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Career expectations of undergraduate and graduate students at agricultural universities in Uzbekistan

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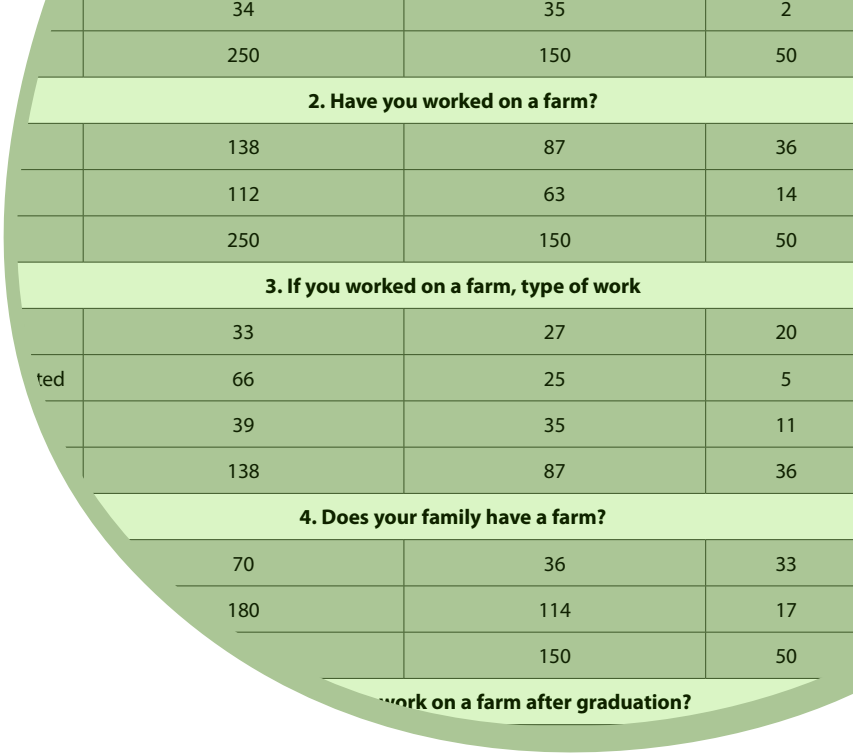

Leibniz Institute of Agricultural Development
in Transition Economies

DISCUSSION PAPER 2018 #179

Career expectations of undergraduate and graduate students at agricultural universities in Uzbekistan

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ABSTRACT

Since national independence, the government of Uzbekistan has been paying attention to developing its education system, including agriculture. A number of regulations have been adopted in order to address the problems in education. Among these, the Law on Education (1997) and the National Training Programme (1997) are the main two regulations adopted to address issues related to the national educational system of Uzbekistan. Nevertheless, a problem of a lack of qualified agricultural personnel in rural areas still exists, and the majority of young cadres try to find jobs in cities. This analytical study aims to analyze the motivation, aspirations, and career expectations of undergraduate and graduate students of Samarkand Agricultural Institute. In the first part of the analytical study, we review the agricultural education system and underlying policies in Uzbekistan by dividing them into pre- and post-independence periods. In the second part, we discuss the survey results of 400 undergraduate and 50 graduate students from Samarkand Agricultural Institute. The results reveal that half of observed students did not make a career choice yet and face uncertainties in employment decisions. Compared with undergraduate students, the share of graduate students wishing to continue their education (doing a PhD) was higher. The following recommendations are given: (i) agricultural vocational/professional colleges and agricultural universities should collaborate in teaching students. Also, college and university staff members should cooperate with industries and farmers to develop employment opportunities for graduates in rural areas. (ii) Economic incentives based on higher wages/salaries are very important to attract more qualified specialists to rural areas, hence policymakers should consider this issue in a broader way. Developing extension service organizations can be an option where qualified staff will be needed. Availability of good rural infrastructure for graduates from agricultural universities can encourage students to stay in rural areas.

KEYWORDS Agricultural education, motivation, career expectations

JEL CLASSIFICATIONS I20, I21, I23, I28

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1 \ Introduction[1]

Agricultural employers in Uzbekistan need highly qualified and motivated personnel. At the same time, students at agricultural universities seem to have little concrete idea of what to expect from a job in agriculture and tend to aim at business careers outside agriculture. The study examines the motivations, aspirations and career expectations of undergraduate and graduate students studying at agricultural universities.

Career planning usually starts during education, and the early career years are crucial for young people (Hall, 2002). Therefore, employers try to attract talented young graduates and develop these employees' capacities within their organizations (Gunkel et al., 2013). Especially career expectations, perceptions, motivations as well as knowledge and skills of students studying at vocational/professional colleges and agricultural universities are critical in the training process.

After national independence, the Government of Uzbekistan took steps towards updating its education system. A number of government regulations and acts were elaborated with the aim of developing the national education system. In particular, the Law on Education (1997) and the National Training Programme (1997) are the main two regulations which were adopted to address issues of the national educational system of Uzbekistan. Nevertheless, there is still a problem of a lack of qualified agricultural personnel, and the majority of young cadres try to find jobs in cities. The development of a modern system of agricultural education is impossible without an analysis of changes in the external environment and the various factors, which may influence the competitiveness of graduates in the labor market. Therefore, we think that this analytical study is relevant to address these issues. The aim of the study is to give an overview of career expectations of undergraduate and graduate students at agricultural universities in Uzbekistan.

In the following chapters, we overview the development of agricultural education in Uzbekistan and related state policies before and after 1991. In this section, we conduct a literature review of the pre-and post-independence periods in a chronological order. Further, the main information about agricultural universities in Uzbekistan is briefly described. In chapter three, we explain the data and methods as well as the survey design and interviews conducted at SAI (Samarkand Agricultural Institute). This is followed by a results section, which includes chapter 4 and chapter 5. In particular, chapter 4 focuses on the social and economic background of SAI students, their personal background, education, and household factors. Chapter 5 analyzes career aspirations and expectations of SAI students: their employment perceptions, career planning, adaptability, optimism, the quality of life, professional development.

The report ends with discussions and recommendations derived from the study. Appendix A presents a policy chronicle of higher education reforms in Uzbekistan after 1991. Appendix B contains the questionnaire used during the interviews.

1 This study was conducted within the project "Institutional change in land and labour relations of Central Asia's irrigated agriculture (AGRICHANGE) (www.iamo.de/en/agrichange)". Financial support by the Volkswagen Foundation is gratefully acknowledged. The authors are thankful to Nodir Djanibekov and Martin Petrick for comments on a previous version of the manuscript.

2 \ Agricultural education in Uzbekistan

2.1. | Development of agricultural education in Uzbekistan and state policy until 1991

The development of agricultural education in Uzbekistan is linked to the history of the education system as a whole and can be divided into two periods – the period when Uzbekistan was part of the Soviet Union and the period after independence. A number of national scholars studied the problems of agricultural education in Uzbekistan (Mamurov, 1974, Nurullaev, 1975; Mavlyanov, 1987; Yunuskhodjaev, 1991; Oblomuradov, 1994; Tursunov, 1995; Choriev, 1998).

According to Choriev (1995), the period from 1920 to 1930 provoked increased interest in the fact that it was then that the foundations of a new system of public education were laid, based on the principles of ideological totalitarianism and the class approach. The problems of formation agricultural specialists in Uzbekistan during the first five-year plan (1928–1932) were studied in detail by Yunuskhodjaev (1991). He states that during this period, the solution of the problem of the training of agricultural personnel in Uzbekistan, as well as in other republics of the Central Asian region, whose agriculture was based on dekhqan (smallholder) farming, was much more difficult than in the central regions of the Soviet Union (Yunuskhodjaev, 1991). The process of formation of agricultural personnel in the 1920s and 1930s in Uzbekistan had its shortcomings and is closely related to the period of continuous collectivization. Ynuskhodjaev (1991) states that forced collectivization without sufficient organizational, material, technical and socio-psychological prerequisites had a negative impact on the preparation of cadres for collective farms.

Training of personnel for mass professions in agriculture of Uzbekistan was carried out by various organizations. The role of agricultural universities and technical schools was crucial in the preparation of qualified specialists. In the years 1928–1929, in agriculture of Uzbekistan, 285 persons had a higher qualification and 2485 a secondary education. From 1928 to 1930 the number of agricultural technical schools increased from 7 to 18 and about 400 agricultural specialists studied at these schools (Yunuskhodzhaev, 1991). There was a shortage of teachers of Uzbek nationality at these schools and the vast majority of students were dehkan farmers. The rapid establishment of numerous collective and state farms during the First Five-Year Plan demanded the training of new professions – irrigation engineers, agronomists, gardeners, silkworm specialists, etc. In this regard, attention was paid to the accelerated formation of agricultural universities that was supposed to ease the delay in the shortage of specialists for agriculture in Uzbekistan. As a result during 1920–1930, several agricultural universities were established. However, there were many shortcomings in the educational process of theses universities, due to the weakness of the educational and material base and the shortage of teaching staff. During 1931–1932, in total, all agricultural universities and technical schools of the Republic released two thousand people, and the number of all students was 5563. Although from 1929 to 1932 a large group of qualified specialists for agriculture was formed from the working class and peasantry who contributed to a new level of social, scientific and technological progress in Uzbekistan, the fast collectivization process still had a negative effect on the qualification of specialists (Yunuskhodzhaev, 1991).

Postwar (1946–1965) agricultural development in Uzbekistan was studied by Tursunov (1995), where the author critically examines the shortcomings of the agrarian policy of this period. Tursunov (1995) pays close attention to the analysis of the causes and nature of the effect of the key mechanisms in the agrarian sphere, shows the doctrinal narrowness of the agricultural policy of the Communist Party, and the harmful effects of the totalitarian regime on the processes of agricultural construction. He points out that during the years of post-war construction, a large-scale program of vocational training of rural people was assigned to the main areas of agricultural development. Attention was paid to the increase in personnel majoring in mechanization and technical professions. The urgency of this task was determined by the fact that due to the war the professional cadre of the village was noticeably weakened. Mainly women and teenagers, who did not have the length of service, necessary professional knowledge, replenished it. Schools of mechanization of agriculture played a leading role in the training of skilled mechanization personnel. By the end of the Fourth Five-Year Plan, the total number of schools had risen to 16. The training of skilled non-technical personnel was carried out by one-year rural schools. In 1950, there were 18 such schools. In total, according to the author's calculations, during the years of the Fourth Five-Year Plan, 39,286 machine operators were trained in the system of in-patient vocational training of the Republic. By 1952, the number of technical personnel in the mass professions had grown to 63,522 people.

Vocational schools have proved to be a promising form of training for the younger generation of the collective farm peasantry and the agricultural working class detachment. At the same time, the activity of the vocational school showed serious shortcomings. They could not sufficiently ensure the production of personnel, the level of training was poor. In most collective farms, the positions of agronomists, semi-literate people, who were unable to provide qualified management of the main branches and services of agricultural enterprises, occupied livestock experts, agricultural specialists. The educational level of chairmen of collective farms, directors of machine and tractor stations (MTS) and state farms was low. Thus, by the beginning of the Fifth Five-Year Plan in the collective farms of Uzbekistan, out of 2,536 chairmen, 61 people had higher agricultural education, 180 special secondary schools, 272 general secondary schools, 733 secondary schools and 976 primary schools; 314 people were illiterate. Responsible tasks on the saturation of agricultural production by specialists of different profiles were assigned to agricultural higher educational institutions and technical schools. In the first postwar years in the Ministry of Agriculture of the Uzbek SSR, there were 12 such technical schools and 3 agricultural universities.

Tursunov (1995) emphasizes that in matters of selecting and nominating employees for leadership positions on collective and state farms as wells as the MTS, party bodies proceeded from the primacy of an ideological approach. The main thing was not the professional knowledge and competence, but the ability to strictly enforce the party line. As a result, random people often came to the command posts. Moreover, young specialists were not always rationally utilized; their needs were often ignored, which caused great fluidity.

The development of agriculture in Uzbekistan, which covers 1960–1980s, can be described as the period with further development of the textile industry. Among historians, Mavlyanov (1987) studied the process of providing agriculture with qualified personnel during the period from 1965

to 1980, by describing the achievements and shortcomings of the activities of the party and public organizations in training, selecting, arranging and educating mid-level cadres, leading cadres, and agricultural specialists. According to his analysis, from 1960 to 1980, a network of agricultural institutes and their branches were expanded, new faculties were established, and the contingent of students increased. In 1966, the Uzbek Scientific Research Institute of Cotton Breeding was established; in 1971 the branches of the Tashkent Institute of Agricultural Irrigation and Mechanization Engineers were opened in Karshi and Jizzakh cities. During 1966–1970, 10.4 thousand specialists with high qualification were trained for the agriculture of the Republic; from 1971 to 1976 – 15.8 thousand and from 1975 to 1980 – 16.8 thousand. As a whole, the number of graduates with higher agricultural education in Uzbekistan during 1966–1970 has increased 1.6 times (Mavlyanov, 1987).

In agricultural institutes, more attention was paid to the production practice of students. In the process of training, students obtained driver's license to drive a tractor, acquired a working qualification in the specialty and an amateur driver's license. After the completion of the first stage of production practice, they could work in the tractor-fields of the instructional farm, which were the most advanced form of industrial training. For the provision of Uzbekistan's agriculture with specialists only for the period 1965–1969, 13 agricultural and irrigation technical schools were established. The number of students in secondary agricultural educational institutions in the 1970–1971 academic year reached 31,000, compared with 23,600 in the 1965–1966 academic year (Mavlyanov, 1987).

In 1984, there were 45 agricultural technical schools in Uzbekistan, of which 16 were state farm technical schools (sovkhoz technikum). Graduates from these schools joined the detachment of the leading workers of the collective farms and state farms of the middle level. Although high rates of training of specialists provided significant improvements of capacity building of collective and state farms, the continuous, in some part, even unreasonable increase in the output of specialists was not accompanied by a proper growth in the quality of their training. Graduates of agricultural higher educational institutions were not ready to create and use the techniques and technology of new generations, did not receive the proper skills of using modern means of complex mechanization of technological processes, design and scientific experimentation, and management of large collective farm and state farm production.

Oblomuradov (1994) studied the problems of training agricultural personnel from 1971 until the independence where he mentions that in 1970–1990, close attention was paid to training specialists with higher and secondary education. For this purpose, the contingent of students of higher education institutions and technical schools for agricultural specialties has been consistently expanded, and many applicants from the rural youth have been actively attracted (Oblomuradov, 1994). The dominant position among the organizers of agricultural production was occupied by "practician" – people who did not have the necessary education. Among chairpersons of collective farms, directors of state farms, chief specialists, agronomists, veterinarians and livestock specialists, the percentage of practicians as of April 1, 1980, was from 1.3% to 5.7%. The share of practicians among engineers and technicians were 34% on collective farms and, 36.3% on state farms; among foremen (Brigadier) in agriculture 74.7% and 54.5%, respectively; and among brigade leaders in livestock sector 73.1% and 52.4% (MAWR, 1974).

In 1971–1990, vocational schools, training, and retraining courses, as well as a rural secondary school, were introduced in the training and professional development of personnel in the mass professions, including machine operators. High school students were trained to drive tractors, combines and other agricultural machines, the study of the fundamentals of agronomy and zootechnics. The gradual expansion of the system of specialized educational institutions contributed to the growth of workers sent to the village of mass occupations.

Inter-farm training and course centers played an important role in vocational training. By 1980, 118 such centers had been set up in the Republic, which had their training and advisory posts in 105 state and collective farms. They conducted not only the training of personnel in mass professions, but also training in the second professions. During the years of the 10th Five-Year Plan period, the enterprises produced 35.1 thousand people, including 12.9 thousand machine operators, and more than 4 thousand operators (Oblomuradov, 1994).

Among the general shortcomings in the training of mechanization and mass professions remained low qualification, there was a shortage of broad specialists in mechanization, class specialists, and employee turnover grew. "Perestroika" did not make any significant changes in the sphere of training personnel in mass professions (Oblomuradov, 1994). During the years of "perestroika," various experiments were undertaken, often of a dubious nature. Thus, the network of vocational schools and the contingent of trainees in them sharply decreased. As a result, the total number of trained machine operators decreased by more than 80%: from 121.1 to 70.3 thousand (State Committee of the Republic of Uzbekistan on Statistics, 1990).

The following conclusions can be drawn from the study of agricultural education before the independence of Uzbekistan:

(a) The period from 1920 to 1930 was crucial in establishing the education system of the country, including in agricultural education. The collectivization had a negative impact on the process of the formation of agricultural personnel due to insufficient organizational, material, technical and socio-psychological prerequisites.

(b) Postwar (1946–1965) agricultural development in Uzbekistan can be characterized by implementing a large-scale program of vocational training of rural people. Attention was paid to the increase in personnel majoring in mechanization and technical professions. However, the level of training of agricultural specialists, including chairpersons of collective farms and directors of state farms, was poor; they lacked qualified managerial skills.

(c) From the 1960s to 1980s, the network of agricultural institutes and their branches was expanded, new faculties were established, and the contingent of students increased. In the beginning of the 1970s, the dominant position among the organizers of agricultural production was occupied by "practicians" – people who did not have the necessary education.

(d) During the period from 1971 to 1990, training of personnel for agriculture had acquired not only economic but also political significance. Transition from planned to market economy, fundamental changes in rural areas, the need to transform the collective farm and state farm system and the formation of farms required the urgent development of a qualitatively new concept of professional training for cadres in agriculture.

2.2. | Development of agricultural education in Uzbekistan and state policy after 1991

After gaining its independence in September 1, 1991, Uzbekistan faced the necessity to reform its education system including agricultural education. Appendix A presents a chronicle of higher education reforms in Uzbekistan after 1991.

Ganiev et al. (2017) and Wegmarshaus (2017) explore the post-independence system of higher education in Uzbekistan. Ganiev et al. (2017) notes that the newly introduced curricula and topics in educational institutions were oriented to Western economic thought and theoretical and methodological concepts were based on principles of the market economy. According to Wegmarshaus (2017), changes in higher education system occurred in three areas: (i) the institutional structure involving the establishment of foreign university branches, (ii) curriculum reforms with a two-tiered graduation system, (iii) cooperation with international partners and participation in programs such as EU Tempus, Erasmus Mundus, Campus France, DAAD and others. The introduced two-tiered higher education system comprised a first level undergraduate education (*bakalavriyat*) in which fundamental knowledge on a specific subject area is taught (EACEA 2017), and a second level graduate education (*magistratura*) with a focus on a particular specialization. According to Wegmarhaus (2017), "Uzbekistan has not yet officially joined the Bologna process; hence no ECTS model has been introduced."

The role of the National Programme for Personnel Training, which was adopted on August 29, 1997, is crucial and "provides a long-term strategy for strengthening education, developing a continuing education system and reinforcing the multi-level higher education system." (EACEA, 2012).

The secondary special, vocational education with a three-year training period based on general secondary education is an obligatory, independent type of the system of continuous education and is carried out following the Law of the Republic of Uzbekistan "On Education". Academic lyceums and vocational/professional colleges represent the system of specialized secondary and professional educational institutions. They provide the necessary organizational, educational, methodological, and pedagogical conditions for realizing the goals and objectives of secondary specialized and vocational education.

The professional college (*kasb-hunar kolleji*) is a three-year secondary vocational school providing in-depth development of professional inclinations, skills and abilities of students, obtaining one

or several specialties in selected professions. The academic lyceum (*akademik litsey*) is a three-year secondary specialized school providing intensive development of intellectual abilities, in-depth, differentiated and professionally oriented training of students.

Graduates of secondary specialized, professional educational institutions are given a state diploma on secondary special, vocational education in accordance with the requirements of the State Educational Standard.

Table 1 presents the distribution of vocational/professional colleges by industry specialization. It can be seen that agricultural vocational professional colleges' share is significant among other colleges, however, during the observed period, their numbers slightly decreased.

Table 2 gives information on the number of students studying at vocational/professional colleges of the Republic. During the observed period, the total number of students studying at vocational/professional colleges slightly decreased. The number of students specializing in agriculture in the beginning decreased, and in the second and third academic years increased and from 2013/2014 to 2014/2015 academic year there was a decline.

Table 1 Distribution of vocational/professional colleges by industry specialization in Uzbekistan (at the beginning of the academic year)

Industry specialization	Number of professional colleges, units				
	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015
Industry	208	211	215	215	218
Construction	111	109	109	109	104
Agriculture	324	291	298	296	291
Transportation	79	84	83	84	86
Communication	39	40	40	40	49
Economy	194	200	199	201	186
Jurisprudence	6	6	6	6	8
Public health	78	79	79	79	79
Physical training and sport	21	23	23	23	26
Education	105	116	116	116	116
Services	196	206	207	211	221
Culture and cinematography	35	33	33	33	30
Total	**1396**	**1398**	**1408**	**1413**	**1414**

Source: State Committee of the Republic of Uzbekistan on Statistics (2015)

Table 2 Distribution of vocational/professional colleges by industry specialization in Uzbekistan (at the beginning of the academic year)

Industry specialization	Number of students, thousand people				
	2010/2011	2011/2012	2012/2013	2013/2014	2014/2015
Industry	219.7	237.6	238.9	229.8	223.9
Construction	102.2	106.0	108.2	106.4	101.8
Agriculture	308.1	304.4	311.6	312.0	292.8
Transportation	80.7	95.6	95.2	95.6	101.1
Communication	42.9	46.7	45.5	42.6	46.1
Economy	206.1	219.7	213.7	208.2	181.0
Jurisprudence	10.6	10.9	9.8	10.3	13.0
Public health	158.5	152.5	140.1	124.3	130.0
Physical training and sport	16.4	16.7	12.7	11.9	13.4
Education	153.3	171.6	156.7	140.0	125.0
Services	184.6	207.1	209.9	203.4	198.3
Culture and cinematography	31.7	30.2	31.6	30.5	24.3
Total	**1514.8**	**1599.0**	**1573.9**	**1515.0**	**1450.7**

Source: State Committee of the Republic of Uzbekistan on Statistics (2015)

Students of vocational/professional colleges after their graduation can apply to universities depending on their preferences for specialization. It should be mentioned that students of agricultural vocational/professional colleges do not necessarily or always apply for agricultural universities.

The government elaborated regulations related to the development of vocational education (e.g. "Decree of CM #296 on Measures to reorient vocational education for rural youth, based on the demands of market reforms", "Decree of CM #222 on Measures to further improve the system of training of personnel with secondary special, vocational education for the agricultural sector", Appendix A). Nevertheless, employment problems of graduates of vocational/professional colleges are not well studied by scholars and this topic should be explored in detail and reserved for the future research. We think in order to do further research related to employment opportunities of graduates of vocational/professional colleges including agricultural colleges, detailed surveys are needed.

2.3. | Description of higher education institutes in agricultural sciences

The role of universities offering higher education in agricultural sciences was significant in the preparation of personnel in agriculture and related industries of the republic. There are four universities focused on education in agriculture and related sciences in Uzbekistan: Tashkent State Agrarian University, Tashkent Institute of Irrigation and Agricultural Mechanization Engineers, Samarkand Agricultural Institute[2], and Andijan Agricultural Institute[3]. In addition, Tashkent State Agrarian University has branches in Andijan, Nukus, Termez regions and Tashkent Institute of Irrigation and Agricultural Mechanization Engineers has a branch in Bukhara region.

Tashkent State Agrarian University (TSAU) was established on May 26, 1930 on the basis of the Agricultural Department of the Central Asian State University, as an independent Central Asian Agricultural Institute, which after a series of reorganizations in October 1934 was named Tashkent Agricultural Institute. Education is carried out through 17 bachelors and 41 master's specialties. TSAU has determined as basic institution for education "Farm management", "Agriculture, forestry and fishing", and "Agricultural engineering". In April 1991, the university, as the only one in Central Asia and Kazakhstan, received the status of an agrarian university. During its existence, the university prepared more than 64 thousand, and after independence, about 24 thousand specialists and bachelor and more than 1100 master students. Currently, 90% of teachers and 70% of students are actively involved in scientific research. The university includes an agricultural study and experimental station, as well as four research centers on plant biotechnology, biological plant protection, Agrotechnology Biomarkaz, and a fungi center.

Tashkent Institute of Irrigation and Melioration was founded in 1934 with its first two faculties – Hydromelioration and Mechanization. The institute was first established in the year of 1923 as a department of the prominent "Turkistan State University." The institute was created under the technical faculty, and at that time it was named "Hydro technical engineering." Only 24 agronomists and 16 water conservation specialists studied at the faculty in the first year of its establishment. Later on, in 1929, under the faculty of "Melioration engineering faculty" a new department was opened. These two departments were linked in 1929, which led to the establishment of the "Central Asian cotton irrigation polytechnic university." On November 11, 1934, the "Central Asian Institute of agricultural industry irrigation and mechanization" and the "Central-Asian Cotton-Irrigation Polytechnic Institute" were merged and "Tashkent Institute of Agricultural Industry Irrigation and Mechanization" was established. After the Second World War, several faculties were established at the institute: "Construction" (1945), "Mechanization of irrigation" (1946), and "Hydropower" (1946). In 1974, a new faculty named as "Technology of repair of agricultural machinery and their creation" was opened. In 1979, other engineering departments were opened. On

2 Based on Presidential decree PP #3703 (May 8, 2018) on the Formation of the Samarkand Institute of Veterinary Medicine, the Samarkand Institute of Veterinary Medicine was established on the basis of the Samarkand Agricultural Institute.

3 Based on Presidential decree PP #3704 on Measures to radically improve the system of training personnel with higher education in the Tashkent State Agrarian University, the Andijan branch of the Tashkent State Agrarian University was established on the basis of the Andijan Agricultural Institute.

March 30, 2004, based on the decree #150 of the Cabinet of Ministers of Uzbekistan, the name of the institute became "Tashkent Institute of Irrigation and Melioration." Currently, the Institute has five faculties with 30 departments where 353 professors and teachers are employed, and more than 4800 students are studying.

The agricultural education and science of the southeastern regions of Uzbekistan were based at Samarkand Agricultural Institute (SAI), the oldest agricultural higher educational and research institution in Central Asia. The Samarkand Agricultural Institute was founded in 1929 on the basis of the Uzbek State Cotton Institute and the Uzbek State Zooveterinary Institute. From 1930 to 1933, the institute was named the Uzbek State Institute of Cotton Growing. In 1933, the name of the institute was changed to the Uzbek State Institute of Animal and Veterinary Medicine. From 1961, the institute was named the Samarkand Agricultural Institute. Currently, there are of six faculties and twenty-six departments engaged in the education of students in two levels of study: 17 BSc majors, 13 MSc specialties, including the following directions of education: agricultural sciences; veterinary medicine; zootechnics; economics and business; mechanization; and technology. Over the past period, the institute has educated more than 40,000 highly qualified specialists, over 4,500 managers and specialists were trained at the faculty for advanced training. More than 100 doctoral and 400 Ph.D. theses were successfully defended, of which 22 doctoral and 55 candidate dissertations were defended since the independence of Uzbekistan. Currently, 17 doctors of science and professors, 104 candidates of sciences and associate professors, and 360 senior teachers and assistants are working at 26 departments of the institute.

Andijan Agricultural Institute (AAI) is an agricultural university in Ferghana Valley, Uzbekistan. In 1964 on the base of Andijan branch of the Tashkent Institute of Irrigation and Agricultural Engineers, the Andijan Cotton Growing Institute was founded, which prepared engineers in mechanics, land melioration engineers, and agronomists. On February 28, 1992, according to the Decree of the first President I.A. Karimov, considerable attention was paid to agriculture, and Andijan Agricultural Institute was founded on the base of the Institute. Now the Institute is preparing specialists in 14 directions of agricultural mechanization, management, accounting, and audit. There exist 13 chairs, which were founded based on the decree # 415 of the Cabinet of Ministers dated September 3, 2004. Nowadays, 2,303 bachelor course students are studying in three faculties of the institute such as agronomy, mechanization of agriculture, economics and management. There are 530 staff members at the institute, 188 of which are professors and teachers; 80% of the teaching staff has scientific degrees, nine doctors of sciences and professors, 80 candidates of sciences. In 2011–2012, 363 students in 12 specializations were graduated from the institute and received their bachelor diplomas. The main objectives of the institute include the sustainable development of agriculture, application of resource saving, environmentally friendly agricultural technologies and protection of farm animals from different diseases.

Recent policies that are addressing reforms of agricultural higher education institutions are being focused to develop the aforementioned agricultural universities of the country. We think that further reforms should be elaborated carefully with stakeholders involved in agricultural universities.

3 \ Data and methods

The following analysis is based on the results of a questionnaire-based survey, which was conducted from May 25 to June 10, 2017, among undergraduate and graduate students of Samarkand Agricultural Institute. In total, 450 students were randomly selected as respondents from eight BSc majors and MSc courses. A detailed questionnaire with nine sections was developed, tested and adapted in Uzbek language (see Appendix B). The survey was paper-based and translated questionnaires were printed out and distributed among students. Before translated questionnaires were distributed, all sections of the questionnaire were explained to students so that they could answer each question carefully. Of the 450 respondents, 400 were BSc students, and 50 were MSc students. During conducting the survey, all undergraduate students were studying at the 4th year of their BSc course and graduate students at the 2nd year of their MSc course. For questions aimed to reveal students' preferences, satisfaction, and agreement with certain statements the Likert Scale was used. Then for analyzing the data, the average scores were calculated. Three assistant professors from the faculty of management in agriculture entered the data to an excel file. The dataset was analyzed by using Stata 13.0 software. Figures were made in Microsoft Excel 2013 version.

4 \ Social and economic background of students

4.1. | Personal background and aspirations

In the following, undergraduate students are divided into two groups: natural science and social science (Table 3). In turn, BSc students majoring in agronomy, engineering, veterinary sciences, technology, and zootechnics were included in the natural science group, while students studying BSc courses in economics, management in agriculture and pedagogical education comprised the group of social science. MSc students were surveyed from fields of master courses such as agronomy, animal husbandry, engineering, veterinary sciences, and management in agriculture, comprising 50 respondents.

More than 70% of students (322 respondents) were male, and only in BSc in pedagogical education, the number of female students was three times higher. Students studying at BSc course in pedagogical education are supposed to be employed as teachers at vocational/professional colleges or secondary schools. On the other hand, the majority of undergraduate students in engineering, veterinary sciences, and economics were male which indicates that these majors are less popular among women. The number of surveyed male and female MSc students was 35 and 15, respectively. The average age of BSc and MSc students were 25 and 28, respectively, BSc students were between 21 and 37, while MSc students were between 25 and 31.

About 30% of BSc students (71 respondents) from the group of natural science and more than 40% of BSc students (64 respondents) from the group of social science were married. It can be observed that 56% of students (28 respondents) from BSc courses in pedagogical education were married which indicates that female students tend to marry earlier since 82% of students (41 respondents) were female. More than 80% of MSc students (41 respondents) were married and had children.

Table 3 Distribution of surveyed students by gender, age and marital status

	Major	Degrees	Sampled numbers of students	Gender		Average age	Marital status	
				Male	Female		Single	Married
Natural Science								
1	Agronomy	BSc	50	28	22	26.0	33	17
2	Engineering	BSc	50	47	3	23.9	43	7
3	Veterinary sciences	BSc	50	48	2	24.5	38	12
4	Technology	BSc	50	39	11	24.7	33	17
5	Zootechnics	BSc	50	36	14	25.3	32	18
	Total		*250*	*198*	*52*	*24.7*	*179*	*71*
Social Science								
1	Economics	BSc	50	44	6	24.9	35	15
2	Management in agriculture	BSc	50	36	14	26.0	29	21
3	Pedagogical education	BSc	50	9	41	24.6	22	28
	Total		*150*	*89*	*61*	*25.2*	*86*	*64*
1	**BSc students, in total**		**400**	**287**	**113**	**24.9**	**265**	**135**
2	**MSc students, in total**		**50**	**35**	**15**	**28.3**	**9**	**41**
ALL:			**450**	**322**	**128**	**25.3**	**274**	**176**

Source: Authors' calculation based on the survey

Respondents were asked several questions regarding their opinions about agriculture. More than 60% of BSc students (160 respondents) from the group of natural science preferred rural lifestyle while BSc students from the group of social science were less likely to live in rural areas; only 33% of them (50 respondents) have rural lifestyle preferences (Table 4). On the other hand, 90% of MSc students (45 respondents) chose a rural lifestyle. Their choices for rural lifestyle can be explained by the fact that 33 MSc students out of 50 had a farm and also, 35 of them had a plan to work on a farm after graduation. Thirty-four BSc students from the natural science group and 35 from the social science group were indifferent concerning an urban or rural lifestyle, which means that they were less decided than MSc students.

Almost 60% of all students (261 respondents) and more than 50% of both BSc and MSc students have worked on a farm. They were engaged in crop and animal production or mixed production. Among the BSc students from the groups of natural and social science, 28% (70 respondents) and 24% (36) indicated that their families had a farm and as already mentioned MSc students were mainly from farmers' families.

Half of all students (225 respondents) indicated that they were planning to work on a farm after graduation. While the number of respondents wishing to work on a farm was less than among BSc students in both groups, MSc students' willingness to work on a farm was higher.

Table 4 Students' preferences and experiences in agriculture

	BSc students (natural science)	BSc students (social science)	MSc students	Total
1. Students' lifestyle preferences				
Urban	56	65	3	124
Rural	160	50	45	255
Indifferent	34	35	2	71
Total	**250**	**150**	**50**	**450**
2. Have you worked on a farm?				
Yes	138	87	36	261
No	112	63	14	189
Total	**250**	**150**	**50**	**450**
3. If you worked on a farm, type of work				
Crop related	33	27	20	80
Livestock related	66	25	5	96
Mixed	39	35	11	85
Total	**138**	**87**	**36**	**261**
4. Does your family have a farm?				
Yes	70	36	33	139
No	180	114	17	311
Total	**250**	**150**	**50**	**450**
5. Do you plan to work on a farm after graduation?				
Yes	129	61	35	225
No	121	89	15	225
Total	**250**	**150**	**50**	**450**

Source: Authors' calculation based on the survey

The location of the university is one of the essential factors for students. Among respondents, 8% of BSc students from natural science and 2.6% of BSc students from social science groups, and 8% of MSc students came from a region whose parental municipality was more than 300 km away from Samarkand Agricultural Institute. Likewise, 6% and 5.3% of BSc students from natural and social science groups respectively came from the area with 200–300 km far from the institute. The shares of BSc students from natural and social science groups whose parental house was 100–200 km away from the institute were 16.8% and 8% respectively, whereas the share of MSc students was 6%. A majority of both BSc and MSc students were from the region that is located not far than 100 km from the institute. Thus, more than 50% and 60% of BSc students from natural and social science groups respectively, and 80% of MSc students came from the area not more than 100 km away from the institute. Students living in the same place, i.e., in Samarkand city were distributed as follows: 18% of BSc students from natural science, 25% BSc students from social science and only 6% of MSc students.

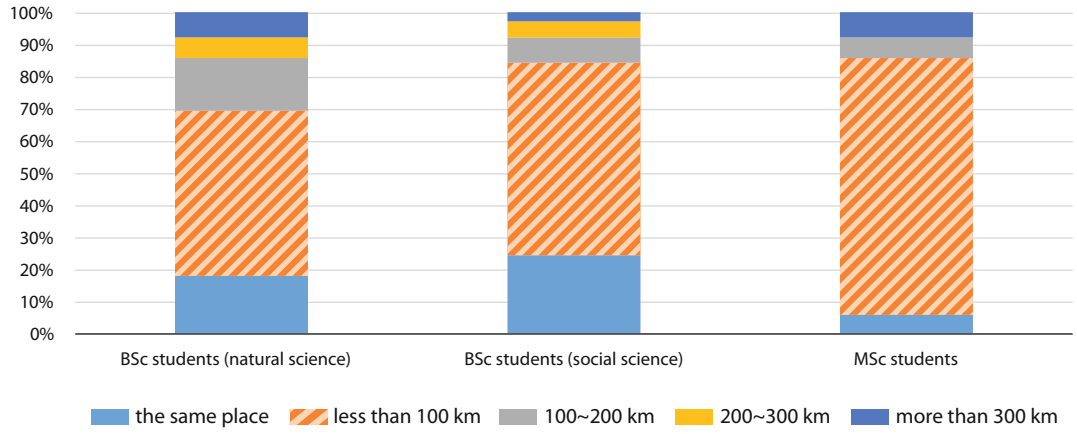

Figure 1 Distance of the university from parents' home

Source: Authors' calculation based on the survey

It is crucial to analyze the underlying factors which led students to study at SAI. The influence of parents, owning a farm or wishing to have a farm, parent's involvement in agriculture were assumed to have an impact on students' choice of SAI. Besides, we believed that not all students were interested in working in the agricultural sector and the appropriate question was asked. Among all students, 29–36% indicated that parents encouraged them to study agriculture, and 24–28% BSc students and 66% of MSc students mentioned that their family had a farm (Table 5). MSc students who wanted to have their own farm or would like to be a manager in a farm enterprise comprised 58%, and BSc students in natural and social science groups with the same opinions comprised 52% and 56%, respectively. 26% of parents of MSc students were working in the agricultural sector whereas, among BSc students, this indicator was lower, 21.6% and 13.3% of BSc students from natural and social science groups, respectively. When BSc and MSc students were asked whether they want to work in agriculture, only 6% of MSc students responded that they did not want to work in agriculture, while more BSc students wanted to work

outside of agriculture. It should be mentioned that the assumed five reasons for choosing to study at SAI were somewhat general questions, and questions asked did not exclude each other, for instance, some students indicated that their parents encouraged them to study in agriculture and at the same time their family had a farm or they would like to have their own farm.

In general, MSc students were more linked to the agricultural sector: a majority of them originated from farmers' families; compared to BSc students, the MSc students' willingness to have their own farm or to be a manager was higher.

Table 5 Motivation for choosing a university and an agricultural focus, %

	Reasons	BSc students (natural science)	BSc students (social science)	MSc students
1	My parents encouraged me to study agriculture.	35.6	29.3	36
2	My family has a farm.	28	24	66
3	I would like to have my own farm/I would like to be a manager in a farm enterprise.	52	56	58
4	My parents work in agriculture.	21.6	13.3	26
5	I do not want to work in agriculture.	20.4	22	6

Source: Authors' calculation based on the survey

4.2. | Parents' characteristics

We assume that analyzing domestic factors such as the level of education of parents, their status, and social origin is crucial for understanding students' career motivations. The results of the survey showed that the share of mothers with higher education was 36% for BSc students studying natural sciences, which was the highest among all groups (Figure 2). Likewise, mothers with higher education accounted for 33% of BSc students from the group of social science. However, only 20% of MSc students' mothers had higher education. Contrary to our expectation, the number of mothers with higher education was lower among the surveyed MSc students. Mothers with secondary special education accounted for 28.4% and 32% for BSc students in the natural and social sciences, respectively. The share of MSc students' mothers with special secondary education were 28%. About 35% of mothers obtained secondary education in both groups of BSc students. On the other hand, more than half of MSc students' mothers had secondary education.

We found the largest share of fathers with higher education among BSc students, majoring in natural science 51.6%, in case of social science 46.7%, and MSc students 30%. The share of fathers with a secondary special education of BSc students in natural science group consisted of 22.8%, in social science 28%, and among MSc students 30%. Finally, the share of fathers with a secondary education in the group of BSc students studying natural science was 25.6%, in social science 25.3%, and for MSc students 40%.

According to the results, the educational background of parents of BSc students majoring in natural science was the highest among all groups. The percentage of parents with secondary special education was highest among BSc students from the social science group. The educational level of parents of MSc students was ranked lower than those of BSc students. Further interviews with MSc students revealed that the majority of MSc students' parents were from rural areas and working in agriculture, and those who did not have higher education wanted their children to have higher education.

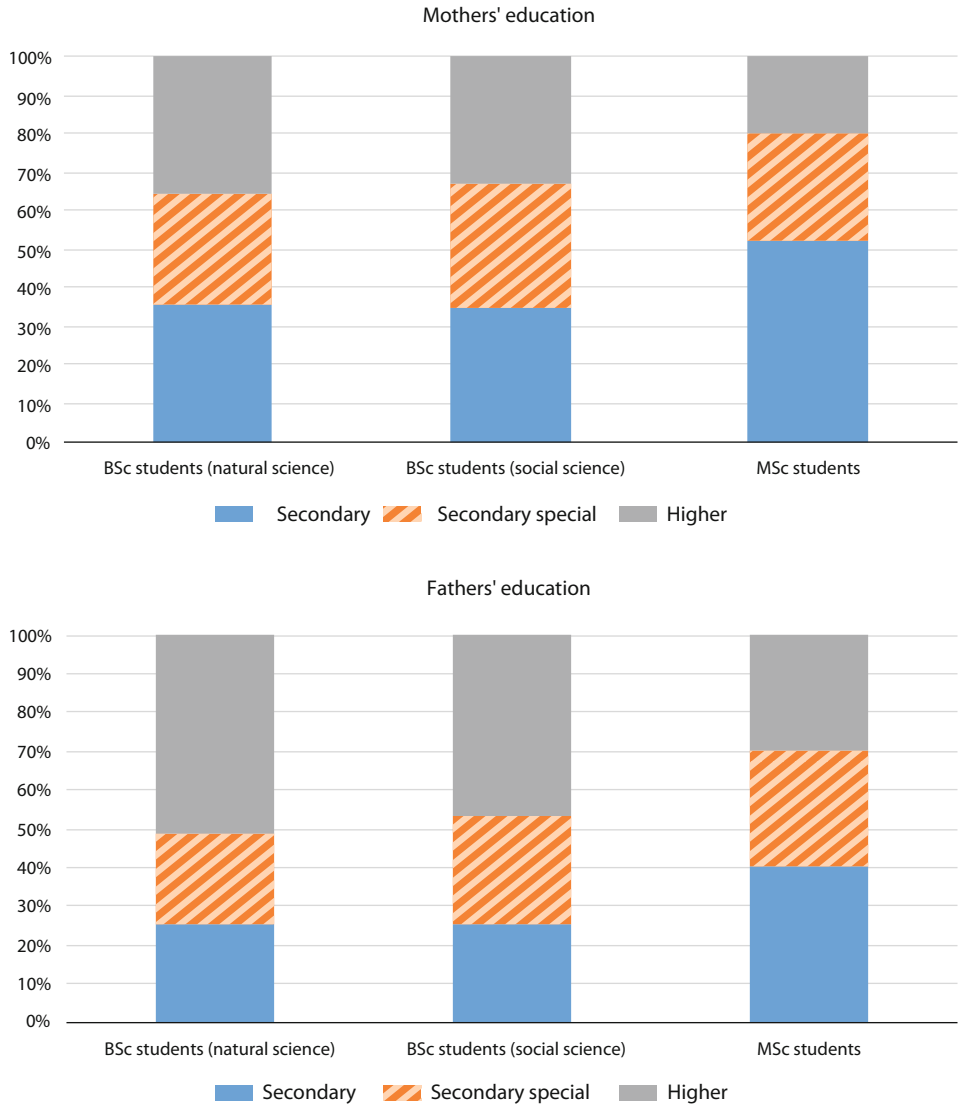

Figure 2 Parents' educational background, %

Source: Authors' calculation based on the survey

Among the household factors, the employment status of parents plays an important role. In the questionnaire, the employment status of students' parents was divided into four groups: (i) self-employment or business employee, (ii) civil servant, (iii) unemployed, and (iv) other (Table 6). The share of unemployed mothers in all student groups was 36–37%, which indicates that mothers in Uzbek families usually engaged in raising their children, staying at home as housewives, especially, in families without brides, mothers are more occupied in household activities such as cooking, washing, etc. Another significant employment of mothers was working in the public sector as a civil servant; the shares of mothers, working as a civil servant for BSc students in natural science, social science, and MSc students were 35.2%, 31.3%, and 26%, respectively. The percentages of mothers included in self-employment or business employee groups fluctuated between 12% and 18%. Results showed most students chose "other" when their parents were working abroad, e.g., in Russia, Turkey, South Korea, United States, etc. Thus, the share of mothers of MSc students included in the group of "other" was highest compared to other groups. The employment status of all students' fathers was higher compared to the mothers' occupation, which indicates that in most Uzbek families the household head is a man and he is responsible for generating the income. The majority of fathers was working in the public sector, and the shares of fathers working in the civil sector fluctuated between 35.2% and 46.8%. After working as a civil servant, the next main occupation of fathers was self-employed or working as a business employee; 25.2% of fathers of BSc students in natural science, 24% of fathers in social science and 32% of MSc students' fathers were working in this employment group. Percentages of unemployed fathers of students fluctuated from 16% to 18%. Shares of fathers included in the group of "other" ranged from 12% to 14%.

Table 6 Parental employment status, %

Employment status	BSc students (natural science)		BSc students (social science)		MSc students	
	mother	father	mother	father	mother	father
Self-employed/Business employee	15.2	25.2	12	24	18	32
Civil servant	35.2	46.8	31.3	45.3	26.0	36.0
Unemployed	37.6	16.0	37.3	17.3	36.0	18.0
Other	12.0	12.0	19.3	13.3	20.0	14.0
Total	**100**	**100**	**100**	**100**	**100**	**100**

Source: Authors' calculation based on the survey

5 \ Career aspirations and expectations of SAI students

5.1. | Future employment aspirations and expectations

Understanding students' preferences for working on a company as an employee or establishing their own company is important. Almost half of the BSc students from the natural science group and from the MSc students indicated that they want to establish their own business and the other half responded that they were planning to work as an employee in a company (Figure 3). Only 30% of BSc students from the social science group were ready to establish their own business. 70% wanted to work as an employee.

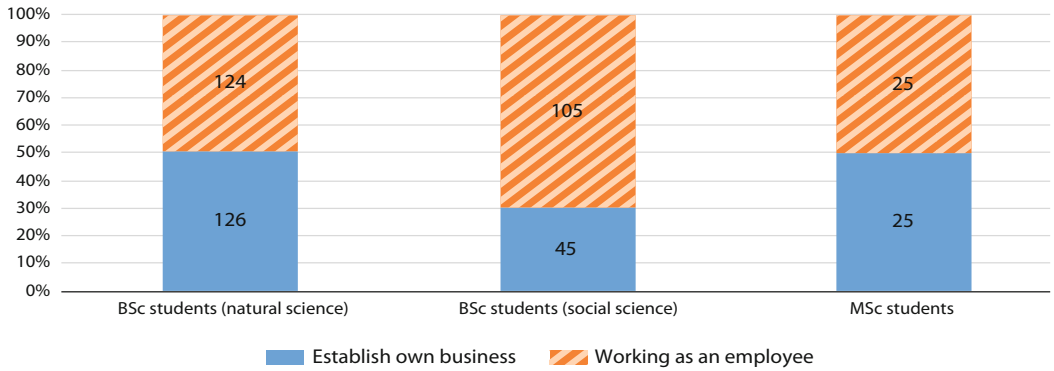

Figure 3 Students' perception about establishing their own business versus working as an employee, in %

Source: Authors' calculation based on the survey

The results of analysis showed that the majority of students wants to work within the Samarkand region. The share of students wishing to work within Samarkand region was highest (68.7%) among BSc students majoring in social science (Table 7).

Table 7 Students' employment perception about place to work, %

Places to work	BSc students (natural science)	BSc students (social science)	MSc students
Within Samarkand region	45.6	68.7	46.0
In other regions of Uzbekistan	17.2	8.0	10.0
In cities of Uzbekistan	18.4	14.7	22.0
Abroad	6.4	2.0	8.0
Other	12.4	6.7	14.0
Total	**100**	**100**	**100**

Source: Authors' calculation based on the survey

Among BSc students, 17.2% (43 respondents) from the group of natural science, 8% (12 respondents) from the group of social science and 10% (5 respondents) of MSc students chose other regions of Uzbekistan as a place to work. The share of students planning to work in cities of Uzbekistan ranged from 14.7% (22 respondents) in the group of BSc students in social science to 22% (11 respondents) among MSc students, whereas this was 18.4% (46 respondents) among BSc students from the group of natural science.

Regarding the difficulty of establishing their own business in the parental municipality, about 26% of BSc students from natural and social science and 38% of MSc students found it difficult (Figure 4). Further analysis showed that more than 80% of BSc students majoring in economics, technology, and veterinary sciences indicated that establishing their own business in the parental municipality is not difficult. According to the survey results, 73.3% (330 respondents out of 450) of all students were from Samarkand region, and almost 71% of students living in Samarkand region mentioned that establishing their own business in the parental municipality was not difficult.

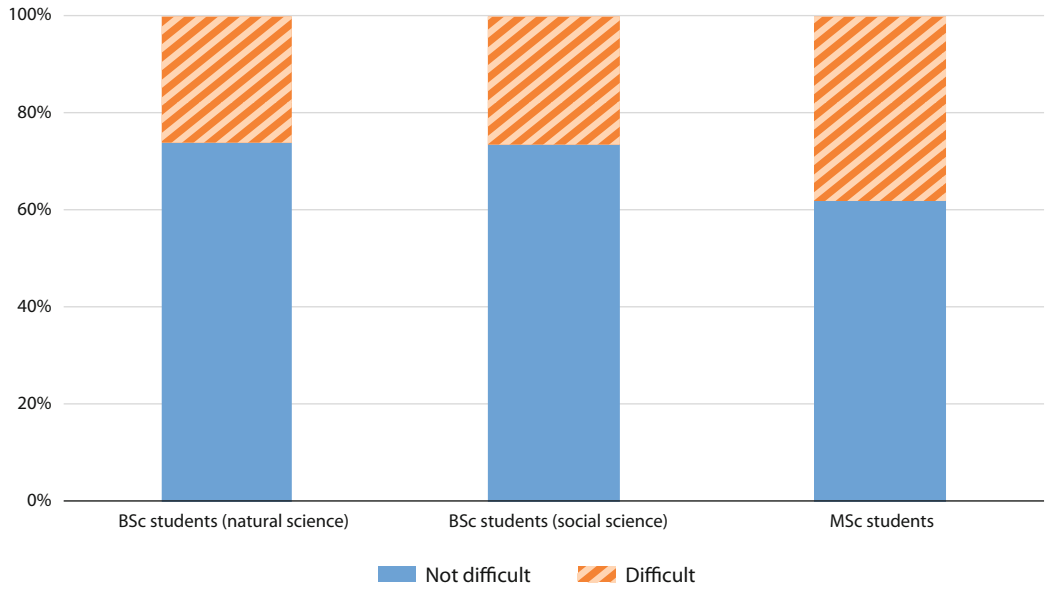

Figure 4 Students' perception about difficulties of establishing their own business in the parental municipality, %

Source: Authors' calculation based on the survey

To better understand students' perceptions regarding their career, students were asked whether they want to continue education or work, and if they chose work, what type of work they prefer. The analysis revealed that 28% of MSc students wished to continue their education which was slightly higher than among BSc students (Table 8). Moreover, the share of students who wanted to be employed in agriculture or agriculture-related industry was higher among MSc students (26% or 13 respondents), for BSc students from natural and social groups it was 19.6%

(49 respondents) and 21.3% (32 respondents), respectively. Working in the manufacturing sector was most attractive for BS students, 30% (75 respondents) from natural science and 26.7% (40 respondents) from the social science group. Less attractive sectors for all students are found to be wholesale and retail trade, and services.

Table 8 Students' perception of continuing education, working or running a business after graduation, in %

	BSc students (natural science)	BSc students (social science)	MSc students
Continue the education	23.6	24.7	28.0
Agriculture	19.6	21.3	26.0
Manufacturing	30.0	26.7	18.0
Wholesale and retail trade	3.6	9.3	4.0
Services	4.0	3.3	10.0
Others	19.2	14.7	14.0
Total	**100**	**100**	**100**

Source: Authors' calculation based on the survey

Regarding students' expectation of receiving an average monthly salary after graduation, the analysis of the results showed that students think to earn more as an employee changes the working place from rural towards urban areas and abroad (Figure 5). According to students' opinions, they expect to receive a monthly salary in the following amounts, depending on the location of their work place:

a) In rural areas of Uzbekistan: 18.4% of BSc students from natural science, 8% from social science and 20% of MSc students expect to receive up to 400 thousand Uzbek Som (UZS).[4] About 35% of BSc students from natural science and MSc students and almost 40% of BSc students from social science expect to receive from 400 thousand to 800 thousand UZS. 32.4% of BSc students from natural science, 41.3% from social science and 36% of MSc students expect to receive from 800 thousand to 1500 thousand UZS. The shares of students thinking to earn more than 1500 thousand UZS is small; 13.6% of BSc students from natural science, 11.3% from social science and only 8% of MSc students expect to receive over 1500 thousand UZS.

b) In cities within Uzbekistan other than Tashkent: 2.6 and 3.2% of BSc students from social and natural sciences, respectively, and only 2% of MSc students expect to receive up to 400 thousand UZS. 28.4% of BSc students from the natural science, 18.7% from social science and 40% of MSc students expect to receive from 400 thousand to 800 thousand UZS. The percentage of students thinking to earn 400–800 thousand UZS is high. 52.8% of BSc students from social and natural sciences, 61.3% from social science and 40% of

4 1 USD = 8059.24 UZS, http://www.cbu.uz/en/.

MSc students expect to receive from 800 thousand to 1500 thousand UZS. 15.6% of BSc students from natural science, 17.3% from social science and 18% of MSc students expect to receive over 1500 thousand UZS.

c) In Tashkent: 1.6% of BSc students from the natural science, 0.7% from social science and none of MSc students expect to receive up to 400 thousand UZS. 9.6% of BSc students from natural science, 3.3% from social science and 10% of MSc students expect to earn from 400 thousand to 800 thousand UZS. 38.4% of BSc students from natural science, 64.7% from social science and 56% of MSc students to receive from 800 thousand to 1500 thousand UZS. 50.4% of BSc students from natural science, 31.3% from social science and 34% of MSc students expect to over 1500 thousand UZS.

d) Abroad: 2.8% of BSc students from the natural science, 2% from social science and 4% of MSc students expect to receive up to 400 thousand UZS. 4.4% of BSc students from natural science, 0.7% from social science and 4% of MSc students expect to earn from 400 thousand to 800 thousand UZS. 12% of BSc students from natural science, 8.7% from social science and 24% of MSc students to receive from 800 thousand to 1500 thousand UZS. The majority of students from all groups expect to earn more money abroad, 80.8% of BSc students from natural science, 88.7% from social science and 68% of MSc students expect to over 1500 thousand UZS.

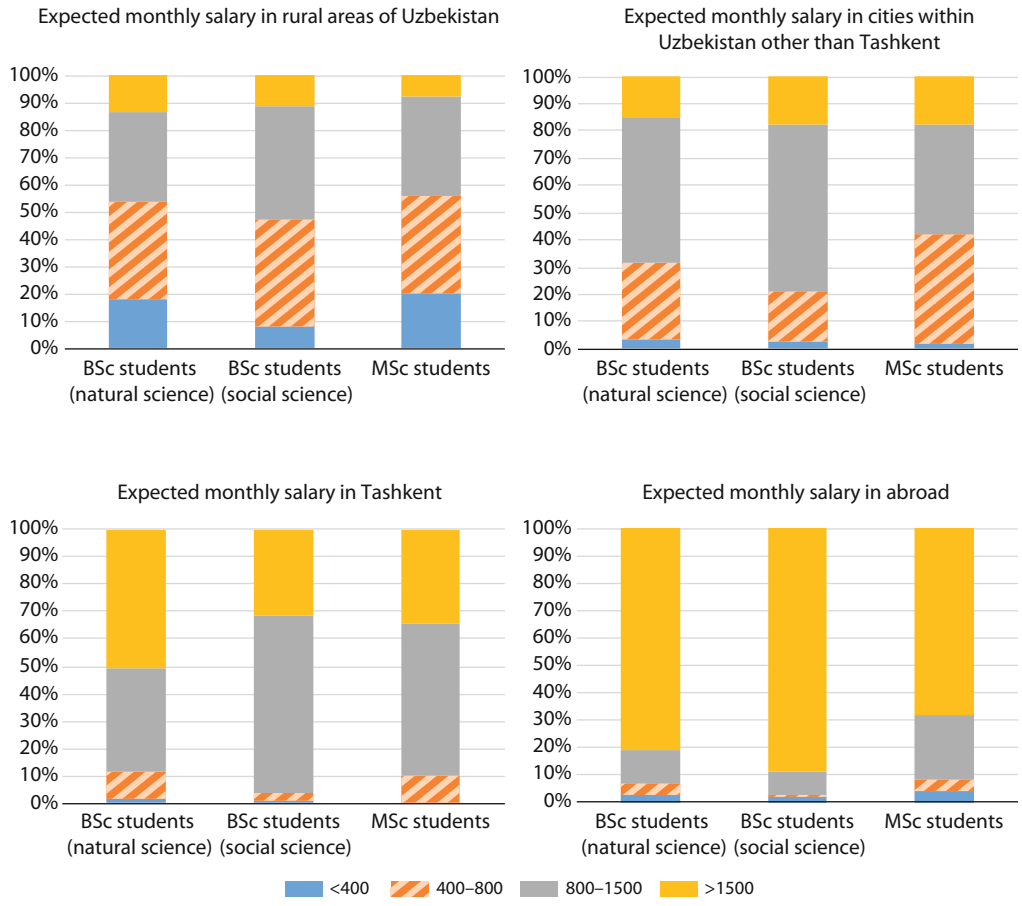

Figure 5 Students' perception of future monthly salary, 1000 UZS

Source: Authors' calculation based on the survey

For a better analysis of incomes of the population in the parental municipality, students were asked whether paid salaries were sufficient. Among BSc students, 26.4% (66 respondents) from natural science, 28.7% (43 respondents) from social science and 22% (11 respondents) of MSc students indicated that salaries in their parental municipality were not sufficient (Figure 6). On the other hand, most students chose sufficient: 60.4% (151 respondents) of BSc students from natural science, 62.4% (93 respondents) of BSc students from social science and 66% (33 respondents) of MSc students mentioned salaries as sufficient. The shares of students who indicated salaries as "sufficient, even can save" were small, 13.2%, 9.3% and 12% for BSc students from natural science and social science and MSc students, respectively.

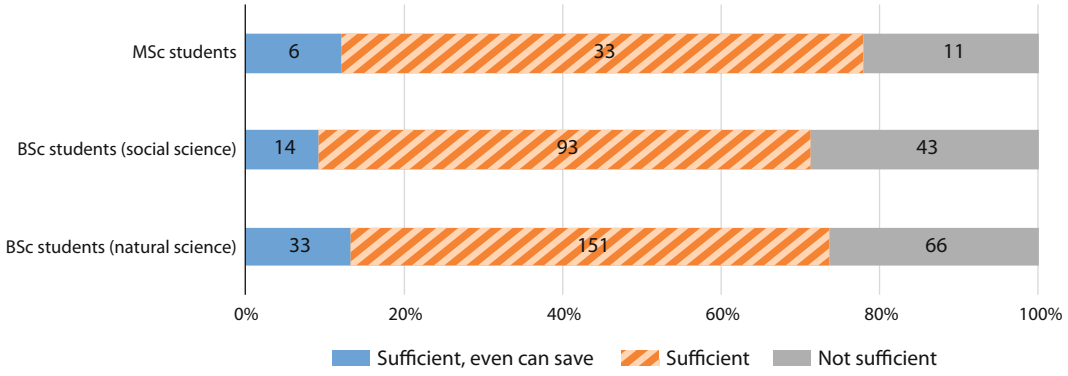

Figure 6 Students' perception of salary levels in parental municipality, %

Source: Authors' calculation based on the survey

According to the questionnaire, students were asked if they liked the idea to be offered a job as a qualified specialist on a farm in rural Uzbekistan with fair payment. Compared to BSc students, most of MSc students responded that they agreed with the offer, a minority disagreed, 68% (34 respondents) versus 8% (4 respondents) (Figure 7). Among the BSc students, 60% (150 respondents) from natural science and only 46% (69 respondents) from social science agreed to the offer, and 15.2% (38 respondents) and 20% (30 respondents) disagreed. The shares of students who had no idea were 24.8%, 34%, and 24% for BSc students from natural, science, and MSc students, respectively.

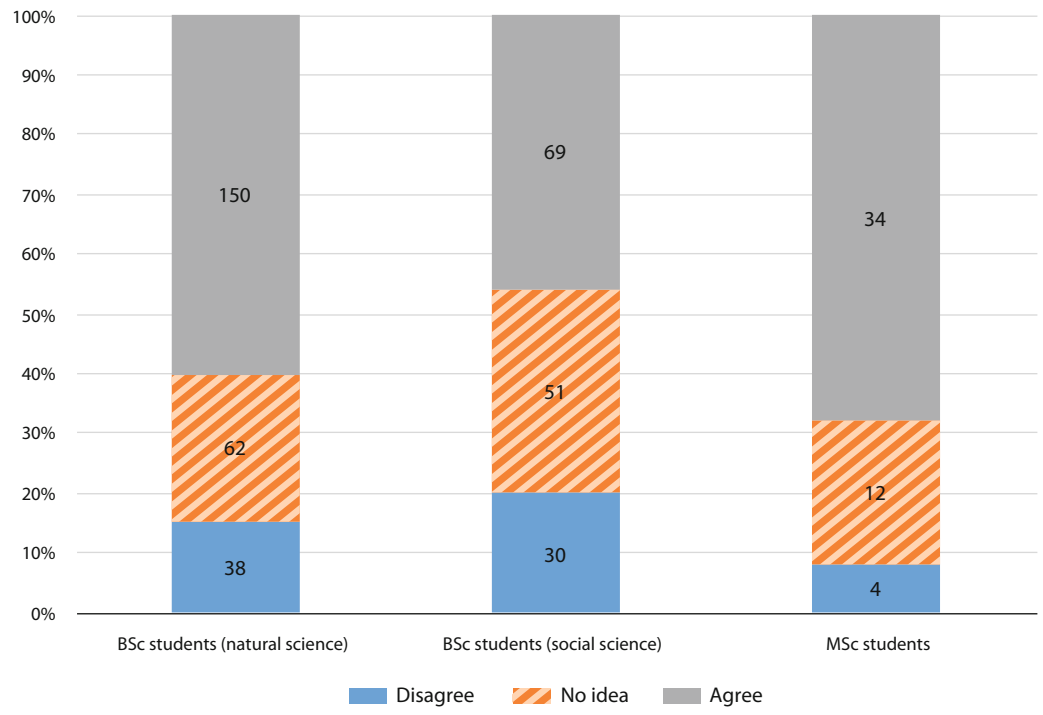

Figure 7 Students' perception of working on a farm as a specialist, %

Source: Authors' calculation based on the survey

Students' opinions on the difficulty of finding acceptable jobs after their graduation were important. Students estimated the chances by scoring them on a scale from one to ten, where one stands for extremely easy and ten for extremely hard. On average, the majority of students showed the level around five; however, MSc students were optimistic and considered the chances of finding jobs as better – around 4.5 scores (Figure 8).

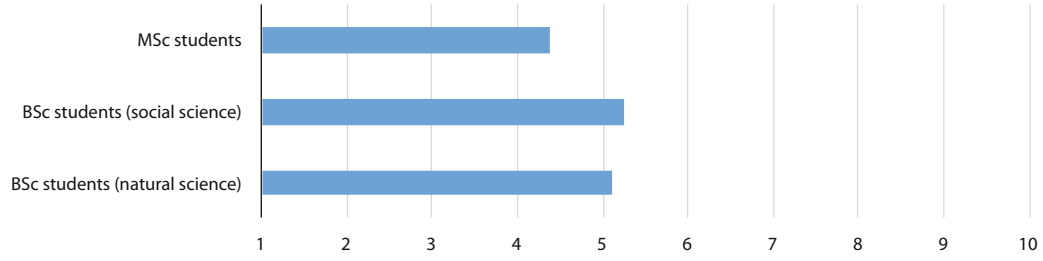

Figure 8 Estimation chances of finding an acceptable job after graduation

Note: scale from 1 to 10, where 1=extremely easy and 10=extremely hard
Source: Authors' calculation based on the survey

To understand how students were well prepared for their future, they were asked about their five-year plan. Half of BSc students from natural science, 42% from social science and 58% of MSc students responded that they would see themselves working in their own region (Figure 9). The second favorite place for students to work was an urban area: 22.8% of BSc students from natural science, 36% from social science and 20% of MSc students indicated their preferred working place as an urban area. Further, students chose the farm sector, non-farm sector, abroad and others.

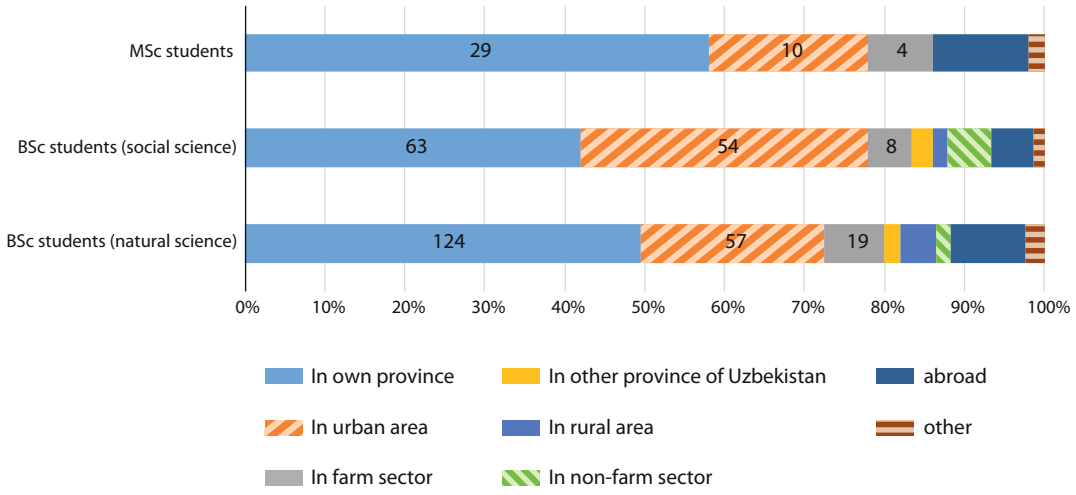

Figure 9 Place and employment sector of students after 5 years, %

Source: Authors' calculation based on the survey

It is interesting to investigate the factors which influenced students in choosing to study at SAI. Therefore, students were asked several questions related to their choice of studying at SAI. A majority of BSc and MSc students indicated that they wanted to study in the university from childhood: 42.4% for BSc students from natural science, 45.3% for BSc students from social science, and 44% for MSc students (Figure 10). A significant share of undergraduate and graduate students mentioned that they wanted to work in a governmental position: 31.2% of BSc students from natural science, 37.3% of BSc students from social science, and 30% of MSc students. Among the BSc students, 16.8% from natural science, 9.3% from social science and 8% of MSc students chose "influence of the family." A few numbers of undergraduate and graduate students mentioned that they did not think about a career.

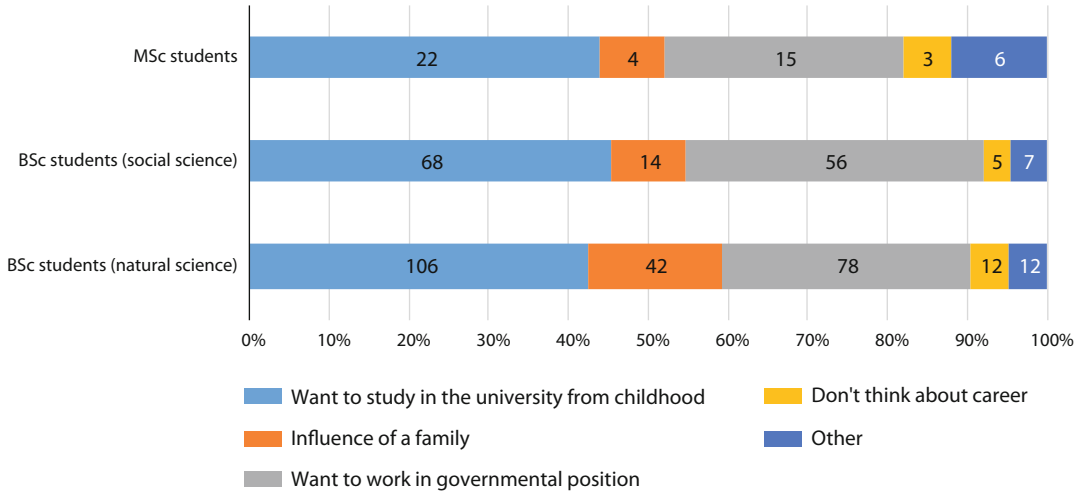

Figure 10 The reason for entering Samarkand Agricultural Institute

Source: Authors' calculation based on the survey

5.2. | **Career planning, adaptability, optimism**

We assume that career planning, adaptability to employment conditions, and understanding job market trends are all relevant factors which will influence students' future careers.

A large number of students mentioned that they have not made a career choice yet or were undecided (Figure 11). Students agreed that they did not feel particularly concerned or worried about their career. At the same time, students mentioned that they could adapt to changes in the world of work. Not many students think that they get excited when they think about a career, i.e., they feel undecided. Students tend to not fully understand the job market. Among all students, BSc students from the social science group were less decided than those from natural science and MSc students about planning their career.

Thus, we can draw the following conclusions from the analysis of students' career planning:

a) In general, the analysis revealed that among the 450 students surveyed, only 20–30% of respondents think that establishing their own business was difficult which may indicate that there is a sufficiently enabling environment for business opportunities.

b) Compared with BSc students, the share of MSc students wishing to continue their education (doing PhD) was higher; moreover working in the agricultural sector was more attractive for MSc students. Perhaps, this can be explained by the fact that the majority of surveyed MSc students were from rural areas.

c) A majority of students expect to earn more as the working place changes from rural towards urban areas and abroad.

d) More than 60% of BSc and MSc students responded that the salary paid in their parental municipality was sufficient. Compared to BSc students, most of MSc students were ready to work on a farm as a specialist if they were offered a job as a qualified specialist on a farm with fair payment. Regarding students' opinions about 5 year planning, MSc students would see themselves working in their home regions.

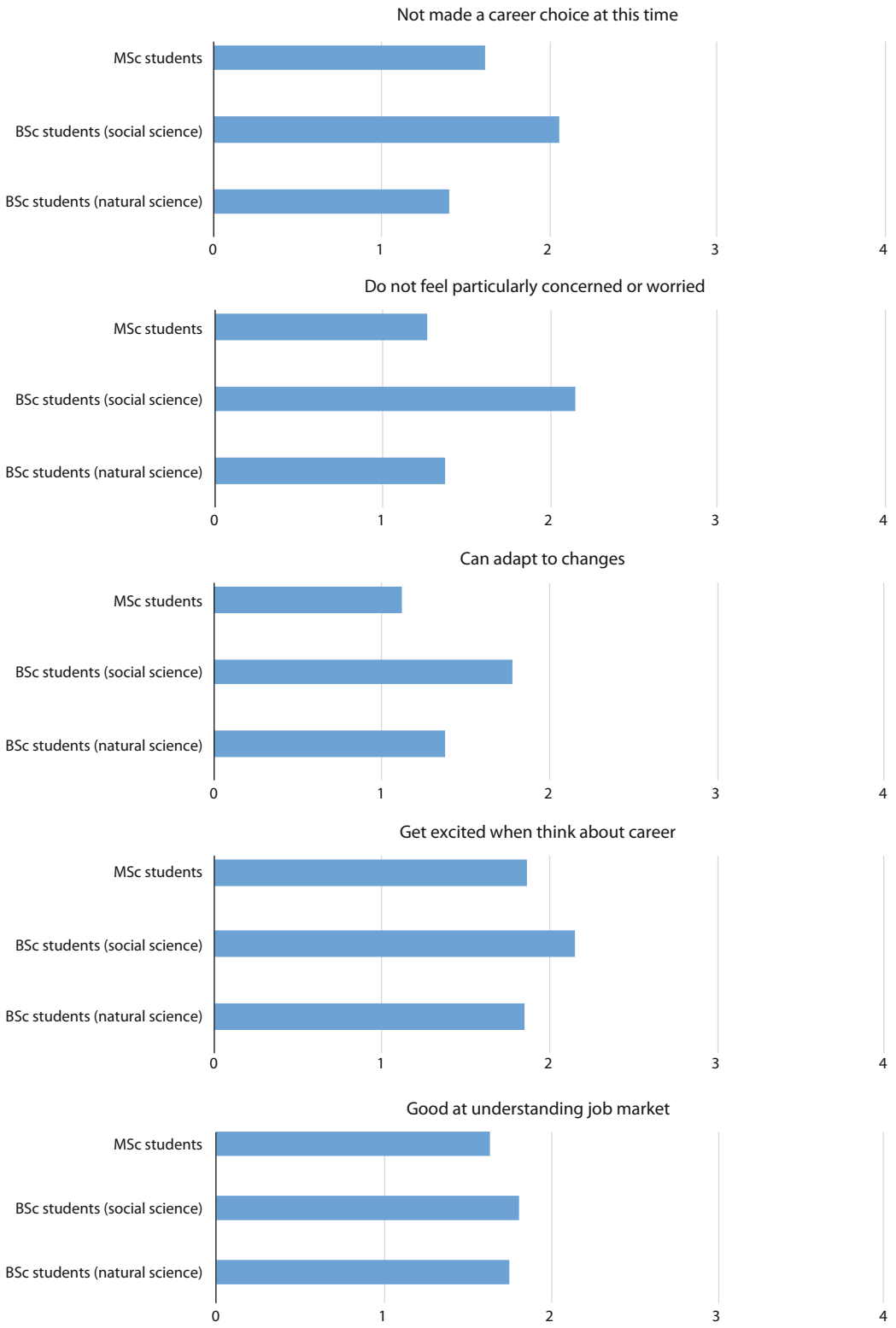

Figure 11 Career planning, adaptability, optimism

Note: 0=Strongly agree, 1=Agree, 2=undecided, 3=disagree, 4=strongly disagree
Source: Authors' calculation based on the survey

5.3. | Perceptions about quality of life in rural areas and satisfaction with professional development opportunities

We assume that rural living conditions are crucial for students since a majority of surveyed students were from rural areas. For a majority of students, the most essential factors are found to be employment opportunities, the unemployment rate, the wage level, the cost of living, healthcare and educational provisions, the presence of friends and relatives, the quality of roads, pollution level, and climate conditions (Figure 12). According to students' opinions, other factors were also of no small importance. Less critical factors were the time needed for traveling to work, the cost of rented private accommodation, or violent crime levels.

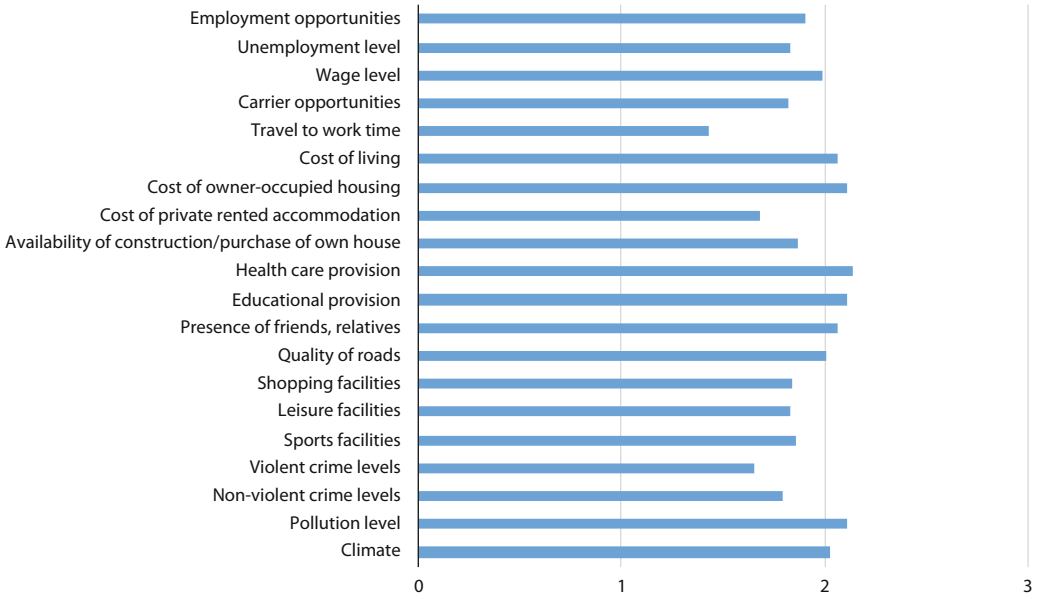

Figure 12 Importance of rural amenity and local conditions

Note: 0=Unimportant, 1=Less important, 2=Important, 3=Very important
Source: Authors' calculation based on the survey

Professional development is a key factor for capacity building. According to the results of the survey, students evaluated all services as satisfactory (Figure 13), which means that for conducting educational and training activities SAI had all necessary facilities. The availability of services at SAI can be explained by the fact that recently, more staff members started to participate in several educational and scientific projects, and their capacities significantly increased. Moreover, due to these projects, faculties, departments and the library were provided with modern computers and other necessary equipment. Besides, more students started to learn foreign languages and are using the internet for educational purposes, which became available for all staff members and students of SAI.

Figure 13 Students' satisfaction with services for professional development at the faculty/department

Note: 0= Very dissatisfied, 1= Dissatisfied, 2=Satisfied, 3=Very satisfied
Source: Authors' calculation based on the survey

6 \ Conclusions

The current agricultural education system which was established during the former Soviet Union underwent many reforms. We studied the development of agricultural education and the underlying policies in the pre- and post-independence periods. While the former was strongly linked to the Soviet political system aimed at the provision of agricultural personnel in rural areas, the latter was oriented towards Western economic thought, based on principles of a market economy.

Although the adoption of the two main legislative regulations (Law on Education [1997] and National Training Programme [1997]) were important steps in updating the national educational system of Uzbekistan, employment problems of graduates were not well studied and the analytical study tried to fill this gap.

The analytical study focused on the motivation, aspirations, and career expectations of undergraduate and graduate students of agricultural universities on the example of Samarkand Agricultural Institute. It allows us to draw the following conclusions:

1) The role of government in higher education, including agricultural higher education, is significant. Higher education institutions lack independence in decision making related to their development. Nevertheless, the government is adopting many acts and regulations to develop and increase the ranking of its national education system.

2) Survey results revealed that almost half of the BSc students from the natural science group and MSc students indicated that they want to establish their own business and the other half responded that they were planning to work as an employee in a company. In addition, the majority of students who wanted to establish their own businesses preferred to open these businesses in their parental municipalities, which may indicate that there is a sufficient enabling environment for business opportunities. On the other hand, 30% of BSc students from natural science and 26.7% from social science preferred to work in the manufacturing sector, and only 19.6% and 21.3% wanted to work in agriculture.

3) Since the majority of SAI students are from Samarkand region, most of them wanted to find jobs in the Samarkand region. Students from other areas prefer to be employed in their parental municipalities.

4) Surveyed students are aware that wages abroad are much higher. However, most students want to find jobs in Uzbekistan. We think that having graduates wishing to work in Uzbekistan is very important for the future of agriculture.

We also offer the following recommendations:

According to our results, there are students among the respondents who have not decided about their careers or they do not have sufficient knowledge concerning career planning. Therefore, agricultural vocational/professional colleges and agricultural universities should pay more attention to teach students competences related to career planning. Moreover, college and university staff members should cooperate with related industries and farm managers for developing employment opportunities of graduates.

Based on the survey findings, economic incentives are very important to attract more qualified specialists to rural areas, and policymakers should elaborate policies aimed to absorb these graduates with reliable wages. In this regard, developing extension service organizations with qualified staff in rural areas can be one option which should be based on private public partnerships. In addition, rural infrastructure improves the working and living conditions for graduates from agricultural universities and should thus be maintained.

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APPENDIX A: POLICY CHRONICLE OF HIGHER EDUCATION REFORMS IN UZBEKISTAN AFTER 1991

Date	Regulation	Description
July 2, 1992	Law on Education (amended in 1997)	Determines that preparation of scientific and scientific-pedagogical personnel is the highest priority of the continued education system. Defines scientific activities in higher education system, government procurement contracts, programs and projects, as well as research interests of scientific community.
June 14, 1993	Decree of CM #283 on Measures to improve the quality of higher education in the Republic of Uzbekistan	Focuses on improving the quality of education, creating favorable conditions for the creative scientific and pedagogical activity of the teaching staff of higher educational institutions of the Republic. Salaries of teaching staff are linked to rank/grade based payment.
July 29, 1995	Decree of CM #296 on Measures to reorient vocational education for rural youth, based on the demands of market reforms	Aims to attract and stimulate rural youth to engage in business activities, by realizing the tasks of social protection of the younger generation and providing them with opportunities to obtain the necessary professions and specialties in a market economy.
August 29, 1997	Law on Education	Determines the role of postgraduate education in the higher education system. Postgraduate education aims at ensuring societal needs in scientific and scientific-pedagogical personnel. Postgraduate education can be received in higher education institutions and scientific research institutes through postgraduate, doctoral and independent research.
August 29, 1997	National Training Programme	Corresponds to provisions of the Law on Education as the basis of evaluating national experience, using global achievements in the education system. The program aims at forming a new generation of scientific personnel with high general and professional background, creative and socially active, independent in social and political life. The program provides a national model of training and determines socioeconomic, legal, pedagogical and other conditions for forming comprehensively developed scientific personnel, postgraduate educational and professional programs.
January 28, 1998	Decree of CM #48 on Measures to accelerate the formation of the market of educational services and marketing in the field of training	Ensures that the education system conforms to the requirements of democratic and market reforms, the development of competition in the educational services market, the formation and development of marketing in the field of personnel training. Training of specialists in higher education and higher qualification for the state is carried out based on state educational grants allocated annually to state and non-state educational institutions.
August 11, 2014	Decree of CM #222 on Measures to further improve the system of training of personnel with secondary special, vocational education for the agricultural sector	Focuses on improving the management and financial recovery of agricultural machinery enterprises, and strengthen the material and technical base of vocational colleges, improve conditions and quality training of specialists for the agricultural sector.
November 3, 2015	Decree of CM #311 on Measures to further improve the provision of rural and water sectors with highly qualified personnel with higher education	Aims to improve the quality of training of personnel with higher education, in demand by the agricultural and water sector, further strengthen the material and technical base of higher educational institutions in rural and water management. A program of measures to further improve the provision of agriculture and water sectors with highly qualified personnel with higher education for the period 2015–2017 has been developed.

April 20, 2017	Presidential decree PP #2909 on Measures for the further development of the system of higher education	According to the decree, the Program for the Comprehensive Development of the Higher Education System for the period 2017–2021 (referred to as the Program) was approved, which includes a package of measures to radically improve the system of higher education for the period 2017–2021.
May 24, 2017	Presidential decree PP #3003 on Measures to radically improve the system of training of engineering and technical personnel for the branches of agriculture and water management	Aims to improve the quality of training of engineering and technical personnel for the rural and water sectors, further strengthen the material and technical base and scientific and technical potential of the profile of higher educational institutions, broadly introduce modern pedagogical and information-communication technologies in the educational process, advanced training and retraining of scientific and pedagogical staff and specialists.
July 10, 2017	Decree of CM #478 on the Approval of the regulations on the procedure for the formation and use of the funds of the support fund for higher educational institutions of the agricultural sector under the Ministry of Agriculture and Water Resources of the Republic of Uzbekistan	Focuses on formation and use of the funds for higher educational institutions of the agricultural sector under the Ministry of Agriculture and Water Resources of the Republic of Uzbekistan.
July 10, 2017	Decree of CM #479 on Measures to organize the activities of the Termez branch of the Tashkent State Agrarian University	Adopted to deepen structural changes in the region's agriculture, modernize and diversify agriculture, to ensure demand for qualified personnel with the ability to introduce advanced and intensive agricultural technologies. In the Termez branch of the Tashkent State Agrarian University, based on the needs of the agrarian sector, students are trained in such areas as storage and processing of fruit and vegetable production, viticulture and agriculture, the technology of growing and processing medicinal plants, agricultural management, mechanization of agriculture.
July 18, 2017	Decree of CM #515 on the Organization of the activity of the State Inspectorate for the Supervision of the Quality of Education under the Cabinet of Ministers of the Republic of Uzbekistan	Adopted with the aim of ensuring a high level of educational process in accordance with the reforms in the social and economic spheres, as well as further improvement of education quality assurance in continuing education, state policy in the sphere of control of training quality and objective evaluation of the effectiveness of the educational process. The resolution determines the status, main tasks, functions, rights and responsibilities of the State Inspectorate for the Quality Supervision of Education under the Cabinet of Ministers of the Republic of Uzbekistan.
July 27, 2017	Presidential decree PP #3151 on Measures to further expand the participation of industries and economic sectors in improving the quality of training of specialists with higher education[5]	Adopted with a view to radically revising the content of training in accordance with the priority tasks of the country's socio-economic development, creating the necessary conditions for training specialists with higher education at the level of international standards. This decree approved the Program for the Comprehensive Development of the Higher Education System for the period 2017–2021 on the qualitative and cardinal improvement of the level of higher education, the strengthening and modernization of the material and technical base of higher educational institutions, the provision of modern educational and scientific laboratories, information and communication technologies.

5 Currently, this act is being amended.

August 11, 2017	Decree of CM #610 on Measures to further improve the quality of teaching foreign languages in educational institutions	Adopted with the aim of improving the quality of teaching foreign languages and develop the method of preparation of specialists with knowledge of foreign languages. From the academic year 2017/2018, at all stages of the system of continuing education, a mechanism will be introduced in which the assessment of the level of foreign language development will be conducted on the basis of Listening, Reading, Writing, and Speaking sections.
May 8, 2018	Presidential decree PP #3704 on Measures to radically improve the system of training personnel with higher education in the Tashkent State Agrarian University	Adopted to radically improve the system of training personnel with higher education at the Tashkent State Agrarian University. According to the document, the Andijan branch of the Tashkent State Agrarian University was established on the basis of the Andijan Agricultural Institute. In the annexes of the resolution updated Structures of the Tashkent State Agrarian University and its Andijan, Nukus, Termez branches are given. Also in the annex of the document, there is a roadmap for the development of the Tashkent State Agrarian University for the 2018/2019 academic year. In the appendix, there are quotas for admission of students to the bachelor and master studies at Tashkent State Agrarian University and its Andijan, Nukus, Termez branches.
May 8, 2018	Presidential decree PP #3702 on Measures to radically improve the system of training personnel with higher education in the Tashkent Institute of Irrigation and Agricultural Mechanization	Adopted to radically improve the system of training personnel with higher education at Tashkent Institute of Irrigation and Agricultural Mechanization Engineers (TIIAME). In the annexes of the resolution updated Structures of TIIAME and its Bukhara branch are given. Also in the annex of the document, there is a roadmap for the development of TIIAME for the 2018/2019 academic year. In the appendix, there are quotas for admission of students to the bachelor and master studies at TIIAME and its Bukhara branch.
May 8, 2018	Presidential decree PP #3703 on the Formation of the Samarkand Institute of Veterinary Medicine	According to the document, the Samarkand Institute of Veterinary Medicine was established on the basis of the Samarkand Agricultural Institute. In the annexes of the resolution updated Structure of the Samarkand Institute of Veterinary Medicine is given. Also in the annex of the document, there is a roadmap for the development of the Institute. The appendix gives quotas for the admission of students to the bachelor and master studies at the Institute.

APPENDIX B: REPRINT OF THE QUESTIONNAIRE

Survey on Career Expectations of Undergraduate and Graduate Students in Agricultural Universities – **Qishloq xo`jaligi oliy o`quv yurtlarida tahsil olayotgan talabalarning kutilayotgan xizmat martabasi haqida**

Questionnaire - So`rovnoma

Dear Student, we guarantee the confidentiality and anonymity of your data and that it will be used only for scientific purposes. Please answer honestly and to your best knowledge – **Aziz talaba, biz bu so`rovnomani faqatgina ilmiy maqsadda amalga oshirayapmiz va siz haqingizdagi ma`lumotlarning sir saqlanishiga kafolat beramiz.**

A. Personal background – **Shaxsiy ma`lumotlar**

A1. You are – **FIO:**_____
☐ Male – **Erkak** ☐ Female - **Ayol**
A2. Please indicate your age – **Yoshingiz**: _____
A3. What is your marital status? – **Oilaviy ahvolingiz?** ☐ Single – **Yolg`iz** ☐ Married – **Oilali** ☐ Divorced – **Ajrashgan** ☐ Widow - **Beva**
A4. Do you have children? – **Bolalaringiz bormi?** ☐ Yes – **Ha Agar Ha bo`lsa nechta farzandingiz bor:** ☐ ☐ No – **Yo`q**
A4. From which province/district you are coming from originally? – **Asli qaysi viloyat/qishloqdan kelgansiz?** Province - **Viloyat** ☐ District - **Tuman** ☐ City – **Shahar** ☐ Village - **Qishloq** ☐
A5. Which lifestyle do you prefer urban rural indifferent –**Qanday turmush tarzini afzal ko`rasiz?** ☐ urban - **Shahar** ☐ rural – **Qishloq** ☐ indifferent – **Farqi yo`q**
A6. Ever worked on the farm? – **Qishloq xo`jaligida oldin ishlaganmisiz?** ☐ Yes – **Ha** ☐ No – **Yo`q**
A7. If yes mostly on which farm (pick one) crop livestock mixed – **Agar ishlagan bo`lsangiz qaysi turdagi xo`jalikda ishlagansiz?** ☐ crop – **O`simlikchilik** ☐ livestock – **Chorvachilik** ☐ other - **boshqa, keltiring** _____
A8. Does your family have a farm? – **Oila a`zolaringizning fermer xo`jaligi mavjudmi?** ☐ Yes – **Ha** ☐ No – **Yo`q**
A9. Do you plan to work on that farm or other farms after graduation? – **O`qishni bitirgach shu fermer xo`jaligida yoki boshqa biron fermer xo`jaligida ishlashni rejalashtirayapsizmi?** ☐ Yes – **Ha** ☐ No – **Yo`q** **Agar Ha bo`lsa qishloq xo`jaligi sohasiga qiziqishingiz darajasini ko`rsating** ☐ **Juda yomon** ☐ **Yomon** ☐ **O`rtacha** ☐ **Yaxshi** ☐ **Juda yaxshi**
A10. Do you speak foreign languages – **Xorijiy tillarni bilasizmi?** (none – **yo`q**=0; basic - **qisman**=1; intermediate – **O`rtacha**=2; advance - **Mukammal**=3)

Language – **Til**	Level (0-3) - **Daraja**
Russian – **Rus**	
English – **Ingliz**	
German – **Nemis**	
Boshqa bo`lsa keltiring _____	

B. Education – **Ta`lim**

B1. What program are you in? – **Siz ta`limning qaysi bosqichidasiz?**
☐ BSc. – **Bakalavriat** ☐ MSc.- **Magistratura**

B2. Which type of faculty do you attend? – **Siz qaysi yo`nalishda tahsil olasiz?**
☐ Agronomical – **Agronomiya**
☐ Management in Agriculture – **Qishloq xo`jaligida menejment**
☐ Economic – **Iqtisodiyot**
☐ Engineering - **Injenerlik**
☐ Veterinary - **Veterinariya**
☐ Animal husbandry- **Chorva-chilik**
☐ Professional education (agron., vet., zootex.) – **Kasb ta`limi (agron., vet., zootex.)**
☐ Agro technology – **Qishloq xo`jaligi texnologiyasi**

B3. Distance of the university from parental municipality? – **Institut bilan ota-onangiz yashayotgan joy orasidagi masofa qanchani tashkil qiladi?**
☐ The same place – **Bir joyda** ☐ **< 100 km** ☐ **101 -200 km** ☐ **101 -300 km** ☐ **>301 km**

B4. In case you study agriculture, please cross all statements you agree with: - **Sizning qishloq xo`jaligi yo`nalishida ta`lim olayotganingiz bilan bog`liq quyidagilardan qaysilari holatingizga to`g`ri kelsa ularni belgilang:**
☐ My parents encouraged me to study agriculture – **Ota-onam qishloq xo`jaligi sohasida o`qishga ruhlantirdi**.
☐ I would like to be a manager in a farm enterprise – **Men kelgusida qishloq xo`jaligi korxonasida menejer bo`lmoqchiman**.
☐ I would like to have my own farm – **Men kelgusida o`z shaxsiy xo`jaligimni tashkil qilmoqchiman**.
☐ My family owns land. How many hectares? - **Oilamiz o`z yeriga ega.**
Sizning oilangizni yeri qaysi turdagi xo`jalik shakli asosida tashkil etilgan
☐ **Fermer** ☐ **Dehqon** ☐ **Agrofirma**
Necha gektar? ☐
☐ My parents work in agriculture – **Ota-onam qishloq xo`jaligida ishlashadi**.
☐ I do not want to work in agriculture – **Men qishloq xo`jaligi sohasida ishlamoqchi emasman**.

C. Household factors – **Uy xo`jaligi omillari**

C1. What is the highest grade completed by your mother? – **Onangizning eng yuqori egallagan ma`lumoti qanaqa?**
☐ Secondary education – **O`rta ta`lim**
☐ Secondary technical education – **O`rta maxsus ta`lim (Kollej, Texnikum)**
☐ University – **Oliy**

C2. What is the working status of your mother? – **Onangizning ish statusi qanday?**
☐ Self-employed – **Xususiy tadbirkor**
☐ Business employee – Biznes xodimi
☐ Civil servant – **Davlat rasmiy ishida xizmatchi**
☐ Unemployed – **Ishsiz**
☐ Other – Boshqa, ko`rsating: _____

C3. What is the highest grade completed by your father? - **Otangizning eng yuqori egallagan ma`lumoti qanaqa?**
☐ Secondary education - **O`rta ta`lim**
☐ Secondary technical education - **O`rta maxsus ta`lim (Kollej, Texnikum)**
☐ University – **Oliy**

C4. What is the working status of your father? - **Otangizning ish statusi qanday?**
☐ Self-employed – **Xususiy tadbirkor**
☐ Business employee
☐ Civil servant - **Davlat rasmiy ishida xizmatchi**
☐ Unemployed – **Ishsiz**
☐ Other – Boshqa, ko`rsating: _____

C5. My parents always encouraged me to reach the highest grade of education – **Mening ota-onam har doim yuqori darajada ta`lim olishimga ruhlantirib turishadi**.
☐ Strongly agree – **To`liq qo`shilaman** ☐ Disagree – **Qo`shilmayman**
☐ Agree – **Qo`shilaman** ☐ Strongly disagree – **Umuman qo`shilmayman**

C6. How many of your household members are between 16 and 60 years old? – **Uy xo`jaligingiz a`zolaridan necha kishi 16-60 yosh oralig`ida?** ☐

C7. How many of them (16-60) work for income? - **Ular (16-60) dan nechtasi ish haqi olib ishlaydi?** ☐

C8. How many of them have higher education degree? – **Ulardan nechtasi oliy ma`lumotga ega?** ☐

C9. How many are involved in agricultural activities? – **Ulardan nechtasi qishloq xo`jaligi ishlariga jalb qilingan?** ☐

C10. Which agricultural activities are they involved in? – **Ular qaysi turdagi qishloq xo`jaligi ishlariga jalb qilingan?**
☐ Farm management – **Fermer xo`jaligini boshqarish**
☐ Farm work – **Qishloq xo`jaligi ishlari**
☐ Seasonal work – **Mavsumiy ishlar**
☐ Agro-services - **Agroservis**
☐ Irrigation – **Sug`orish**
☐ Farming in other regions – **Boshqa hududdagi fermer xo`jaliklarida ishlash**
☐ Other – Boshqa, keltiring: _____

C11. How many them are involved in non-agricultural activities? – **Uy xo`jaligi a`zolaridan nechtasi qishloq xo`jaligidan boshqa ishlar bilan band?** ☐

C12. Which non-agricultural activities they are involved in? – **Qaysi turdagi faoliyat bilan band?**
☐ Trade - **Savdo**
☐ Industry - **Sanoat**
☐ Home-based business - **Oilaviy biznes (masalan: Kasanachilik)**
☐ Service - **Xizmat ko`rsatish sohasi**
☐ Seasonal labor in cities - **Boshqa shaharlarga vaqtincha ishga ketgan**
☐ Seasonal labor in abroad - **Boshqa mamlakatga vaqtincha ishga ketgan**

Career expectations - **Kutilayotgan xizmat martabasi**

D. Employment perceptions - **Bandlik darajasi**

D1. Do you plan to be an employee or to establish your own business? – **Siz kelgusida biron korxona yoki tashkilotga ishga kirmoqchimisisiz yoki o`z shaxsiy biznesingizni tashkil etishni rajalashtirayapsizmi?**

☐ Employee – **Ishchi xodim bo`lib ishga kiraman** ☐ Establish own business – **O`z biznesimni tashkil qilaman**

D2. Where do you expect to find a job? – **Kelgusida qaerdan ish joyi topmoqchisiz?**

☐ Within the Samarkand province – **Samarqand viloyati ichida**
☐ In another province – **Boshqa viloyatda**
☐ In cities – **Shaharlarda**
☐ Abroad - **Xorijda**
☐ Other – **Boshqa, keltiring:** _____

D3. Do you consider the establishment of your own business in the parental municipality as difficult? – **Siz, ota-onangiz yashayotgan joyda o`z biznesingizni tashkil qilish qiyin deb hisoblaysizmi?**

☐ Yes – **Ha, agar Ha bo`lsa nima sababdan:** _____
☐ No, it is not difficult – **Yo`q, bu qiyin emas**

D4. In which area do you want to work or run a business after finishing the university? – **Institutni bitirgandan keyin qaysi tarmoqda ishlashni yoki shu sohada biznesingizni yuritishni hohlaysiz?**

☐ Continue the education – **Ta`limni davom ettirish** (masalan: Magistratura, Doktorantura)
☐ Agriculture – **Qishloq xo`jaligi**
☐ Manufacturing – **Ishlab chiqarish**
☐ Wholesale & retail trade – **Ulgurji va chakana savdo**
☐ Services – **Servis**
☐ Others – **Boshqalar, keltiring:** _____

D5. What amount of salary do you expect to receive monthly? – **Qancha miqdorda oylik ish haqi olish mumkin deb hisoblaysiz?**	400 Ming so`mgacha	400-800 Ming so`m oralig`ida	800 - 1500 Ming so`m oralig`ida	1500 Ming so`mdan ko`proq
In rural areas of Uzbekistan – **O`zbekistonda qishloq joylarda**	☐	☐	☐	☐
In cities within Uzbekistan other than Tashkent – **Toshkentdan boshqa O`zbekiston shaharlarida**	☐	☐	☐	☐
In Tashkent - **Toshkentda**	☐	☐	☐	☐
In abroad - **Xorijda**	☐	☐	☐	☐

D6. What salary would motivate you to live in the rural areas? – **Qancha oylik ish haqi evaziga o`z qishlog`ingizda qolib ishlagan bo`lar edingiz?**

☐ 400 Ming so`mgacha ☐ 400-800 Ming so`m oralig`ida ☐ 800 - 1500 Ming so`m oralig`ida ☐ 1500 Ming so`mdan ko`proq

D7. Do you consider the salary which you would receive in your parental municipality as sufficient for living? – **Ota-onangiz yashayotgan joyda berilayotgan ish haqi yashash uchun to`liq yetarli deb hisoblaysizmi? Quyidagilardan qay darajada?**

☐ Sufficient, even can save – **Yetarli xatto ortganini jamg`arish mumkin**
☐ Sufficient – **Yetarli**
☐ Not sufficient – **Yetarli emas**

D8. Imagine you are offered a serious offer as a qualified specialist on a farm in rural Uzbekistan after graduation. It goes with a fair pay and matches your field. Do you like the idea? – **Tasavvur qiling, institutni tugatganingizdan so`ng, O`zbekistondagi qishloq hududida fermer xo`jaligidan sizga yetakchi mutaxassis sifatida ishlash bo`yicha yaxshi taklif bildirishdi. Ish haqi adolatli to`lanishiga ishonch bor va hudud siz yashaydigan joy. Ushbu g`oya sizga yoqganlik darajasini quyida ko`rsating?**

☐ Agree – **Roziman** ☐ No idea - **Bilmayman** ☐ Disagree – **Noroziman**

D9. How do you estimate your chances to find an acceptable job (as type of work, working hours, and remuneration) in your country after graduation? – **O`qishni bitirganingizdan so`ng mamlakatingizda maqbul ish (ish turi, ish soatlari, ish haqi) topish imkoniyatlarini qanday baholaysiz?**

☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7 ☐8 ☐9 ☐10

Ish topish juda oson ⟶ Ish topish juda qiyin

D10. Where do you see yourself after 5 years? - **5 yildan so`ng o`zingizni qaerda tasavvur qilasiz?**

☐ in own province – **O`z viloyatimda**
☐ in urban area – **Shahar joyda**
☐ in farm sector – **Qishloq xo`jaligida**
☐ in other province of Uzbekistan- **O`zbekistonning boshqa viloyatida**
☐ in rural area – **Qishloq joyda**
☐ in non-farm sector – **Qishloq xo`jaligidan boshqa sektorda**
☐ abroad – **chet elda**
☐ Other – Boshqa, keltiring _____

D11. Did you make your further work related plan for the future? - **Ish faoliyatingizga bog`liq bo`lgan uzoq yillik rejangizni tuzgansizmi?** ☐ Yes – Ha
No – **Yoq, agar yo`q bo`lsa nima sababdan tuzmagansiz?** _____

D12. Why did you enter this Institute in your career? – **Aynan nima uchun institutni karerangizga kiritgansiz?** (iltimos, sizga tegishli bo`lganlarini belgilang)

☐ I wanted to study in the university form my childhood – **Men bolaligimdan institutda o`qishni hohlaganman**
☐ I enrolled in college after high school because it had always been the expectation of my family that I would attend university – **Men o`rta ma`lumotni egallagach institutga o`qishga kirdim, chunki mening institutda o`qishim oilamizning doimiy orzusi bo`lgan.**
☐ I went to University because I want to be accepted into government jobs – **Men kelgusida davlat ishlarida ishlamoqchiman, shuning uchun institutga kirdim**
☐ I have not made a career choice at this time and I do not feel particularly concerned or worried about it – **Men u paytda carera tanlovini tanlamaganman, men bu haqda o`ylamaganman va hech narsa xavotirga ham solmagan**
☐ Other – Boshqa, keltiring: _____

E. Career planning, adaptability, optimism: - **Carerani rejalashtirish, moslashuvchanlik, optimizm**

E1. To what extent do you agree with the following statements? – **Quyidagi fikrlarga qay darajada yonldoshasiz?**	Strongly agree – **Juda to`g`ri**	Agree- **To`g`ri**	Undecided - **Bilmadim**	Disagree – **Qo`shi-laman**	Strongly disagree – **Umuman qo`shil-mayman**
I have not made a career choice at this time – **Men hali careramni tanlab olmadim**.	☐	☐	☐	☐	☐
I do not feel particularly concerned or worried about it – **Meni bu narsa o`ylantirgani ham yo`q, bundan xavotirda ham emasman**.	☐	☐	☐	☐	☐
I can adapt to change in the world of work – **Men dunyodagi istalgan ishga moslasha olaman**	☐	☐	☐	☐	☐
I get excited when I think about my career – **Men careram haqida o`ylasam, hayajon bosadi**	☐	☐	☐	☐	☐
I am good at understanding job market trends- **Men mehnat bozori tendensiyalarini yaxshi tushunaman**.	☐	☐	☐	☐	☐

The quality of life – **Yashash sifati**

F. Rural amenity and local conditions - **Qishloq imkoniyatlari va mahalliy sharoitlar**

F1. How important are the following dimensions of quality of life for you? – **Quyidagi hayot sifati jihatlari siz uchun qanchalik darajada muhim**	Unimportant - **Ahamiyatsiz**	Less important – **Biroz muhim**	Important - **Muhim**	Very important – **Juda muhim**
Employment opportunities – **Ishga joylashish imkoniyatlari**	☐	☐	☐	☐
Unemployment level – **Ishsizlik darajasi**	☐	☐	☐	☐
Wage level – **Ish haqi darajasi**	☐	☐	☐	☐
Carrier opportunities – **Karera imkoniyatlari**	☐	☐	☐	☐
Travel to work time – **Ish paytida sayohat qilish**	☐	☐	☐	☐
Cost of living – **Yashash xarajatlari**	☐	☐	☐	☐
Cost of owner-occupied housing – **Shaxsiy uyda yashash xarajatlari**	☐	☐	☐	☐
Cost of private rented accommodation – **Ijaraga olingan uy xarajatlari**	☐	☐	☐	☐
Availability of construction / purchase of own house – **Qurilish / Uy sotib olish imkoniyatlari**	☐	☐	☐	☐
Health care provision –**Sog`liqni saqlashni ta`minlash**	☐	☐	☐	☐
Educational provision – **T`alim olish imkoniyatlari**	☐	☐	☐	☐
Presence of friends, relatives – **Do`stlar, qarindoshlar borligi**	☐	☐	☐	☐
Quality of roads – **Yo`llarning sifati**	☐	☐	☐	☐
Shopping facilities – **Savdo shoxobchalari**	☐	☐	☐	☐
Leisure facilities – **Dam olish maskanlari**	☐	☐	☐	☐
Sports facilities – **Sport inshootlari**	☐	☐	☐	☐
Violent crime levels – **Zo`ravonlik jinoyatlari darajasi**	☐	☐	☐	☐
Non-violent crime levels – **Nozo`ravonlik jinoyatlar darajasi**	☐	☐	☐	☐
Pollution level – **Atrof-muhit ifloslanish darajasi**	☐	☐	☐	☐
Climate – **Iqlim**	☐	☐	☐	☐

F2. Are you attracted by the rural way of life? – **Qishloq hayoti sizni o`ziga jalb qiladimi?**

☐ Yes - **Ha, agar Ha bo`lsa nima sababdan:**_____

_____

☐ No - **Yo`q, agar Yo`q bo`lsa nima sababdan:** _____

_____

G. Satisfaction and well-being – **Qoniqish va farovonlik**

G1. Please imagine a ladder with steps numbered from zero at the bottom to ten at the top. Suppose we say that the top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible. If the top step is 10 and the bottom step is 0, on which step of the ladder do you feel you personally stand at the present time? – **Faraz qilaylik, narvonning eng pastki raqami 0 va bosqichma-bosqich yuqoriga qarab eng yuqorisi 10 gacha belgilangan. Agar yashash imkoniyatlarini eng yuqori darajasini 10 va eng past darajasini 0 deb belgiladik deylik. Eng yuqori bosqich 10 va eng quyisi 0 bo`lsa siz hozirgi vaqtda o`zingizni qaysi bosqichda deb hisoblaysiz?**

Worst possible life for you – **Siz uchun eng yomon hayot imkoniyatlari**	☐ 0	☐ 1	☐ 2	☐ 3	☐ 4	☐ 5	☐ 6	☐ 7	☐ 8	☐ 9	☐ 10	Best possible life for you - **Siz uchun eng yaxshi hayot imkoniyatlari**

G2. All things considered, how satisfied are you with life as a whole nowadays? – **Barcha jihatlarni hisobga olgan holda siz hozir hayotdan qanchalik darajada mamnunsiz?**

☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7 ☐8 ☐9 ☐10

umuman norozi → **o'ta mamnun**

G3. Taking all things together, how happy would you say you are? – **Barcha jihatlarni birgalikda hisoblaganda siz o`zingizni qanchalik baxtli hisoblaysiz?**

☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7 ☐8 ☐9 ☐10

baxtsiz → **juda baxtli**

G4. To what extent do you agree with the following statements? – **Quyidagi fikrlarga qay darajada qo`shilasiz?**	Strongly agree – **To`liq qo`shilaman**	Agree- **Qo`shilaman**	Undecided - **Bilmayman**	Disagree – **Qo`shilmayman**	Strongly disagreed- **Umuman qo`shilmayman**
I lead a purposeful and meaningful life – **Men maqsadli va mazmunli hayot kechirayapman**.	☐	☐	☐	☐	☐
I am engaged and interested in my daily activities – **Men bandman va kundalik faoliyatim men uchun qiziqarli**.	☐	☐	☐	☐	☐
I am optimistic about my future – **Men keljagimga optimistic qarayman.**	☐	☐	☐	☐	☐
Most days I feel sense of accomplishment from what I do – **Ko`p kunlari mening qilgan ishlarim qaysidir qarzni bajarayotgandek his qilaman.**	☐	☐	☐	☐	☐
General, I feel very positive about myself – **Umuman olganda, men o`zim haqimda yaxshi fikrga egaman**.	☐	☐	☐	☐	☐

H. Professional development - **Kasbiy mahoratni oshirish**
What types of professional development support / assistance are available to you either in your department or from the university? Could you indicate your satisfaction levels with them - **Qaysi turdagi kasbiy mahoratni oshirishni qo'llab-quvvatlash ishlari fakultet / institutingizda mavjud? Ulardan mamnunlik (qoniqish) darajasini ko`rsating**.

	Available - **Mavjud**			Satisfaction - **Mamnunlik**			
	Yes -**Ha**	No -**Yo' q**	Don't know **Bilmayman**	Very satisfied **Juda qoniqarli**	Satisfied **Qoniqarli**	Dissatisfied - **Qoniqarsiz**	Very dissatisfied **Juda qoniqarsiz**
Oral communication and presentations on education prosses - **Ta`lim jarayonlaridagi og'zaki aloqa va taqdimotlar**	☐	☐	☐	☐	☐	☐	☐
Speaking to audiences outside your field of study - **Sizni darsdan tashqarida ommaga taqdimotlar o'tkazishingiz**	☐	☐	☐	☐	☐	☐	☐
Achieving standards of academic writing appropriate to your field of study - **Sizni tadqiqotingiz natijalari ilmiy ish yozish standartlarga mos kelishi**	☐	☐	☐	☐	☐	☐	☐
Achieving standards of academic writing appropriate to your field of study - **Nashrga maqolalar tayyorlash**	☐	☐	☐	☐	☐	☐	☐
Practices and experiences in your discipline - **Kasbga tegishli amaliyot va mashg'ulotlar o'tkazish imkoniyati**	☐	☐	☐	☐	☐	☐	☐
Training in research or professional ethics in your field - **Sizning sohangizda tadqiqot yoki professional etika treningi**	☐	☐	☐	☐	☐	☐	☐
Opportunities to learn a foreign language for research or teaching purposes - **Tadqiqot ishingiz uchun xorijiy tilni o'rganish imkoniyati**	☐	☐	☐	☐	☐	☐	☐
Preparing for job interviews - **Ishga joylashish suhbatiga tayyorlash**	☐	☐	☐	☐	☐	☐	☐
Encourages to career planning - **Kasbiy karyerani rejalashtirishga yordam**	☐	☐	☐	☐	☐	☐	☐
Cross-cultural communication and awareness - **Kasbdagi madaniy aloqa va undan xabardorlik**	☐	☐	☐	☐	☐	☐	☐

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