

Encouraging Rural Engagement Among Students: Building Career Pathways in the Agricultural Sector

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Abstract

This study explores the factors influencing the career decisions of students at the Agricultural University of Tirana (AUT), focusing on their motivations, attitudes, and willingness to engage in the agricultural sector. Albania faces significant challenges due to migration, aging farmers, and declining interest in agricultural fields, exacerbating workforce shortages in this critical sector. Using a structured questionnaire administered to 307 students from the Faculty of Economics and Agribusiness at AUT, the study identifies key motivators and barriers that affect students' career choices. The results show that employment opportunities, personal interest in the field, and financial prospects are the main factors that motivate students to choose a study program in agriculture and related fields. However, a multinomial logistic regression model identifies factors such as year of study, perception, internship, extracurricular activities, career consulting, and level of information about the field as significant determinants of students' willingness

to pursue a career in the agricultural sector after graduation. Factors such as a positive perception of agriculture, participation in internship programs and extracurricular activities, or career consulting from the university influence students to engage and retain within the sector. This study provides valuable data to formulate and develop strategies for attracting students in the agricultural sector. It recommends improving career counseling, providing more practical experiences, and addressing stereotypes to attract and keep young people in agriculture, ensuring the sector's sustainability in the future.

Keywords: Agriculture, career decision-making, rural engagement, students, youth

Introduction

With a total population of 2 761 785 (INSTAT, 2023), of which around 23% is aged between 15 and 29 years old, Albania has one of the highest rates of migration in the world (King and Gëdeshi, 2020). After the fall of communism, many people left the country looking for a better life. Lack of job opportunities and uncertainty about the future are the main drivers of emigration (Avdulaj et al., 2021). About 33% of tertiary-educated people have migrated abroad, causing the phenomenon known as 'brain drain' (Tataj & Akbaş, 2021; King and Gëdeshi, 2023). The term 'brain drain' refers to the migration of skilled professionals from lower-income countries to higher-income countries, leading to a shortage of expertise in the former (Oladeji, 2016). As a result, the workforce has become a problem for all sectors. Lately, this phenomenon is particularly prevalent in the medical system in Southeast Europe, including Albania, where a high number of healthcare workers moved to Europe, mainly to Germany (Juric, 2021).

Apart from the mass movement of young people, other indicators such as an increase in the average age (from 33.2 years old in 2012 to 38.2 years old in 2022) and the decline of the population's natural growth rate (total births minus total deaths from 14 603 in 2012 to 690 in 2022) are transforming the population's composition of Albania (INSTAT, 2023). Agriculture remains the most vulnerable sector as the population in rural areas is shrinking faster than the total population due to migration. These movements are leading to a rapid aging of the rural population and jeopardizing the development of agriculture, given that the sector is mostly unmechanized and dependent on unpaid labor. Agriculture in Albania employs about 460,600 workers, which means that 34.9% of the total labor force is reported as employed in this sector, facing a decline from 45.39% in 2011 (ILOSTAT, 2022).

Aging farmers and the lack of willingness among youth to work in agriculture pose a threat to the availability of the agricultural workforce in the near future in the country (Meçe and Ribaj, 2021). The majority of young

people, who move from rural areas to study in urban areas, do not return after completing their studies, and in general, they are more inclined to choose a field of study that is not related to agriculture, as they do not project their future related to the rural areas (Geza et al., 2021). Data provided by the Agricultural University of Tirana (AUT), the main agricultural university in the country, show that there has been a decrease in the number of students enrolled during the last five years. The number of newly enrolled students declined from 1 653 students in 2018 to 1 201 students in 2023. This trend is reflecting a general decline in the number of students registered in higher education overall in Albania, due to an increase in migration rates among young people.

AUT offers study programs related to agriculture, agribusiness, veterinary, food technology, forestry, aquaculture, fishery, etc. Even though these are some of the most important sectors for the Albanian economy, the decrease in interest of students, especially in agriculture-related areas, highlights the need to promote and raise awareness of the public and young generations for the importance of these fields for the future. Identifying and addressing the factors contributing to this decrease is essential to ensure the sustainability and development of the agricultural sector in the country.

While extensive research exists on the factors influencing students' career choices, there is a noticeable gap in studies specifically focused on agriculture as a career path. To our knowledge, there are no other similar studies on this topic in Albania. Our study addresses this gap by examining the factors that motivate students at AUT to pursue careers in agriculture and related fields, thereby allowing us to gain insights into the specific motivations, interests, and career aspirations of young people. The objectives of the study are to:

- Explore the factors that influence students to choose and pursue a degree in agricultural-related fields at AUT.
- Observe the willingness of students to follow a career in the agricultural sector and understand the specific fields that are most interesting for their career choices.
- Identify strategies to encourage youth to pursue and retain their agricultural professions.

Literature review

Education provides young people with the necessary knowledge and enables them to plan their future careers in the most suitable manner. The role of schools is to provide accurate guidance and encourage students to continue their education and not abandon it (Kazi & Akhlaq, 2017). Albania spent around 2.3-3.3% of its gross domestic product (GDP) on education in the last decade (Mehmetaj & Xhindi, 2022). Education in Albania is the third sector

in terms of budget allocation, after social protection and healthcare, respectively 40%, 12%, and 9% (UNICEF, 2021). The budget for higher education accounted for 24.1% of the total funds allocated to the educational sector in 2020 (UNICEF, 2021).

Traditional notions of linear career paths have given way to a landscape characterized by volatility, uncertainty, complexity, and ambiguity (Tola & Mustafaj, 2024). Students worldwide face the same issues when it comes to career decision-making (Nguyen et al., 2023). Many of them are not satisfied with the study programs they are enrolled in. They often make wrong career decisions due to lack of information, peer pressure, misguided role modeling, or as a result of the prestige associated with certain careers, without proper career guidance and counseling (Amani, 2013). Some students make career decisions by following the path of least resistance, for example, pursuing a career favored by their parents or following the footsteps of an older sibling. Ray et al., (2020) found out that career choices of students are influenced by peers, parents, or society. Other factors such as convenience, family background, societal status, family income, and parental pressure play a significant role in shaping these choices (Kazi & Akhlaq, 2017; Afzal Humayon et al., 2018; Ray et al., 2020).

This issue of career decision-making becomes even more critical when considering the future of agriculture, a sector vital for global food security. Most of the world's food is produced by aging farmers, who are less likely to adopt necessary agricultural innovations for sustainable productivity and food security for the growing global population (Jöhr, 2012; FAO, 2014; Rigg et al., 2020). Particularly, youth in developing countries are reluctant to engage in the agricultural sector; therefore, understanding young people's perceptions of agriculture and access to knowledge and information is essential to replace the aging agricultural producers with energetic and capable youth to achieve sustainable agricultural productivity and food security (Hitka and Ližbetinová, 2023).

Access to higher agricultural education is a fundamental condition to offer potential agricultural careers to young people at all levels, from field level to research and academia to national and international agricultural policy-making and development agencies (FAO, 2014; Kómíves et al., 2019). However, this situation is unique only to the field of agriculture when compared to other branches of natural sciences, as most high school students prefer non-agricultural career choices (Obayelu & Fadele, 2019; Girdziute et al., 2022). Agriculture is filled with negative perceptions and a lack of information and awareness. Studies show that students have a negative perception of agriculture and perceive agricultural practices as inferior, unfulfilling, and laborious (Njeru, 2017). This has led to a low level of skilled labor force in this sector, as well as a low level of adoption of agricultural

technology and productivity. In fact, students who enroll in agricultural study programs are stigmatized as not being accepted into programs perceived as prestigious and lucrative, such as medicine, engineering, computer science, law, and business.

Shifting the mentality can be achieved by changing young people's deeply rooted perceptions and attitudes towards agriculture as a non-profit enterprise (Obayelu & Fadele, 2019). Their perception of agriculture and exposure to the sector determines their readiness to pursue agricultural studies (Baliyan & Nenty, 2015; Johnson et al., 2019). Creating agricultural policies, involving governments in agriculture, increasing the use of ICT in agriculture and teaching, functional or practical agricultural education (formal and non-formal), gamification, scholarships to improve tertiary agricultural education, and availability of startup financing opportunities are some recommendations that can be made to increase students' interest in agriculture (Omotsho et al., 2020).

Methodology

This study was conducted at the Agricultural University of Tirana. Students from the Faculty of Economics and Agribusiness were selected as the target group. A structured and self-administered questionnaire was utilized as the instrument for gathering the necessary data to achieve the objectives of the study. The questionnaire was built in Google Forms and distributed via email to more than 1,000 students during May-June 2023, with a total number of 307 respondents, which is a 31% response rate. However, this sample ensures a confidence level of 95% with a margin of error of 5%, suitable to reach statistically significant results. The questionnaire consisted of four sections with a total of 25 questions. The first section aimed to gather information about the demographic characteristics of the respondents; the second section aimed to explore the factors that influence students to choose a career in agribusiness; the third section aimed to explore participants' perceptions, attitudes, and beliefs regarding agriculture; and the last section included questions about their aspirations and concerns about the future.

Descriptive statistics and statistical analyses were performed using Excel and R software. A multinomial logistic regression model is used to identify the determinants that influence the willingness of young people to study and engage in the agricultural sector. Exploratory variables were constructed based on the literature review and include categorical variables, such as gender, year in the study program, initial preference for the study program, perception about the agricultural sector, undertaking an internship, participation in extracurricular activities, career consulting, and level of information about the agricultural sector. Multinomial logistic regression estimates separate equations for each category of willingness

(Yes/No/Maybe), with logit transformations of the probabilities modeled as linear combinations of the independent variables and their associated coefficients (Bayaga, 2010).

Results

The analysis and the results provide evidence to support the objectives of the study.

Demographics of the respondents

The demographic data of the respondents are presented in Table 1. About 97% of the respondents are students in the age group 18-25, of which 67% are in the age group of 21-25, a typical age for bachelor and master enrollment in Albania. Females have a higher representation in our sample (78%).

Table 1. Demographics of the respondents

Variables	No	%
<i>Age groups</i>		
18-20	92	30
21-25	206	67
26-30	6	2
over 31	3	1
Total	307	100%
<i>Gender</i>		
Female	240	78
Male	64	21
Prefer not to disclose	3	1
Total	307	100%
<i>Year in the study program</i>		
1 st year-bachelor	24	8
2 nd year-bachelor	78	25
3 rd year-bachelor	120	39
1 st year-master	43	14
2 nd year-master	42	14
Total	307	100%

Source: Own research

Preferences for choosing the study program

A potential student in Albania, according to the legal framework, has the right to apply for up to 10 study programs, ranking them based on their own preferences. Firstly, we aimed to understand if students genuinely desired and chose the major they were studying, indicating if this was their first or second preference in the list. The results revealed that 66% of the respondents are studying in a program that was their first preference (n=202), while 27% of the respondents have chosen the study program as their second preference.

For the remaining 7%, the major was neither their first nor second choice, indicating they did not prefer it among the options they provided.

A study from the U.S. Department of Education (2017) revealed that about 30% of undergraduates in associate's and bachelor's degree programs had changed their major at least once within 3 years of initial enrollment, 35% of whom had originally declared a science, technology, engineering, or mathematics (STEM) major, likely due to the perceived difficulty of the major. To gain a deeper understanding of AUT students' attitudes towards their current majors, they were asked if they would change their enrolled program if given a second chance. The results indicate that 40% of the respondents (n=121) would change their major; however, in that case, lack of interest in the field of study emerges as the primary reason for wishing to change. The Chi-square test was used to determine if there is a relationship between initially selecting a major as the first or second choice and subsequent willingness to change that major. In this case, using the two categorical variables: preference for the major (preferred or not preferred) and intention to change the major if given a chance (yes or no), the following hypothesis was built: *There is a correlation between the initial preference for choosing the major and intentions to change this major given a second chance.*

At the significance level of 0.05, the results indicate a statistically significant correlation between the initial preference for choosing the major and intentions to change the major given a second chance ($\chi^2 = 5.840$, $df = 1$, $p = 0.016$). To determine if students who preferred their major were less likely to want to change it, or vice versa, the adjusted residuals for each cell were calculated, as shown in Table 2.

Table 2. Contingency table with the adjusted residuals

	No	Yes	No	Yes
Major not preferred	7	14	-1.604	1.989
Major preferred	179	107	0.435	-0.539

Source: Own research

As expected, students who initially preferred their major were more likely to not want to change it, as indicated by the positive residual for the 'Major preferred' category and the 'No' response. Conversely, students who did not prefer their major were more likely to want to change it, as indicated by the positive residual for the 'Major not preferred' category and the 'Yes' response.

Motivation for choosing the study program

The results show that the main factors behind choosing a study program in agriculture-related fields include employment opportunities in this sector. Personal interests in the field also play a significant role, along with

considerations of financial prospects. An overview of the factors that motivate the students to have chosen their study program is shown in Table 3.

Table 3. Motivation for choosing the study program

Motivation	No.	%
Personal interests in the field	107	35
Family expectations	18	6
Financial prospects (salary)	31	10
Employment opportunities	146	47
Other reasons	5	2
Total	307	100%

Source: Own research

Attitudes and perceptions towards a career in agriculture

Studies show that there is a negative attitude among young people towards a career in the agricultural sector (Geza et al., 2021). To explore this further, the respondents were asked to choose if they feel like working in the agricultural sector is a profitable job, laborious work, or a poor-paying job. Approximately 47% of the respondents consider it as a profitable job, while 46% consider it as laborious work, and 7% consider it as a poor-paying job. Some of the arguments provided to support their response are: ‘A profitable job but requires great effort to receive compensation’; ‘There is potential for the future’; ‘Hard work but profitable’; ‘Agriculture involves hard work, laborious work, non-profitable work, work that young people do not show interest, due to the mentality created by those who are involved in agriculture or study agriculture, but also because there is no income’; ‘The government does not provide support to farmers’; ‘Undervalued work’; ‘Sector that has potential for development’; ‘I think it is a quite interesting sector despite not having a profitable reputation at the moment, however, there is a lot of room to bring new innovations in this field’. These attitudes reflect varying perceptions of agriculture as a career option, influenced by factors such as economic conditions, cultural beliefs, personal experiences, and the overall context of the agricultural industry in a particular region or country.

Level of guidance toward a career in the agricultural sector

Internships, extra-curricular activities, and career consulting play an important role in helping students shape and understand their career opportunities by providing practical experience, professional development opportunities, network connections, career exploration, personal growth experiences, guidance, and support along the way.

The results show that a small portion of the respondents (14%) have completed an internship or practical work in the agribusiness sector. This low figure indicates that the students need more guidance to transition from university to the workforce. Similar results are obtained for the question of

whether they had participated in an extracurricular activity related to the agribusiness sector, where only 19% answered 'yes'. Respondents also shared their experiences in the activities they had participated in training sessions, internships in food safety, and participation in online courses related to agribusiness. Respondents were asked if they had received career support or guidance from AUR or other sources. The figures show that about 50% have received such support. Students assessed their overall level of information about the agricultural sector in Albania and job opportunities that it offers. There is a significant number of students who feel they lack information (79%), while the remaining 21% state that they have a lot of information regarding this topic.

Willingness to participate in the agricultural sector

This study aimed to understand whether students are willing to engage in the agricultural sector and agribusiness after they graduate. About 55% answered 'maybe', showing that they are undecided whether they want to pursue a career in this sector, which may stem from the lack of information about potential fields of work and career opportunities or simply a lack of interest in the field they are studying, while 31% are happy and willing to enroll in this sector after they graduate. The respondents were asked about the challenges they face in pursuing a career in agriculture after graduation. Lack of practical experience, difficulties in accessing funds, perceived low prestige of the sector, uncertainty about the future market trends, limited professional connections, and job opportunities are their major concerns, which limit their engagement in the sector.

In order to understand the determinants of the youth's willingness to be engaged in agriculture, we ran a multinomial logistic regression model. The dependent variable 'Willingness' is categorized into three-level responses: yes, no, and maybe. This method allows for the assessment of the unique effects of each independent variable on the log odds of being in each category of 'Willingness' while controlling for other variables in the model.

$$\begin{aligned} \text{logit}(\text{Willingness}) = & \beta_0 + \beta_1(\text{Gender}) + \beta_2(\text{Study Year}) + \beta_3(\text{Initial} \\ & \text{Preference}) + \beta_4(\text{Perception}) + \beta_5(\text{Internship}) + \beta_6(\text{Extracurricular} \\ & \text{Activities}) + \beta_7(\text{Career Consulting}) + \beta_8(\text{Level of Information}) \end{aligned} \quad (1)$$

First, a Chi-square test was performed to see if there is a relationship between each of the eight exploratory variables (gender, year in the study program, initial preference, perception about jobs in the agricultural sector, participation in internships, attending extracurricular activities, career consulting, level of information regarding careers in the agricultural sector)

and the dependent variable (willingness). The results suggested that year of study, perception, internship, extracurricular activities, career consulting, and level of information are effective predictors of willingness, while gender and initial preferences are not. Therefore, the last two variables were removed from the model. The results are presented in Table 4. The final model is:

$$\text{logit (Willingness)} = \beta_0 + \beta_1(\text{Year of study}) + \beta_2(\text{Perception}) + \beta_3(\text{Internship}) + \beta_4(\text{Extracurricular Activities}) + \beta_5(\text{Career Consulting}) + \beta_6(\text{Level of Information}) \quad (2)$$

Table 4. Distribution of explanatory variables

Variable	No.	%
Year of study		
1 st year-bachelor	24	8
2 nd year-bachelor	72	25
3 rd year-bachelor	120	39
1 st year-master	43	14
2 nd year-master	43	14
Total	307	100%
Perception		
Laborious job	141	46
Poor paying job	23	7
Profitable job	143	47
Total	307	100%
Internship		
No	265	86
Yes	42	14
Total	307	100%
Extracurricular activities		
No	248	81
Yes	59	19
Total	307	100%
Career consulting		
No	154	50
Yes	153	50
Total	307	100%
Level of information		
A lot of information	66	21
Little information	213	70
No information at all	28	9
Total	307	100%

Source: Own research

The variable ‘Maybe’ was used as the reference group for the dependent variable as it is the most frequent category, while the first category

of independent variables was used as the reference category respectively, as shown in Table 5.

Table 5. Coefficients and Standard Errors for Multinomial Logistic Regression Model

Variable	Coefficient (yes)	Std. Error (yes)	P- value (yes)	Coefficient (no)	Std. Error (no)	P- value (no)
(Intercept)	-0.279	0.606	Na	-2.662	1.244	Na
Year_2nd_year-master	-1.243	0.607	0.013	1.049	1.219	0.106
Year_1st_year-master	-0.629	0.626	0.079	2.864	1.159	0.000
Year_2nd_year-bachelor	-1.227	0.551	0.013	1.334	1.147	0.013
Year_3rd_year-bachelor	-1.227	0.528	0.013	1.340	1.123	0.013
Perception_poor_paying_job	0.464	0.611	0.310	0.820	0.589	0.124
Perception_profitable_job	0.902	0.310	0.044	-1.243	0.479	0.079
Internship_yes	0.961	0.445	0.006	1.262	0.747	0.045
Extracurricular_activities_yes	0.690	0.369	0.095	-0.890	0.690	0.027
Career_consulting_yes	0.710	0.297	0.004	0.710	0.402	0.002
Level_of_information_little_information	-0.602	0.344	0.077	0.018	0.598	0.768
Level_of_information_no information_at_all	-0.823	0.663	0.237	0.975	0.732	0.310
^a <i>Coefficients are significant at p-value<0.05</i>						

Source: Own research

The likelihood ratio test was used to test the validity of the model, with results of $\chi^2= 97.243$ and a p-value of .000 ($p<.05$). Table 5 suggests that students in higher academic years are less likely to express willingness compared to those in earlier years. On the other side, having a perception of agriculture jobs being profitable, participation in internship programs, extracurricular activities, or receiving career consulting increases the log odds of being willing to participate in the agriculture sector.

Discussion

Agriculture is one of the oldest human activities, having helped people provide themselves with sustenance. Nowadays, it is an enormous and important sector for the global economies and provides food, resources, and employment opportunities. However, the future of agriculture is uncertain, as most people are abandoning it. Given the increasing age of farmers, depopulation of rural areas, and low interest of young people to enter the sector, there is an immediate need for action. The emergence of industries considered modern and prestigious, such as finance, medicine, and information technology, has led young people to ‘ignore’ the agriculture sector, jeopardizing its sustainability.

The findings of this study provide some valuable insights into the factors influencing career choices among agribusiness students and their potential impact on rural engagement. Understanding the factors that shape

career aspirations is essential for students themselves, educators, employers, and policymakers, as they seek to support individuals in their career development journey and create environments conducive to achieving their aspirations.

The study showed that agriculture must be attractive to young people. Therefore, promoting the value of agriculture is fundamental to encouraging people to engage in rural development. To achieve this, universities, governments, and agencies must change the perceptions of young people toward the sector by increasing its reputation, expanding job availabilities, and increasing financial support. The development of curricula, the provision of internships and work experiences, as well as recommendations from faculty members and mentors, are considered important factors that influence how much information students have regarding career opportunities in the agricultural sector. Efforts should be made to raise public awareness of the importance of the agricultural sector for the existence of society and its potential for development, not only in economic terms but also for the social development of rural areas and the proper use of land as a natural resource.

Conclusion

In conclusion, to attract more young people to agriculture and to secure the future of this vital sector, it is essential that all societal and institutional actors actively contribute. Policymakers have a key role in creating a new vision for agriculture as a future and innovative profession. By including agriculture-related subjects in curricula, starting from primary schools to universities, young people can be introduced to the potential of this sector. Offering specific scholarships for agricultural studies, as well as creating professional internship programs in agribusinesses, would facilitate students' entry into this field, equipping them with practical skills and direct experience.

On the other hand, the private sector can be a catalyst for change by providing mentoring opportunities and specialized training for young people. Agro-industrial businesses can organize study visits, training focused on modern agricultural technologies, and practical projects involving the use of innovations such as drones, automation, and precision agriculture. Furthermore, creating special programs for young entrepreneurs, offering grants, low-interest loans, or support for launching start-ups in agriculture could encourage those who wish to explore this sector with new and sustainable ideas.

It is also important to change the general perception of agriculture. Practitioners, including farmers and experts in the field, can help modernize the image of this sector by sharing inspiring stories of successful farmers who have used modern technologies and sustainable practices. Through various platforms such as social media, conferences, and community engagement

activities, the importance of agriculture to the economy and the role it plays in solving global challenges such as food security and climate change can be highlighted.

In such collaboration between policymakers, the private sector, education, and practitioners, an ecosystem can be created that makes young people feel empowered to choose agriculture as a future career. This collaboration can help revitalize rural areas, contributing not only to their economic development but also to improving the quality of life of rural communities. Ultimately, a comprehensive approach to engaging young people in agriculture will ensure that this sector remains a sustainable pillar of the global economy and food for generations to come.

Limitation of the Study

This study was solely focused on the Faculty of Economics and Agribusiness. Subsequent studies should conduct their research at other faculties of the Agricultural University of Tirana, as they offer study programs that are more closely related to the traditional disciplines of agriculture, such as horticulture, plant protection, agronomy, animal science, natural resources, fishery, etc.

Future Research

Future research should focus on longitudinal studies in order to observe changes in students' perceptions and attitudes about agriculture. This will help us understand the effectiveness of the efforts made by AUT and the Ministry of Agriculture in supporting youth in agriculture through their programs over time.

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