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Engaging Youth in Agriculture: Drivers, Barriers, and Policy Options for Career Participation in Kenya

Authors:
George Nyarigoti Mose[1] [https://orcid.org/0000-0002-8742-2008]
Sussy Munialo[2] [https://orcid.org/0000-0001-6684-9021]

Affiliations:
[1]School of Agriculture and Environmental Sciences (SAES), Murang'a University of Technology, Kenya

[2]African Research Universities Alliance Centre of Excellence in Sustainable Food Systems, University of Pretoria, Pretoria, South Africa

Corresponding Author
George Nyarigoti Mose– E-mail: gmose@mut.ac.ke

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Abstract

Rising food demand amid population growth and environmental challenges calls for increased youth engagement in agriculture. In many developing countries, this role is still dominated by ageing farmers. This study examined the career intentions of college-educated youth in Kenya using the Theory of Planned Behavior (TPB) and Entrepreneurial Cognition frameworks. A sequential mixed-methods approach involving 266 final-year university students revealed that over 80% expressed strong intentions to pursue agriculture-related careers. These intentions were shaped by attitudinal, normative, and perceived behavioral control factors (TPB), as well as cognitive traits such as opportunity recognition and problem-solving. Key influences included family background—particularly prior farming exposure—and educational experiences. Contrary to the narrative of youth disinterest, respondents showed strong aspirations toward agriculture, although gendered differences were noted in perceived barriers, such as land access and cultural norms. Despite challenges like limited capital, labor intensity, and inadequate support, many youth remained committed to agricultural careers. The study highlights the need for age- and gender-responsive interventions. Recommended policy actions include establishing a Youth Agrifinance Window, enhancing exposure to agrifood innovations, creating Land Leasing Platforms, and integrating Agripreneurship Hubs in universities to support incubation and help convert youth intentions into active agricultural participation

Keywords: Youth, Agriculture,Youth engagement,Careers, Entrepreneurial cognition, Agripreneurship

Introduction

Africa is experiencing high fertility rates, which are projected to result in a doubling of the human population by 2050 (Guengant and May 2013). This population growth will be driven mainly by

youth, with approximately 60% of the population under 24 years old (Mwaila&Yousif,(2022).For example, young people below 24 years old in Kenya currently comprise 35.4% of the population (World Bank, 2014). By 2050, it is estimated that around 450 million new workers will enter the job market, most of whom will be young people below 24 years old.

Youth are increasingly seen as dynamic agents in agricultural transformation (Oluwatayo& Ojo, 2024). With the proper knowledge, skills, and opportunities, they could significantly contribute to economic development in African countries (UN, 2015). However, youth unemployment rates remain alarmingly high. Between 2006 and 2016, approximately 16 to 20 million youth entered the labor market, but only a small fraction of them were able to secure employment ((International Labour Organization [ILO], 2025). Consequently, the unemployment rate among youth more than tripled from 12% in 2006 to 40% in 2016 (Ibid). In Kenya, youth unemployment is significantly higher than the national unemployment rate, accounting for 35% of total unemployment (Kenya Country Report on Youth Employment, 2014). This high unemployment rate among youth has led to a national working poverty rate of 46% and an even higher rate of 50% among young people (International Labour Organization, 2020; World Bank, 2023). Additionally, this pervasive youth unemployment poses a challenge to social and political development and hinders progress toward achieving sustainable development goals in African countries (UN, 2015).

The Role of Agriculture in Youth Employment and Economic Transformation

Agriculture holds the potential to provide sustainable employment opportunities for the youth if they receive the necessary support to transform it into entrepreneurial ventures (Bruton, *et al*., 2013; Díaz-Pichardo, *et al*., 2012; Sinyolo*et al*., 2018). Beyond traditional farming roles, there is significant potential for job creation in rural non-farm economic activities related to the agricultural value chain, processing, supply chain management, and agribusiness services (Nziku and Struthers, 2021). The agricultural sector offers a unique opportunity to simultaneously address youth unemployment, ensure food and nutrition security for future generations, and stimulate economic growth (Nziku& Struthers, 2021). Recognizing this potential, many African governments have initiated measures to increase youth engagement in agriculture (Yami, *et al*., 2018). Such initiatives include the African Youth Charter (AYC) by the African Union in 2006, the declaration of the Youth Decade Plan of Action (2009 to 2018), the establishment of the Youth Desk in the New Partnership for Africa's Development (NEPAD) (NEPAD, 2016), and the Comprehensive African Agriculture Development Program (CAADP) (AGRA, 2016). The government has developed the Agribusiness Strategy in Kenya to promote youth involvement in agriculture (Ministry of Agriculture, Livestock, and Fisheries, 2017).

Despite various initiatives to promote youth involvement in agriculture, participation remains relatively low in Kenya compared to neighboring countries (Otiende, Mose & Otieno, 2020; Mugo & Kinyua, 2023). According to the Kenya Youth Agribusiness Strategy (2017–2021), only 10 percent of youth are directly engaged in agriculture. Research indicates that young people face significant barriers, including limited access to land, capital, and farming technologies, which are crucial for agricultural productivity(Mugo & Kinyua, 2023). Furthermore, most youths lack agribusiness skills, knowledge, and information to engage in agricultural occupations

(Nziku, &Struthers, 2021). A study by Afande, *et al*., (2015) highlights that youth engagement in agriculture is declining despite the sector being a key driver of economic growth.

The Ministry of Agriculture, Livestock, and Fisheries (2018) also reports that youth comprise 35 percent of Kenya's population, yet the agricultural sector directly engages less than 10 percent of the youth labor force. Studies including Barratt, *et al*., (2012) and Daum and Birner (2017) report that youth often perceive agriculture negatively, viewing it as offering limited employment opportunities, being physically demanding, or as a sector characterized by outdated farming practices that yield low productivity and inadequate income. These challenges underscore the need for research that target interventions to improve youth access to agricultural resources and create more opportunities for meaningful participation in the sector.

As a result, many young people opt to leave the agricultural sector in favor of fast-growing non-agricultural sectors in urban areas (Nziku, & Struthers, 2021). Additionally, educational levels have been shown to influence youth perceptions of agriculture, with those who have completed secondary education or higher levels being more unlikely to participate in the sector (Magagula, *et al*., 2020). Studies have also indicated that youth may have varying perceptions of different agricultural enterprises, with some viewing certain agricultural activities, such as dairy farming, as more efficient and profitable than others (Shireesha, *et al*., 2018). Furthermore, the lack of role models and mentors has contributed to the low participation of youth in agriculture (Njeru, 2017).

Most studies examining the relationship between youth and agriculture in Africa have treated youth as a homogeneous group, failing to acknowledge their diversity in terms of education level, family background, gender, profession, and interests related to farming (Yami, *et al*., 2018). This homogenous treatment of youth may affect the effectiveness of government initiatives aimed at increasing youth participation in agriculture (UN Women. (2021). In reality, youth comprise a heterogeneous group with varying backgrounds, aspirations, capabilities, expectations, and interests (Shireesha *et al*., 2018). Therefore, it is essential to develop adapted interventions tailored to different youth segments' backgrounds, aspirations, perceptions, and interests (Yami, *et al*., 2018).

Examining the perceptions of agriculture among youth and categorizing them into different groups based on factors such as educational background, gender, income levels, and more can yield valuable insights for designing customized interventions (UN Women., 2021). For instance, cognitive abilities can influence youth perceptions of agriculture (Magagula and Tsvakirai, 2020).Individuals with higher education levels have better decision-making and problem-solving skills, enabling them to manage higher-level agribusiness ventures (Ibid). Additionally, family background can influence the choice to engage in specific agricultural enterprises, as youth who have observed their parents participating in certain activities tend to have greater adaptability and resilience skills in those domains (Yami, *et al*., 2018). Gender dynamics also play a significant role in shaping the preferences of young men and women when it comes to agricultural enterprises, with each gender group having distinct potentials and preferences (Shireesha, *et al*., 2018). Recognizing the diversity among youth can help develop more effective policies and interventions that attract youth to the agricultural sector (UN Women., 2021).

In the recent years, the Government of Kenya launched various initiatives to address the challenges that hinder effective youth participation in the agricultural sector (GoK 2018; OtiendeMose, & Otieno, 2020). These challenges encompass negative perceptions of the sector, limited access to training and resources, and constraints related to financial services and land accessibility (GoK, 2018).Among the notable initiatives are the Kenya Youth Agribusiness Strategy 2018-2022, the Makueni Youth Agripreneurs (MYA) project, the Resilience Agriculture for Youth (RAY) project, 4-K and Young Farmers Clubs, and the Youth in Agribusiness (YIA) program. The primary objectives of these initiatives are to reshape the mindset and perceptions of youth regarding agribusiness, equip them with essential agribusiness skills, knowledge, and information, facilitate access to affordable and youth-friendly financial services for agri-preneurship, and promote sustainable land access and utilization among young individuals engaged in agriculture(Otiende, Mose, & Otieno, 2020).Additionally, collaborative efforts between UNICEF, the Kenyan government, and Generation Unlimited have led to the implementation of programs such as BeGreen Africa and Engaging Kenyan Youth in Agriculture and Nutrition (EKYAN) (UNICEF Kenya 2023). These programs are strategically designed to support young Kenyan entrepreneurs within the agricultural sector, aiming to improve livelihoods.

However, despite these efforts, little evidence demonstrates a significant change in youth behavior (Otiende, Mose, & Otieno, 2020; Mugo & Kinyua, 2023). Instead, the change appears to be incremental rather than exponential (Mugo & Kinyua, 2023). It is from these that this study employs a well-established behavioral change framework, specifically the socio-psychological model, the Theory of Planned Behavior (TPB) to unravel the reason. In addition, it integrates the Theory of Entrepreneurial Cognition to comprehensively investigate the factors that underlie youth attitudes toward farming and agricultural-related livelihoods. Furthermore, the study aims to determine the barriers and drivers that impede or promote youth engagement in agriculture. The paper is organized as follows: the subsequent section presents the theoretical framework that underpins the research, followed by the methods section in the third part. The results are presented in section 4 and discussed in section 5.

Theoretical framework

The Theory of Planned Behavior (TPB)

The Theory of Planned Behavior (TPB) (Ajzen, 1991, 2012) is a social-psychological framework commonly utilized to explain and predict human behavior. In this paper, it is employed to analyze the youth attitudes toward engaging in agricultural-related careers. The Theory of Planned Behavior posits that a person's intention (BI) is a strong predictor of their actual behaviour (B) (Ajzen, 1991). Furthermore, it argues that an individual's attitude (ATT) toward a behavior, subjective norms (SN), and perceived behavioral control (PBC) are the key factors influencing a person's intention to engage in a particular behavior (Ajzen, 1991).Specifically, a person's attitude (ATT) represents the extent to which they hold a favorable or unfavorable evaluation of a given behavior. Subjective norm refers to an individual's perception of whether their peers and significant individuals would approve or disapprove of their engagement in a particular behavior. Behavioral control is related to a person's assessment of the ease or difficulty associated with

performing the behavior of interest. This assessment is based on their understanding of whether they will have access to the required resources and other anticipated perceptions regarding resource availability and expected obstacles. In this context, the TPB model seeks to elucidate the factors influencing young individuals' decisions to engage in agricultural-related occupations. The application of TPB may provide valuable insights in understanding the motivational drivers behind youth engagement in the sector. Several studies have employed the Theory of Planned Behavior (TPB) to examine how attitudes, subjective norms, and perceived behavioral control influence the adoption of agricultural technologies, participatory extension approaches, conservation practices, and entrepreneurial activities (Mose, 2025; Timpanaro et al., 2023; Pambo, *et al*., 2018). In the context of youth agripreneurship, TPB offers a robust framework for understanding and harnessing positive perceptions of agriculture, social support, and perceived resource access to shape career intentions in the sector.

Theory of Entrepreneurial Cognition

The Theory of Entrepreneurial Cognition posits that entrepreneurial behavior is fundamentally shaped by how individuals think—specifically, the mental models, heuristics, and information processing styles they use to identify, evaluate, and exploit opportunities (Mitchell.,*et al*., 2002). Central to this theory are cognitive constructs such as opportunity recognition, risk perception, and problem-solving ability, which are influenced by personal attributes, (e.g., education, experience) and the socio-economic environment. These cognitive processes determine how individuals interpret entrepreneurial challenges and whether they view obstacles, such as limited capital, as surmountable or prohibitive (Magagula, *et al*., 2020).
Entrepreneurship is highly socially embedded in the context of this research, and it involves participation in agriculture and agribusiness. For example, socio-economic and demographic factors—particularly education level—play a pivotal role in shaping cognitive approaches. Educated individuals are often better equipped with analytical and creative skills, enhancing their ability to navigate uncertainty and recognize viable agribusiness opportunities. Despite this potential, youth engagement in agriculture remains low. The Kenya Youth Agribusiness Strategy (2017–2021) estimates that only 10% of youth are directly engaged in the agricultural sector, which lags behind regional counterparts and reflects a broader trend of rural-to-urban migration and declining interest in agrarian livelihoods.

This study integrates the Theory of Planned Behavior (TPB) with the Entrepreneurial Cognition Approach to explore how cognitive factors influence agripreneurial intentions among university-level students. Specifically, hypothesizes that entrepreneurial cognitive factors—such as opportunity recognition and risk tolerance—moderate the relationship between Perceived Behavioral Control (PBC) and entrepreneurial intention. For instance, highly educated students with strong opportunity recognition may interpret capital constraints not as barriers but as challenges that can be strategically overcome—thereby strengthening the PBC-intention linkage (Figure 1).

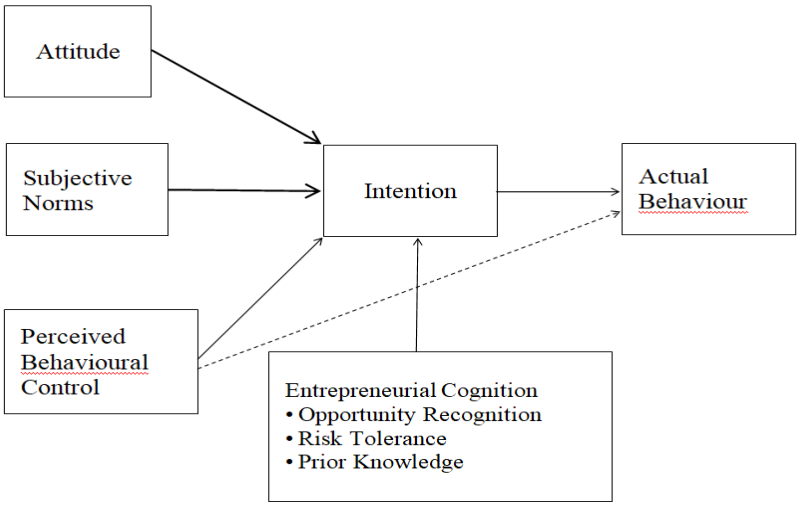

Figure 1: Integrating Theory of Planned Behavior and Entrepreneurial Cognition

Research Methodology

This study employed a sequential exploratory mixed-methods design (Creswell, 2012), beginning with collecting and analyzing quantitative data, followed by qualitative data to help explain and contextualize the quantitative findings. This approach was chosen to provide both breadth and depth in understanding the factors influencing youth intentions to engage in agriculture. Anon-probability convenience sampling technique was used to select participants for the quantitative phase. Undergraduate students were drawn from two public universities in Kenya, purposively selected based on their geographical diversity—one located in a rural setting and the other in an urban area. The selection aimed to capture diverse socio-economic and cultural perspectives that may influence agricultural engagement. A total of 350 structured, self-administered questionnaires were distributed to final-year students. Out of these, 266 valid responses were obtained (143 males and 113 females), yielding a response rate of approximately 76%. Ten responses were excluded—seven due to incomplete data and three due to respondents being over the target age limit of 35 years. Only data from students aged 35 years and below were considered in alignment with the study's focus on youth.

The questionnaire consisted of 26 items measuring the three core constructs of the Theory of Planned Behavior (attitude, subjective norms, and perceived behavioral control), socio-demographic variables, and external influences such as family background and access to resources. All items were rated on a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). To deepen understanding of the survey findings, follow-up focus group discussions were conducted with a purposive subsample of student respondents. These discussions explored how participants interpreted agricultural opportunities, perceived barriers, and the influence of cultural and familial factors. Qualitative data were analyzed thematically using an inductive approach (Braun & Clarke, 2006), with emergent themes integrated into

interpreting quantitative results. This rigorous, mixed-methods approach enabled data triangulation, enhancing the validity and depth of the study's conclusions regarding youth intentions to pursue agribusiness careers.

Results

Table 1 below presents an overview of the demographic attributes of the study participants. There were more male respondents than female counterparts. Furthermore, a significant majority of the respondents, specifically 92%, fell within the age range of 19 to 25 years, with the majority being undergraduate students, although a smaller proportion (6.3%) were pursuing postgraduate studies. Regarding professional backgrounds, over one quarter (26%) of the respondents identified agriculture as their primary occupation, followed by those engaged in humanities and social sciences, with science professionals comprising of one fifth (20%). Conversely, the business related category exhibited a relatively lower (3.5%) representation among the respondents.

Table 1
Demographic characteristics of the respondents

Variable	Category	Frequency	Percentage
Gender	Male	143	55.9
	Female	113	44.1
Age	19-25	239	93.4
	26-35	14	5.5
	>40	3	1.2
Education	Diploma	5	2
	Undergraduate	235	91.8
	Postgraduate	16	6.3
Profession	Agriculture	67	26.2
	Science	53	20.7
	Engineering	46	18
	Health Sciences	29	11.3
	Humanities and Social Sciences	52	20.3
	Business related	9	3.5

Intention to engage in agriculture

As illustrated in Table 2, 44.9% of the respondents indicated a positive intention to engage in agriculture-related activities upon graduation. In comparison, 18% expressed a negative intention, while an equivalent proportion remained undecided. Further analysis revealed that respondents from farming family backgrounds were significantly more inclined to pursue agriculture, with 65.1% indicating positive intent. In contrast, only 26% of respondents from non-farming family backgrounds reported a similar inclination. These findings suggest that familial exposure to farming may play a critical role in shaping youth attitudes and career intentions within the agricultural sector.

Underlying Factors Shaping Respondents' Intentions to Pursue Careers in Agriculture

Table 2 presents an overview of underlying factors that influence youth's intentions to pursue careers in agricultural-related occupations. These factors have been categorized into three distinct groups: family background, socio-cultural factors, and socio-economic considerations.

Table 2
Factors influencing the intention of college youth to engage in agriculture

Value	Standard error	P value
Intercept	3.211	0.0000*
Age	0.870	0.0001*
Knowledge	1.002	0.0003*
Gender	0.512	0.6493
Family background factors		
Family engaging in agriculture	0.551	0.0000*
Value chain families engage in	0.628	0.0000*
Value chain preference	0.255	0.0000*
Socio-cultural factors		
Unattractive	0.188	0.584
Not profitable	0.226	0.0372*
Earn respect	0.203	0.0033*
Uneducated	0.253	0.0062*
Socio-economic factors		
Lack of capital	0.271	0.0022*
Lack of land	0.256	0.527
Lack of market	0.241	0.012*
No skills	0.208	0.530
No family support	0.239	0.436
Hard labour	0.257	0.010*

***Shows significant p-value**

Family Background Factors Shaping Respondents' Intentions

Family engagement in agriculture was a strong predictor of intention ($\beta = 0.55$, 95% CI [0.42, 0.68], $p < .001$), accounting for an additional 12% of the variance ($\Delta R^2 = .12$) in agripreneurial intention. Specifically, the respondents' levels of knowledge about agriculture, their preferences within the agricultural value chain, family involvement in agriculture, and the specific agricultural value chain activities practiced by their families were identified as key determinants.Notably, a significant majority, over 70%, reported having a strong knowledge base in farming. Among the respondents, approximately 33% preferred crop production, 21% indicated an inclination towards livestock production, and 27% expressed interest in value addition activities (Figure 2). In contrast, a lower percentage, 19%, expressed intent to pursue marketing-related activities within the agricultural sector.Furthermore, a significant proportion of respondents, over 75%, had family members actively involved in farming. The prevailing

agricultural practices within their families were primarily concentrated in crop production (33%), followed by livestock farming, marketing activities, and value-addition endeavors. In a few instances, families were engaged in mixed farming, encompassing crop and livestock production.

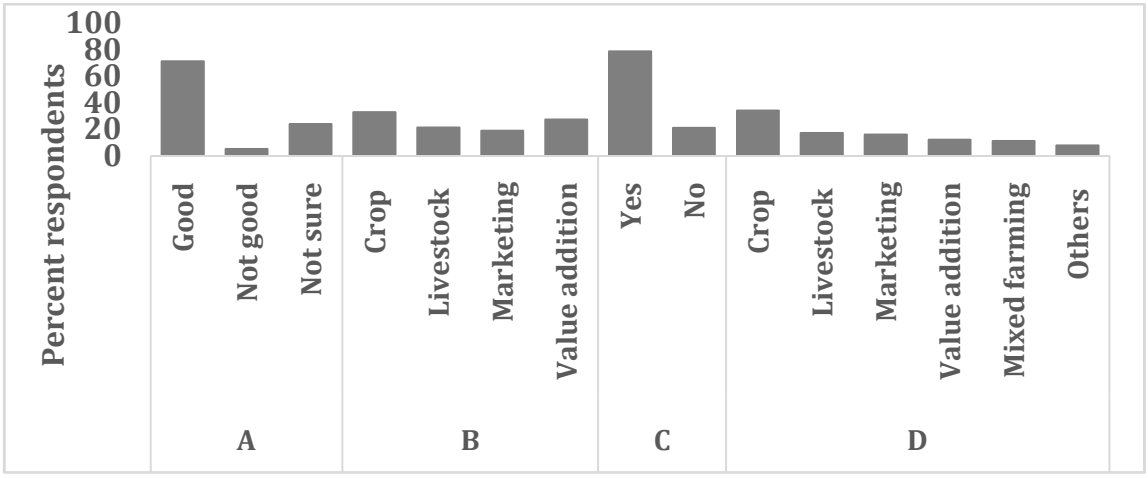

Figure 2: The percentage of respondents showing A, B, C, D-Knowledge to practice farming, Value chain preference, family engaging in agriculture, Value chain practiced by family

Socio-Cultural Factors Influencing Respondents' Intentions to Engage in Agriculture

The findings of this study demonstrate that socio-cultural perceptions play a pivotal role in shaping respondents' intentions to pursue agriculture as a career. Perceptions related to the profitability of agriculture, its association with educational attainment, and its potential to confer social respect were found to significantly influence career intentions ($p < 0.0001$). A substantial majority of respondents (84%) strongly disagreed or disagreed with prevailing stereotypes that depict agriculture as unattractive, economically unrewarding, or suitable only for individuals with limited education, indicating broadly positive socio-cultural attitudes toward the sector.

Beyond socio-cultural influences, several socio-economic constraints were also examined for their effects on youth intentions. Limited access to capital, inadequate market access, and the labor-intensive nature of farming emerged as statistically significant barriers, consistent with findings reported in earlier studies (Mose, 2025; Afande et al., 2015; Njeru, 2017; Anyidoho et al., 2012). Notably, however, the present study reveals a divergence from traditional narratives that portray these constraints as prohibitive. This shift may reflect changing mindsets among educated youth, increasingly shaped by exposure to modern agricultural innovations and expanded opportunities within higher segments of the agricultural value chain. Emerging technologies such as greenhouse farming, hydroponics, vertical farming, precision agriculture, and aquaponics are gaining traction among young people due to their efficiency, scalability, and reduced reliance on traditional resources (FAO, 2014; World Bank, 2019). Familiarity with these alternative production and marketing models may be reframing capital and land constraints as manageable challenges rather than absolute barriers to agricultural engagement.

Table 3
Respondents' Levels of Agreement on Socio-Cultural Factors Influencing Intentions to Engage in Agriculture

Attitude	Level of agreement	Frequency	Percent
Agriculture is unattractive	Strongly disagree	110	43.0**
	Disagree	105	41.0
	Don't know	9	3.5*
	Agree	23	9.0
	Strongly agree	9	3.5
Not profitable	Strongly disagree	123	48.0**
	Disagree	63	24.6
	Don't know	20	7.8
	Agree	19	7.4*
	Strongly agree	31	12.1
For uneducated	Strongly disagree	46	18.0
	Disagree	160	62.5**
	Don't know	44	17.2
	Agree	9	3.5*
	Strongly agree	20	7.8
To earn respect	Strongly disagree	46	18.0
	Disagree	65	25.4
	Don't know	74	28.9**
	Agree	50	19.5
	Strongly agree	21	8.2*

** denote a higher percentage of agreement *show a low percentage of agreement.

Table 4: Socio-economic factors of shaping respondents intention to engage in agriculture

Reason	Level of agreement	Frequency	Percent
Lack of capital	Strongly disagree	56	21.9
	Disagree	92	35.9**
	Don't know	36	14.1
	Agree	57	22.3
	Strongly agree	15	5.9*
Lack of access to land	Strongly disagree	57	22.3
	Disagree	95	37.1**
	Don't know	26	10.2
	Agree	53	20.7
	Strongly agree	25	9.8*
Lack of market access	Strongly disagree	77	30.1
	Disagree	82	32.0**
	Don't know	36	14.1
	Agree	36	14.1

	Strongly agree	25	9.8*
Lack of skills	Strongly disagree	85	33.2**
	Disagree	88	34.4
	Don't know	28	10.9
	Agree	41	16.0
	Strongly agree	14	5.5*
Lack of family support	Strongly disagree	104	40.6**
	Disagree	90	35.2
	Don't know	32	12.5
	Agree	16	6.3
	Strongly agree	14	5.5*
Hard labour	Strongly disagree	100	39.1**
	Disagree	90	35.2
	Don't know	13	5.1*
	Agree	34	13.3
	Strongly agree	19	7.4

** denote a higher percentage of agreement *show a low percentage of agreement

Age of respondent versus socio-cultural factors influencing intention to engage in agriculture

The findings indicate that age influences youths' perceptions of socio-cultural factors associated with engagement in agriculture. Across both age groups (19–25 and 26–35), a large proportion of respondents strongly disagreed or disagreed with the perception that agriculture is unattractive, suggesting generally favorable attitudes toward the sector. Similarly, an overwhelming majority (84%) of respondents in both age categories rejected the notion that agriculture is unprofitable.

Negative stereotypes linking agriculture to low educational attainment were also largely dismissed. Approximately 63% of respondents aged 19–25 and 26–35 strongly disagreed that agriculture is suitable only for the uneducated, indicating that most youth perceive agriculture as compatible with higher levels of education. However, perceptions regarding social respect derived from engaging in agriculture were more varied. While 44% of respondents disagreed that agriculture confers social respect, 28% agreed with this view, and nearly one-third (29%) expressed uncertainty. These mixed responses suggest that the symbolic and social status associated with agricultural careers remains contested among youth, despite generally positive perceptions of the sector's economic attributes.

Age of respondent versus socio-economic factorsinfluencing intention to engage in agriculture

Age-related differences were evident in perceptions of socio-economic factors influencing youth intentions to engage in agriculture. Respondents aged 19–25 were less likely to view capital constraints as a major barrier, whereas a higher proportion of those aged 26–35 perceived limited capital as a significant challenge. Limited access to land was widely regarded as an obstacle across both age groups, with 60% of younger respondents and 50% of older respondents agreeing or strongly agreeing that land constraints hindered engagement in agriculture.Perceptions of

market access differed more sharply by age. A large majority (78%) of respondents aged 26–35 identified lack of markets as a key barrier, suggesting greater sensitivity to commercialization challenges among older youth. Hard labour was consistently perceived as a constraint across both age categories, with 74% of respondents acknowledging its limiting effect.In contrast, lack of skills was largely dismissed as a barrier, as about 70% of respondents in both age groups disagreed or strongly disagreed with this assertion. However, a minority of older respondents (28%) expressed concern over skills deficits. Lack of family support was generally not viewed as a constraint, particularly among younger respondents, although uncertainty was higher among those aged 26–35. The results underscore the importance of age-sensitive approaches to addressing youth-specific barriers in agriculture.

Gender Differences in Socio-Cultural Influences on Agricultural Career Intentions

The analysis reveals notable gender-based variations in socio-cultural perceptions influencing respondents' intentions to engage in agriculture. Female respondents were more likely than their male counterparts to strongly reject the view that agriculture is unattractive, suggesting a more favorable disposition toward the sector among women. Perceptions regarding the profitability of agriculture were similar across genders, with an equal proportion (48%) of both male and female respondents strongly disagreeing that agriculture is unprofitable.Gender differences were also evident in perceptions linking agriculture to educational attainment. A slightly higher proportion of female respondents (64%) compared to males (62%) strongly disagreed with the notion that agriculture is suitable only for the uneducated, indicating stronger resistance among women to this stereotype. Perceptions concerning social respect associated with agricultural engagement were more mixed. Comparable proportions of males and females (18%) strongly disagreed that agriculture confers social respect, while a substantial share of both groups expressed uncertainty. However, a higher proportion of male respondents (31%) than females (23%) agreed that engagement in agriculture could enhance social respect, highlighting subtle gender differences in how symbolic and social rewards of agriculture are perceived.

Gender Differences in Socio-Economic Factors Influencing Intentions to Engage in Agriculture

The findings reveal a mixed pattern of gender-based perceptions regarding socio-economic barriers to agricultural engagement. A higher proportion of male respondents (31%) strongly agreed that limited access to capital constituted a significant obstacle, compared to 23% of female respondents. Conversely, concerns about land access were more pronounced among female respondents, with 35% strongly agreeing that limited access to land constrained their participation in agriculture, while a larger share of male respondents (27%) disagreed with this view.Perceptions of market-related constraints also differed by gender. A greater proportion of male respondents (69%) strongly disagreed or disagreed that limited market access hindered engagement in agriculture, compared to 56% of female respondents, suggesting relatively higher market confidence among males. Hard labour was widely acknowledged as a constraint by both genders, with comparable proportions of male (74%) and female (75%) respondents agreeing or strongly agreeing that the physical demands of agriculture posed a challenge.

In contrast, lack of skills and insufficient family support were largely dismissed as significant barriers by both male and female respondents. Approximately 69% of males and 66% of females rejected the view that inadequate skills constrained agricultural engagement, while similarly high proportions (75% of males and 77% of females) disagreed that limited family support would prevent them from participating in agriculture. Overall, these findings underscore gender-specific differences in perceived resource constraints, particularly with respect to capital and land, while indicating broad confidence in skills and family support across genders.

Opportunities to engage in agriculture

Respondents identified multiple opportunities associated with engagement in agriculture. Half of the respondents (50%) viewed agriculture as a significant source of employment, highlighting its potential to absorb youth into productive economic activities. A smaller proportion (15%) emphasized the role of agriculture in enhancing food security, reflecting recognition of its contribution to household and national food availability.

Beyond employment and food security, respondents perceived agriculture as a pathway for income generation and enterprise development across the agricultural value chain, including value addition, marketing, and research-related activities. Additional perceived benefits included the potential to reduce social problems such as crime, promote environmental conservation, and stimulate the growth of agribusiness. These perceptions underscore agriculture's multifaceted role in economic, social, and environmental development

Discussion

Previous studies have consistently reported low youth interest in agriculture, with many young people preferring alternative income-generating activities that offer quicker returns, such as motorcycle transport businesses and betting (Kimaro et al., 2015; Njeru, 2017). In contrast to this dominant narrative, the findings of the present study reveal a high level of intention to engage in agriculture among college-educated youth. This divergence suggests that education plays a critical role in shaping youths' perceptions and aspirations toward agricultural careers. Similar evidence is provided by Magagula et al. (2020), who found that youth with secondary or tertiary education demonstrate stronger intentions to participate in agriculture.

Family background emerged as a key factor reinforcing intentions to engage in farming. Exposure to agricultural activities through family participation enables youth to accumulate experiential knowledge regarding farming practices, challenges, and benefits, thereby improving their ability to assess risks and opportunities. Education further enhances this evaluative capacity by strengthening opportunity recognition and entrepreneurial decision-making (Hormiga& Batista-Canino, 2011). In addition, family involvement in specific agricultural value chains influences the types of activities youth aspire to pursue. As noted by Shireesha et al. (2018), young people are more likely to engage in value chain segments—such as crop production, livestock farming, marketing, or value addition—that align with their families' existing enterprises. This continuity is reinforced by access to family-based skills, techniques, and labor support, which lower entry barriers for youth-led agricultural ventures.

Contrary to earlier studies portraying agriculture as unattractive, unprofitable, and suitable only for the uneducated (Leavy & Smith, 2010; Njeru, 2017), the youth in this study overwhelmingly rejected these stereotypes. Most respondents perceived agriculture as a viable source of employment, income generation, and food security. These findings align with Magagula et al. (2020), who reported favorable youth perceptions of agriculture in terms of employment potential and economic returns. Minor gender differences were observed in perceptions linking agriculture to educational status, with female respondents more strongly rejecting the notion that agriculture is for the uneducated. This may reflect women's traditional and central roles in agricultural production and household food security, which shape their valuation of the sector (Onyalo, 2020). Both male and female respondents strongly rejected the view that agriculture is unprofitable, likely reflecting their educational exposure and familiarity with successful family-based agricultural enterprises. Education has been shown to foster entrepreneurial orientation by enhancing the ability to identify and exploit profitable opportunities (Vakili et al., 2016).

University curricula in business, agriculture, and social sciences further reinforce these perceptions by introducing students to entrepreneurship and small and medium enterprise development. Such training cultivates entrepreneurial mindsets and reframes agriculture as a commercial and innovative venture rather than a subsistence activity. Empirical evidence suggests that exposure to successful agribusiness models through family or community experience strengthens perceptions of agriculture as a lucrative career pathway (Alrawashdeh et al., 2022).

Despite recognizing common socio-economic constraints—such as limited capital, market access, skills gaps, and the labor-intensive nature of agriculture, most respondents expressed optimism about overcoming these barriers. This optimism appears closely linked to education, which enhances innovation, adaptability, and problem-solving capacities (Vakili et al., 2016). Insights from focus group discussions revealed that respondents identified practical strategies to address these challenges, including accessing credit from financial institutions, leasing or renting land, and utilizing digital platforms and e-commerce for marketing agricultural products. These findings suggest that educated youth increasingly perceive structural constraints as manageable rather than prohibitive.

Nevertheless, perceptions of socio-economic barriers varied by age and gender. Respondents aged 26–35 were more likely to view capital constraints as a significant limitation, possibly due to increased financial responsibilities such as household support and family formation, which compete with investment in agricultural enterprises (World Bank, 2019). In contrast, younger respondents (19–25) more frequently identified land access as a critical barrier. Female respondents were also more likely to perceive land inaccessibility as a constraint, reflecting persistent gender disparities in land ownership and control shaped by cultural norms and inheritance systems (Leavy & Smith, 2010; FAO, 2011).

If unaddressed, these structural barriers may limit youth participation and undermine agricultural productivity (Anyidoho et al., 2012). The findings therefore underscore the need for policy interventions that are both age- and gender-responsive. Importantly, the study highlights the limitations of treating youth as a homogeneous group. Segmenting youth by education level, age, and gender provides a more nuanced understanding of their intentions and constraints, offering a

stronger basis for designing targeted, context-specific interventions. Such differentiated approaches are essential for fostering inclusive, sustained, and meaningful youth engagement across agricultural value chains.

Conclusion and Recommendations

This study explored the intentions of university students in Kenya to engage in agriculture, challenging the prevailing narrative that youth are inherently disinterested in the sector. Contrary to this assumption, our findings indicate a strong willingness among educated youth to pursue agricultural careers, particularly among those with prior exposure through family backgrounds. These intentions are shaped by a complex interplay of attitudinal, normative, and perceived behavioral control factors, as conceptualized in the Theory of Planned Behavior (TPB) and cognitive factors highlighted by the Entrepreneurial Cognition framework.

Education emerged as a central influence, fostering positive perceptions of agriculture and enhancing students' problem-solving skills, opportunity recognition, and entrepreneurial aspirations. Furthermore, most respondents viewed agriculture as a respectable and potentially profitable endeavor. While barriers such as limited capital, land access, and market connectivity persist, they were not perceived as insurmountable by many of the youth surveyed, especially those with higher educational exposure. Importantly, this study highlights the need to avoid treating youth as a homogeneous group. Differences in perception and intention were evident across gender and age groups, with female students and those in younger cohorts displaying more inclination toward agricultural careers. Such heterogeneity requires tailored policy responses.

This study recommends a multi-pronged policy approach to enhance youth participation in agriculture. First, a Youth Agrifinance Window should be established to address capital constraints by offering tailored microloans and mentorship. Second, Land Leasing Platforms can facilitate access to land by linking young agripreneurs with landowners. Third, expanding youth exposure to innovative agricultural technologies—such as vertical farming, precision agriculture, and aquaponics—can shift perceptions and reduce reliance on traditional inputs. Finally, Agripreneurship Hubs embedded within universities can offer practical incubation support, bridging the gap between intention and enterprise.

This study contributes empirical and theoretical insights into youth agripreneurship, reinforcing the critical role of behavioral intentions, cognitive framing, and enabling environments in shaping youth engagement in agriculture. Future research should explore the longitudinal outcomes of these intentions and test targeted interventions across diverse educational and regional contexts.

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The authors declare **no conflict of interest**

Data Availability Statement

The data supporting the findings of this study are available from the corresponding author upon reasonable request.

Author Contributions

George: Conceptualization; Methodology; Validation; Writing .
Sussy: Data analysis; Validation; Writing

Ethical Approval
All procedures performed in studies involving human participants were in accordance with the ethical standards of Murang'a University of Technology's Institutional Scientific and Ethics Review Committee (ISERC) guidelines.

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