

An intervention programme can be defined as any programme designed to change the behaviour patterns of people or to improve the standard of living of individuals, group or an entire population (Whitehead, 2002). Government intervention in agriculture include, the Youth In Agriculture programme (YIAP). The Youth in Agriculture programme was introduced in 2009 to generate more productive jobs for the youth (NDPC, 2010). According to MOFA (2011) the objectives of the Youth in Agriculture programme are;

- (1) Motivating the youth to accept farming as a commercial business venture.
- (2) Generating appreciable income to meet their domestic and personal needs
- (3) Improving their standard of living through improved income
- (4) Motivating the youth to stay in rural areas, as inputs will be delivered at their farm gate, on credit basis and interest free.
- (5) Producing enough food crops, meat and fish using modern methods.

The Youth In Agriculture Programme (YIAP), based on its objectives is primarily aimed at motivating young people to enter into farming. It is expected that youth who accept to take up farming as their main occupation would generate appreciable incomes from their farm produce. The YIAP has four main components namely, livestock and poultry, crops and Block farm, agribusiness and fisheries and aquaculture. The main objective under the crops and Block farm scheme, state or land acquired from the chiefs (custodian) is ploughed and shared in blocks or plots among young farmers under the supervision of MOFA staff (MOFA, 2011). The produce



from these young farmers may be sold to the buffer stock company established by MOFA any customer of their choice (MOFA, 2011).

### **2.3 YOUTH**

The United Nation defines the youths as persons aged between 15 and 24 years. The African Youth Charter of the African Union holds a contrary view. The African Youth Charter defines the youth as persons aged between 15 and 35 years (African Youth Charter, 2006). The Youth Charter agrees that the term includes young people between the ages of 25 to 35. Youth aged 10 to 35 years, are 27% of the world's population and 33% of the population in Africa, (Nugent, 2006). Ghana, according to the United Nations Organization and commonwealth secretariat defines the youth as persons within the age bracket of 15 and 35 years. The National Youth policy of Ghana seems to share the opinion with the African Youth Charter. The National Youth policy defines the youth as persons between the ages of 15 to 35 years (National Youth policy, 2010). This implies that the definition of youth in Ghana agrees with the African Unions. For the purposes of this project, the operational definition of the youth is any person between the ages of 15 to 35 years.



### **2.4 THE ROLE OF THE YOUTH IN AGRICULTURE DEVELOPMENT**

Agriculture in Africa has untapped potential to create jobs, both directly and indirectly. In order to attract young people, agriculture will need to be more dynamic and appealing than it is now, and young people need to view the sector more positively than they do now (Institute of Development Studies, 2012). Akinbode (1999) opined that the youth constitute the most important sector in any society. They provide the manpower for the socio-economic development of the society. As stated by Amadi (2012), the rapid decline in agricultural production has been



attributed to the continuous decline in agricultural labour. The youth are stakeholders in the development process especially in view of the great asset of the youth, resilience, resourcefulness, and perseverance (FAO cited in Naamwintome, 2013). The youth are resource and able to adopt new and improved farming technologies. They tend to share agricultural information with their peers quicker and are therefore a great asset to extension services. The same view is shared by Umeh and Odom (2011). In their analysis of the role of youth associations in agricultural development, it was revealed that, the youth associations were involved in procurement and distribution of farm inputs to farmers at affordable cost and also helped to disseminate agricultural information. The youth constitute the most important sector in any society. They serve as channels for the transmission of culture and the perpetuation of recognizable identity. They also provide the manpower for the socio-economic development of the society (Ekong and Chikezile, 2012). Young people are not afraid to try new technologies which often yield better.

## **2.5 CONSTRAINTS TO YOUTH PARTICIPATION IN AGRICULTURE**

In spite of tremendous efforts by Government, private institutions and Non-Governmental Organizations (NGO's) to encourage youth participation in agriculture, the efforts have not reflected in the age distribution of the farming population. This could be as a result of constraints faced by young people and thus, making it very difficult to engage in agricultural activities. Agriculture being one of the foundations pillars of any society can only function as such if the insufficient youth population involved in agricultural is reversed (Mangal, 2009). Mangal stressed that there is insufficient youth participation in agricultural sector even though this class of people is the most productive of any society as it contains people in the prime of their lives physically and mentally. With fewer youth into agriculture, the long term future of the agricultural sector is in question. This is because larger populations of youth represent the link



between the present and the future as well as a reservoir of labour (Okeowo et al, 1999). The development of the agricultural sector depends on young people more especially the rural youths. Most of the youth do not perceive agriculture has a lucrative business. According to Adewale et al (2009), although youth have requisite qualities that can promote agriculture, most of them have strong apathy towards it. Poor societal orientation is considered as one of the major constraints to youth engagement in agriculture whiles so much premium is placed on professions such as engineering, medicine and law, Agriculture is often relegated, a condition that worsened over the dominant influence of such profession (Law, engineering and medicine). Youth thus look down on agriculture (Amadi, 2012). They therefore shy away from agriculture because people who engage in agriculture do not get any recognition. A study by Adekunle et al (2009) also revealed a number of constraints that hinders youth participation in agriculture to include inadequate credit facilities, lack of access to tractors, poor returns to agriculture investments and lack of agriculture insurance for produce during their glut. Young people have fewer chances to obtain capital or credit and assets. Access to credit in rural financial institution is often tied to availability of collateral (usually land) that young people do not have, (Ngongi, 2012). Bamaisaiys cited in Amadi (2012) indicates the following factors as some of the major constraints to youth involvement in agriculture: Lack of scientific knowledge of agriculture among surviving generation of illiterate farmers, the sustaining use of traditional farming tools and methods and the non-lucrative and consuming farm occupations with the attendant low morale among farmers and youth.



## **2.6 INTERVENTIONS TO POOR PERCEPTION ON AGRICULTURE BY THE YOUTH**

Schools can play a big role in shaping the perceptions of youth towards agriculture. Report by PAFP Net (2011-2015) confirmed that teachers could instill a more positive image towards agriculture by explaining to their students the many aspects of agriculture; its importance to everyday life; and its career opportunities. Studies by Van der Guest (2010) and FAO (2010) revealed that the youth earn a relatively higher income from their agricultural activities than the elderly. This is possibly because young people have the potential to overcome some of the major constraints to expanding agriculture such as pest control and genetic improvement because they are often more open to new ideas and practices Gitau (2010). Thus, agricultural training targeting young people especially students can be highly effective in raising agricultural productivity. Williams and Lindsey (2015) argued that creation of workshops and training courses designed for youth attending and not attending school is essential in efforts to address youth participation in agriculture and improve agricultural education. Particular courses and workshops ought to be designed to cater for the formal and informal educational needs of the populations targeted (PAFD Net 2011-2015). This will ensure that some of the constraints imposed on agricultural education by the formal education system are now reduced. Youth ought to be trained on financial sustainability and management of membership-based organizations in order to encourage the creation of strong and sustainable young farmers 'organizations (FAO, 2010). A study by Kangai et al. (2011) revealed that youth organizations can promote and facilitate youth participation in their own structures and can consider need for gender equity and understand the issues affecting young people. Through the organizations, youth can also actively involve in defending their social, political and economic rights (PAFD Net, 2011-2015). Kanali and Mutuas (2013) revealed that the government can motivate the youth to engage in agriculture through transforming agriculture from subsistence to commercial farming. This will not only aid in achievement of Vision 2020 that positions agricultural sector as a key driver for delivering the



10% annual economic growth, but will provide employment for the unemployed youth (ISSER, 2006). This can be possible through increased productivity, commercialization and competitiveness of agricultural commodities and enterprises in order to make agriculture more attractive to the youth (Kangai 2011). A study by Mburu et al (2009) suggested that specialization either on production, processing or marketing of agricultural commodities needs to be encouraged among the youth. This will be more effective than when one person carry out all activities in a value chain. There is the need to provide incentives for young agricultural entrepreneurs by developing financial packages that are tailored to the diverse production, marketing conditions as well as risk factors (Vand der Gest 2010). A report by Mburu et al, (2009) showed the need to invest in value addition through processing, branding and quality shelf life as this would lead to higher prices, new jobs and eventually increased aggregate incomes for the youth. Agribusiness centers with storage and processing facilities should be created for young farmers in order to link farmers and traders and to act as agent for training, sensitization and capacity building programme (FAO, 2014). Young farmers should also be trained on financial sustainability as well as creation and management of strong and sustainable membership-based young farmer organization (Agena, 2011). Therefore, youth training on various aspects along the agricultural value chain including production, value addition, marketing and sustainability should be a priority of the governments and development agents (FAO, 2010).



## **2.7 CHALLENGES IN TEACHING AND LEARNING OF AGRICULTURE**

Education is seen as a key to national development and thus can be achieved without sustainable investment in human capital through teaching and learning. This is why education reforms in Ghana have been committed to making the issue teacher and student quality and its development the cornerstone of the strategy to improve education quality and increase learning outcome

(Anamuah-Mensah, 2000). The teaching and learning of an applied science like Agricultural science consists of learning facts and figures and understanding of basic scientific principles of concepts and explanation of concepts and observed Phenomena (Ampiah, 2002). It is important that aspects of Agricultural science like understanding of basic scientific concepts, Problems solving based on observed Phenomenon require a good understanding as well as explanatory and problem solving based on observed student concerned. Unfortunately, students tend to memorize concepts concerned due to the subject been more theoretical than Practical (Resmick, 2000). Facts, rules and laws are memorized but often this information is not connected in a coherent framework that would allow students to make sense of it and therefore learning does not take place. It is therefore, very important for any Professional teacher to know what decision to make, when to make them and the effect of such decisions on the teaching-learning encounter.

## **2.8 EFFECTIVE METHODS IN TEACHING OF AGRICULTURE SCIENCE**

Engagement in meaningful learning is a universal theme advanced in literature on student's achievement. Integration of instruction in real-world Problems is a second emerging theme. What students learn is greatly influenced by how they are taught. Instructors teaching agriculture curricula have implemented a wide variety of teaching methods, which fit different niches within the agricultural classroom (Allen et al, 2004). Some methods of teaching are completely out of phase with background and local environment of the learners particularly in senior secondary schools. Furthermore, some methods are foreign in nature and have no bearing with the student's culture and purely derived from euro-centric culture (Achor et al, 2009). One of the consequences of over dependence on foreign approaches to teaching science seemingly lack of basic scientific principles which results to rote-learning and low achievement in the science as could be seen in some African countries like Ghana today. Attempts to address this problem have necessitated the fact that teachers should evolve strategies that will ensure active participation of learners and be



practical and project oriented (uloko, 2006). Education and researchers have repeatedly acknowledged the drawbacks of teaching with a strict lecture format. This format has been referred to as a method resulting in long periods of uninterrupted teacher centered, expository discourse which relegates students to the passive spectators in classroom (Williams and Maclure, 2010). Young et al (2009) found that the drop intention avoided when presentation is varied, although this is not necessary associated with interactive participation and techniques. The incorporation of popular culture into presentation leads to a variety in lecture and does not require interactive participation, thus serving as a variable way to avoid drop in attention. Integration of instruction into real-world problems is a persistent argument students appear to benefit from know-how to execute a strategy (Procedural knowledge, knowing why the strategy works (Conceptual knowledge) and knowing where the strategy works (Contextual knowledge). General agreement prevails that student's will best learn if they realize how the concepts are directly applied to their future live (Shinn et al, 2003). Moreover, investigators, (Manurer, 2003, Balshchweid, 2001) have concluded that it is very important to provide students with sufficient context while they learn. Specifically, it is believed that Conceptualized learning holds Promise for improving student's ability to synthesize information from disparate sources, for furthering understanding of new and sometimes contradiction data, for assisting in making meaning and think critically (Allen et al, 2003). Evidence from a number of disciplines suggests that oral presentation to a large group of passive students contribute very little to real learning (Veselinouska, 2011). Teaching methods must be changed to reflect a modern society mandating the need for functioning, thinking-oriented, decision making of students. Therefore selection of an appropriate teaching method is important. To be successful, teachers should select and use a wide variety of teaching strategies. The most suitable methods for teaching practical oriented subject like Agricultural science are demonstration and discussion methods. Nowak et al, (2004)



articulated demonstration method is generally effective in teaching sciences, mathematics and mechanics as well as subjects within vocational and technical education because it can be very effective for illustrating concepts in class while, the discussion method has been widely accepted and recommended by some agricultural educators as a good method of teaching agriculture (Phipps and Osborne, 1989).

## **2.9 PROBLEMS OF TEACHING AGRICULTURE IN SECONDARY SCHOOLS**

Globally, education today is widely recognized as the most effective development investment a country can make. According to World Bank (2007), it is one of the critical pathways to promote social and economic development. It is central to the development of a better life and better world. It raises economic development, reduces fertility rate, lowers infant and maternal mortality, improves the wellbeing of families, and ensures better prospects of education for children (FAO, 2010). Thus, education has an important influence on the quality of life. The development of human resource does not only depend on the level and intensity of formal and informal society but also the building of human capabilities and opening up employment opportunities. Without education development can neither be broad based or sustained (Orodho, 2014,). Secondary School is the bridge between the primary and tertiary levels. Secondary school curriculum contains subject that is capable of preparing its recipients to live a useful live in the society and also prepares them for higher education. One of the subjects that help to achieve this objective is Agricultural Science. Agricultural Science is taught in the secondary school as a vocational subject. Vocational agriculture is an aspect of vocational education which emphasizes skills, knowledge and attitude required in all areas of agriculture for proficiency in agricultural production (Awuku et el, 1999). One of the principles of vocational agriculture is learning by doing. Teaching of agriculture in secondary schools aims at ensuring that the learner is too exposed to and taught the basic principles that are important to agricultural production in the





country and exposing and involving learners in various practical and projects that will help them to develop the necessary skills and abilities required in agricultural production. Practical classes are always organized to ensure that practical skills are imparted to students to enable them become self-reliant, resourceful and useful to the society. However, Ssekamwa (2009) pointed out that the real approach to the teaching of agriculture was discouraging. Agricultural science subject is taught theoretically and has failed to make impression on society. Olaitan (1988) noted that many students from farming homes come to school with farming problems like weed control, which crops to grow and what fertilizer to apply. He advised that such problems can only be solved when students are exposed to these situations practically. Learners learn better when they hear, see and feel or touch, which is the principle of learning by doing. This principle is best achieved by engaging oneself in practical activities (Osinem, 2008). According to Awuku et al (2001), the performance of students in agricultural science should match the student's interest and practice of the subject. He further stated that lack of instructional materials, educational qualification of teachers, poor funding of practical agriculture and intellectual ability of teachers are some of the factors that influence the outcome of the teaching-learning process. Coonery (1990) posited that students do not understand agricultural science when it is taught by an ineffective teacher. Common problems of teaching agricultural practical in developing country like Ghana include; inadequate facilities, low professional and efficiency levels of teachers, students school administrators and parents towards agricultural education and political lapses (Anamuah, 2009).

## **2.10 AGRICULTURAL SCIENCE EDUCATION AND FOOD SECURITY**

Agricultural science is one of the core vocational curricular subjects taught at both Junior and Senior High schools in Ghana. Egbule (2004) defines agricultural education as a process of



training learners in the process of Agricultural productivity as well as the techniques for teaching of agriculture. Abelega (2010) describes Agricultural education as a broad multidisciplinary field that deals with the selection, breeding and management of crops and domestic animals for economic production. It is a subject taught in secondary schools as a means for self-reliance and preparation for further studies. Agricultural science is therefore designed for inculcation of security for national sustainability. Awuku et al (1988) outlines five major objectives necessary for the practice of agriculture for effective citizenship and contribution to food is of teaching and learning agricultural science in Senior Secondary schools to reflect:

1. Ability to prepare students for further studies in agriculture
2. Ability to stimulate student's interest in agriculture
3. Ability to enable students acquire basic knowledge of agriculture
4. Ability to develop basic agricultural skills in students
5. Ability to expose students to opportunities in the field of agriculture.

Food security is a situation where all the individuals, household, national, regional and global levels at all times have physical and economic access to sufficient safe and nutritious food to meet their dietary needs, and food preferences for active and healthy life (Abbey, 2011). It is also described as a world where person has access to sufficient food to sustain a healthy and productive life, where malnutrition is absent and where food originates from efficient, effective and low-cost food systems that are compatible with sustainable use of natural resources (Short, 2001). Ghana past and present governments have made some reform efforts to effect food security issue through:

1. Operation Feed Yourself–OFY
2. Structural Adjustment Programme-SAP
3. Programme of Action to Mitigate Social Cost of Adjustment-PAMSCAD
4. Green Revolution-GR



None of these efforts has been able to successfully address the backbone of the problem of food insecurity. The practice of agriculture by all and sundry is a panacea to food security if only the youths are caught at their prime to pick interest and skills necessary to elevate agriculture as a source of national income. These youth need new orientation of values on life-long skills acquisition and vocational skills programme with special reference to agricultural practices.

## **2.11 CONCEPTUALIZATION OF PERCEPTION**

Etymologically, the word "Perception originates from the Latin word "percipere" (to perceive). Perceiving ideas and concepts is viewed from two dimensions. Firstly, is the conscious recognition and interpretation of sensory stimuli that serve as a basis for undertaking, learning and knowing or for motivation of a particular action or reaction?

The second is the result or product of the act of perceiving. Instinctive knowledge has been used to define or explain the term perception. These include awareness, understanding, sense, impression, ideas, taste, and notion, observation, apprehension and discrimination.

Fazio and Williams (1996), explain perception as "those subjective experiences of objects or events that ordinarily result from stimulation of the receptor organs of the body. This stimulation is transformed or encoded into neural activity (by specialized receptor mechanism) and is relayed to more central regions of the nervous system where further neural processing occurs. According to them, it is the final neural processing in the brain that underlies or causes perceptual experience and therefore perception-like experiences can sometime occur without external stimulation of the receptor organs.

### **2.11.1. Perceptual constancy**

It is a term used to describe the properties of objects which remain remarkably constant despite variations in distance, slant, and retinal locus caused by movements of the observer, (Baron and



Greenberg, 1999). This fact referred to as perceptual constancy. Example of perceptual constancy is (except at very great distances, an object appears the same size whether seen nearby or far away, although the size of its image may be different). In the light of the perception of students about a subject, and for the purposes of the study, Agriculture Science subject might remain as constant irrespective of the efforts made by others to the perception.

Jerald and Robert-Baron, (1999, P72) defines perception as the “the process through which we select, organize and interpret information gathered by our senses in order to understand the world around us”

### 2.11.2. Perception as information process

Robert-Kreintner and Kinicki (2007) define perception as the cognitive process that enables us to interpret and understand our surroundings. They identify four-staged information processing underlying the perception of people;

- (a) Selective attention/ comprehension
- (b) Encoding and simplification
- (c) Storage and response
- (d) Retrieval and response

Kreitner and Kinicki illustrate systematically how perceptual information is processed in the form of diagrammatical presentation. Each stage is effectively linked to the other in a manner that ensures a natural progression from one stage to other.

Stage 1(selective attention)      Stage2 (Encoding/Simplification)      Stage3 (Storage/Retention)

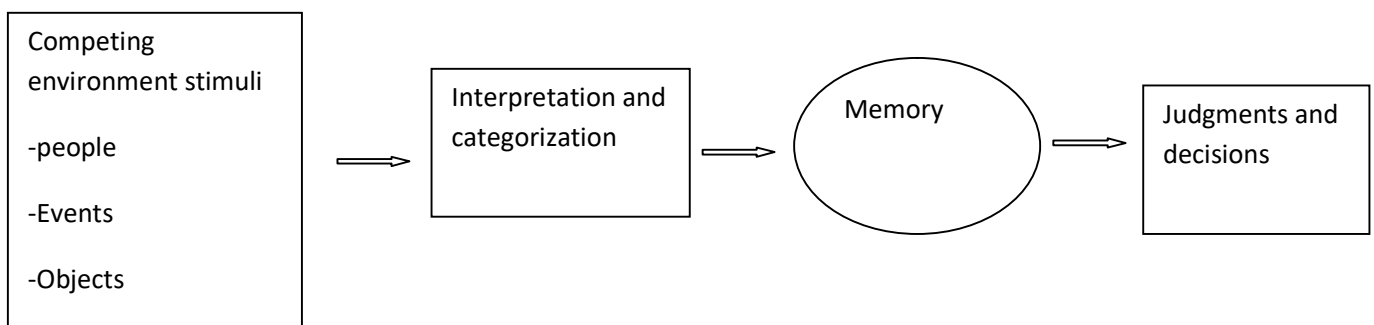


Figure 1. Perception information processing model.

### **Stage 1 (Selective attention or comprehension)**

Kreitner and Kinicki define attention as a process of becoming consciously aware of something or someone. Explaining the first stage of perception, Kreitner and Kinicki observe that people are constantly bombarded by physical and social stimuli in the environment. However, since they do not have the mental capacity to fully comprehend all the information, they selectively perceive subsets of environmental stimuli. The situation of attention being focused on memory arises, for instance, when one finds himself reading a book while thinking about some unrelated events. In a situation of this nature, one's memory is the main focus of attention at that material moment.

### **Stage 2. Encoding and Simplification**

The second stage of perception according to Kreitner and Kinicki (2007) has to do with encoding and simplification obtained from the social environment or memory. They noted that observed information was stored in its original form. Encoding is required, raw information is interpreted or translated into mental representations. They explained that to accomplish this, perceivers assign pieces of information to cognitive categories. Category here refers to objects that are considered equivalent, people, events and objects are interpreted and evaluated by comparing their characteristics in the schemata.

Encoding outcomes;

The encoding outcomes are a process used to interpret and evaluate our environment. This process can result in differing interpretations and evaluations of the same people or event. They explained four key reasons,

Firstly, people possess different information in the schemata used for interpretation.

Secondly, our moods and emotions influence our focus and attention and evaluation of others.



Thirdly, people tend to apply recently used cognitive categories during encoding..

The fourth reason is that apply individual differences influence encoding.

### **Stage 3 (Storage and Retention)**

The third stage of perception process involves storage and retention of information in the long-term memory. They explain that the long term memory consists of separate units connected to one another.

However, the categories in their apartment are closely related through categories contain different types of information. The person's memory is the compartment that contains information's about a single individual.

Stage4 (Retrieval and Response).The fourth and final stage of Kreitner and Kinicki's perception process is the retrieval of information from memory where it is stored. People retrieve information from memory when they make judgments and decisions. Our ultimate judgments and decisions are either based on the process of drawing on, interpreting and integrating categorical information stored in the long-term memory or in retrieving a summary judgment that was already made.

### **2.11.3 Implications on the learning of Agriculture Science as a subject**

Kreitner and Kinicki recognize that social cognition is the basis upon which all persons observe, interpret and prepare responses to people and events. They maintain that a lot of learning activities, be it formal and informal or private studies are affected by perception. Generally, it can be concluded from the position of Kreitner and Kinicki that learners make decisions based on their impression of how they perceive the subject. Inaccurate impression about a subject on the part of the learner can undermine the efforts of the teacher. These invalid schemata need to be confronted through affective teaching and counseling. The idea about what constitutes easy or difficult to



learn, affects directly the disposition of the learner and therefore the general performance of that person and this can lead to a wrong assessment of the learner.

It is therefore important that assessment procedures provide an accurate evaluation of the learner making use of his/ her psychological disposition. For teachers to accurately intervene there is the need for them to understand the behavioral characteristics of their learners. This aspect is important to determine the standards for evaluating students' performance in certain subjects or aspects of a subject. Knowledge of the perception of the learner about a subject can lead to an objective assessment of the learner by the teacher.

Pickens (2005) refers to perception as how a person interprets a situation or stimuli into something meaningful based on prior experiences. Nelson and Quick (1997) defines perceptions as the process of interpreting information about another person. What this definition clearly highlights is that the opinion an individual forms about another individual or situation depends on the information available to that individual and the extent to which the individual is able to properly interpret the information acquired. Rao and Narayan (1998) shared the same view with above definitions. In their own words, "perception is the process whereby people select, organize and interpret sensory stimulations into meaningful information about their work environment" (1998, P12). Though focusing on managers in the work environment, Rao and Narayan further stated that since there are no specific strategies for understanding the perception of other people, every individual use his or her own inventiveness, innovative ability and introspective skills to interpret sensory stimulations.



## 2.12 PERCEPTUAL ERRORS

Messages are interpreted and categorized according to schemata developed through past experiences and are often influenced by ones age, gender, ethnic, geographic and cultural orientations. Teachers who are aware of the perception process and its outcomes have the competitive edge over their counterparts in terms of succeeding as teachers. Insufficient knowledge of the perception process can lead to a number of perceptual errors. Perceptual errors can exert some influence on the attitude of teachers towards students or learners in the classroom situation. If students have some perceptions about their teacher and allow those perceptions to control their conduct on the subject they learn, it has some effects on the learning of the subject. The table below gives specific examples of cases of perceptual errors that often occur among individuals. For instance, if students perceive agricultural science negatively as a dirty job and not worth their time and energies, their attitude towards learning the subject will lead to poor academic performance.



**Table2.1. Perceptual index 7**

Perceptual error	Description	Example
Halo effects	A person forms an overall impression about an object and then uses that impression to rate that object	Student "A is not bright. This means that she or he is lazy. Student B is smart. It means she or he is hardworking
Leniency (similar-to-me effect)	A personal characteristic that leads an individual to consistently evaluate other people or objects in an extremely positive fashion	Rating a leader high on all dimensions of performance in Agriculture Science as a result of good performance in theory regardless of his or her performance in other aspect agriculture.
Central tendency	The tendency to avoid all extreme judgment and rate people or objects as average or neutral	A learner rating a teacher average on all dimensions of performance regardless of his actual performance in specific areas, because the learner is trying to avoid offending the teacher.
Recency effect	The tendency to remember to remember recent information. If the information is negative the person or the object is evaluated negatively	A learner may remember a punishment given to him or her by a teacher and evaluate him or as a bad teacher.
Contrast effects	The tendency to evaluate people or objects by comparing them with characteristics of recently observed people or objects	Rating a learner as average because one compared his or her performance with other learners.

Source: Robert Kreitner, Organizational Behavioral, 6<sup>th</sup> Edition, (P, 233).





## 2.13 MOTIVATION

Dornyei (2001), begins his work by stating that “strictly speaking, there is no such thing as motivation.” There are many different kinds of motivation. These are often categorized into intrinsic, integrative, instrumental and extrinsic.

Intrinsic motivation refers to the desire to do something for an internal reward. Most studies have shown it to be substantially more effective in the long-term.

Integrative and instrumental orientations refers to the degree that a language is learned for its own sake (integrative) or for instrumental purposes.

Mac Myers et al, (1998) revealed that motivation is not the final construct before learners engage in communication. According to them, learners may be highly motivated yet remain unwilling to communicate effectively. Motivation is defined as the reason for doing things for powers that make things materialize (Obanyi et al 2014). Kim and Lee (2008) define motivation as a desire to do something. Thijs (2011) also asserted that motivation is dependent on the fulfillment of fundamental, innate psychological needs for compliance, relatedness and autonomy. Motivation is a process that starts with a physiological deficiency or need that activates performance or a desire that is aimed at a goal incentive (Luthans, 1998). Motivation is necessary in learning and teachers have a responsibility motivating students to learn vocational subjects like agriculture science. Teaching and learning excited when students are highly motivated. For instance, if agricultural science students are given proceeds or products from their school garden or farm they will be highly motivated to work hard on their school farm.



## CHAPTER THREE

### 3.0 METHODOLOGY

Research methodology is an important component of any study and provides the framework on which process is based (Brown, 1999). Here, we describe how the study was conducted. It first and foremost gives the description of the study area and elements of the research methodology employed which are the data collection strategies, the instruments employed, data analysis and the technique employed.

### 3.1 DESCRIPTION OF THE STUDY AREA

The Juaboso district was carved out of the Sefwi Wiawso in 1988 as an independent administrative authority by a legislative instrument. It has a population of about 156,428 (Juaboso District Assembly, 2010). The population and Housing Census stipulates that as at the year 2000, 92% of its population lives in settlement of less than 5000 making the district very rural in terms of economy and demography. Most of the communities in the district lack basic social services such as portable water, health facilities, decent housing and quality education. The unavailability of accessible roads in the district has affected inter and intra trade activities. Juaboso district being one of the seventeen districts in the Western region is located between latitude 6° 6' N and 7° N, and longitude 2° 40' W and 3° 15' W. The district shares borders with Bia and Asunafo North district in the North, Asunafo South and Sefwi Wiawso district to the East, Aowin Suaman district to the South and La cote d'ivoire to the West. The district capital, Juaboso is located 360 km to the North of Sekondi, the regional capital and a distance of 225km from Kumasi, the regional capital of Ashanti region. The district has a surface area of 1924 square kilometers and serves as entry and exit point between La Cote d'ivoire and Republic of Ghana. The district geological composition is mainly of the birimian formation. There are also granite rocks but the

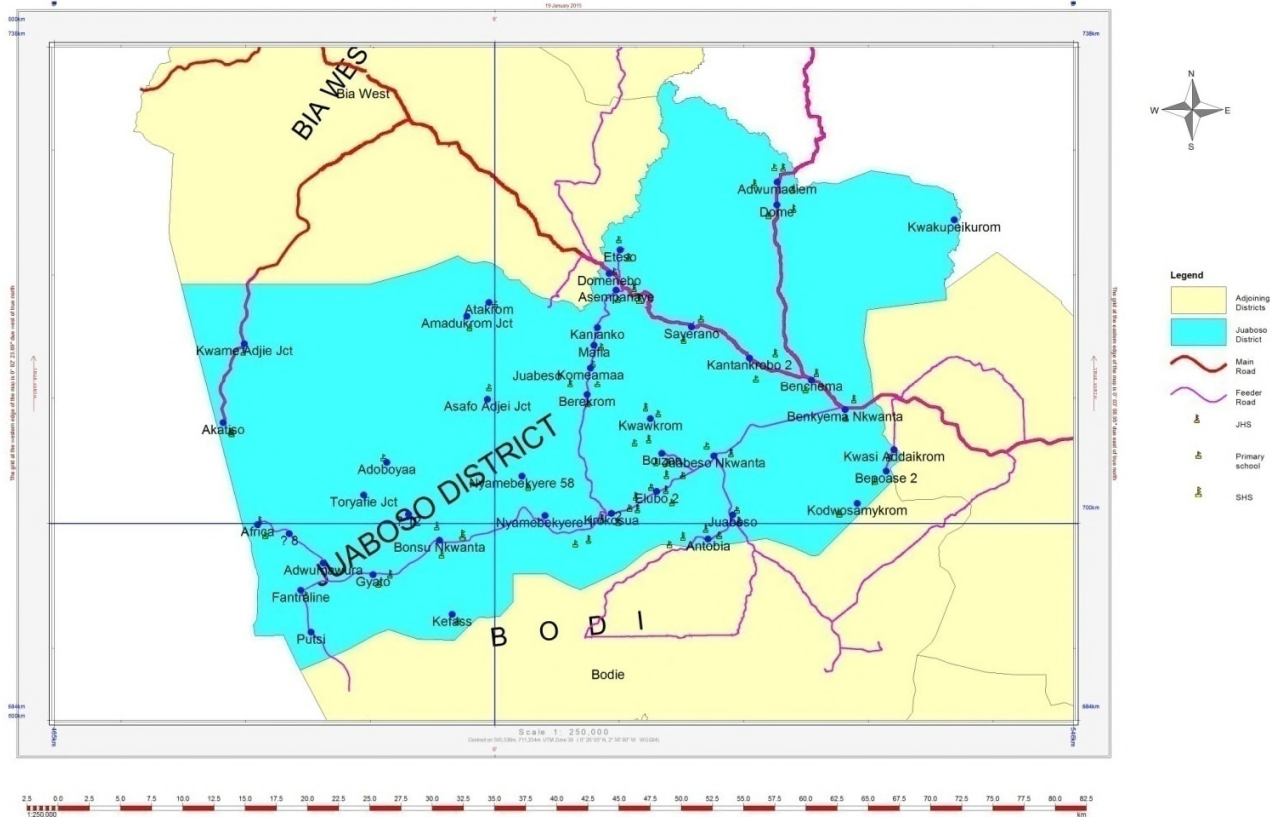


birimian formation covers about three quarters of the closed forest zone. Deposit of mineral such as gold is mined on a small scale level at Juaboso. Soils in the district are mainly forest ochrozols. They are red too dark in colour and alkaline in nature. Because of the clayey nature of the soils and the presence of organic matter, water retention is high. This soil type is rich and supports the cultivation of food and cash crops. Juaboso district forms part of the country's wet semi-equatorial climatic zone. The zone is characterized by two maxima rainfall regime with mean annual rainfall figures ranging from 1, 2,000mm. The two rainfall peaks fall between May-June and September-October respectively. Mean annual temperatures for the district range 25.5°C and 26.5°C. The highest temperature is recorded between March and April, is about 30°C. Relative humidity figures ranging from 75-90% during the wet season and 70-80% during the dry season. The wet season is roughly between April and October, while the dry season is between November and March.

The district forms part of the country's dissected plateau. The greater proportion of this plateau is between 240 and 300 meters above sea level. Within the district, there are isolated hills ranging between 300 and 390 meters above sea level. The district is endowed with a number of rivers and streams, the important of which are Bia and Sui rivers. The streams and rivers usually flow southwards and exhibit a dendritic pattern to the Bia basin. They offer equitable climatic conditions and opportunity for the cultivation of rice, vegetable and sugarcane farming. The vegetation is of moist-deciduous forest type. The forest foliage is made up of upper, middle and low canopies. The forest vegetation is normally made up of different tree species. Some of the important species include Wawa, Mahogany, Esa, Ofram, Edinam, Onyina Kyenkyen and odum. There are three forest reserves in the district, namely Bia Torya, Bodi and Krokosue forest reserves, Bodi and Bia Torya reserves are degraded. The vegetation is probably the district greatest attraction. The luxuriance of growth of plants and the evergreen nature of its forest has



## EDUCATIONAL FACILITIES IN THE JUABOSO DISTRICT



been a major pull factor for the high number of settler farmers in the district whose objective is to cultivate cash and food crops.

Source: Juaboso District Assembly, 2010.

### 3.2 Target Population

Target population is what Mugenda and Mugenda (1999) called absolute population where the researcher will ideally generalize the results of the study. The study used target population consisting of students, teachers of agriculture science and head teachers from the two Senior High Schools (Juaboso and Bia). It is from this that a representative sample was drawn.



### 3.3 SAMPLING TECHNIQUE AND SAMPLE SIZE

Sample size determination

The study used Yamane (1973) to determine the sample size. The formula is stated below

$$\text{Sample size; } \frac{\text{total population}}{1 + \text{total population} (e)^2}$$

$$n = \frac{N}{1 + N (e)^2}$$

Where;

n = sample size

N = Total population

e = marginal error

n = ?

N = 275

n = 5%

$$n = \frac{275}{1 + 275 (0.05)^2}$$

n = 120

Proportion sampling size of the schools;

Number of students in Juaboso = 150

Number of students in Bia Senior High = 125

Total population: 275

Sample size = 120

$$\text{Proportion sample size of Juaboso} = \frac{150}{275} \times 120 = 66$$

$$\text{Proportion sample size of Bia} = \frac{125}{275} \times 120 = 54$$



### **3.3.1 SAMPLING**

A sample size of 120 students was selected through simple random sampling method from the two schools, which offered agriculture as a major programme or elective. A total of 66 respondents were selected from Juaboso Senior High and 54 were selected from Bia Senior High.

### **3.3.2 PURPOSIVE SAMPLING**

Purpose sampling is a process in which the researcher chooses specific people within the population to use for a particular study or research project.

Purposive sampling technique was used to select all the eleven (11) agricultural science teachers in Juaboso and Bia Senior High Schools. The teachers were selected because of their in-depth knowledge in agricultural and their experiences in teaching the subject.

The teachers of agriculture science answered questions on the methods used in the teaching and learning resources challenges faced in the teaching and learning of agriculture and ways by which the image of agriculture can be improved.

## **3.4. DATA COLLECTION METHODS**

### **3.4.1 PERSONAL INTERVIEWS**

Karma (1996) defines interview as any person- to-person interaction between two or more individual with a specific purpose in mind. Data was collected through the use of interview Schedule with the Headmasters and Head of Departments of Agriculture Science programme in both Juaboso and Bia Senior High Schools. The teachers were interviewed to elicit information on students' attitudes and perception towards agriculture, their involvement in agricultural activities and constraints to their involvement in agricultural activities.



### 3.4.2 QUESTIONNAIRE

Two set of questionnaires were administered to two groups of respondents. The teachers of agriculture science answered questions on the methods used in the teaching and learning of agriculture science, teaching and learning resources, challenges faced in teaching and learning of agriculture and ways by which the image of agriculture can be improved. The student's cognitive and behavioral methods (attitudes) were assessed by the use of the questionnaire. Items on the questionnaire were based on the level of satisfaction with the adequacy of garden tools, agricultural land use, workshops and proper maintenance of farm tools. The measurement of students' perception was categorized into two sections. Section 1, was used to measure students perception on the availability of equipment, land availability, students attitudes, teaching methodologies and course content of agriculture science. Section 2, had 12 statements on the perception of students on secondary school agriculture. The statements were on a five point Likert scale where 1-strongly disagree, 2-disagree, 3-uncertain, 4-agree and 5-strongly disagree. Respondents were required to indicate on this scale extent to which they agreed or disagreed with the given statements.

### 3.4.3 DATA ANALYSIS

Karma (1999) referred to data analysis as the computation of certain measures along with searching for patterns of relationship that exist among data groups. In analyzing data in general, Yin (1999) also states that a number of closely related operations are performed with the purpose of summarizing the data collected and organizing them in such a manner that they answer the research question. The data analysis for this study entailed the employment of both quantitative and qualitative (descriptive) methods. The quantitative data was analyzed using descriptive statistics such as percentages and frequencies with the help of statistical package for social science (SPSS) version 20 and presented in the form of tables and charts for easy analysis and



[www.udsspace.uds.edu.gh](http://www.udsspace.uds.edu.gh)

interpretation. The qualitative data mainly from the interviews were analyzed based on themes and relationship and presented as narratives. The qualitative data were used to support the quantitative data.





## CHAPTER FOUR

### 4.0. RESULT AND DISCUSSION

The objective of the study was to examine the perception of students on the study of Agriculture science in Juaboso and Bia Senior High Schools in western region of Ghana. This chapter presents the results and discussion of the data collected from the field.

#### 4.1 Personal characteristics of agricultural students in Juaboso and Bia Senior High School

**Table: 4.1 Personal characteristics of respondents**

Characteristic	Frequency	Percentage (%)
<b>Gender</b>		
Male	84	70%
Female	36	30%
<b>Age</b>		
15-19	28	23.3%
20-25	92	76.7%
<b>Course level</b>		
Form-1	35	29.2%
Form-2	45	37.5%
Form-3	40	33.3%
<b>Parent's occupation</b>		
Farming	67	55.5%
Teaching	11	9.2%
Civil servant	15	12.2%
Trading	27	22.5%

Source: Field data, 2016.



Table: 4.1 describing the personal characteristics of respondents such as age of students, gender of respondents, year in school and family background of respondents. 84 (70%) of the respondents were male, while 36 (30%) of the respondents were female. The age of the respondents ranged from 15 to 24 years. 28 (23.3%) respondents were between the ages of 15 to 19 years. Majority, 92 (76.7%) of the respondents were between the ages 20 to 25 years. This is in line with the findings of Seiders (1995) that, the youth represent the future and hope of every country. In many developing countries, up to seventy percent of the young people between the ages of fifteen and twenty-five live in rural areas. Meanwhile, 28 (23.3%) of the respondents were between the ages between 15 to 19 years.

Another characteristic of the respondents was that 35 (29.2%) were in secondary school form one, 45 (37.5%) in form two and 40 (33.3%) in form three.

The majority 67 (55.5%), of the respondents parents were farmers, 11 (9.2%) were teachers, 15 (12.5%) were civil servants while 27 (22.2%) were traders. This shows that many of the secondary school students' parents were farmers.



#### 4.2 Enrolment trend in Agriculture Science from 2010 – 2015.

This Section discusses the enrolment trend in Agriculture Science in Juaboso and Bia Senior High Schools

**Table 4.2 Enrolment trend in Agriculture Science from 2010-2015**

Year	Enrollment in Juabosso	Enrollment in Bia	Total in Juaboso and Bia
2011	132	103	235
2012	175	171	346
2013	189	185	374
2014	231	135	366
2015	198	201	399

Source: field data, 2016

The data in Table 4.2 indicate that the total number of candidates enrolling for Agriculture science has increased sharply from 235 to 346 in 2012. Conversely, there was an increase in enrolment from 346 to 374 between 2012 and 2013. However, there was a decline in enrolment from 374 in 2013 to 366 in 2014. On the other hand, there was an increase in enrolment from 366 in 2014 to 399. The study confirm with Short (2001), who emphasizes why investment in human resources as a means of revamping agricultural sector and achieving sustainable food security. Past and present governments have made some reform efforts to achieve food security through human resource development. However, none of the efforts have addressed the backbone of the problem (Abbey, 2011). The practice of agriculture by all and sundry (youth and students) is a panacea to food security if only the youth are caught at their prime especially in school to pick interest and skills necessary to elevate agriculture as source of income. Currently, the government



policy towards agriculture is that it is an elective and not compulsory subject. This policy is rather surprising given the importance of Agriculture to Ghana's as it accounts for 31% of the GDP and employs a majority (64%) of the labour forces in GSS (2000).

In summary, the enrolment has been fluctuating from 2011 to 2015. This is not good for the future of agriculture in Ghana considering the fact that the sector contributes 31.8% to the GDP, (Ghana statistical service 2010).

#### 4.3 Students levels of satisfaction with school Agricultural land use.

This section aims at establishing the effects of availability of land on students' perception on the study of agriculture science subject. Students were required to indicate their level of satisfaction with the land set aside for agricultural practical purposes.

**Table 4.3 Students levels of satisfaction with school Agricultural land use.**

Level of satisfaction	Frequency	Percentages
Strongly satisfied	18	15.0%
Satisfied	15	12.5%
Neutral	20	16.7%
Dissatisfied	22	18.3%
Strongly dissatisfied	45	37.5%
<b>Total</b>	<b>120</b>	<b>100%</b>

Source: Field data, August, 2016.

Findings on Table 4.3, show that 45 (37.5%) students are strongly dissatisfied and 22 (18.3%) of them were dissatisfied with school agricultural land use with the notion that agriculture is taught theoretically without practical activities. This confirms with the assertion by Sekamwa (2009) that agriculture science is taught theoretically and has failed to make much impact on society;



hence students should be exposed to illustrations practically. The findings also confirm the assertion by Osinem (2008) that learners learn better when they hear, see and feel or touch which is the principle of "learning by doing" which is best achieved by engaging one in practical activities. It confirms with Lasun and Olufemi (2006) that land is the farmer's most important asset and plays essential role in increasing production as well as sustaining the production. It constitutes primary medium for food production and the most valuable element for any agricultural activity.

#### 4.4 Students level of satisfaction with the adequacy of agricultural rooms and workshops

Respondents were required to indicate their satisfaction with agricultural rooms and workshops in their schools. The findings are presented in Table 4.4 below.

**Table 4.4 Students level of satisfaction with workshop for agricultural practical**

Level of satisfaction	Frequency	Percentages
Strongly satisfied	52	43.3%
Satisfied	43	35.8%
Neutral	07	5.9%
Dissatisfied	08	6.7%
Strongly dissatisfied	10	8.3%
<b>Total</b>	<b>120</b>	<b>100%</b>

Source: Field data. August, 2016.

The finding confirms the assertion by Williams and Lindsey (2014) that creation of workshops and training courses designed for youth attending and not attending is essential in efforts to address youth participation in agriculture and improve agricultural education. The finding also affirms the statement by (PAFD Net (2011-2015) that particular courses and workshops ought to be designed to cater for the formal and informal education needs of the populations targeted.



Findings on Table 4.4, shows that 52 (43.3%) of the respondents were strongly satisfied and 43 representing 35.8% were satisfied with the number of agriculture rooms, stores and workshops in their schools were adequate. This implies that all the schools have adequate rooms or stores and workshops to improve performance in the subject.

#### 4.5 Students level of satisfaction with the adequacy of garden tools and equipment

This section is concerned with the availability of agricultural rooms and workshops in their schools. The findings are presented in table 4.5 below.

**Table 4.5 Students level of satisfaction with the adequacy of garden tools and equipment.**

<b>Level of satisfaction</b>	<b>Frequency</b>	<b>Percentages</b>
Strongly satisfied	18	15.0%
Satisfied	27	22.5%
Neutral	11	9.2%
Dissatisfied	26	21.7%
Strongly dissatisfied	38	31.7%
<b>Total</b>	<b>120</b>	<b>100%</b>

Source: Field data. August, 2016.

Findings from the Table 4.5, revealed that 38 (31.6%) and 26 (21.7%) of the respondents were strongly dissatisfied and dissatisfied respectively that garden tools and equipment were adequate. This shows that a total of 64 students constituting 53.3% of the total were dissatisfied with the level of availability and adequacy of agricultural tools and equipment. The findings indicate that the schools did not have adequate garden tools and equipment necessary for agricultural practical, demonstration and projects in Juaboso and Bia Senior High Schools. Lack of such facilities was evidence that it negatively affected perception of students towards agriculture subject.



#### **4.6 Students perception on the study of Agricultural science as a subject in Juaboso and Bia Senior High Schools.**

This section discusses the perception of students on the study of Agricultural science with regard to twelve statements about agricultural activities.

Objective three of the study was designed to examine student's perception regarding the study of agriculture science as a subject. The respondents were asked to respond to items about Agriculture in general. Each item in the questionnaire was rated on a five point scale (Strongly Agree-5, Agree-4, Uncertain-3, Disagree-2 and Strongly Disagree-1). This was used to determine their level of agreement or disagreement with the statement base on their on their perception about agriculture science. Therefore, the maximum rating score an individual respondent could have been five and a minimum of one. This rating score of two (2), was termed agree and four (4) and above termed agree, that is, students' general agreement or disagreement with the 12 statements on their perception about agriculture.



**Table 4.6 Students perception on the study of Agricultural science as a subject in Juaboso and Bia Senior High Schools.**

Statement	SA	A	UNC	DA	SD
1. Farming is for the school dropouts and illiterates.	20(16.7%)	10(8.3%)	5(4.2%)	60(20.8%)	25(50%)
2. Agriculture is a bad business	70(58.3%)	20(16.7%)	7(5.8%)	20(16.7%)	3(2.5%)
3. Agriculture promotes poverty	10(8.3%)	18(15%)	2(1.7%)	78(65%)	12(10%)
4. Agriculture is for the less privileged in the society	21(17.5%)	11(9.2%)	10(8.3%)	23(19.2%)	55(45.8%)
5. Agriculture is meant for the aged	8(6.7%)	20(16.7%)	18(15%)	30(25%)	44(36.7%)
6. Agriculture generates low income	34(28.3%)	20(16.7%)	0(0)	36(30%)	30(25%)
7. Agriculture reduces ones status in society	8(6.7%)	11(9.2%)	0(0)	35(29.2%)	66(55%)
8. Agriculture products attracts low income to farmers	62(51.7%)	31(25.8%)	0	19(15.8%)	18(15%)
9. Learning agriculture helps to develop a positive attitude towards agriculture	70(58.3%)	23(19.2%)	0	14(11.7%)	13(10.8%)
10. Secondary school agriculture enables students to develop skills necessary for self-reliance and self employment	40(33.3%)	48(40%)	3(2.5%)	9(7.5%)	20(16.7%)
11. Learning agriculture promotes students career opportunities	43(35.8%)	39(32.5%)	5(4.2%)	22(18.3%)	11(9.2%)
12. Learning agriculture helps to contribute to economic development in the society	50(41.7%)	33(27.5%)	0	13(10.8%)	24(20%)

Source: Field data, 2016.

Key: Strongly Agree = SA, Agree =A, Uncertain =Un, Disagree =DA, Strongly Disagree = SD

The findings show that 60 respondents representing 50% strongly disagree and 25(20%) disagree that farming is for the school dropouts and illiterates. Meanwhile, 20(16.7%) respondents





strongly agree and 10(8.3%) agree. Majority (70.8%), disagree that farming is for the school dropouts and illiterates. This implies that students have positive perception about agriculture.

Again, 70 respondents (58.3%) strongly agreed and 20(16.7%) agreed that agriculture is a bad business while 20(16.7%) respondents strongly disagree and 3(2.5%) disagree but 7(5.8%) were uncertain. 90(75%) respondents strongly agreed that agriculture is a bad business. They (respondents) were with the opinion that investment in agriculture often results in low returns due to erratic rainfall and unavailability of storage facilities. 78 respondents (65%) strongly disagreed and 12(10%) disagreed with the statement that agriculture promotes poverty, while 10(8.3%) strongly agreed and 18(15%) agreed but 10(8.3%) respondents were uncertain. Respondents generally disagreed, 78(65%) strongly disagreed and 21(17.5%) disagreed that agriculture is for the less privileged in the society. However, 55(45.8%) respondents strongly agreed whilst 23(19.2%) agreed to the statement.

The findings show that 44(36.7%) respondents strongly disagreed and 30(25%) disagreed that agriculture is meant for the aged in the society but 8(6.7%) strongly agreed and 20(16.7%) agreed and 18(15%) were uncertain. The results showed that respondents have positive perception about agriculture. On agriculture generates low income, 34(28.3%) strongly agreed and 20(16.7%) agreed while 30(25%) strongly disagreed and 36(30%) disagreed.

66(55%) respondents strongly disagreed and 35(29.2%) disagreed with the statement that agriculture reduces one's status in society, while 11(9.2%) also disagreed. The study established that 62(51.7%) strongly agreed that agriculture products attract low income to farmers and 31(25.8%) agreed to the statement. Therefore, majority 93(77.5%) agreed that agriculture products attract low income. 70(58.3%), strongly disagreed and 23(19.2%) agreed that learning agriculture helps to develop a positive attitude towards farming but 13(10.8%) strongly disagreed. This implies that agriculture students have positive attitude towards learning of the subject.



Another significance finding was that, 40(33.3%) respondents strongly agreed and 48(40%) agreed that secondary school agriculture enables students to develop skills necessary for self-reliance and self employment whilst 9(7.5%) disagreed and 20(16.7%) strongly disagreed but 3(2.5%) were uncertain about that statement.

On learning agriculture promotes students career opportunities, 43(35.8%) strongly agreed and 39 respondents representing 32.5% agreed with the statement whilst 22 respondents corresponding 18.3% disagreed and 11(9.2%) strongly disagreed but 5(4.2%) were uncertain.

Finally, on learning agriculture helps to contribute to economic development in the communities, 56(41.7%) strongly agreed and 33(27.5%) agreed whilst 13(10.8%) disagreed and 24(20%) strongly disagreed with the statement. Out of the twelve (12) statements on students positive perception towards agriculture science, it was found that the student agreed to most (10 out of 12 statements). The results suggest that agriculture students perceive agriculture as a useful secondary school subject. They (students) perceive the subject as enabling the youth to appreciate the role that agriculture plays even if they will not settle in farming. These findings confirm the assertion of Cohen (2006) emphasized the need to invest in human resources as a means of revamping agricultural sector and achieving sustainable food security in the 21<sup>st</sup> century. The results confirm Amadu (1998) assertion that attitude towards agriculture and agricultural activities have not changed as much desired. The consequence, according to Waldie (2001) is that, in as much as students and the youth in general still continue to see agricultural practice as inferior, unfulfilling and very hard, they would seek whatever seems good for them especially in other non-agricultural sectors in the cities.



#### 4.7 Students' response to challenges in the teaching and learning of Agriculture Science subject

This section discusses the challenges to teaching and learning of agricultural science education in Juaboso and Bia Senior High Schools. The table below provides details information on the subject above.

**Table 4.7: Students response to challenges in teaching and learning of Agriculture science subject**

Statement	Remarks and percentages				
	SA	A	UNC	DA	SD
1. Lack of teaching and learning materials (TLM's) hinders the teaching and learning of the subjects	95(71.9%)	20(16.7)	0	5(4.2%)	0
2. Large class size affects the quality teaching agricultural science and practical work difficult	75(2.5%)	29(24.2%)	0	10(8.3%)	6(5%)
3. Difficult in planning field trips	40(33.3%)	70(58.3%)	0	10(8.3%)	0
4. Poor remuneration and lack of motivation for students make learning of agricultural science unattractive.	88(73.3%)	25(20.8%)	0	5(4.2%)	2(1.7%)

Source: Field Data, 2016.



Bilgin (2006) confirm that without sufficient pieces of apparatus, Agricultural science and science lessons would become rigid, dull and unrealistic. The nature of the subject requires a variety of materials and experiment necessary for its effective teaching and learning of the subject.

Questionnaires were given to students to solicit their views on challenges to teaching and learning of agricultural science. The findings show that 95(79.1%) respondents strongly agreed and 20(16.7%) agreed with the view that insufficient teaching and learning materials hinder effective teaching learning of agricultural science. This situation often makes it difficult for teachers to take students through practical work. Students only learn names of tools and their uses without having a feel of the tools and how to handle it.

Another important view shared by students was that large class size affects the quality of teaching and learning agricultural science and practical work difficult. Effective teaching and learning of agricultural science requires adequate practical work on the field, however, wrong perception of students often make them see practical work as punishment. 75(62.5%) respondents strongly agreed, 29(24.2%) agreed and 10(8.3%) disagreed with the statement that “Large class size affects the quality of teaching agriculture science and practical work”. The findings confirm with Awuku et al, (2001) that the performance of students in Agricultural science should match the students’ interest and practice of the subject.

Another important revelation from the study was the fact that poor planning towards field trips inhibit effective learning of agricultural science. On that statement 40(33.3%) respondents strongly agreed whilst 70(58.3%) agreed and 10(8.3%) disagreed that field trips pose challenges to effective teaching and learning of agricultural science. Field trips enrich the school curriculum and when they are well organized can assist students to develop keen interest in a subject. According to Sweeter (1994) successful and safe field trips are achieved by good planning.



Obstacles may occur or exist on field trips but with good planning and well thought objectives they can achieve the desirable goals.

Another major concern shared by respondents was the poor or low remuneration and lack of motivation for Agricultural science students often make the subject unattractive. The majority of the respondents 88(73.3%) strongly agreed and 25(20.8%) agreed whiles 5(4.2%) disagrees and 2(1.7%) strongly disagreed. According to Tattoo (2007) success in teaching and learning has been determined largely by the ability to motivate both students and teachers along productive lines. As part of the motivational activities, they suggested that clubs should be formed in various schools where Agriculture science is pursued as a major programme.

#### 4.8 Teacher response to challenges in the teaching and learning of Agriculture Science

This section sought to solicit the views of teachers on the challenges to effective teaching and learning of agriculture science in Juaboso and Bia Senior High Schhols.

**Table 4.8 Teachers response to challenges in the teaching and learning of Agriculture Science**

Statement	Remarks and percentages				
	SA	A	UNC	DA	SA
1. Lack of Teaching and Learning Materials (TLMs) hinders the teaching and learning of the subject.	5(45.5%)	6(54.5%)	0	0	0
2. Large class size affects the quality of teaching agricultural science and practical work difficult.	6(54.5%)	4(46.4%)	0	1(9%)	0
3. Difficult in planning field trips.	4(36.4%)	5(45.4%)	2(18.2%)	0	0
4. Poor remuneration and lack of motivation for students make learning agricultural science Unattractive	3(27.3%)	2(18.2%)	3(27.3%)	0	2(18.2%).

Source: Field data. 2016



The findings on table 4.8 show that, 5(45.4%) teachers strongly agreed while 6(54.5%) agreed with the statement that lack of TLMs hinders teaching and learning of Agricultural Science. The findings of the study showed that one of the inability of Agriculture Science teachers to achieve effective teaching of the subject is poor remuneration and lack of motivation makes it unattractive. Majority that is 6(54.5%) of the teachers strongly agreed while 4(46.4%) agreed to the statement that poor remuneration and lack of motivation affects teaching of the subject. The findings established that 4(36.4%) of the teachers strongly agreed while 5(45.4%) agreed that large class sizes affect the quality of teaching and learning of agric science. Furthermore, 2(18.2%) respondents strongly agreed that difficulty in planning field strips pose a challenge to quality of teaching and learning of Agriculture science while 2(18.2%) agreed and 3(27.3%) were uncertain as to how difficulty in planning field trips affects teaching and learning Agriculture. However, 2(18.2%) of the respondents strongly disagreed to the statement that difficulty in planning field trips affects the quality of teaching and learning

The findings is consistent with Egbule (2004), who posited that teaching and of agriculture science is bedeviled with challenges such as inadequate technically qualified teachers, large class size, inadequate finance, insufficient or non-availability of equipment and materials and poor remuneration. Furthermore, 31 teachers representing 25.8% agree with the statement that large class size and lack of motivation is a challenge to teaching and learning of the subject. The study revealed that 66 (55%) strongly agree and 38(31.7%) respondent agree that large class size affects the quality of teaching and learning of agricultural science and practical work difficult whilst 16(13.3%) disagree with the statement.

However, 6(5%) respondents disagree that difficulty in planning field trips is a challenge to teaching and learning of agricultural science. The findings agree with Mobedev and Egbule (2004) who emphasizes that every agricultural teacher must be effective, current in subject matter



and its pedagogy, skillful and hardworking in planning and carrying out instructions appropriately.

#### 4.9 Responses to the methods used in teaching and learning of Agriculture Science

This section sought to find out the views of teachers on the methods used in the teaching of Agricultural science in Juaboso and Bia Senior High Schools. Table 4.8 below provides details information on the above subject.

**Table 4.9 Responses to the methods used in teaching and learning of Agriculture Science**

Methods	SA	A	UNC	DA	SD
1. Lecture and Field trips	3(27.3%)	5(45.5%)	0	2(18.2%)	1(9%)
2. Demonstration and lecture	6(54.5%)	4(36.4%)	0	1(9%)	0
3. Field trips and demonstration	2(18.2%)	3(27.3%)	1(9.1%)	4(36.4%)	1(9.1%)
4. Discussion and demonstration	5(45.5%)	6(54.5%)	0	0	0

Source: Field data, 2016

Table 4.9 above show the methods used in the teaching of Agricultural science. Majority 5(45.5%) agreed that they used conventional lecture method and field trip in their teaching and learning process while 3(27.3%) strongly agreed that they used both lecture and field trips because it permits rapid cover of materials or syllabus. However, 2(18.2%) respondent disagreed and 1(9%) strongly disagreed because of the difficulty in planning field trips. The study revealed 6(54.5%) respondents strongly agreed that they used both demonstration and lecture method while 4(63.4%) agreed that they used both lecture and demonstration methods in the teaching process. The study established that 2(18.23%) respondents strongly agreed while 3(27.3%) agreed that they used both demonstration and field trips in teaching of Agriculture science. However, majority 4(36.4%) disagreed for using both demonstration and field trips. The



respondents indicated that, field trips are expensive to embark on and difficult to evaluate their students hence their unwillingness to use field trips.

The findings revealed that majority 6(54.5%) of the respondents agreed while 5(45.5%) strongly agreed that they used both discussion and demonstration methods in teaching Agriculture Science.

The findings is consistent with Nowark and Walther (2004) who opined that demonstration and discussion methods are generally effective in teaching sciences, mathematics and mechanics as well as subjects areas within vocational and technical education. Gokhale (1996) stated that the demonstration method provides the link between “ knowing about ” and being able to do. The findings also confirm the assertions of Binkley and Tullock (1986) that subject masters who are well experience ensure that ring discussion and demonstration session students participate in the process by contributing problems, analyzing the factors associated with the problems, developing possible solutions to the problems, placing the solutions into action and evaluating the results of the solutions for themselves and the teachers.

#### **4.10 How can students’ perception about the study of agriculture be changed?**

As formidable agents of challenge and generators of wealth and services, young people (youth) needed to be caught young, trained and encouraged to take interest in agriculture. According to the Bible (Proverbs, 22:6) we should train up a child in the way he should go and when he or she grows up, he will not depart from it, so we should train them now to help them to take Agriculture.

All secondary school students both male and females should be made to study agriculture because of its importance to human lives. The youth can invest their skills and knowledge in agricultural works and businesses because they are energetic, inventive and creative. Senior





secondary school students seemed to be the right group of youths to be encouraged and trained to take agriculture as a discipline. Self-efficacy is a “ I can do it ” belief that reflects ones accurate self assessment in his or her ability to effectively adapt and perform necessary tasks in the face of challenging environment. It is an important motivation for people to be successful in their careers. Anxiety in students in agriculture education should be expelled through seminars, workshops and training of the youths. Anxiety, which is an emotion that is experienced in anticipation of some usual ill-defined misfortune influences students’ performance. It has been observed that students fear practical agriculture activities and such fear is characterized by practical involvement required by the students in agriculture. Acquiring behavioural means for controlling potential threats in practical agriculture eliminates anxiety arousal. Behavioural control in practical agriculture not only allows students to manage the aversive aspects an environment (farm), it also affects how the farm is likely perceived by the students, and cognitive appraisals further reduce expected anxiety arousal (Bandura, 1977).

Schools can play a big role in shaping the perception of the youth in agriculture. Teachers of agriculture can use teaching methods which can promote understanding of concepts and skills acquisition for secondary school students; most of the agricultural youth would go into farming as a career to reverse the negative image associated with agriculture. Enhancement is needed in agricultural activities by learners. Enhancement here refers to improvement in agricultural practices for better performance. Enhancement would lead to skill acquisition by learners. To possess a skill is to demonstrate, act, think and behave in specific activity in such a way that the process becomes natural to the individual through repetition or practice. Skills acquisition by students makes them competent to the extent of becoming self-reliance.



## CHAPTER FIVE

### 5.0 CONCLUSION AND RECOMMENDATION

The researcher's major objective was to examine the perception of students on the study of Agriculture science in Juaboso and Bia Senior High Schools. Based on the findings of this work, the following conclusions have been arrived at:

#### CONCLUSION

- The study established that majority 92(76.76) of the respondents were between the ages 20 to 25years. This is good enough since the youth represent the future and hope of every country and the youth is the most productive segment of any society as it contains people in the prime of their lives both physically and mentally.
- Enrolment has been fluctuating from 2011-2015. This trend is not good considering the fact that the development of the agricultural sector depends on young people more especially students, the contribution of agriculture to the Gross Domestic Product (GDP) currently, contributes 31.8% to Ghana's GDP, (GSS, 2010).
- The research established that the majority 45(37.5%) of the respondents were strongly dissatisfied with the school agricultural land use because agriculture is taught theoretically without practical activities. There was no demonstration farm in any of the schools in the study area and this acted as a de-motivation to students and negatively influencing their perceptions towards agriculture subject.



- The research established that students agreed to ten (10) out of the twelve (12) statements on student's positive perception towards agriculture science. The results suggest that agriculture student's perceive the subject as a useful secondary school programme or course. The students perceive the subject as enabling the youth to appreciate the role that agriculture plays even if they will not settle in farming.
- Teaching and learning of Agricultural science in Senior High Schools in the study area are facing challenges. These include large class size couple with inadequate teaching resources and poor remuneration and lack of motivation of teachers, for instance, it has established that majority 6(54.5%) of the teachers agreed that lack of learning resources such as TLM's hinders teaching and learning of agriculture science.

#### **RECOMMENDATIONS:**

- The government through the MOE should maintain its current policy of retaining agriculture as an elective subject as long as students continued with their positive perception about it. Maintaining the current status quo seemed to be what influenced student's perception about agriculture subject positively. This is probably because students who choose agriculture do so because they already have underlying interest in the subject.
- Although students have positive attitude towards agriculture as a subject or a discipline, teachers of agriculture science should enhance students positive perception towards agriculture in their teaching methods positive attitude to learn new skills and interest in agricultural works or business will maximize production. Sensitization of students on importance of agriculture through government policies and the use of extension workers



in secondary schools as subject specialist to speak about mechanized farming may encourage them to study agriculture as a future career.

- The schools did not properly make use of their school farmlands. None of the schools (Juaboso and Bia Senior High) has school garden or demonstration farm. This bad trend should be reversed by the headmasters and agriculture teachers of both schools for the good and continued improvement of student's perception towards agriculture. For schools with in adequate land for a school farm, the following may be done; negotiating with a neighboring farmer to use his or her land, attaching your school to another school or agriculture institution with a piece of land and start projects which do not need a lot of space like poultry and piggery.
- The study found that there was poor usage of TLM's, which served as a disincentive to both the students and teachers, the study therefore recommends that schools should be provided with teaching and learning materials (TLM's) to facilitate learning of agriculture science, hence, improved students perceptions towards agriculture, the government and the parent teacher association (P.T.A) should assist in the provision of the required resources.

Furthermore, teachers of agriculture science need to explore new methods like e-learning.

This is because all the schools used their computer laboratories for computer lessons only.

This can greatly improve student's perception about agriculture subject by its students positively, especially in schools where the headmaster agrees to be supportive.



## REFERENCES:

- Achor E. E, Imoko B, uloko ES (2009) *Effects of Ethno mathematics teaching approach on senior Secondary student's achievement and retention in Focus Ed*. Accessed on 5<sup>th</sup> August,2016 Available : [http:// W.W.W academic journal.org/ ER](http://W.W.Wacademicjournal.org/ER).
- Agena, M (2011). *Increasing Rural Agricultural productivity through technology. A story of a young modern fruit grower in apace, Northern Uganda, East Africa Regional winner of the, CTA Ardyis Essay contest, 2011*. Accessed: 10<sup>th</sup> April, 2016.
- Allen, M. G, Abaye, A.O, McKenna J.R, Camp W.G (2002). *Decision cases versus Traditional Lecture in University Agriculture course*. Retrieved: 5, August 2016 from [http:// W.W.W. ssu. Missouri Edu/ssu /Ag/Ed/NAEM/s-e-2 htm](http://W.W.W.ssu.MissouriEdu/ssu/Ag/Ed/NAEM/s-e-2.htm).
- Amadi, P.N.U (2012). *Agricultural Entrepreneurship Development for the Youth Employment in Nigeria Constraints and initiatives for Improvement*, Journal of Educational social Research vol.2 (10).
- Ampiah, J.G (2002). *Attitude of Junior Secondary Boys and Girls towards science*, Institute of Education, Cape Coast, Ghana: University of Cape Coast.
- Anamuahs-Mensah, J (2002). *The race against under development: A mirage or reality*, Accra, Ghana Universities Press.
- Awuku, K. A, Baiden, S. O, Brese, G.K and Fosu, G. K (1991). *Senior Secondary School Agricultural and Environmental Studies*, London, Evans Brothers Limited.
- Awuku, K.A Baiden, A.A Brese, A.S, and Fosu (2001). *Progress programs me for agricultural education for schools in Ghana*. Unpublished Master of Science Thesis. New York Comers University.
- Bandura, A (1987). *Self-efficacy mechanism in human's agency*. *American Psychologist*, 37(2): 122-147.



- Bargetuny, M.C (1999). *Women's Education and career opportunities in Kenya, Nairobi.*
- Batchweid, M. A. (2001). *Teaching Biology using agriculture as the context: Perception of High School Students, proceedings of the 28<sup>th</sup> Annual National Agricultural Education Research conference New Orleans, L. A. National Agricultural Research conference, December, 12 2001.*
- Bible (2004). *King James Version, Proverb 22:6. Word publishing, Nashville TN P298.*
- Bowen. L and Richman, M (2002) *Middle schools student's perceptions of the school environment. Journal of social work in education, 13-22, 69-82.*
- Brooks, K, Zorya, S. Gautam, A and Goyal (2013). *Agriculture as a sector of opportunity for Young People of Africa, policy Research work paper 6473. Agriculture and Environmental services Department, World Bank.*
- Brophy, J (1998). *Motivation students learn. New York, McGraw-Hills.*
- Broughton, A(2003). *The school success profile Technology, Human services journal.*
- Brown, M. Man key. M, K. Kumar. V and Hunter (2011). *Farming masters: Reclaiming Agriculture for pacific Youth.*
- Brown, P (1996). *An Introduction Research, Ash gate Limited, England.*
- Chikezie, N.P Omokore, D.F, Akpoko J.G and Chikaire, J (2012). *Factors influencing Rural Youth Adaptation of cassava Recommended production practices in Omu-Imo local Government Area of Imo state, Nigeria, Greener Journal of Agricultural sciences Vol.2 (6) Pp259-269.*
- Cooney, T.S (1990). *Learning to Teach, Educational Technology methods materials machines Jos: University Press Ltd Federal Republic of Nigeria (2004). National policy on Educational Federal Government Press, Ltd.*



- FAO (2011), *Promoting Employment and Entrepreneurship for vulnerable Youths in West Bank and the Gaza strip*, 2010. Available: <http://W.W.W.fao.org/docrep/012/14/50e/i1450e00>.
- Fazio, R and Williams, C, (1984). *Attitude Accessibility as a Moderator of Attitude-Perception and Attitude-Behaviour Relation*. *Journal of personality and Social Psychology*, 51,505-514.
- Gachwika.E (1999). *Accelerating the Education of Girls and Women in sub-Saharan Africa*, Nairobi: FAW New magazine 7 (2): s-11
- Gitau, M (2010). *Challenges and issues faced by African Youth in Agriculture*. Accessed, 20<sup>th</sup> June, 2016: Available: [http:// yagrein.blogspot.com/phane.html](http://yagrein.blogspot.com/phane.html).
- Jeral, Greenderg and Robert, A. Baron (1999). *Behavior in organizations*. New York Mcgram-Hill.
- Kangai, E, Mburu, J. Nyikal, R (2011). *Incentives and constraints of financing mechanisms for compliance to Global GAP standards among smallholder Horticultural farmers in Kenya, presented in AGRO 2011, Biennial conference, colleges of Agriculture and Veterinary sciences, University of Nairobi, Kenya, 26-28<sup>th</sup> September,2011*.
- Karma, R (1999). *Research methods*, SAGE publications, New York, Delhi, India.
- Maccoby, E.E and Jack in, C.N (1974). *The psychology of sex Differences standard*, U.S, A: Standard University Press.
- Man gal. H (2009). *Best practices for Youth in Agriculture. The Barbados, Grenada and stain Lucia Experience Final report*.
- Maurer M.J (2001). *Integrating science Education and Career and Technical Education: In brief no.3 Natural Dissemination center for career and Technical Education*.



- Mburu, J, Nyota. A, Nyikal. R, kangali. E, Muchigiriss. S (2009). *Site verification Report: Identification of Sustainable sites for the project Drivers, viability and Livelihood. Impact of compliance with private food safety standards among smallholder Horticultural producers in Kenya, 2009*. Accessed: 20<sup>th</sup>December, 2015.
- Ministry of Food and Agriculture (2011). *Youth in Agriculture program me: Policy strategy and Sustainability*, MOFA, Accra.
- *Ministry of Food and Agriculture Sector Development Policy (FASDEP 2)*. Ministry of Food and Agriculture, Accra, Ghana.
- Modebelu, M.N, Duvie, A.N (20120). *Innovative methods and strategies for effective teaching and learning*, Mediterranean Journal of social science 145-154.
- Morris, S.R and Sheffield, J R (1987). *Agriculture in secondary schools, case studies of Botswana, Kenya and Tanzania*, New York: The African American Institute.
- Okumbe, J.A (1998). *Education management theory and practice*, Nairobi University printing press.
- Naamwintome, B.A and Bag son, E (2013). *Youth in Agriculture, Prospects and challenges in the Sissala Area of Ghana*, *Journal of Agricultural Sciences, Vol.1 (2)*, Pp60-68.
- Ngongi, N (2002). *International conference on Young people, Farming and Food, the future of farm Agric-food sectors* .Accessed on 5August, 2016.
- Okeowo, T.A, Agunbiade, J.B and Agunbiade (199). *Level of involvement of farm children and Agricultural productivity in the 21<sup>st</sup> century, proceedings of the second Annual conference in Agricultural program me (CIAP) held at the conference center, Ile-Ife*, PP 275-282.





- Okiror, J. J, Matsiko, B. F and Oonyus, J (2011). *Just as much can school pupils learn from gardening? A study of two supervised agricultural experience approaches in Uganda*. Journal of Agricultural Education.
- Olaitan, S.O (1988). *Agriculture Education in the tropics, London, Macmillan in the Tropics, London, Macmillan in the tropics*.
- Orodho, J.A (2012). *Techniques of writing Research proposals and Reports in Education and social Sciences*, Nairobi: Kanezjas publishers.
- Orodho, J.A (2014). *Policies on free primary and secondary education in East Africa: Are Kenya and Tanzania on course to attain Education for All (EFA) by 2015?* International Organization of Scientific Research (IOSR), Journal of Humanities and social sciences (IOR-JHSS), Vol. 19, issued Ver. (Janro, 4) pp 11-20, [WWW.iosrjourna.org](http://WWW.iosrjourna.org).
- Osinem, E.C (2008). *Managing Agricultural Education and Training, Resources, principles and methods*, Enugu: Belong International publisher.
- Pacific Agricultural and Forestry Network (2010) Strategy, 2011-2015. *Echoing the voices of pacific Youth Attitudes and perceptions*.
- Powers, J (2006): *Assessing the functioning of schools as learning organizations*. Journal for schools and children, PP13-29. Creativity publishing company.
- Rao, V.S.P and Narayan, P.S (1998). *Organizational Theory*, Delhi: Konark, Publishers, P.V.T Ltd, PP322-357.
- Resmick, J (2002). *High school Agricultural science (2<sup>nd</sup> Ed.)*. Boston: Ally and Stewart press.



- Richlin, I and Cox, M.D (2004). *Developing scholarly teaching and the scholarship of teaching and learning through Faculty learning communities, New Direction for Teaching and learning 2004, vol. 127.*
- Seawall, J (1990). *The effective use of improvised apparatus (3rd ed.)* Boston: Holbrook press.
- Seiders, R. W (1995). *FAO Role in support of Rural Youth programme and possibilities for the future. Prepared by the Agricultural Extension and Education service, Research, Extension and Training Division, FAO, Rome, Italy, 139pp.*
- Seskamwa, J.C (2009). *History and Development of Education in Uganda:* Fountain publishers, Kampala, Uganda.
- Sherry, R (2010). *Student's attitudes and Performance,* <http://W.W.W.goarticles.com/articles>, Accessed on the 5<sup>th</sup> August, 2016
- Shinn G. C, Briers G.E and Christiansen J.E (2003) *Improving students' achievement in Mathematics: An Important role for secondary agricultural education in the 21<sup>st</sup> century, unpublished manuscript, Texas A and M University College station, TX, Retrieved from [http:// W.W.W.teamaged.org/Ag\\_Ed](http://W.W.W.teamaged.org/Ag_Ed), Research work Group, monograph mathematics.*
- Sweeter, E.A (1984). *Field trips and teacher liability (3<sup>rd</sup> Ed.)*. New York: MacKay Press.
- Bilgins, I (2006). *The effects of hands on activities incorporating a cooperative learning of Baltic science Education, 5(1), 27-37.*
- Tattoo, M.T (2007). *Reforming teaching globally, Cambridge: Cambridge University Pres.*



- Thijs, J (2011). *Ethnic differences in teacher-oriented achievement motivation: A study among early adolescent students in the Netherlands*. The Journal of genetic psychology, 172(2), 12-140.
- Uloko E.S (2006). *Effects of ethno mathematics teaching approach on students' achievement in Locus at senior secondary school level*, unpublished Med Thesis, University of Nigeria, and Nsukka.
- Van der Geest, K (2010). *Rural Youth Employment Developing countries: A Global view*, FAO, 2010.
- Veselinovskas, S.S (2006). *The effects of teaching methods on cognitive achievement, retention and attitude among in Biology studying*, Journal of Educational sciences 4(1):175-185.
- Whitehead, T.I (2002). *Community Base intervention, Definitions and Types, the cultural Ecology of Health and change (CEHC), working papers series*.
- Williams J, McClure. M (2010). *The effects of teaching Methods in leadership knowledge Retention. An Experiential Design of Lecture, Experiential and Public Pedagogy*, J Leadership Edu. 9(2):86.
- Williams, I. Lindsey. M (2010). *Rural leaders and leadership Development in Pennsylvania*, Accessed, 20<sup>th</sup> July, 2016. Available: <http://ickm.orgiar.org/youth-in-agriculture>.
- World Bank (2008). *World Development Report, 2007. Development and the next generation*, Washington, D.C.
- Yin, R.K (1993). *Case Research Design and methods*, Beverly's Hill, SAGE.
- Younger, M (2013). *Changing perceptions of farming in Ghana*.



APPENDICES

Appendix D

UNIVERSITY FOR DEVELOPMENT STUDIES

FACULTY OF AGRICULTURE

DEPARTMENT OF AGRICULTURE EDUCATION

QUESTIONNAIRES FOR STUDENTS

The questionnaires forms part of Master's thesis at the University for Development Studies on the topic; Examining the perception of Students on the study of Agriculture science as subject in Senior High schools in Juaboso and Bia west Districts in Western region of Ghana. All information offered will be treated confidentially and the results Presented in such a way that no individual may be recognized. Please provide correct information by ticking [ ] in the appropriate boxes and fill in the blank spaces where necessary.

1. Name of your School.
2. Gender: Male [ ] Female [ ]
3. Age. 15-19 [ ] 20-25 [ ] 26-29 [ ]
4. State your year of study. From-1 [ ] From-2 [ ] From-3 [ ]
5. What is your parents occupation?.....

.....

6. Why are you studying Agricultural science as a subject at the senior High School?  
.....  
.....

7. Did you consider farming as a career opportunity before pursuing agriculture science?



8. If Yes or No, in question 5, above state your reasons (s).....  
.....
9. Do you have land allocated for practical agricultural activities in your school?  
.....  
.....
10. If yes in (6-above) state the estimated size of the demonstration farm.  
.....  
.....
11. What ways by which people perception affects the studies of agriculture science?  
.....  
.....
12. What teaching methods are mostly used by teachers in teaching of agricultural science?  
(A) Demonstration and lecture [ ] (B) Lecture and Discussion [ ] (C) Discussion and  
Demonstration [ ] (D) Field trips and lecture
13. What factors do you perceive affect the quality of teaching and learning of agriculture  
science?.....  
.....
14. Indicate your level of satisfaction with land allocated for Agricultural projects in your school.
- (a) Strongly satisfy
  - (b) Satisfy
  - (c) Dissatisfy
  - (d) Strongly dissatisfy
15. What is your level of satisfaction with your school agricultural land use?
- (a) Strongly satisfy
  - (b) Satisfy



(c) Dissatisfy

(d) Strongly dissatisfy

16. What is your level of satisfaction with proper maintenance of farm tools?

(a) Strongly satisfy

(b) Satisfy

(c) Dissatisfy

(d) Strongly dissatisfy

17. What is your level of satisfaction with adequacy of Agricultural workshops?

(a) Strongly satisfy

(b) Satisfy

(c) Dissatisfy

(d) Strongly dissatisfy

18. What is your assessment of students' level of satisfaction with garden or farm tools?

(a) Strongly satisfy

(b) Satisfy

(c) Dissatisfy

(d) Strongly dissatisfy



19. What is the perception of students in the involvement in the following agricultural activities?

Farming is for the school dropouts and illiterates.					
Agriculture is a bad business.					
Agriculture promotes poverty.					
Agriculture is for the less privileged in the society.					
Agriculture is meant for the aged.					
Agriculture generates low income.					
Agriculture reduces ones status in society.					
Agriculture products attract low income.					
Learning agriculture helps to develop a positive attitude towards farming.					
Secondary school agriculture enables students to develop skills necessary for self-reliance and self-employment.					



Learning agriculture promotes students career opportunities.					
Learning agriculture helps to contribute to economic development in the communities.					

Student's perception about Senior High School agricultural science

Strongly agree=5, Agree =4, Uncertain=3, Disagree=2, strongly disagree=1.

20 .List and rank the challenges to teaching and learning of agriculture science and what can be done to solve it.

Challenges	Rank	What can be done to solve it?

21. Agriculture is a very difficult subject to study? Yes [ ] No [ ]

22. What influence for your choice of answer in 19-above?

.....

.....

What do you think should be done to improve the image of agriculture science?

.....





APPENDIX E

UNIVERSITY FOR DEVELOPMENT STUDIES

FACULTY OF AGRICULTURE

DEPARTMENT OF AGRICULTURE EDUCATION

QUESTIONNAIRE FOR TEACHERS

The questionnaire forms part of Master's thesis at the University for Development Studies on the topic: Examining the perception of students on the study of Agriculture science as a subject in Juaboso Senior High and Bia Secondary and Technical schools in western region of Ghana. All information offered will be treated confidentially and the results presented in such a way that no individual may be recognized. Please Provide the correct information by ticking [ ] in the appropriate boxes and also fill in the blank spaces where necessary,

1. Name of your school.

2. Gender:

Male [ ]

Female [ ]

3. Age (a) 1-19 years [ ]

(b) 20-29 years [ ]

(c) 30-49 years [ ]

(d) 50-59 years [ ]

4. What is your level of academic qualification?

(i) H N D

(ii) B. ED

(iii) Postgraduate

(d) Others (specify).



5. What teaching methods you often use in teaching Agriculture science?

.....  
.....

6. Which method (s) do you consider the most suitable for teaching Agriculture science?

.....

7. State reasons for your choice in (6) above.....

.....

8. Do you have land allocated for practical agricultural activities in your school?

.....

9. What are the available teaching and learning resources in your school?

.....  
.....

10. State three effects of people's perception about you in the teaching and learning of agriculture science. ....

.....

11. What teaching techniques are used mostly in the course of your teaching?

.....  
.....

12. State your choice of the teaching techniques in (11) above.

.....  
.....

13. What factors do you perceive affect the quality of teaching and learning Agriculture sciences?

.....  
.....



14. What has been the trend of your enrollment over the past four years in agriculture science?

Y Year	Enrollment in Agriculture in Juaboso and Bia Senior High schools.	Total candidature in Juaboso and Bia Senior High schools.	Percentage
2012			
2013			
2014			
2015			

15. List and rank the challenges to teaching and learning of agriculture science in Senior High school and what can be done to overcome it.

Challenges.	Rank	What can be done to solve it?

16. What are the ways by which the image of agriculture science can be improved in your school?

.....

.....

Thank you.

