

Perspectives of Agricultural Students at the University for Development Studies on Farming as a Livelihood in Ghana

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ABSTRACT

The study aims to examine the perceptions of agriculture students in a Ghanaian University regarding farming as a sustainable livelihood after graduation. This study is grounded in the structuration theory. The target respondents for the study consisted of 105 final-year agriculture students from the Faculty of Agriculture. A total of 83 students were considered for the sample size which was determined using the Yamane (1967) sample size determination formula. The study adopted a descriptive survey design, anchored in the positivist paradigm. The study used a structured questionnaire for data collection. Descriptive statistics were employed for data analysis. The results revealed that a significant proportion of the students (46.1%) resided in rural areas where agriculture is the primary livelihood activity. Also, the study revealed that about 38.2% of the participants expressed willingness to grow food crops for their livelihood. The findings of the study further revealed that working in an educational institution (Mean= 3.0) was the most preferred livelihood option among participants. The study revealed that the major challenge deterring participants from pursuing farming as a sustainable livelihood is a lack of initial capital to start farming, with 67.1% of participants indicating this as a demotivating factor. The study recommended that government and other stakeholders should provide the necessary incentives in agriculture to arouse students' interest in taking up agriculture-related careers after graduation as a means of livelihood in Ghana.

Keywords: Livelihood, occupation, farming, means, perception.

INTRODUCTION

Agriculture is widely recognized as a crucial driver of economic growth, playing a vital role in poverty reduction and hunger alleviation, particularly in countries where it serves as the primary occupation for the rural poor (World Bank, 2008; Mwabu, 2020). In developing countries, agriculture is the backbone of their economies, contributing significantly to GDP and employing a large share of the workforce (FAO, 2018). Agriculture is a critical source of foreign

exchange, essential food, and income for over half of sub-Saharan Africa's population (Jayne et al., 2016). For instance, the agriculture sector does not only contribute to Ghana's GDP but also absorbs a lot of labour forces and provides raw materials for industrial growth and development (Abban, Ze, & Fangfang, 2021). Thus, meaningful progress in fostering economic growth, reducing poverty, and enhancing food security can be achieved in most of these countries by fully developing the agricultural sector's human and productive capacities to augment its contribution to the overall economic and social development (Mozumdar, 2012; Breisinger et al., 2012; Odetola & Etumnu, 2013).

According to Reisch et al. (2013) and Dawkar et al. (2012) a nation's population influences food demand and supply. According to these researchers, a growing population results in increased demand for agricultural output. Given Ghana's population of about 30,832,019 (Ghana Statistical Service, 2021) enhancing agricultural productivity and generating employment throughout the agricultural supply chain is essential (Ali et al., 2021). In Ghana, agriculture constitutes one-fifth of the country's GDP and employs approximately half of the workforce, with 41.9% engaged in crop and livestock production, fishing, and the processing and marketing of agricultural products (ILO, 2017). Agricultural sector considered as the backbone of the Ghanaian economy, serves as the primary source of livelihood for the majority of Ghana's poorest households (Ghana Agriculture Sector Policy Note, 2017). Consequently, Ghana must prioritize its agricultural sector to meet food demand and supply for both domestic consumption and exportation. Despite its economic importance, Ghana's agricultural sector is still underdeveloped in terms of both domestic and export production (Diao et. al, 2019). Consequently, the country has become a net importer of vital food items such as rice, poultry, sugar, and vegetable oils, owing to the low yields in both staple and cash crops (FAO, 2021).

LITERATURE REVIEW

Theoretical Framework

The study was anchored in the structuration theory developed by Anthony Giddens (1990) as a social theory. The theory explains how both authoritative and allocative resources are used in farming as a means of sustainable livelihood of agricultural students after graduation. The theory is underpinned by two predominant ways: (1) by drawing on allocative resources (i.e. raw materials, land, technology, equipment); and (2) authoritative resources (i.e. communication skills, organization of time-space, interpersonal connections) in order to get people to act in some way (Tucker, 1998). Giddens (1984) claims that the knowledgeable social actor knows a great deal about the circumstances of self and others' actions, including consequences of these actions in day-to-day life. He terms this knowing as knowledgeability, which is a central feature of structuration theory. In this study, allocative resources are those that agricultural students have little or no control over, but it still a determinant for their success in using farming as a sustainable livelihood and examples are initial capital, rain, land and roads among others. To facilitate the farming activities of the agricultural students after graduation, initial capital serves as a bridge in facilitating easy access to agricultural inputs. Peet (1998) described authoritatively as capabilities that wield control over the human agent. Authoritative resources come in when students make use of knowledge gained, information, rules, and norms in farming. There is a direct link between food security and education because basic numeracy and literacy skills help to improve the livelihoods of the peasant farmers. Formal education both primary and secondary can provide the youth with basic numeracy and literacy, managerial and business skills to farming with tertiary agricultural education

providing more specific knowledge related to agriculture. In this study, the structuration theory shows how the agricultural students who stand for human agent and resources which correspond to structures come together to explain human action.

Economic Analysis of Agriculture in Ghana

Despite the high relevance of the agricultural industry and its recognition as being central to Ghana's economic fortunes, the sector has experienced decreases in the country's GDP since the 1970s. Delving into the economic history of agriculture in Ghana, the agricultural industry once employed approximately 60% of the country's economically active citizens in 2000 (Ghana Statistical Service, 2019a). By 2016, the agricultural industry employed 36.1% of the country's active labor force, remaining the largest employer in the country (Ghana Statistical Service, 2017). Although the agricultural industry continues to be the largest employer, there has been a decline in its rate over the decades. This fact is reflected in the trend of the contributions of the agricultural sector to the nation's Gross Domestic Product (GDP). A comparative analysis of the country's GDP from the 1970s to 2022 demonstrates that Ghana's agricultural industry has gradually lost its prominence.

Over the past few decades, the agricultural sector's contribution to Ghana's Gross Domestic Product (GDP) has experienced significant fluctuations. In the 1970s, agriculture accounted for 60% of the country's GDP. This contribution decreased to 54% in the 1980s and further dropped to 36% in the 1990s (Ghana Statistical Service, 2017; 2019). By 2000, the agricultural industry's contribution to the country's GDP had slightly increased to 37%. However, this upward trend did not last, as the sector's contribution dropped to 23% in 2012 and 21.1% in 2013. In 2017, the agricultural industry's contribution to the country's GDP stabilized at 21.2% (Ghana Statistical Service, 2017; 2019). In the year 2019, the agricultural sector contribution further drops to about 20% to Ghana's gross domestic product (GDP) as cited in Abban, Ze, & Fangfang (2021). In the year 2022, the share of agricultural sector contribution to Ghana's gross domestic product (GDP) declined to about 18.78 percent (MoFA, 2022).

In monetary terms, Ghana's GDP from agriculture experienced a decline from 10,264.10 million GHC in the first quarter of 2022 to 8,366.50 million GHC in the second quarter (Trading Economics, 2022). This data highlights the inconsistent efforts towards developing the agricultural sector, which has resulted in the inability of agricultural production to meet the increasing demand for food both domestically and globally. To address these challenges, Ghana needs to invest in its agricultural sector by adopting innovative technologies, improving infrastructure, providing adequate training and resources to farmers, and implementing policies that support sustainable agricultural development (World Bank, 2021). By doing so, Ghana can enhance its agricultural productivity, meet the growing food demands, and boost its GDP in the long run.

Factors Influencing Agricultural Production

A decline in agricultural productivity has the potential to adversely impact a nation's total GDP and several factors contribute to the decline in agricultural productivity. These factors include low literacy, over-reliance on rainfall, insufficient financing, poor infrastructure, deteriorating soil fertility, irregular rainfall, proliferation of pests and diseases, and seeds and fertilizer issues among others (FAO, 2021; World Bank 2021).

Pests and diseases constitute prevalent challenges for farmers in sub-Saharan Africa (Norman, as cited in Benjamin et al., 2012). This threat posed by pest infestations and plant diseases has become a paramount concern for most farmers, leading to substantial damage to agricultural yields and consequential economic losses (Demi & Sicchia, 2021; Sugri et. al, 2017). Extensive research suggests that adopting organic fertilizers stands out as the most effective and cost-efficient approach to enhance soil fertility and mitigate the impact of pests and diseases on cash crops (Benjamin et al., 2012). This approach not only addresses the immediate challenge of pest and disease control but also contributes to the sustainable management of agricultural systems. As farmers grapple with the complexities of pest and disease management, the utilization of organic fertilizers emerges as a promising avenue for promoting both ecological and economic flexibility in sub-Saharan Africa's agricultural landscape (Vanlauwe et al., 2017).

Seeds and fertilizers also stand as pivotal elements in agricultural production, influencing the success of farmers and the overall productivity of the agricultural sector (Barr et al., 2019; Micheal et al., 2022). High-quality seeds are key determinants of farmers' success. Conversely, limited access to such seeds hampers agricultural productivity (Madin et al., 2022). The challenges faced by most farmers in Ghana in securing high-quality seeds and fertilizers are well-documented in the existing literature. These challenges encompass limited financial resources, inadequate infrastructure and distribution networks, climate variations, and other factors (Abu, 2014; Dickinson et al., 2017). financial complexities stand as a critical challenge to small-holder farmers in the Northern Region of Ghana. In their study titled 'Seed Security among Smallholder Farmers in Semi-arid Ghana,' Micheal et al. (2020) identified immediate concerns among farmers, extending beyond non-climatic issues to encompass government subsidies for seeds and fertilizers. This highlights that farmers often face challenges in accessing seeds and fertilizers due to pricing factors. Supportively, Joshua et al. (2019) affirms this by asserting that affordability remains a persistent issue, impacting not only seed acquisition but also the accessibility of fertilizers.

Research has identified rainfall and temperature variations as significant challenges to agricultural production. While variations in rainfall can directly impact crop production, temperature fluctuations can contribute to severe decreases in soil fertility (Fahad et al., 2017; Kyei-Mensah et al., 2019). These factors, when combined, pose considerable challenges to sustainable agricultural practices. Fortunately, Ghana possesses an abundance of water resources, including streams, rivers, and lakes suitable for fish production and crop irrigation). The country's climatic conditions are generally favorable for agricultural production. In the southern part of the country, there are two rainy seasons: the first lasting from March to July and the second from September to October. These conditions provide ample opportunities for the Southern part of the country to harness its agricultural potential. On the other hand, the northern part of Ghana experiences only one rainy season, which occurs from July to September (Ministry of Food and Agriculture, 2017). In response to the challenges posed by climate change on agricultural output in the northern region, the Government of Ghana has implemented the "one village, one dam" policy, aimed at supporting farmers' irrigation processes during periods of unpredictable rainfall and temperature (Ministry of Special Development Initiatives, 2020).

Governments of Ghana over the years have implemented several policies to enhance agricultural production in the country but many of these policies seem to have fallen short in attracting the youth to pursue farming. Nsiah (2018) confirms this observation by stating that

even the block farm programmes launched by the government which were designed to target the youth in agriculture have not been successful in attracting the youth to farming as intended in the policy design. Thus, it is essential to understand the reasons behind the youth's lack of interest in agriculture as a means of livelihood. According to a study by Kwarteng et al. (2020), factors such as low income, lack of access to credit, and limited access to land and other resources are among the reasons why the youth are not interested in farming. Additionally, the study found that the youth perceive farming as a low-prestige occupation and are more interested in pursuing white-collar jobs (ibid). However, to encourage youth participation in agriculture and maximize Ghana's potential in agriculture, there is a need for policies that would address the factors that discourage youth from farming. Such policies could include providing access to credit and land, improving infrastructure, and promoting the benefits and potential of agriculture as a viable career option for the youth. By implementing such strategies (World Bank, 2021), Ghana can foster a new generation of skilled, motivated farmers, stimulate the youth's interest in agriculture, promote sustainable agriculture, contribute to increased agricultural productivity, and secure its food supply and a stronger national economy in Ghana.

Agricultural Produce in Ghana

Agriculture plays a significant role in Ghana's economy, contributing to both employment and GDP. The country is known for its diverse agricultural produce, ranging from industrial crops to cereals, legumes, fruits, and vegetables (Ghana Statistical Service, 2019b). Industrial crops such as cocoa, oil palm, coconut, coffee, cotton, kola, rubber, cashews, shea, and soya beans serve as critical sources of income and raw materials for various industries (Ghana Statistical Service, 2019b). Ghana is the world's second-largest cocoa producer, with cocoa being the country's primary agricultural export (World Bank, 2020). Oil palm is another vital industrial crop, with the sector contributing significantly to the national economy (Asante, Mensah, & Adekunle, 2020). In terms of cereals and legumes, Ghanaian farms produce cassava, cocoyam, yam, plantain, maize, rice, millet, sorghum, cowpea, and groundnut. Cassava is a staple food in many Ghanaian households, and it serves as an essential food security crop (Amankwah, Barimah, & Adu-Appiah, 2019). Similarly, maize is a significant food crop, playing a crucial role in the local diet (Morris, Binswanger-Mkhize, & Byerlee, 2009). Fruit and vegetable production is also widespread in Ghana, with pineapple, citrus, banana, pawpaw, mango, tomato, pepper, okra, garden eggs, onion, butternut squash, and Asian vegetables being cultivated (Ghana Statistical Service, 2019b). Pineapple, for instance, has become a valuable export commodity for the country (Asuming-Brempong, Asuming, & Kuwornu, 2018). Livestock rearing, including cattle, sheep, goats, pigs, and poultry, is another important agricultural activity in Ghana. Despite some studies showing that most people prefer livestock production over crop production (Ayanda et al., 2012; Ojebiyi et al., 2015), crop farming remains predominant in the country (Ghana Statistical Service, 2019b). Nevertheless, livestock farming contributes to food security and rural livelihoods by providing essential protein sources and additional income opportunities (Aboe, Boa-Amponsem, Okantah, & Dorward, 2005). Ghana's agricultural sector is diverse, with a wide range of crops and livestock produced across the country. This diversity contributes to the country's economic growth, food security, and rural development.

Farming as a Sustainable Livelihood

In Sub-Saharan African countries, agriculture is often viewed as a traditional occupation for individuals with minimal or no formal education. Those who have limited access to schooling frequently inherit and manage family farms (Adebo & Sekumade, 2013). Farming is

predominantly carried out by older individuals or uneducated young people (Edwin Obwoye & Kibor, 2016; Njeru, 2017). Many African farmers are in their mid-50s to 70s, and they tend to be less actively involved in farming (Diao et.al., 2019; Myeni et. al., 2019; White, 2020). This decline in active farming has adversely affected agricultural productivity across the continent because young people in the 21st century perceive farming as a profession suitable only for the elderly, uneducated, and impoverished rural dwellers (White, 2020). To counter this perception, agriculture should be promoted as a viable enterprise among the youth to enhance agricultural efficiency, yields, and value chain systems (Ghana Statistical Service, 2019b). However, some young people associate farming with poverty and often seek alternative white-collar jobs, which they believe offer more lucrative income prospects (Sentsho, 2016).

According to Sanusi (2011), as cited by Salui et al. (2016), argued that farmers are among the poorest of the poor, noting that over 105 million people in rural Nigerian communities, primarily farmers, live below the poverty line of one dollar per day. Similar conditions exist in Ghana, with a substantial portion of the population living on less than \$1.25 per day (World Bank, 2022). In 2022, nearly 3.4 million Ghanaians were living below the poverty line, with the majority residing in rural areas. Of those living on less than \$1.90 per day, approximately 3.1 million were in rural areas, and 265,000 were in urban areas (Dokua, 2022). This data indicates that rural inhabitants, who are predominantly farmers, are generally considered poor and as a result, many young people are discouraged from considering farming as a career choice (Salui et al., 2016). Therefore, engaging youth in agriculture is crucial for securing the future of the agricultural sector. However, many young individuals are reluctant to pursue careers in agriculture, particularly as farmers (Agumagu, Ifeanyi-obi, & Agu, 2018).

Sustainable Livelihood in Farming as Used in The Context of This Study

Traditionally, farming served as a means of sustenance. However, a transformative shift has occurred, with farming now increasingly recognized as a sustainable livelihood (Balcha, 2013). This shift goes beyond a mere change in perspective; it represents a comprehensive approach aimed at securing the well-being and resilience of farmers and their communities (Rakod, 2014; Quandt, 2018). In context, farming as a sustainable livelihood is the ability of agricultural students to engage in farming activities to maintain and enhance their well-being in a lasting manner, without compromising the ecological integrity of their environment and ensuring the prosperity of future generations (National Research Council, 2010). In this study context, sustainable livelihood encompasses three key dimensions; economic, environmental, and social sustainable livelihood.

The economic dimension, the emphasis lies on income generation for the long-term viability of farming practices (Pienaar & Traub, 2015). Achieving economic sustainability as farmers (agricultural students) goes beyond short-term profitability, focusing on consistent income generation to help provide for their basic needs as farmers and ensuring a stable foundation for their well-being (Balcha, 2013; Flora, 2018). This fundamental well-being as stipulated extends to securing food, housing, and healthcare which form the bedrock of sustaining the farmer (Flora, 2018) in the context of this study, the agricultural students.

Environmental dimension is anchored in a commitment to do responsible environmental practices such as organic farming and efficient irrigation aiming to minimize ecological impact and promote long-term vitality and productivity of cultivated soil (Athuman, 2023). Moreover,

climatic change is a natural factor that significantly impacts agriculture production (Micheal et al., 2022), therefore, agricultural students are required to adopt techniques to sustain them in farming. Isaac et al. (2021) proposed crop diversification and agroforestry as means to enhance biodiversity and safeguard farmers' livelihoods. These environmental practices are anticipated to boost productivity, contributing to the income needed for sustaining livelihoods (Isaac et al., 2021).

The social dimension of sustainable farming revolves around interpersonal and community factors influencing individual health, prosperity, and quality of life, especially in adapting to changes or challenges (Portney, 2013). This social approach places emphasis on ensuring equitable access to resources within communities which benefits individual farmers and the overall sustainability of the farming ecosystem (Knickel et al., 2018). Kumar et al., (2015) opined that sustainable agriculture practices actively integrate social infrastructure through initiatives like farmer cooperatives and market linkages. These initiatives empower individual farmers, fostering collaboration, resource-sharing, and knowledge exchange, thereby contributing to their success within the farming profession (Kumar et al., 2015).

The Youth in Farming in Ghana

Ghana's population includes a significant number of economically active young people who have the potential to contribute consistently to the labor force and add sustainable value to agricultural production. According to statistics, the youth make up 4,077,618 (36.0%) of the agricultural population. Encouraging young people to pursue farming as a viable livelihood option could boost agricultural production for both domestic consumption and international revenue. However, low market prices for agricultural products result in many farmers earning insufficient income, leading young people to perceive farming as a profession for the impoverished, which impacts their willingness to pursue it as a livelihood. Thus, farming is primarily undertaken by older farmers who rely on traditional farming methods and equipment (Salui et al., 2016). This situation supports the assertions made by Diao et al. (2014) and Kansanga et al. (2019) that the government needs to take more direct action in providing farmers with subsidized mechanical agriculture equipment as part of their economic reform strategies to boost agriculture production. To motivate the youth to actively engage in farming, education is essential. Educational initiatives should not only aim to alter their perception of farming as merely a source of food production but also raise awareness and inspire them to view farming as a long-term income-generating opportunity (Agumagu, Ifeanyi-obi, & Agu, 2018).

Statement of the Problem

The potential of farming as a sustainable livelihood for the youth could be significantly influenced by education. Ayanda (2012) argues that graduates with agricultural degrees should ideally have a passion for agriculture. Recognizing the crucial role of education in advancing agricultural development, particularly farming, the Ghanaian government has taken decisive steps to incorporate agriculture as a subject in secondary school curricula. Additionally, agricultural studies are available at universities, and agricultural colleges have been established in some regions across Ghana. These initiatives aim to encourage young people to consider agriculture as a sustainable livelihood option. However, despite the employment opportunities available in farming, some graduates prefer alternative careers which might be non-existent, rather than making farming their primary livelihood (Agumagu, Ifeanyi-obi, &

Agu, 2018). Agricultural students, who are generally between 22 and 30 years old, often show reluctance to pursue career paths related to the field of agriculture which is a valuable opportunity for countries to enhance agricultural production and economic productivity (Saliu, Onuche, & Abubakar, 2016; Adebo & Sekumade, 2013). Against this backdrop, this study aims to investigate the perceptions of final-year agricultural students at the University for Development Studies regarding farming as a means of sustainable livelihood after graduation.

Objectives of the Study

The research seeks to;

- a. Assess the socio-economic characteristics of final-year agriculture students at the University for Development Studies.
- b. Determine the willingness of the final-year agriculture students to take up farming as a sustainable livelihood
- c. Identify the livelihood preferences among final-year agriculture students other than farming.
- d. Investigate the perceived challenges against the willingness of final-year agriculture students to take up farming as a sustainable livelihood.

METHODOLOGY

Research Design

The study employed a descriptive survey design, anchored in the positivist paradigm. The descriptive survey design was deemed appropriate since it allowed for a systematic investigation of the socio-economic characteristics, willingness, preferences, and perceived challenges among final-year agriculture students at the University for Development Studies. This design enables a detailed examination of the specific facets related to students' inclinations toward farming as a sustainable livelihood. Descriptive surveys are recognized for their effectiveness in providing a comprehensive and structured overview of participant responses, making them well-suited for investigations that aim to assess, determine, identify, and investigate specific attributes within a targeted population (Creswell, 2017; Fraenkel et al., 2012). By employing this design, the study can meticulously capture and analyse the nuanced perspectives of agriculture students, contributing valuable insights to the understanding of their perceptions regarding farming as a sustainable livelihood.

Sampling and Sample Size Selection

The target population for the study include all 105 final-year agriculture students in the 2021-2022 academic year from the Faculty of Agriculture, Food, and Consumer Science at the University for Development Studies (UDS) Participants were sampled from the following departments; Crop Science Department, Animal Science Department, Horticulture Department, and Agriculture and Consumer Sciences Education Department.

The researchers used the Yamane (1967) formula to determine the sample size for the study. Considering the total population of 105 final-year agriculture students in the faculty, the sample size for the study was set at 83 to ensure a representative of the population. The researchers employed a simple random sampling technique to select the 83 students for the study. The questionnaire was administered to the 83 students sampled for the study. Participants were given ample time to respond to the questionnaire. However, only 76 of the participants completed the questionnaire, while 7 opted out. This resulted in a return rate of 91.6%.

Therefore, the study included 91.6% of the target respondents in its sample. While substantial sample size is crucial for representativeness, it's important to acknowledge that the relationship between sample size and the accuracy of participants' responses, as suggested by Asiamah et al. (2017), may vary across different contexts. While a larger sample can enhance representativeness, the direct translation of participants' responses to a true reflection of the entire population is not universally guaranteed.

Data Collection Instrument

The study used a structured questionnaire for the data collection. The instrument was organized into four sections. Section 1 aimed at capturing the socio-economic characteristics of agriculture students at the University, encompassing five factors: age range, gender, place of residence, fathers' and mothers' livelihoods, and farming experience. Section 2 contained eleven statements to gauge respondents' predisposition towards adopting farming as a sustainable livelihood, while Section 3 featured six statements to elicit preferences for alternative livelihoods. The final section presented fifteen itemized statements outlining challenges that might deter respondents from choosing farming as a sustainable livelihood. In total, the questionnaire comprised 39 items, excluding options for respondents to provide additional information, such as specifying their responses.

The reliability (internal consistency) of the questionnaire items was meticulously validated before data collection to ensure the robustness of the instrument. This validation process utilized the Alpha Cronbach Model within the SPSS software, adhering to the guidelines outlined by Creswell (2010) and cited by Azhar et al. (2018). The questionnaire exhibited a high Cronbach alpha coefficient of $\alpha=0.87$, signifying excellent internal consistency and confirming the instrument's reliability for the study. This result is consistent with the recommendation of Daud et al. (2018), who propose that a Cronbach alpha value exceeding 0.80 indicates an exceptionally high level of reliability.

Data Analysis

The data was analysed using descriptive statistics on SPSS 26.0. Statistics such as frequencies, percentages, and means were calculated to summarize and interpret key aspects of the data collected. The frequencies and percentages were used to analyse the data on the socio-economic characteristics of participants, participants' willingness to take up farming as means of sustainable livelihood, and perceived challenges against participants' willingness to take up farming as a sustainable livelihood. Mean was also used to compute statistical data on the livelihood preferences of participants in areas other than farming. These statistical measures facilitated a clear understanding of the distribution, central tendencies, and general trends within the dataset. This approach aimed to present a concise and meaningful depiction of the research variables, enhancing the interpretability of the study results.

RESULTS AND DISCUSSION

Table 1: Socio-Economic Characteristics of Agriculture Students at The University

Variables		Frequency	Percentage (%)
Ages	19-21	11	14.5
	22-24	30	39.5
	25-27	23	30.3
	28-30	5	6.6

	31-33	6	7.9
	34-above	1	1.3
	Total	76	100.0
Sex			
	Male	62	81.6
	Female	14	18.4
	Total	76	100.0
Reside			
	Rural Area	35	46.1
	Urban	22	28.9
	Peri-Urban	19	25.0
	Total	76	100.0
Mothers Livelihood			
	Self-Employed	65	85.5
	Paid Employed	6	7.9
	Others	5	6.6
	Total	76	100.0
Fathers Livelihood			
	Self-Employed	59	77.6
	Paid Employed	11	14.5
	Others	6	7.9
	Total	76	100.0
Farming Experience			
	Yes	70	92.1
	No	6	7.9
	Total	76	100.0

Source: Field survey, 2022

Table 1 depicts the socio-economic characteristics of agriculture students at the University for Development Students. The Socio-economic characteristics studied include; the age distribution of participants, Sex, Participants' Residence, Father and Mother's livelihood, and students' farming experience.

Age Distribution of Participants

The age distribution of the 76 students who studied agriculture at the University, as indicated in the table, revealed that 30 students forming the majority, with 39.5% were between the ages of 22-24 years, followed by 23 participants who were within the ages of 25-27 years with a percentage of 30.3%. This finding is in line with Agumagu et al. (2018) and Ayanda et al. (2012), who found that the majority of the agricultural students at the University of Port Harcourt (UNIPORT), Rivers State University of Science and Technology (RSUST), and Kwara State University, were adolescents who were between the ages of 22-27 years. 11 of the participants, constituted 14.5% were within the age bracket of 19-21 years. Those between the ages of 31-33 have (6 students = 7.9%), 28-30 having (5 students = 6.6%), and 34 above obtaining (1 student = 1.3%), respectively.

Deducing from the age distribution of the agriculture students who participated in the study, it could be realized that almost all the participants were within their young, energetic ages, which is a strength that every country would want to have. All the agricultural students fall within the

labour force, which is a potential strength for a country in its quest to increase agricultural and economic production at large (Saliu, Onuche, & Abubakar, 2016; Adebo & Sekumade, 2013). This also confirms the statement by Agumagu, Ifeanyi-obi, and Agu (2018) that the youth must be engaged in agriculture to ensure a successive farming generation.

Gender Distribution of Participants

Table 1 also shows the sex distribution of the agricultural students at the University for Development Studies. Of the 76 participants, 62 were males constituting 81.6%, while the remaining 14 (18.4%) were females. This implies that the male students who studied agriculture at the University were more than the females. However, it could mean that the interest of females in pursuing agriculture as a career option could be higher. This study contradicts the findings of Ayanda et al. (2012) and Saliu, Onuche, & Abubakar, 2016 that the gender disparity among agricultural students of the University students of Kogi State and Kwara State University was minimal, that is to say, the agriculture education in those Universities recorded minimal disparity in enrolment in terms of gender. The finding confirms the assertion that females are usually under-represented in agricultural research and higher education, but notwithstanding, they play a very pivotal role in global agricultural production (Shisler & Sbicca, 2019; Zaremohzzabieh et al., 2022).

Participants' Place of Residence

Most (46.1%) of the agriculture students were residents of rural areas where agriculture is mainly practised as a livelihood (Hudcová et al., 2018; Saliu, Onuche, & Abubakar, 2016). 28.9% stayed in the urban area, while the remaining 25% of the participants resided in the peri-urban area.

Parents Livelihood

Parents' livelihoods have also been investigated; the results are presented in Table 1. Referring to Table 1, students' parents were dominantly self-employed. It was realized that 77.6% of the agriculture students had their fathers working as self-employed, 14.5% of them had their fathers working as paid employees, and 7.9% of the participants revealed that their fathers were unemployed and others on retirement. The mother's livelihood, on the other hand, also shows that the majority of the students' mothers were self-employed with a percentage of 85.5%, followed by 7.9% whose mothers worked as paid employees, while 6.6% had their mothers unemployed and retired. Concerning students' parental livelihood indicated earlier, most of the participant's parents were self-employed. This finding affirms the trends identified in the literature, wherein individuals often transition to self-employment upon starting a family. This trend is substantiated by a range of studies, including those conducted by Zhang and Zhao (2015) and Ebberts and Piper (2017). While these cited studies encompass various sectors and do not specifically target the agricultural context, the patterns identified in this research within the agricultural domain in Ghana resonate with the established correlations highlighted in the literature.

Participants Farming Experience

In other to find out whether or not the agriculture students of the University have any farming experience, the researcher measured the variables using a Yes or No question. Table 1 indicates that most participants (92.1%) had farming experience, while the remaining 7.9% had no farming experience. With this finding, it can be factually stated that the agriculture students of

the University had farming experience before admission into the University. The farming experience motivated them to study agriculture at the University. This finding is in line with the work of Agumagu, Ifeanyi-obi, and Agu (2018) and Adebo and Sekumade (2013), who postulated that their participants had farming experience before their admission into the University.

Table 2: Willingness of Agricultural Students to take up farming as a means of sustainable livelihood

Student's willingness	Frequency	Percentage (%)
I am willing to take up mixed farming	16	21.1
I am willing to grow food crops	29	38.2
I am willing to rear livestock	18	23.7
I am willing to grow tree crops	3	3.9
I am willing to grow mushroom	1	1.3
I am willing to go into poultry farming	6	7.9
I am willing to go into fish farming	2	2.6
I am willing to keep bees	1	1.3
Total	76	100.0

Source: Field survey, 2022

Table 2 indicates the willingness of agricultural students to take up farming enterprises as a means of sustainable livelihood. From Table 2, 38.2% of the students showed interest in growing food crops, 23.7% of them were also willing to rear livestock, and 21.1% were willing to go into mixed farming. 7.9% of the students were interested in poultry farming, while 3.9% were also willing to grow tree crops. Only about 2.6%, 1.3%, and 1.3% of these students were willing to venture into fish farming, mushroom growing, and beekeeping, respectively. This finding denotes that most of the agriculture students at the University were willing to grow food crops as their means of sustainable livelihood. This opposes the statement of Ayanda et al. (2012) and Ojebiyi, Ashimolowo, Odediran, Soetan, Aromiwura, and Adeoye (2015) that agriculture students prefer livestock production over crop production.

Table 3: Livelihood preferences of Participants in other areas other than farming

Livelihood Preferences	Mean
I Prefer to work in an educational institution as a teacher	3.000
I prefer to work in a privately owned agricultural company	1.777
I prefer to work as a civil servant in the Ministry of Agriculture	1.444
I prefer to be self-employed in the food processing industry	0.333
I prefer to work in an agricultural bank	0.333
I would love to work in a commercial Bank	0
I would love to work in non-governmental organisations	1.111
I prefer to be involved in agricultural marketing	0.222
I prefer to own my private agriculture company and operate my own business	0.222

Source: Field Survey, 2022

Students were asked to select from nine livelihood options, the one which is the most preferred other than farming. These options include; working in an educational institution (Mean = 3.000), working in a privately owned agricultural company (Mean = 1.777), working as a civil

servant in the Ministry of Agriculture (Mean = 1.444), being self-employed in the food processing industry (Mean = 0.333), working in an agricultural bank (Mean = 0.333), working in a commercial bank (Mean = 0), working in a non-governmental organization (Mean = 1.111), involve in agricultural marketing (Mean = 0.222), and owning their own private agriculture company or operating their own business (Mean = 0.222). These results show that the majority (3.0) of the agriculture students at the University preferred to work as teachers in an educational institution. Except for the livelihood option, "working at a commercial bank with zero means, the rest of the career options were related to their field of study. Comparatively, apart from the fact that the agriculture students are not willing to work in commercial banks, working at agricultural marketing institutions, and owning a private agriculture company, operating their businesses were the least preferred career options among the students in case they do not venture into farming. This categorically shows a high dislike among agriculture students in the University for pursuing agricultural-related enterprises as their means of sustainable livelihood. This confirms the assertion of Agumagu, Ifeanyi-obi, and Agu (2018) that agriculture students are highly unwilling to take a career path related to their programme of study. This is a serious state that may affect the development of the agriculture industry in our country. This finding supports the recommendation by Agumagu, Ifeanyi-obi, and Agu (2018) that the government, agriculture lecturers, and other stakeholders involved in training agriculture students must act accordingly to induce them to pursue agriculture-related livelihood after graduation.

Table 4: Perceived challenges against the willingness of Agriculture students to take up farming as a sustainable livelihood. (n= 76)

Variables	Percentage (%)	Rank
Insufficient initial capital	67.1	1 st
Inadequate credit facilities	6.6	2 nd
Poor storage facilities	6.6	2 nd
High cost of improved seeds and fertilizers	3.9	5 th
Inaccessibility of land	5.3	4 th
High premium from the insurance company	2.6	6 th
Poor returns on investment	1.3	9 th
Feelings that farmers are not respected	2.6	6 th
High cost of farm machinery	2.6	6 th
High incidence of pests and diseases	1.3	9 th

Source: Field Survey, 2022

Table 4 presents the perceived challenges against the willingness of agriculture students of the University to take up farming as their sustainable livelihood. As indicated in table 4, the students rated insufficient initial capital as the critical challenge that makes them unwilling to take up farming as their means of sustainable livelihood. This challenge was rated 67.1%, which means more than half of the participants share the same sentiments that insufficient initial capital to start farming is a big challenge to them. This is followed by inadequate credit facilities and poor storage facilities (6.6%) each, inaccessibility of land (5.3%), high cost of improved seeds and fertilizers (3.9), high premiums from insurance companies, feelings that farmers are not respected, and high cost of farm machinery placing 6th with a percentage value of 2.6%. Also, participants' responses showed that the high incidence of pests and diseases and poor returns on investments were the least ranked challenge (1.3% each) that influenced their

willingness to take up farming as their sustainable livelihood. This implies that most of these students would love to practice farming as their sustainable livelihood if they have sufficient initial capital.

CONCLUSION

All the participants fall within the labour force, which is a potential strength for the country to boost agricultural and economic production at large. The study revealed that a greater number of male students pursued agricultural studies at the University compared to their female counterparts. This can be concluded that there is a disparity in the enrolment of male and female students in the University. Most agriculture students were residents in rural areas where agriculture is the main livelihood. The agriculture students had a farming experience which likely stimulated and motivated them to study agriculture at the University. The study concluded that most of the agriculture students at the University were willing to grow food crops as their means of sustainable livelihood. Also, there was a high level of unwillingness among students to pursue agricultural-related career options such as farming as their sustainable means of livelihood due to insufficient initial capital. This challenge was revealed as paramount among other challenges. Therefore, the study concludes that agriculture students would prefer and be willing to practice farming as their means of livelihood if there is sufficient initial capital to start, adequate credit facilities, and better storage facilities available.

RECOMMENDATION

1. The study recommends that Universities that are accredited to run agriculture programmes must take a deliberate policy to admit more females to give equal opportunity to both males and females to mitigate gender disparity in the agriculture industry.
2. The study further recommends that the government, agriculture lecturers, and other stakeholders involved in educating the students must act accordingly to arouse the students' interest in taking up agriculture-related careers after graduation.
3. Considering the expressed interest of agricultural students in cultivating food crops as their sustainable livelihood, it is crucial to address the identified barrier of 'lack of initial capital.' It is recommended that support programs for youth in farming not only focus on providing technical assistance but also include mechanisms for offering financial capital to aspiring farmers. The government, particularly through the Ministry of Agriculture should ensure that initiatives like 'Planting for Food and Jobs' encompass financial support for starters to significantly contribute to overcoming the key challenge identified by the participants and encourage them to pursue farming as their sustainable livelihood after graduation.
4. The agricultural science subject, including practical aspects, should be compulsory in the Ghanaian education system from Early Childhood Care and Education to the Senior High School curriculum; this would intensify awareness of the importance of agriculture as a livelihood in the socio-economic development of the nation.

Ethical Considerations

Ethical considerations were paramount throughout the research process. In conducting this study, utmost care was taken to ensure the protection of participants' rights, confidentiality, and privacy. Informed consent was obtained from all participants, and ethical guidelines were strictly adhered to in the data collection, analysis, and reporting.

Declaration of Conflicting Interests:

The authors declare no conflicts of interest. The study is conducted with transparency and integrity.

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