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“GLOBAL DEVELOPMENTS” FUND

EU4Youth – SAY YES Skills for Jobs

SURVEY ON IDENTIFICATION OF SKILLS NEEDED IN THE AGRARIAN SECTOR AND MOTIVATION OF YOUTH TO PURSUE A CAREER IN THE AGRICULTURAL SECTOR IN ARMENIA

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Disclaimer

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LIST OF ACRONYMS

CATI	Computer-assisted telephone Interviewing
EU	European Union
GDP	Gross Domestic Product
GMF	Genetically modified food
GMO	Genetically modified organisms
HR	Human Resources
ICT	Information and Communication Technologies
IMR	International Market Research LLC
KIIs	Key Informant Interviews
NEET	Not in Employment, Education, or Training
SEC	Social Economic Class
ToR	Terms of Reference
VET	Vocational Education and Training
WBL	Work-based learning

1. EXECUTIVE SUMMARY

This Report presents the findings of the Survey on identification of the skills needed in agrarian sector in Lori, Gegharkunik and Ararat regions and is realised in the framework of the "EU4Youth – SAY YES Skills for Jobs" project within the EU Grant Scheme in Armenia.

The overall project objective is to empower vulnerable men and women aged 15-35 with necessary skills and competences, ultimately targeting their (self-) employability in the context of below-stated conditions in Armenia:

1. High unemployment in rural areas
2. The agricultural sector is undervalued, but in the priority list of national strategies
3. Lack of adequate education for developing employable competences of the young people with fewer opportunities
4. Limited operational capacity of public structures and societal stakeholders for fostering employability, particularly for the young disadvantage people

These conditions along with the specific objectives of the Terms of Reference (ToR) (Annex 1) defined by the Global Developments Fund had been detrimental in forming **main objectives** of the survey, which were to:

- test hypothesis on specific professions' need in selected regions;
- define present and future skills demand (technical and soft), with a special focus **on highly demanded skills**;
- assess interest of the prospective students by involvement in non-formal vocational trainings in Agriculture;
- assess mismatch in competences' demand and supply as perceived by labour market three players: Youth, Employers and VET institutions;
- reveal employment challenges faced by the Youth and identify sourcing tactics of the Employers;
- evaluate employment market;
- evaluate capacity of the selected VET to deliver formal vocational education in the demanded quality.

The **results** of the survey will be used for developing Work-based learning (WBL) programmes for **four agricultural qualifications** by selected VET institutions.

As per ToR, the skill survey was successfully carried out in cities and villages of **Alaverdi, Ararat, Gavar** and **Stepanavan,** targeting large, medium and small establishments in the **Private Sector** and in the **selected VET institutions**. Based on the desk research, pre-project investigation, as well as general information about the situation with the selected VET, provided by the GDF, **Respondent Recruitment mapping** was designed to cover focus groups in all selected cities and villages in 30 km radius – the optimal distance and timing to allocate for commuting to the training area.

Keeping baseline objective in sample size as per ToR objectives, the survey was realised with large, medium and small companies operating in the sectors of the programme interests: **winemaking, diary milk processing (cheese-making), veterinary.**

Participant companies represented:

1. Large national Employers;
2. Medium-size enterprises;

3. Family ran;
4. Individual entrepreneurship.

Youth was presented based on the following characteristics:

1. Age segmented into 3 groups: 15-19, 20-29, 30-35;
2. The survey revealed gender effects dependent on the particular demography, economy situation and learning/employment opportunities. Within total project unemployed and unskilled, share of girls and young women made **47%** (30% per ToR);
3. Interviews were realised with the sample list colleges' graduates as well to explore what trainings worked and what didn't yield employment (to check the match and quality);
4. The survey revealed tertiary education students taking part-time or seasonal work to supplement their income, or for young people already in employment to seek a return to education and training in order to improve their qualifications (alike short-term trainings or distance learning);
5. The survey also revealed the quantity and assumed "content" of NEET (Not in Employment, Education, or Training) category among the respondents, especially those economically inactive (being unskilled, unemployed yet NOT seeking training or employment) as the most vulnerable within the labour market and falling into the future groups of risk of social exclusion.

Four selected VET institutions were:

1. Ararat State College
2. Gavar State Agricultural College
3. Stepanavan State Agricultural College
4. Alaverdi State Craftsmanship College

Data collection had been realised with a questionnaire (Annex 2), developed for the Youth and another one for Employers' organisation and selected VET institutions.

Applied **research tools** were: in-person interviews and telephone survey (CATI). The latter enabled to digitalise the questionnaire and make realisation of the logically-led inquires in much shorter time, increasing interview bypass volume and bringing more comfort to the interviewees. Technical analysis was realised by means of SPSS and Excel. In-person interviews were realised by selected and instructed Expert-interviewers and Specialists of Call Centre (the largest call centre in research companies of Armenia).

Questionnaires focused mainly on current, anticipated and recently filled jobs aiming to determine the occupational skills and knowledge required by Employers, attrition rates and competing sectors/companies, level of wage competitiveness with expected income (range minimum to maximum), types of occupations for graduates and informal learning opportunities, gender, age ratios, etc. The points of mismatch of the skills demanded by the labour market with the current educational curricula were also in the main focus.

Overall, the design of questionnaires contained both qualitative, i.e. exploratory information like motivation and quantitative information to test specific hypotheses, existing ones and those to be generated during sample lists and questionnaire preparation.

Pre-testing was done to evaluate that questions successfully capture the topic. For this purpose, two different parties reviewed the questionnaires: with the Programme Coordinator as person, familiar with the topic, and random representatives of two main focus groups: young adults-jobseekers and representatives of VET and Employers at series of meetings.

Main **triggers** defined by the ToR and the winning methodology validating quality of the data were met despite of the challenges like seasonal timing of the survey, weak or absent statistical data on various people/enterprise groups and of graduate tracing

- Summer is a vacation period and high season for the Employers;
- Excessive workload with the VET graduates' population due of the lack of the valid contact information at the respective VETs;
- Considerable time to make Employers lists as this economy sector consists mainly of small and medium enterprises, including non-registered farmers. Thus, the respondents pool was formed in the situation of missing structured lists, need to find rural mediators to advocate for the interviewers, instilling trust of the self-employed (non-registered) owners towards the interviewers and stimulating them to allocate time.

Nevertheless, correct recruitment tactics along with the capacities (information, network), formed by the previous experience, and brought to even **overgrown results** (see Table 1):

Table 1. Number of interviewed

	ToR scope	Survey result scope
Unique answers	600	632
Employers	25	27
VET institutions	4	4

The Survey revealed a slight misunderstanding of the concept of "wine-making" which could affect the relevance of the foreseen trainings and lead to non-precise definition of the learning outcomes which in turn would result in poor employability of the training course graduates. The matter is that Ararat region where a high demand of wine-makers was registered, is in fact rich of grape sorts, which serve an excellent material for **brandy production** (which is also a part of the wine-making discipline, but the process differs in some technologies) and has biggest number of major producers of brandy. During the sectoral meeting which took place in Ararat region on 29th June 2018, a wine industry prominent expert Ms Zara Muradyan, suggested to enrich VET curricula with more in-depth study of brandy making (processes, technology).

2. CONTEXTUAL BACKGROUND OF THE RESEARCH AND PURPOSE

Findings of recent studies on the unemployment rate in Armenia show that it remains persistently high for many years. The latest data available in publication "Labour Market in the Republic of Armenia"[1], suggest that for youth aged 15-24, both economic activity rate and employment rate worsened from 2015 to 2016 comprising 34.8% in 2016 against 39.8% in 2015 and 22.1% in 2016 against 26.8% in 2015, correspondingly. These indicators decreased almost proportionally also for men and women and urban and rural population. At the same time, if economic activity rate demonstrates very close indicators for urban and rural youth (correspondingly, 34.1% against 35.8% in 2016 and 40.3% against 39.1% in 2015), difference in unemployment rates are considerable: 17.0% for urban and 7.0% for rural in 2016, and 17.2% for rural and 7.4% for rural in 2015 (Table 2).

Table 2. Scope of Labour Resources aged 15 to 24 years old in 2015 and 2016

Year	*Labour resource, 1000 persons*		*Economically active population*		*Economically inactive population*		*Employed*		*Unemployed*	
			No	%	No	%	No	%	No	%
2016	***Total***	***358.8***	***124.9***	***34.8%***	***233.9***	***65.2%***	***79.2***	***22.1%***	***45.7***	***12.7%***
	Men	*183.5*	*72.3*	*39.4%*	*111.3*	*60.7%*	*50.7*	*27.6%*	*21.5*	*11.7%*
	Women	*175.2*	*52.7*	*30.1%*	*122.6*	*70.0%*	*28.4*	*16.2%*	*24.2*	*13.8%*
	Urban	*205.4*	*70.0*	*34.1%*	*135.4*	*65.9%*	*35.0*	*17.0%*	*35.0*	*17.0%*
	Rural	*153.5*	*55.0*	*35.8%*	*98.5*	*64.2%*	*44.3*	*28.9%*	*10.7*	*7.0%*
2015	***Total***	***404.5***	***161.1***	***39.8%***	***243.6***	***60.2%***	***108.6***	***26.8%***	***52.3***	***12.9%***

[1] Statistical Committee of the Republic of Armenia, 2017. http://www.armstat.am/file/article/trud_2017_6.pdf

	Men	*198.6*	*87.8*	*44.2%*	*110.9*	*55.8%*	*62.7*	*31.6%*	*25.1*	*12.6%*
	Women	*205.9*	*73.2*	*35.6%*	*132.6*	*64.4%*	*46.0*	*22.3%*	*27.2*	*13.2%*
	Urban	*230.6*	*93.0*	*40.3%*	*137.5*	*59.6%*	*53.6*	*23.2%*	*39.6*	*17.2%*
	Rural	*173.9*	*68.0*	*39.1%*	*106.0*	*61.0%*	*55.1*	*31.7%*	*12.8*	*7.4%*

Another study explores that ratios among employed on vulnerable employment – defined as own-account work and unpaid family work – are much higher in **rural areas** (52.3% of working) than those in urban (13.7%)[2].

Prevalent characteristics of employment in Armenia is informal employment, affecting 64.2% of young workers. It consists of two categories: workers in the informal sector, and employees holding informal (unregistered) jobs in the formal sector (lacking core benefits such as social security coverage, paid sick leave or annual leave). The first category is more common in rural areas (82.2%) whereas the second one – in urban areas (58.1%).

Nearly one-third (30.2%) of economically active, and 13.3% of overall population, are unemployed. Moreover, nearly two-thirds (65.1%) of unemployed have been in job search for more than 6 months, and 52.3% for more than 1 year. Young people with vocational education suffer from the highest rates of unemployment, although they do not represent a significant share of jobseekers. The unemployment rate for respondents with tertiary education is 29.5%.

According to the findings of the research "RA Employment Issues", employed young people are primarily engaged in the following sectors: **Agriculture (19%), Commerce (14%),** and **State bodies (11%).**

It has also become increasingly common to find tertiary education students taking part-time or seasonal work to supplement their income, or for young people already in employment to seek a return to education and training in order to improve their qualifications (for example, through trainings or distance learning). As a result, the transition between education and work has become less clear, with a growing share of students in employment and a rising proportion of the employed in study (for example, apprentices are generally considered to be employed and in formal education).

In 2016, some 11.9% of young people aged 15-19 in the EU-28 made use of this more flexible transition from education to work, a share that rose to 17.2% among those aged 20-24, before falling somewhat for older age groups — 13.6% among those aged 25-29 and 10.4% for those aged 30-34 (Eurostat, 2017).

The research aims at providing understanding of how to improve participation and achievement in education and training, enable smoother transitions from learning to earning, ensure that education and training deliver the greatest economic and social benefit, highlighting wider social aims for vocational education.

A key aim is to reveal relevance of VET offerings, matching them with the labour market demand and motivation of the prospective alumni in four regions.

3. RESEARCH METHODOLOGY

The used method involves three core sets of activities: pre-survey section, survey (Face-to-face, Telephone interviews) and reporting.

Pre-survey activities were realised in close collaboration with International Market Research (IMR) Company contracted for the interview execution. The organisation possesses necessary experience as well as capacity in terms of automated programs for telephone interview, data analysis, etc.

[2] Labour market transitions of young women and men in Armenia / Nicolas Serrière; International Labour Office, Youth Employment, Programme, Employment Policy Department. - Geneva: ILO, 2014. http://www.un.am/up/library/Labor_Market_Armenia_eng.pdf

In order to shape Employers' sampling lists, the IMR' dedicated people and the Expert realised primary and secondary data collection and analysis to map the market in the selected regions: www.gov.am, and similar websites, contacting relevant authorities and network, community heads of the targeted rural areas, World Vision Career Centres' Regional Heads. In addition, the company used databases formed during previously realised projects. The mapping, search and selection of the interview pool was an ongoing process, which continued to take place along with the interviewing.

During this stage, several meetings/calls were realised with GDF for the action plans and alignment of the Questionnaires, so as with IMR – in terms of Questionnaire scripting and achievement of better understanding of the questions' targets as well as to consider technical opportunities and limitations.

Segment (6,062 calls with 584 successful) was covered by IMR call centre specialists using Computer-assisted Telephone interviewing programme (CATI), capable of accommodating lead-through and call-recording (all calls) features. Separate group of students and graduates (48) of the selected colleges as well as 4 VET and 27 Employers were interviewed in person.

Full oversight and guidance was provided during the Survey interviews to ensure necessary quality and comprehensive data collection.

Quality control of the collected data- questionnaires hard copies, random records of the calls, progress reporting was realised:

- 30% of interviews, collected through CATI system were double-checked through audio recordings.
- 100% of questionnaires filled in during expert interviews with College Directors and Employers were edited for quality check and 30% called back to collect deeper insights.

In addition, Expert respondents were asked to share their feedback on the study instrument for further improvements.

Thus, the following feedback was received from college directors:

- Ararat State College director shared her thoughts concerning the questions aiming at revealing the most needed jobs and skills in agrarian sector, reasoning that these are more employer specific issues.
- Stepanavan State Agricultural College Director suggested also emphasising the directions and revealing the possibilities that will support the farmers stay in their villages and enhance their businesses.

Two different **questionnaires** were developed for the labour force (targeted segment) and Employers'/VET colleges' survey targeting specific, crosschecking and complementary questions in English and Armenian. In order to get accurate information and exclude mistakes, the parts on the information that was relevant for both Employers and VET colleges were separated into a distinct Questionnaire (the 3rd one).

Questionnaires consisted of clear and focused questions to ensure that the survey does not contain leading, confusing or double-barrelled questions. The essential parts of the questionnaires were parts revealing vision and anticipation of the three groups and cross-validation questions.

Overall, the design of questionnaires included both qualitative, i.e. exploratory information like motivation of Youth, and quantitative information, to test specific hypotheses, those existing or generated during the formation of sample lists, questionnaire development and pre-testing. Questionnaire was pre-tested in focus group with the GDF representatives, the Expert, IMR project team and call centre specialists ensuring fully shared vision. Expert tested Employer Questionnaire realising the first face-to-face interview.

The face-to-face interviews (Key Informant Interviews (KIIs)) – individual interviews with cross-sections targeted stakeholders based on thoroughly structured questionnaires covering such aspects as skills, professional education and trainings, motivation drivers, etc.

3.1 Questionnaire for Youth's Respondents

The Questionnaire was in **five sections**.

The **first section** was to **gain general information** on the respondents. This short section revealed age, sex, marital status - to understand motifs and the level of business and location.

The **second section** spread light upon **educational** and **employment background**. The questions helped to separate educated and non-educated respondents, highest educational level and the most recent period of any training. There was a valuable chart on their employment status.

This chart helped to understand, whether:

- it's a NEET person or a someone in the job search or training process or a market entrant,
- current employment was related to the degree,
- existing employment opportunities,
- job search tactics,
- reasons of resignation from the former job.

To understand generally existing employment opportunities and willingness to work, there was a question on volunteering experience, its type and beneficent organisation.

The **third section** helped to understand various dimensions on the **reasons to get desirable job, self-awareness of respondents and their aspirations about employment.**

The respondents were asked to list 5 reasons on why they think they fail to find desirable job, selecting 13 common reasons listed in the chart, such as:

- Low wage;
- Lack of necessary skills and competences;
- Job conditions (long commuting, poor setting, etc.).

Those respondents, who selected reasons in relation to lacking knowledge and skills of the previous Question were invited to select from a comprehensive list of general skills that they think will help them with the employment:

- Decision-making;
- Ability to work independently;
- Elementary computing;
- Interpersonal skills.

They were also given opportunity to add other skills into their selection.

Further, to check their understanding of the employment mechanisms, there was a question requesting to name and rank 2 most important factors for getting job from the offered list, also with opportunity to add other factors.

The respondents were asked about their feelings on the adequacy of the received education and its employment potential.

Derived from the previous sections and keeping in focus task outcomes, the **fourth section** was all about how the respondents see their future.

There were questions about future career choice, any concerns, including health, aspired industry for study or work, including a direct question on interest to get involved into industry. Those, who had answered positively to these questions, were offered to select a desirable sector from the list at the end of the questionnaire.

Aiming at revealing general self-awareness of the respondents and areas of further intervention, as with many other questions in both questionnaire, the respondents were asked on the most preferable job type, ability to name training provider or employer they would wish to study or work at.

In the **fifth section** we ask about **job search channels to crosscheck** on whether Employers use and have the same evaluation on the human resource sources. Though, this question does not relate specifically to the principal subject matter of the survey, it's a value added info for motivating to apply for trainings.

There was another crosschecking question between Employers and human resources (current and potential job seekers) asking about opportunities and challenges for more flexible transition from education to work.

The final, **sixth section** checked **readiness to study**. There was a question asking what type of assistance the respondents would need to proceed with their studies, like career advising, having a job perspective, etc.

There was a direct question about whether the respondent would like to participate in a free of charge short-term training to those who selected as industry of choice in the previous sector. There was an extended list of sectors to select, like veterinary, diary milk processing (cheese making), winemaking and juice production, etc.

At the end of the Questionnaire, the respondent was questioned in an open-end question to tell his opinion on what generally drives him/her to pursue career and vision on the overall employment in the industry.

To figure out socio-economic condition of the CATI sample group, there was a standard finalising question offering selection.

3.2 Questionnaires for Employers and VET

This Questionnaire was in **5 sections**.

The **first section** seeks **background information on the company:**

- The main business activity undertaken – in terms of product/service;
- Whether it was within the private/commercial sector, the public sector, or the voluntary;
- Whether it was part of a larger organisation, and if so the size of the organisation, in size categories;
- Whether it had a headquarters (HQ) function (and if it did not have a HQ function and was part of a larger organisation, the geographical location of that HQ function);
- Geography of the operations;
- Current status of the organisational development.

The **second section** asks questions about the **workforce and employment:**

- Company personnel number and type of positions;
- Employee Age, gender distribution;
- Employee distribution by operation category and education;
- Whether the business would face new or ongoing challenges over the next 12 months and the nature of these;
- The numbers employed 12 months ago;
- The numbers recruited and who had quit over the 12- month period;

- The numbers expected to be employed over the forthcoming 12 months;
- Whether employed include market new entrants;
- Decisive factors in recruitment;
- Total number of individuals with skill gaps as% of the total number of employees;
- Type and time period of the subsequent training needs of those recruited if they possess required entry level of skills and knowledge.

The **third section** is about **skills and competences.**

Respondents were invited to list key vacant positions of their companies that are hard-to-fill choosing from the selection of hypothetic, yet common explanations for inadequate supply of applicants and diverse aspects of quality short falls, like:

- Terms and conditions of employment;
- Lack of career prospects;
- Problems associated with the location of the company;
- Motivation;
- Work experience.

They were offered selection of multiple answer questions on the consequences that these type of vacancies cause, like:

- Decrease of productivity;
- Difficulty in achieving demanded quality standard;
- Postponements of the planned implementation of new technology.

If the respondents identified qualification levels, skills and work experience that applicants lack in regard to the key vacancies and occupations that they acknowledge as difficult to fill, they would be invited to comment upon the nature of the skill shortages (such as vocational knowledge; IT; oral/written communication; team working; problem solving; planning and organisation; basic literacy and numeracy, etc.). They were also asked about the source of getting this skills and knowledge in 4 categories (see further) and level to which the skills are being developed:

1. Formal education (TVET courses, diploma, qualification);
2. Corporate education/training;
3. External training/qualification programmes;
4. Self-development.

In this way, it became possible to identify the magnitude and nature of skill shortages, where these were defined as a specific type of hard-to-fill vacancy associated with applicants not having the appropriate qualifications, skills and/or work experience.

Then, in order to bring the notion of hard-to-fill position to a common understanding industry or sector-wide, there was a question about time to fill.

There were some questions ultimately targeting easing the way of the employer and future employee by checking out whether they look for each other at right place. Respondents were asked about the strategy for overcoming the problem of the hard-to-fill vacancies.

Aiming at obtaining such a data on vocational and soft skills to better map the skills mismatch, there were questions about **future challenges for the industry and sectors**, like:

- Automation and computerisation;

- Environmental monitoring.

They were also given opportunity to offer their assumptions on business and sectoral competences that were foreseen to become demanded within the period of 5-10 years, while offering a list of choice as a sample:

- GMF, GMO farming;
- Informatics and engineering.

Additionally, the interviewees were asked to share their vision on the skills that would be obsolete in the upcoming future to provide more accurate input on the skills' demand while planning trainings.

The **fourth section** was about **staff training and development.**

With an attempt to understand the need, eagerness as well as capacities of the Employers on personnel correct sourcing and development strategy, series of questions had been included in the section.

First, the respondents were asked whether or not trainings for the employees at the establishment have been arranged or funded in the past 12 months, the nature of the training: on-the-job; off-the-job; or both. If no training was rendered, respondents were asked on the reason, e.g. that staff were already fully proficient; scarcity of funds to finance training etc.

For those establishments which had undertaken off-the-job training, respondents were asked on training duration and nature (e.g. health and safety; supervisory training; management training; training in new technology etc.) and whether the training had been implemented to meet statutory requirements.

Then information was requested on the training provider (e.g. industry/professional bodies; colleges; universities; external consultants etc.) and the number of staff, who had received off-the-job training was then requested.

There was a question specifically for Colleges to check whether they have been contacted for provision of any form of vocational training with corresponding details on the on/off-the-job types, number of trained people and training content description.

Further questions in the section were to reveal availability of sustainable business processes at Employers. The questions were about presence of the company's present and future training and development need assessment, details on the way the assessment was implemented, the periodicity and participants.

The **fifth section** was about **sourcing channels** and **vision of the respondents on the employment in the industry.**

The respondents were asked on the means they usually use for attracting the staff from the offered sample list, like network, job fairs, educational entities and also tell about other means they apply.

To better understand factors effecting talent availability in the selected regions and also understand business acumen of the Employers, they were invited to list their main competitors in the talent sourcing along with the expertise and skills they compete for.

The respondents were also asked to list industry establishments that they are cooperate with in terms of human resources sourcing and development.

The final questions of the section and questionnaire are open-ended seeking narratives about existing opportunities for flexible transition from education to work, drivers for pursuing career in and vision on the overall situation with the employment in the industry.

According to proportional sampling calculation formula, the designed sample is highly representative for the selected population and reflects the thoughts and believes of population of surveyed cities in 95% confidence level with standard error interval of ±5%.

Survey covered selected three regions of Lori, Gegharkunik and Ararat; sourcing as well as Employers' sample list was verified with rural community heads.

3.3 Survey Population

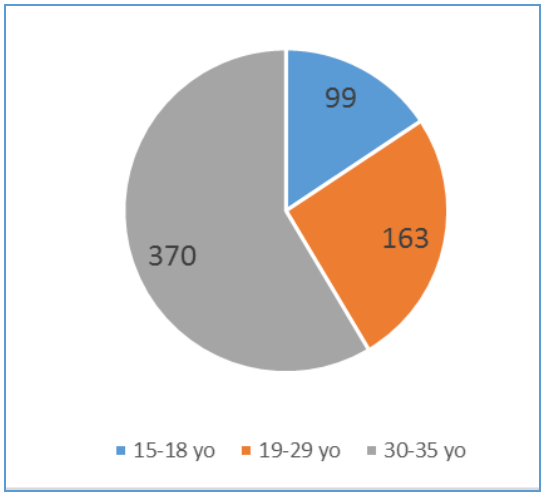
3.3.1 Youth population

There were 632 successful interviews from overall 6,062 calls in selected rural cities and their neighbouring villages.

Overall sample group of the Youth was segmented to 3 age groups within population, those that are the most socially active and of high probability of being in some kind of training. As requested by TOR, group had to include those of 15 up to 35 years old to get more specific and measurable answers, the overall population was segmented into three groups for interview data collection:

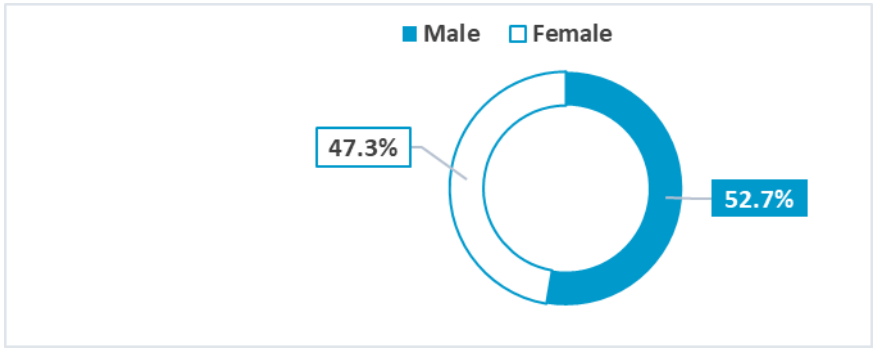
- 15-19 y/o
- 20-29 y/o
- 30-35 y/o

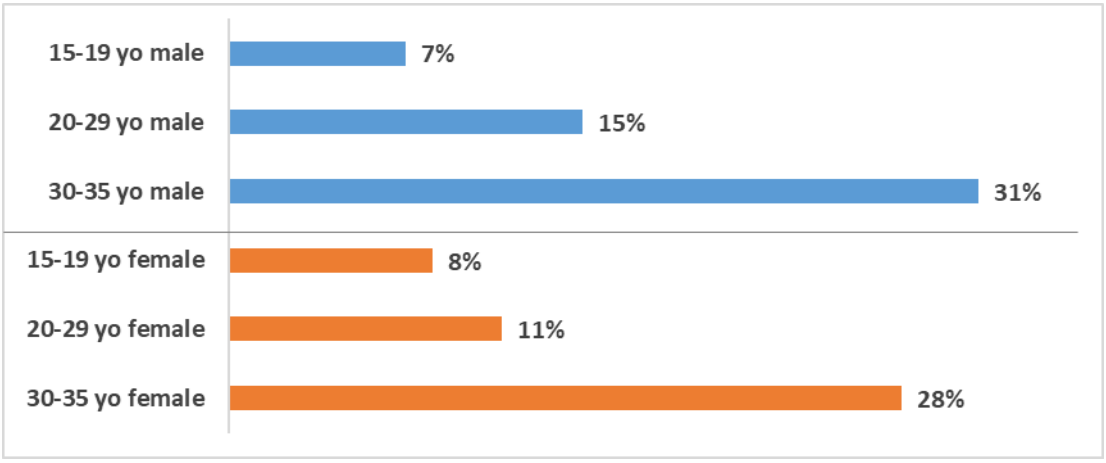
Figure 1. Distribution of the Youth interviewees by age groups



In addition, it was estimated to ensure 30% of female participation in the segment and the final figure is **47%**.

Figure 2. Youth gender and age distribution

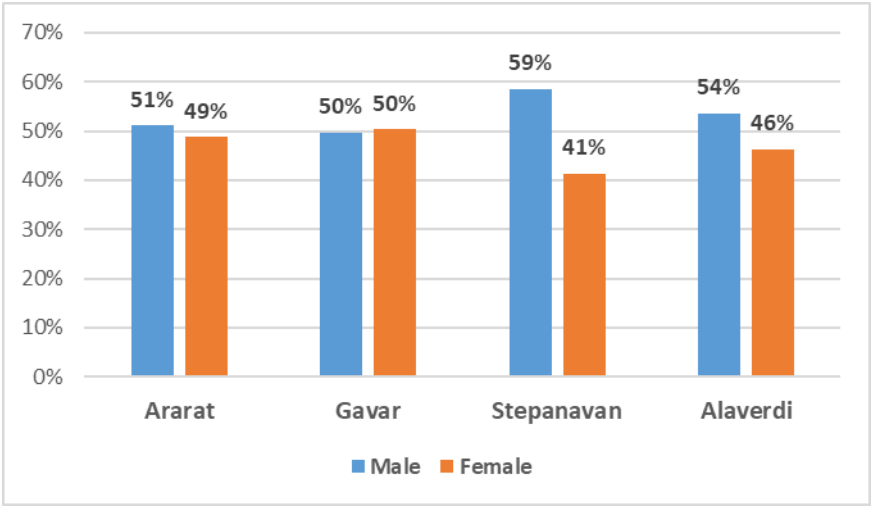




One should take into consideration that the largest age group in the survey was of those 30-35 year-old **58%** and **78%** of them **were married**; **70%** of married ones being **women**.

While sampling for gender, we received almost equal distribution per 2 cities and difference in Stepanavan and Alaverdi:

Figure 3. Gender balance per city



As employment status had significant implications for the answers, the total population of the survey had been checked for the occupation type. As it had been assumed, the majority of them were **in occupation not related to their qualification**. Next group rated by frequency of answers were those in study.

Table 3. Youth employment status

Sample	Employment status
26%	**Working in the position not related to your degree**
21%	Further study
15%	Unemployed, looking for the job
13%	**Working in the position related to your degree**
11%	Self-employed
9%	Unemployed and do not look for the job
8%	Looking for your first job
6%	Never been employed, do not look for the job
3%	Other (the bigger group went for house -wives)

Interviews were realised with the sample list **colleges' graduates-130 respondents** to explore their employment status and weather it was related to their degree. **43 graduates** of the **targeted VET** institutions were also interviewed, via face-to-face interviews:

Table 4. Graduates of the targeted VET institutions

№	VET institution	N of graduates
1	Ararat State College	46
2	Gavar State Agricultural College	37
3	Stepanavan Agricultural College	31
4	Alaverdi State Craftsmen College	16

3.3.2 Employers population

Based on the preliminary market mapping, rural areas covered by the survey lacked representative number of large Employers, so the main respondents were representatives of the **middle** and **small business**. Main criteria in recruiting interviewees among existing Employers was to check correctness of the selected sectors for the intervention.

Seasonality affected recruitment of Employers in Gavar, where livestock farmers were in centre of attention. Survey overlapped with pasturing season, which affected larger livestock farmers' availability and participation in the survey.

During Employer interview list formation, we faced another substantial challenge in finding Employers who would agree to participate in the survey, as most of them are non-formal, i.e. non-registered farmers. As a result, interviews were conducted with **27 Employers** matching preselected categories and size (per personnel number) (see Figures 4 and 5):

1. individual entrepreneurship farmers and small family ran farms with up to 10 employees
2. medium size Employers with 11-49 employees on payroll
3. large Employers with 50-250 employees

Geography of the survey cities of Alaverdi, Ararat, Gavar, Stepanavan and their neighbouring villages (Annex 3) was determined as "within 30 km radius" (reasonable distance for an individual to commute for studies)

Figure 4. Employers' number per city

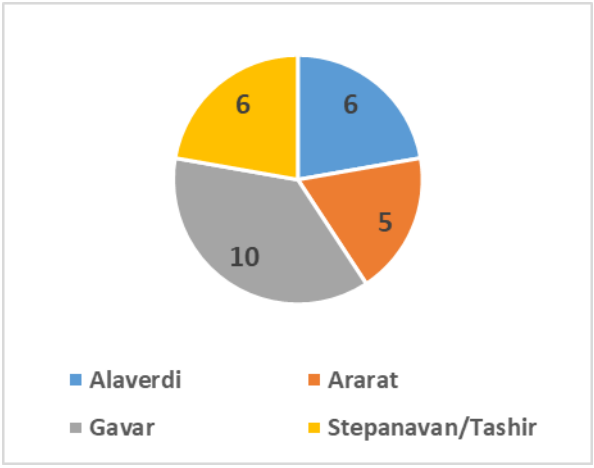
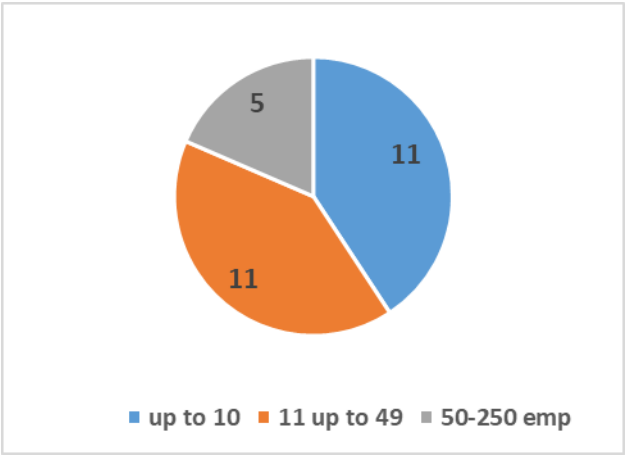


Figure 5. Employers per personnel size



Areas of the Employers' economic activities cover production, service, sales and trainings (see detailed List of Employers per city and economic activities in the Attachment 2).

Table 5. Employers per region and main economic activities

City	Q-ty	Main business
Ararat	5	Alcohol (incl. wine) production
Alaverdi (Odzun, Aygehat)	3	Crops and vegetable growing, cattle breeding
	2	Vegetable and berry growing
	1	Green house, vegetable and berry growing
Gavar	1	Cattle breeding and instrument production
	2	Cattle/pig breeding, crops growing, diary food processing
	1	Fish farming, and fish products canning
	1	Meat and milk products
	1	Cattle/pig breeding, crops growing
	1	Cattle breeding
	3	Diary food (milk, cheese) processing, meat products
Stepanavan (Tashir)	2	Cheeses making
	1	Veterinary, phytosanitary, Food control
	2	Diary processing, cheese making
	1	Sale of equipment and machinery, Artificial insemination, training for farmers, pesticides, veterinary

Overall headcount of the surveyed Employers counted 803 people of the following employment type proportion (see Table 6):

Table 6. Share of total Employers' personnel per type of employment

Type of employment	Share
Full time employee	56%
Seasonal[3]	30%
Interns	8%
Short-term	4%
Volunteers	4%
Apprentice	3%

Per level of education, personnel of 27 surveyed Employers was segmented into 63% with Higher education, 26% – with Vocational, 33% – with Secondary General education. 44% of those with Secondary education were technical/labour staff and the rest were occupied in jobs of "Specialist" profile.

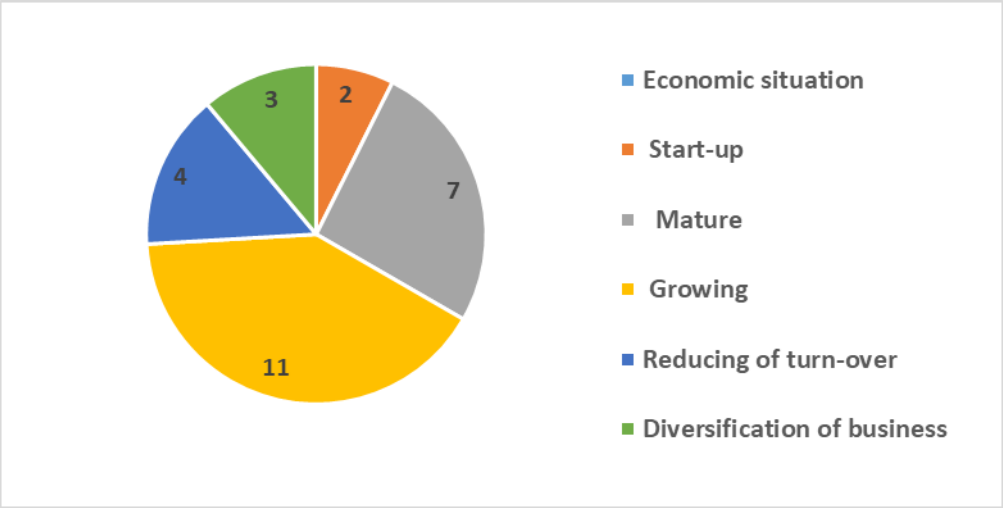
4. FINDINGS AND CONCLUSIONS

4.1 Economic situation with the business in Armenia

Though the sample is not representing countrywide selected segments of the Agriculture, still, as results showed, the information is valid for, at least, regions, where surveyed companies operate. Bearing this in mind, we have good, stimulating environment as only 15% of the Employers told about undergoing of the economic downturn (winemaking sector), but the rest reported growth, development and diversification phase (see Figure 6). This result gives an optimistic ground to consider the sector sustainable and fruitful for present and future employment.

[3] *Seasonable jobs description see in Attachments 3

Figure 6. Employers' economic status



In order to assess the level of the business maturity and quality of the management, it was necessary to check whether there was any analytics, market intelligence and planning exercises in place, so questions on **future challenges, future** and **obsolete competences, industry trends,** etc. were asked. These requests related to 12 months' period – benchmark indicator of the (middle, senior) manager's capacity to effectively ran his/her business or realise tasks operation while having industry overview.

These requests on **future challenges, future** and **obsolete competences, industry trends**, as per the Methodology, contained also cross-checking element to see whether demand (Employers) and offer (VET/Academia and graduates) were on the same page concerning own field and, at least, bold industry trends.

Companies were checked for **their personnel turnover rate** and **attrition rate** – one of the business indicators of successful management and a secondary data to crosscheck Employers' statements on their development phase. Thus, average turnover rate was **20%** and attrition rate – **11%** for all 27 Employers. Both figures are not satisfying for the companies with given number of the personnel: these indicators should be less than 10 as compared to the existing benchmarks. Despite of this data, Employers declared plans for hiring 272 (!) new employees.

As a note, there is also employee net workflow presented in the report.

Table 7. Employers' personnel net workflow

Net workflow of personnel	Number of personnel
More left than entered	22%
Equal number of personnel left and joined	41%
Less left more entered	37%

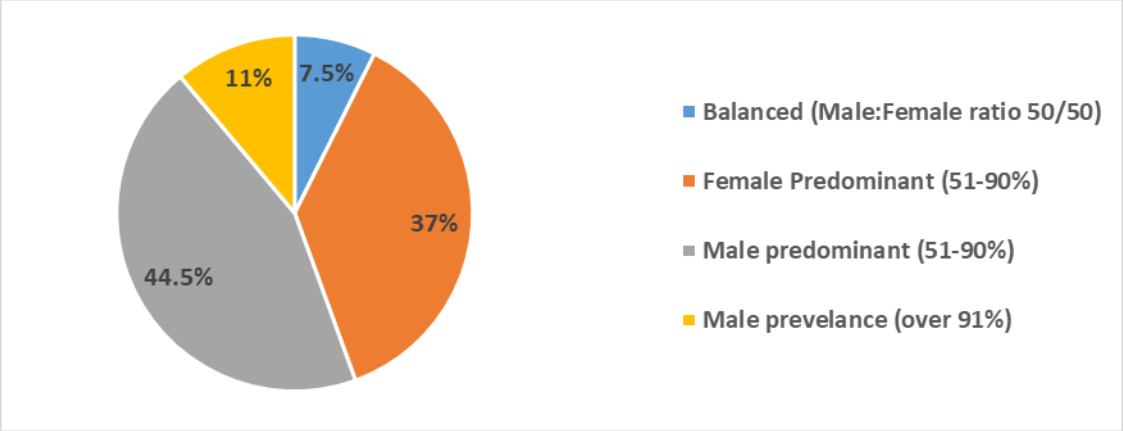
There is an increasing global trend in hiring graduates with obvious short-term benefits as savings and long-term benefits, as employee retention. The survey revealed that less than half of the surveyed companies (10) employed **30 graduates in last 2-3 years.**

Above stated information shows weak business planning on human resources and narrow-minded, customary management approach exhibited by the surveyed Employers.

4.2 Who is in employment today?

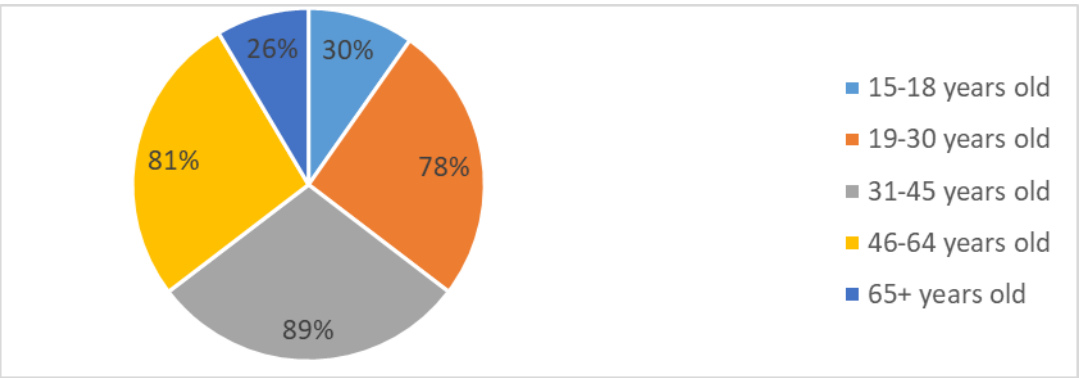
As results shows, Agriculture in Armenia is a "men's world": **44.5%** of the surveyed companies were with male-predominant personnel and **11%** of those with male prevalence of **91%** (see Figure 7). The main reason expressed in different ways was about hard working **conditions** that rare woman could bear.

Figure 7. Gender distribution among personnel



The companies were checked for the age of the personnel as per 3 age-group sample of the survey, and the results showed the **31-45** and **46-64** age groups were **the most represented** ones among surveyed companies (see Figure 8). The same prevalence we had with the Youth participants, where group of 30-35 showed the highest presence.

Figure 8. Youth distribution by age



4.3 What is the generally required education level Employers seek per education?

While checking existing job requirements for various categories of employees, especially for Experts and Technical Staff, to further match them with the VET skill offer, we came across the following findings:

As opposed to the **Management category** (senior, middle), where key requirement was Experience in a particular operation – 48%, for **Expert positions**, Employers tended to hire candidates with:

- Competences – 41%;
- Experience in the sector – 47%;
- Diploma/ Certifications – 59%.

It is remarkable that only for these categories that are supposed to be filled by leaders to ensure effective operations and role – players in exhibiting values for the rest of the personnel, got the lowest choices for the values. This data, by implication, tells about companies' culture and describe weak or no value – driven business.

Holding particular (professional diploma) gained highest frequency in 3 out of 5 existing job categories and even for the candidates for the technical and labour staff, **education level is critical** as seen in the Table 8.

The conclusion is that education system, despite of intense critics, is still considered a resource for the necessary knowledge. In the perception of Employers, the gap is not that big. Consecutive changes like

optimising overcrowded curricula to shorten the time for the graduates to enter the labour market and use their knowledge in a longer period, without the fear to leave training with already outdated information.

Table 8. Level of the education influencing recruitment decision for various job categories

Factors in recruiting personnel	Management (senior, middle)	Experts	Accounting/ Finance Officer	Sales, Marketing	Technical staff/labour
Education level	36%	24%	15%	18%	43%
Profession/ Qualification	20%	35%	31%	27%	14%
Qualification	36%	29%	23%	9%	21%
Experience in the sector	0	47%	23%	27%	7%
Experience in a particular operation	48%	0	0	0%	0
Competences	28%	41%	54%	45%	14%
Diploma/ Certifications	32%	59%	62%	45%	0
Values	28%	24%	38%	36%	36%
Other factor (SPECIFY)	4%	6%	0	0	7%

Therefore, it is obvious that the business cannot cover knowledge required for the Experts by means of corporate trainings and here Employers are fully dependent on the formal sectoral education.

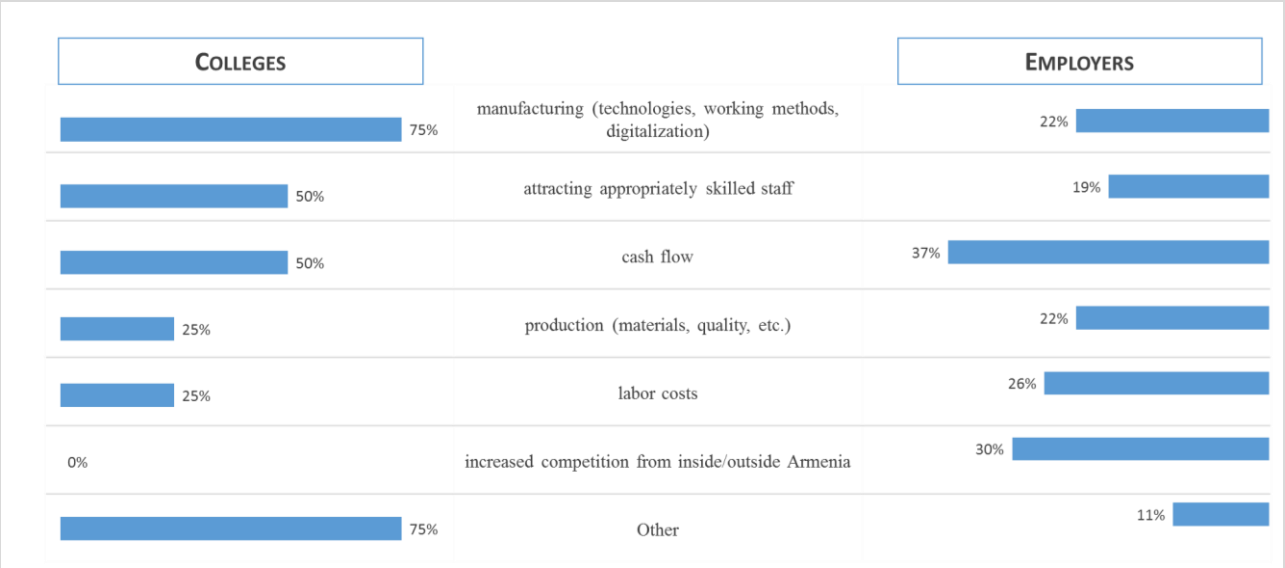
In addition, out of **25%** employed in the sectors of Agriculture, **10%** hold **relevant professional diplomas** and **qualifications** in preliminary and middle VET and higher education and **15%** had positions, which are **not related** to their qualifications, though in those sectors that are on intersection with their specialisation. As the survey population was formed based on random sample selection and did not have aim to trace effectiveness of education for further relevant employment, the answers do not provide necessary quantity for definite resolutions. Nevertheless, the content of answers brings to the following.

The linkage between education and employment in Expert positions is undeniable and the sector is in critical need for the:

- Thorough planning of relevant headcount number and competences on behalf of the Employers;
- Thorough planning of graduate number (tracing systems, calculations of the student-employed conversion with further improvement of the delivery) on behalf of the VET/Academia;
- Quality of education, i.e. matching business trends and being tailored for the country/region on behalf of the VET/Academia.

In order to understand the level of cooperation or, simply, same level of awareness about their sector, question about upcoming (12 months) challenges was asked to the college respondents as well, and the results show similar "feelings" with Employers for some phenomena, offered in the list of choice, like production material and labour costs (see Figure 9).

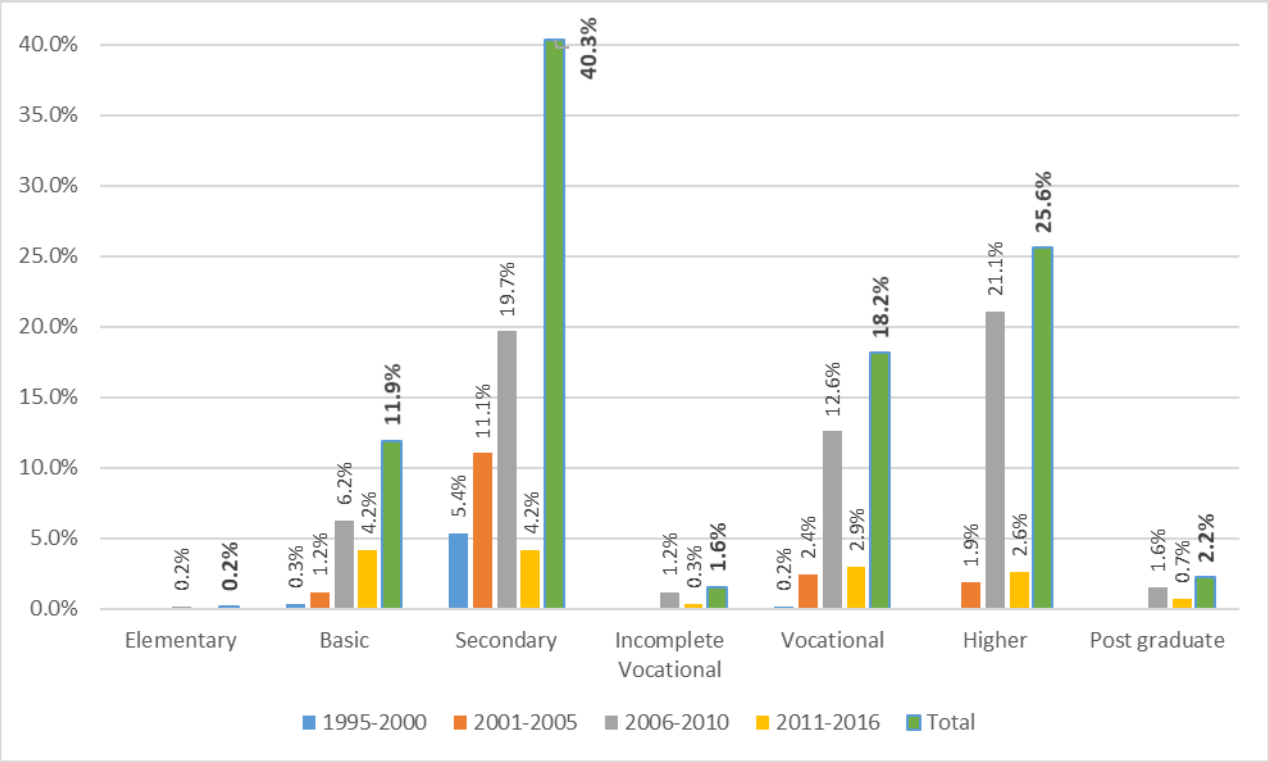
Figure 9. Present and future industrial or sectoral challenges of the business per Employers'



As per Youth, **graduate-respondents** that form **91%** of the whole sample represent education period from 1995 up to 2018. Based on the data about highest educational attainment of the respondents, we see prevalence of the **Secondary** education, followed by higher with a big difference and then, by pre-VET and VET with a little difference (see Figure 10) It is noteworthy that 40% of the Self-employed have Secondary school background.

Among those **Employed – 316 people**, graduates of **Elementary, Basic** and **Secondary** schools comprised **52.4%**, **19.8%** had **vocational education** (including those with incomplete VET), and the remaining hold **Higher education** – **27.8%**.

Figure 10. Youth per highest educational attainment, as by years of graduation



Among those with no professional qualifications, i.e. with basic or secondary general education, the majority (52.2% and 48.9%, correspondingly) were 2006-2010 graduates which may mean that they did not have any intention to continue their education in VET or university.

As expected with the overestimated need of the finance/economist and objective situation with more employment opportunities was reflected in the results of this Survey as well: the biggest part of the graduate qualifications was finance and economy, followed by management (two times as less as the previous category) and veterinary.

In order to have opinions of graduates of the **4 agricultural VET institutions** covered by the survey, reflected in the results, we realised **43** successful interviews with their graduates and the picture of their current employment status is presented in the Table 9 below.

Table 9. Employment status of the graduates of the targeted VET

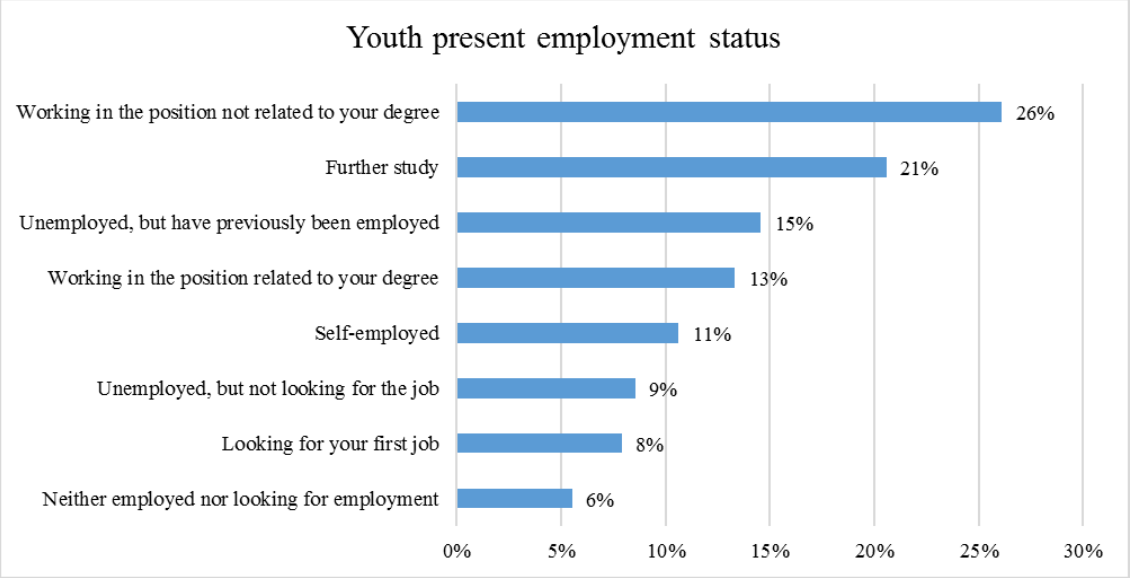
VET Name	Working in the position related to your degree	Working in the position not related to your degree	Further study	Looking for your fist job	Unemployed, but have previously been employed	Neither employed nor looking for employment	Never been employed nor looking for employment	Self-employed
Ararat State College	1	1	2	2	1	2	0	2
Stepanavan State Agriculture College	0	1	1	1	1	2	0	1
Gavar State Agriculture College	1	9	3	2	2	0	0	0
Alaverdi State Craftsmen College	0	1	0	1	4	2	1	1
Total	***2***	***12***	***6***	***6***	***8***	***6***	***1***	***4***

The survey checked Graduates' **satisfaction** rates with their profession or education, both VET and higher in terms of adequate curricula and there was quite high positive result of **66%.** The satisfaction levels are especially interesting, considering the fact that many of those who were satisfied, were also unemployed.

The share of graduates who completed further **training** after graduation was rather small (**17.7%** of all **interviewed**) and most of them paid for their trainings personally.

The hypothesis was confirmed with the results of the occupied employment status, with almost one third in occupation not related to their education (see Figure 11).

Figure 11. Youth employment status



Among those **who are in the job search** (looking for the job or looking for the first job) the highest frequency was given to the positions of economists, pedagogues, driver, in-service, doctors. There was only 1 person looking for the job dealing with the Agriculture machinery and only 1 seeking job of the electrician. The trend for white-/blue-collar jobs is apparent.

Duration of the **job search** in the most cases made 1-3 months for 23% people and 1-2 years for 37%. Results showed another "anti-global trend" among surveyed; **73%** of respondents are **not ready for relocation** and prefer to stay and work in their home cities and villages. A prevailing number of married respondents explains this high percentage. Therefore, as we see, skill mismatch cannot explain all the unfilled jobs and there are many other factors as well.

There was the same picture with those with elementary and intermediate school graduates, who, opposed to the assumption that these categories would be more interested in either labour or farming jobs, seek **economist jobs** the most and **is not ready to relocate** either.

Self-employed category was of special interest counting overall population as 67 people, with 29 of them engaged in the Agriculture. As expected, there is strong male prevalence in this category, exceeding females for almost 5 times: 54 males and 13 female self-employed respondents. And among those of the segment there is only **1 woman.**

And there is only **10 people** are within Agribusiness from all the number of those (248) who is currently employed.

The low interest rate towards the Agriculture makes dual sense as on the one hand, the majority of the population has been randomly selected (excluded 6% of VET graduates), but on the other, these have been rural inhabitants and with bigger portion of the upper age segment, mostly married and with the secondary education level. Therefore, it was assumed that the answers would be more "landed" and realistic for their lifestyles. Moreover, when asked on whether they would consider employment in the Agriculture, 50% give affirmative answers, where 30% were very interested. 56% of those who gave negative answers were simply not interested in the industry (see Table 8).

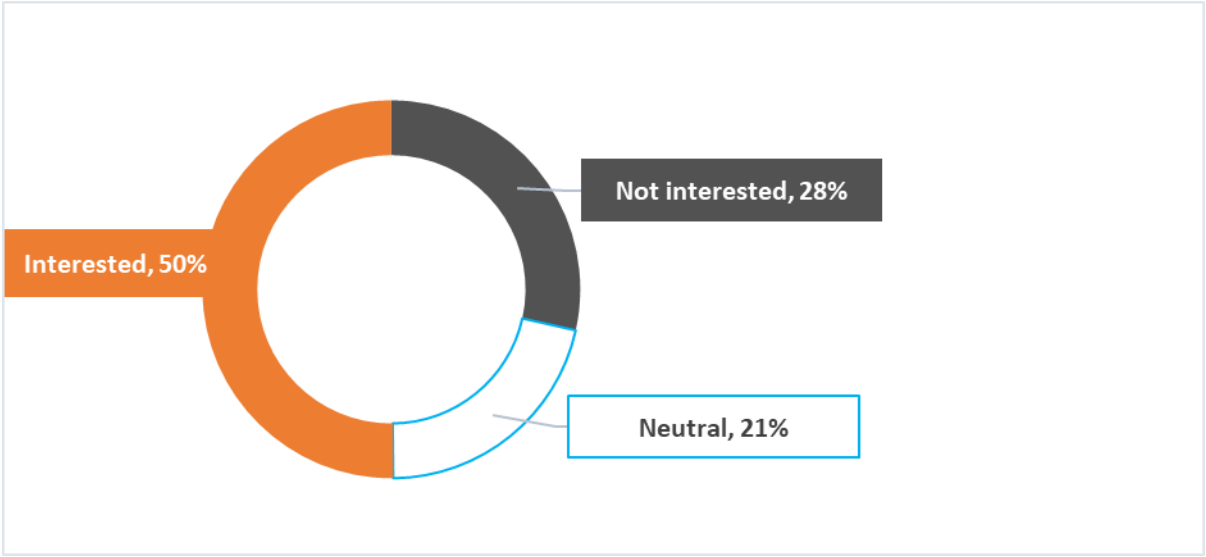
As for relatively high rate for the finance sector, it can be explained by early successful banking reform in Armenia that brought financial stability and, consequently, attractiveness to the employment in financial sector.

Stability is one of the basic criteria stated and referred quite often by the respondents.

Table 10. Sectors of Economy and Occupations Youth was Interested in

Sectors of economy and occupations	Frequency of answers
Finance, Accounting, Loan Specialist	**15%**
Art	15%
Teacher, philologist, psychologist	10%
Manager	10%
Self-employed, entrepreneurship	7%
Computers, developer	6%
Service	6%
Handicraft	5%
Medicine	5%
Driver, labour	5%
Baby sitter	4%
Agriculture	3%

Figure 12. Interest Towards the Agriculture Sector



4.4 Employability Skills and Competences

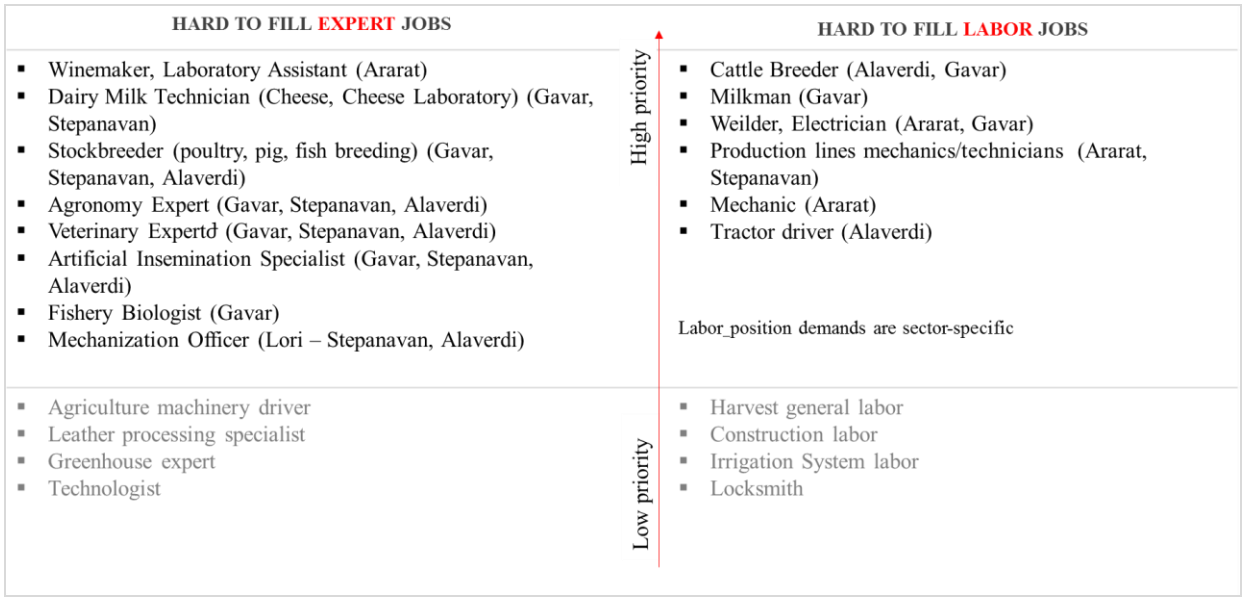
In order to shape the offer of competences, there was a need to understand the labour market demand. Seeking job profiles highly demanded in the labour market to shape understanding on the correct qualification (VET offer), Employers were requested information on the key yet hard-to-fill jobs.

Moreover, to understand the impact that education may have on the lack of demanded professions and to find out other shortcomings to address, there was a request to provide reasoning for failing or having difficulty to attract personnel of the necessary profiles (see Figures 13, 14).

Targeting more accurate diagnosis on staffing key and non-key positions, mentioned by the employer-respondents, they were separated into Expert and Labour categories and the answers were prioritised (see Figure 13).

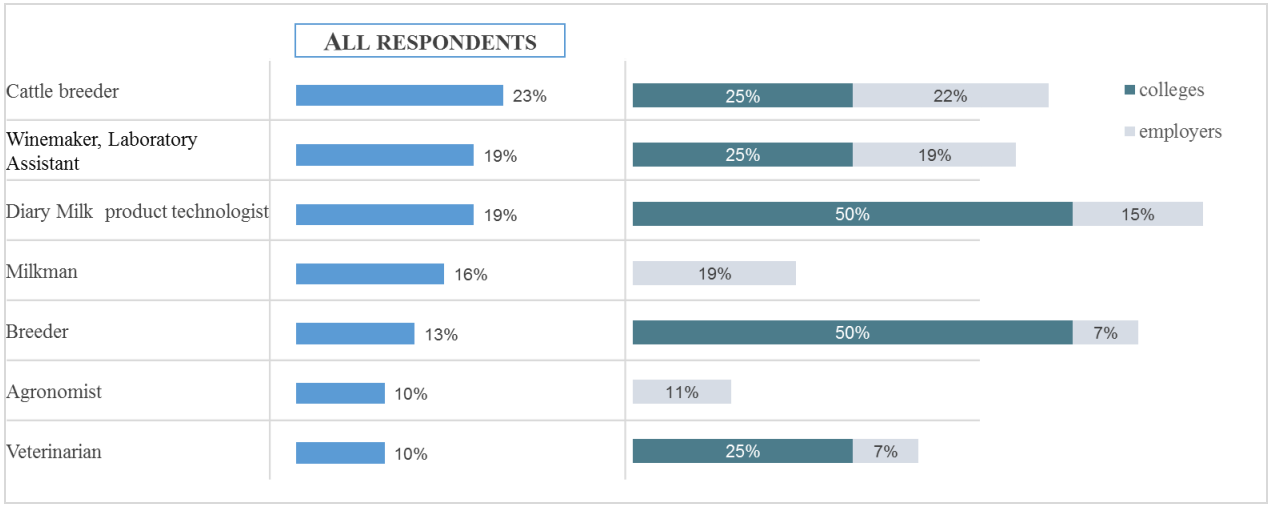
It is crucial to mention that some jobs are of region-specific demand as it has been expected based on the sampling results.

Figure 13. Hard-to-fill occupations per priority and type



These top 5 rating jobs are strongly effected by big number of diary milk producers and winemakers among Employers. Except of the labour jobs, the rest have been within modern curricula of the State Agrarian University of Armenian. Even with the strong impact of the Diary producers, it was strange to see such a big 50% frequency for the Cattle breeder or even 16% for Milkmen, as 58% respondents of this sample (Employers + colleges) placed **manual work** as N 1 obsolete competence for the upcoming 5-10- year period.

Figure 14. Top 5 hard-to-fill occupations in agriculture



4.5 Mismatch between focus groups

Figure 15 below shows Agriculture job demand in the selected rural areas. The question matrix was intentionally developed for both Employers and colleges to check the hypothesis on strong mismatch in their vision of the demand and offer. There was even confronting statement on behalf of one VET

institution Director, who thought this kind of questions had to be addressed to Employers not the VET (see Methodology). Therefore, as the figure shows, business and VET of the same rural area had named **only 5 same positions out of 22 (!).**

Figure 15. Rating of the hire-to-gill occupations by the Employers and VET

		TOTAL	EMPLOYERS	COLLEGES
LABOR POSITIONS,	Cattle Breeders	23%	22%	25%
	Milkman	16%	19%	0%
	Production lines mechanics/technicians	6%	7%	0%
	WielderElectrician	6%	7%	0%
	Mechanic	6%	7%	0%
	Construction labor	6%	7%	0%
	Locksmith	6%	7%	0%
	Forklift driver	3%	4%	0%
	Irrigation System labor	3%	0%	25%
	Tractor driver	3%	0%	25%
EXPERT POSITIONS	Winemaker, Laboratory Assistant	19%	19%	25%
	Dairy Milk Technologist (Cheese, Cheese Laboratory)	19%	15%	50%
	Stockbreeder	13%	7%	50%
	Agronomist	10%	11%	0%
	Veterinarian	10%	7%	25%
	Artificial Insemination Specialist	6%	7%	0%
	Agriculture machinery driver	3%	0%	25%
	Leather processing	3%	0%	25%
	Fishery Biologist	3%	4%	0%
	Mechanization officer	3%	4%	0%
	Greenhouse Expert	3%	4%	0%
	Technologist	3%	0%	25%

Reason that make vacancies hard-to-fill

Low wage was mentioned for both Expert and Labour categories of the hard-to-fill vacancies. Low wage usually has different shades of real meaning. It is quite often used in comparison, like "low wage for the job conditions like that". There is a strong mismatch with the Youth perception as well. Only 6% (20 people) of those who would not want to get employed in the Agriculture bring low remuneration as main reason, and only 10% mentioned hard working conditions.

Keeping low wage means setting low barriers to entry for these positions and this way Employers, usually, will more likely resign themselves to high turnover (and it is high as shown above – 20%) and short staff tenures rather than focus on retaining existing employees (see Chapter on Training and Development).

Another strong reasoning (**45%** of responses) for Expert jobs vacancies is about **lack of the necessary experience**, followed by **absence of necessary attitude** and **motivation** and **lack of necessary knowledge, skills and qualification of VET graduates** – **30%** and candidates lacking necessary knowledge – **25%**. These statements are also supported by the above-stated fact, that only 30 graduates have been employed during the last 2-3 years.

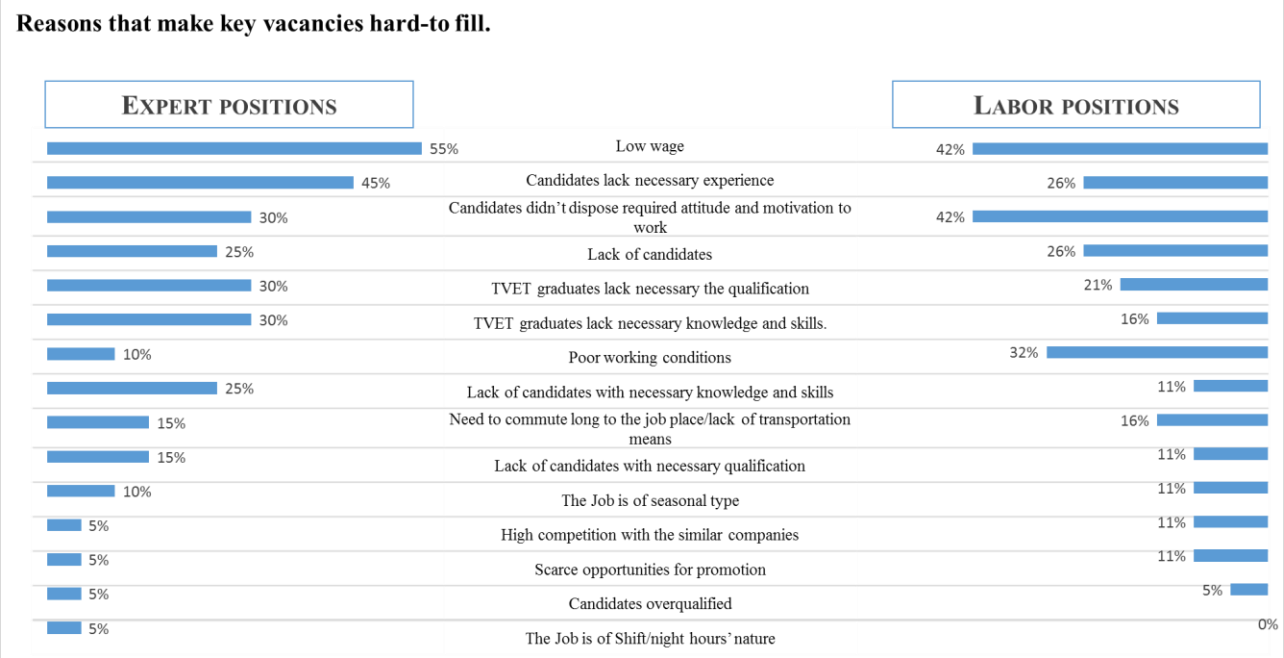
Thus, the data shows that business generally does not have access to the right set of vocational skills in terms of neither quality nor quantity.

One of the global megatrends – **basic lack of any candidates** was indicated by **25%** of the companies.

32% bring forward **poor working conditions** as a reason for low interest of candidates and it can also serve one of the main reasons explaining male predominance in the industry.

Problems with the **Absence of public transportation means** and **long distance to commute to work** were mentioned with almost equal frequency (see other reasons in the Figure 16).

Figure 16. Reasons that make vacancies hard-to-fill



Employers were requested to share their vision on the skills and competences, which they consider important to work in their companies. The selection is presented in the rated way from the highest to smallest and it is obvious that they reflect companies' main economic activities (see Table 5).

In order to understand available resources to develop demanded skills, next step of the foresight (elements of the Skills Technological Foresight methodology) was to show types of the training that colleges and Employers, based on their experience, find proper. Training types were defined based on the existing typology:

1. Formal education (TVET courses, diploma, qualification);
2. Corporate education/training;
3. External training/qualification programmes;
4. Self-development.

Below given table shows how the respondent Employers assess importance of knowledge and skills in various agricultural sectors for the country's economy. They also give their evaluation on the quality of this knowledge, which is mostly rendered by the formal educators.

As results show, the half of the rated competences were considered of strong importance for the country's economy. For four of them quality of formal education was assessed as of "high". These are Viticulture and fruit growing, Agronomy, Technical support to works, Exploitation and repair of machinery and equipment. The rest of the high importance competences received assessment of being of moderate or little relevance in terms of the quality.

Out of all domestic animal breeding category, the only competence that was assessed of moderate quality was **cattle breeding.** Training quality in Poultry breeding or Apiculture, which is getting more and more popular, are assessed as of little quality. Quality of the education on **Green housing**, another rapidly growing sector, was assessed **the worst.**

Table 11. Skills and competences required by the agribusiness and evaluation of the education quality relevance to the demand

Skill/Competence	Importance: 1 = none; 2 = weak; 3 =	Education quality relevance: 1 = very

	considerable; 4 = high	much; 2 = much; 3 = moderate; 4 =some; 5 = little
Viticulture and fruit growing	**4.0**	**1.5**
Vegetable growing	4.0	5.0
Horticulture cultivating	4.0	5.0
Poultry breeding	4.0	5.0
Pig breeding	4.0	3.0
Sheep breeding	4.0	3.0
Apiculture	4.0	5.0
Agronomy	4.0	2.0
Technical support to works	4.0	2.0
Exploitation and repair of machinery and equipment	**4.0**	**2.5**
Fish processing technology	4.0	3.0
Public food/catering technology	4.0	5.0
Veterinary	3.8	4.0
Cattle breeding	3.8	3.5
Winemaking and juice production	3.7	2.8
Agriculture	3.7	3.3
Mechanisation of the agriculture	3.6	3.1
Green housing	**3.5**	**5.0**
Canned food and food concentrate technology	3.5	3.0
Butter, cheese and milk production technology	3.3	3.3
Ichthyology and pisciculture	3.0	4.0
Biotechnology of protected soil	2.7	4.3
Engineering	**2.0**	**5.0**

Survey aimed at testing the same competences provided by the formal education in terms of students and graduates' **satisfaction of its quality (adequacy)** and **employability.**

45% of the students that make 20% of the total population are **satisfied** with their education. This does not, necessarily, perceived as an indicator of quality education. This opinion could have been influenced by students' expectations prior to their study and their preconceived beliefs regarding the value of education.

Graduates' satisfaction rates with their profession or education, both VET and higher education was even more, **66%.** Such level of satisfaction is especially interesting, considering the fact that many of those who were satisfied were also **unemployed.**

Within the context of this survey, employability skills are those basic professional skills that respondent developed during their formal education. Taking into account hat 1/3 of the survey population are unemployed and the main part are of the upper age group, the information received is valid as based on respondent's experience and not assumptions.

The results showed that almost half of the respondents **(49%)** consider their background degree as of **fair employability potential**, **34%** assess it as **good** and **12%** - **as excellent.**

4.6 Most requested skills and sources/methods of their development

Surprising discovery that this question brought upfront was about the **Self-development method of learning** that superseded formal, corporate and short-term trainings by external providers (see Table 12).

One of the reasons of such response can be Technological advancement of the communication means. There is a big number of Massive Open Online Courses or other asynchronous online training programmes providing Knowledge certificates (not the one for the participation). Along with opportunities that private

training providers create, it becomes obvious that formal education is already in a strong competition; the only competence that this respondent pool ascribed to the sole capacity of the formal education was Fish processing technology, though there was only one employer of that profile and this result can be a mere opinion, but not a representative answer.

Information reflected in this Table also tells about readiness of Armenian Employers to **accept this type of certificates** as witness of professional education. This is already a worldwide trend.

At the same time, only 9% of the total Youth respondents has had training for the last 12 months and online and on-the-job trainings made **13%**; the biggest share – **63% is in training centres**.

There were only 3 competences that were assessed to be developed by all 4 methods of training. These were:

- Winemaking and juice production;
- Butter, cheese and milk production technology;
- Mechanisation of the agriculture.

If rated, **methods of education** stand in the following sequences:

1. Self-development
2. Formal education
3. External training programs (private companies)
4. Corporate education

The situation coincides with the world megatrends on the individual's self-orientation in the professional space, where one needs to define a goal, follow and reach it and bear full responsibility for the results, e.g. getting relevant employment. This means that services on the professional orientation are becoming simply one of the billions of information sources.

Table 12. Most requested skills and sources/methods of their development

Skill/Competence	Formal education (TVET courses, diploma, qualification)	Corporate education / training	External training program	Self-development
Winemaking and juice production	✓	✓	✓	✓
Horticulture cultivating	✓			✓
Cattle breeding	✓		✓	
Ichthyology and pisciculture	✓	✓		
Green housing	✓	✓		✓
Veterinary	✓			✓
Agriculture	✓		✓	✓
Biotechnology of protected soil	✓	✓		
Butter, cheese and milk production technology	✓	✓		✓
Mechanization of the agriculture	✓	✓	✓	✓
Exploitation and repair of agriculture machinery and equipment	✓		✓	✓
Canned food and food concentrate technology	✓		✓	✓
Fish processing technology	✓	✓		✓
Viticulture and fruit growing		✓		✓
Agriculture engineering		✓		

Apart of the professional sectoral competences, a list of **other technical** and **soft skills** was suggested to the Employers to assess importance and shape whole picture on those **competences** and **skills** that **can help one to get/ stay in employment** (see Table 13).

Table 13. Other technical and soft skills required for the employment as seen by the Employers

General Skill/Competence	Importance 1 = none; 2 = weak; 3 = considerable; 4 = strong
Capacity to learn	3.83
Capacity for applying knowledge in practice	3.73
Basic knowledge in the field of study	3.50
Teamwork	3.46
Maintaining financial records	3.44
Ability to work independently	3.29
Problem solving	3.25
Capacity to adapt to new situations	3.14
Adaptability	3.00
Capacity for analysis and synthesis	3.00
Oral and written communication in your native language	3.00
Information management skills (ability to retrieve and analyse information from different sources)	3.00
Elementary computing skills	2.91
Capacity for generating new ideas (creativity)	2.63
Decision-making	2.60
Knowledge of a second language	2.60
Critical and self-critical abilities	2.50
Research skills	2.50
Leadership	2.33
Interpersonal skills	2.25

The above selection was also proposed to all three groups of respondents and is one of those crosschecking questions, measuring perception, believes and possible gaps among Youth, training and Employers (see Figure 17). So, for colleges and Employers, this list was offered as soft/technical skills for hard-to-fill vacancies, whereas for the randomly selected Youth, it was a list of general competences/skills that they would like to get in terms of further employment.

Significant mismatch in the perception between each of 3 groups is registered.

As seen in the Figure 15, there are only **3** competences that got more or less same frequency of answers in all 3 groups as the important competence in employment:

- Basic knowledge in the field of study;
- Knowledge of a second language;
- Capacity for applying knowledge in practice.

Employers and colleges are unanimous in prioritising **6 competences out of 20**:

- Capacity for generating new ideas (creativity);
- Capacity to adapt to new situations;
- Elementary computing skills;
- Teamwork;

- Ability to work independently;
- Maintaining financial records.

There is an interesting approach of Employers towards graduates and labour in general. Vast majority of the Employers gave first priority to the "Ability to work independently" (highest rank), "Decision making, Capacity to generate new ideas and Problem solving". Usually, this set of competences marks very open and trustful corporate culture, where personnel is motivated and shares the responsibility for the business and own results and, consequently, favours the power (some sort of). However, "Leadership" competence got one of the **lowest rates** among Employers as well as Critical and self-critical abilities. Employers, also, almost ignored Research skills, a key technical competence, that stipulates bringing new yet weighed ideas and solutions.

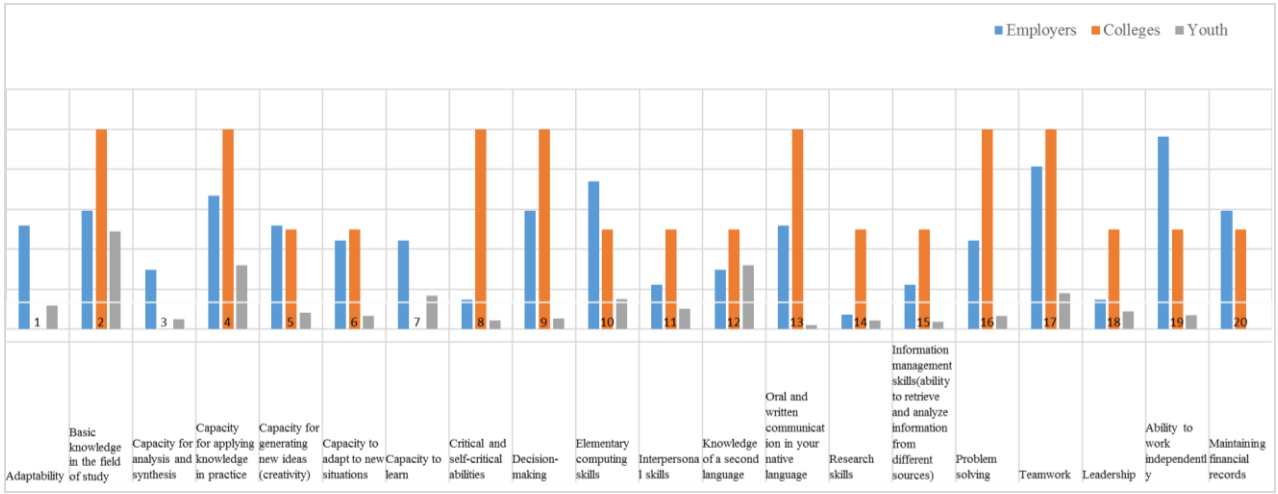
Apart of those competences that generally coincided with the choice of Employers and Youth, **College top selection** also included:

- Critical and self-critical abilities;
- Decision-making;
- Problem solving;
- Teamwork;
- Oral and written communication in your native language.

The latter was one of the **least interests** for the Youth respondents. "**Maintaining financial documents"** was not mentioned by the Youth at all. In fact, it was a sugar-covered question to check individual's willingness for routine work. So, Youth does not consider skills in managing paper work and routine as enabling competence to get into employment. It does not also find correlation between contemporary employment and demand to exhibit skills like creativity, critical thinking, decision-making, problem-solving, retrieving and analysing information.

It was interesting to find out that competences were considered vital mostly by those, who see lack of necessary qualifications, knowledge and experience as the reasons that they failed to get the wish job (see Figure 17).

Figure 17. General skills/competences by all three focus groups

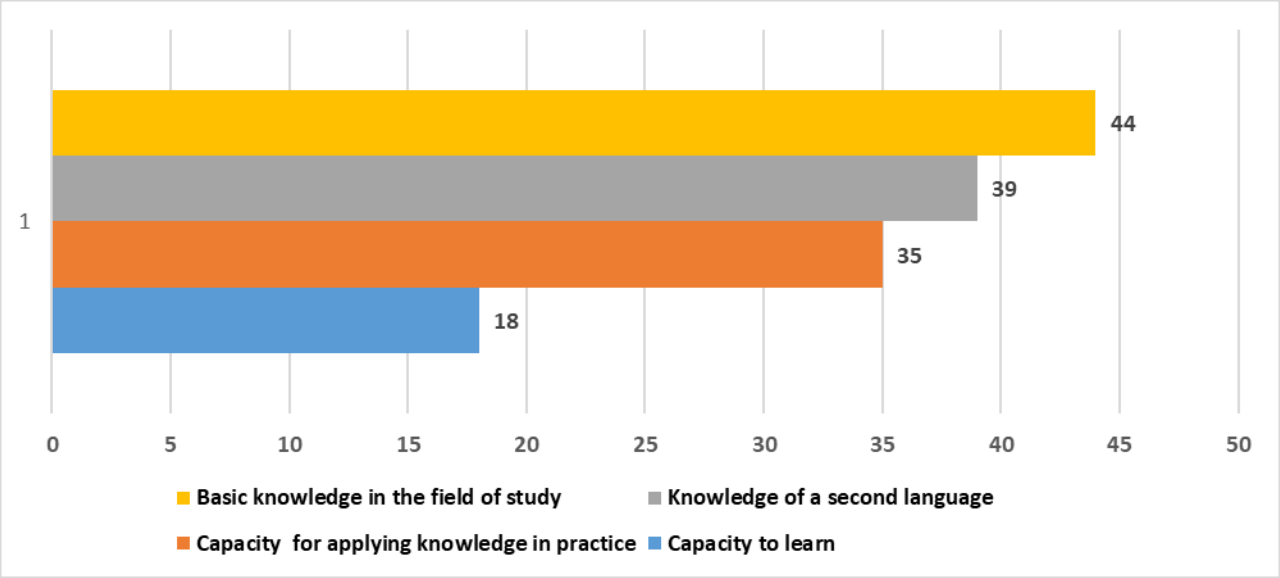


The list below (Figure 18) shows those top 4 competences that have ranked much higher than the rest of the suggested selection. Therefore, as stated above, there are strong alternatives to the formal education to answer the need on **Basic knowledge in the field of study**. Short-term certification programmes, envisaged by the programme, can resolve the situation, though with due quality, i.e. tailored to the Employers' operational needs.

As for the **Second language knowledge**, there are plenty of opportunities to learn it even in rural areas: traditional (books, tutors, etc.) and online. Quite often Employers overestimate importance of the second language (English, Russian) in daily operations and place this requirement on all the oral and print job ads, making search for the candidate more complicate.

The biggest zone for attention here is high ranked **Capacity for applying knowledge in practice,** which shows that despite the basic knowledge in the field of study, there is no job placement opportunities for them.

Figure 18. Top-4 competences and skills for the employment as seen by Youth



Apart of understanding what Youth and other labour market participants consider as priority skills and competence, the survey also revealed what Youth perceived as **2 most important factors needed for the dream-job**. The answers could have been strongly impacted by the level of education of Youth respondents, based on their background. However, the answers were **unanimous, both in content and priority** for all levels and these were:

1. Education- 48% of answers;
2. Hard work-34% of answers.

It is notable that **Luck** got the 3rd place in the priority list - 27% of answers.

Consequences of hard-to-fill vacancies

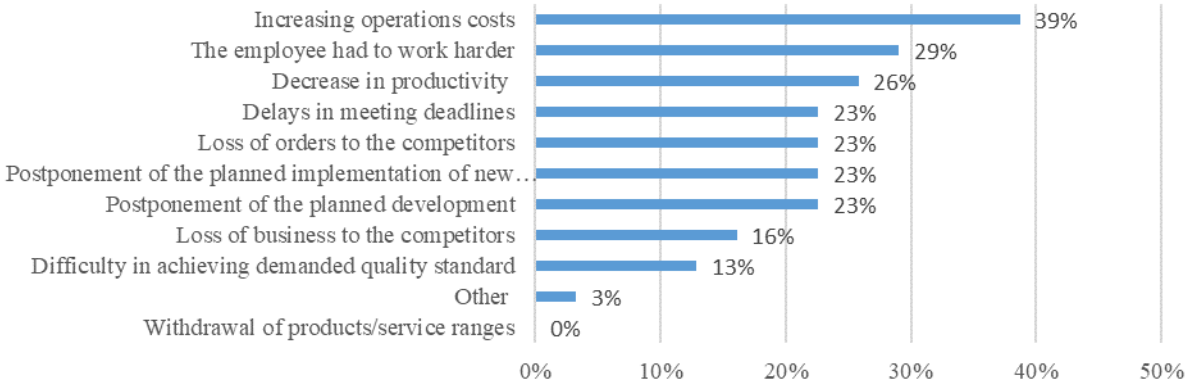
High voluntary turnover has a negative impact on employee morale, productivity, and company revenue. Recruiting and training a new employee requires staff time and money and odds are higher when vacancy is for a key position or expertise.

Employers rated consequences of having hard-to-fill vacancies and the most frequent one is Increase of operational cost. These costs are formed by:

- The cost of hiring a new employee including the advertising, interviewing, screening, and hiring.
- Cost of job placing a new person, including training and management time.
- Lost productivity due of period it may take a new employee to reach the productivity of an existing person.
- Lost engagement – other employees who see high turnover tend to disengage and lose productivity.
- Customer service and errors – for example new employees take longer and are often less adept at solving problems.

- Training cost – for example, over two to three years, a business likely invests 10 to 20 percent of an employee's salary or more in training.

Figure 19. Consequences that business face due of hard-to-fill vacancies



Time to fill hard-to-fill vacancies

As for the time to fill the existing vacancies, almost half (48%) of the Employers indicated average **1.5 month** and one third indicated **more than 3-month duration.** Such a difference apart of the nature of the job profile in vacancy (this topic is already elaborated in previous sectors) reflects corporate culture and recruitment process as it is. There was no other evidence, like being a large employer or a sector-specific result, except of the frequency of choices to explain this big difference between 1.5 and 3 months, taking into regard that **1.5 is an average duration to fill any type of vacancy,** not the hard one.

Measures to fill in vacancies

At times, when the required expertise is not found, one third of the respondent Employers (**30%**) acts in traditional way: changing the job specification, recruiting without demanded qualification and training for the job, involving temporary employees. A little less number of Employers (**26%**) apply **retraining internal employees** to possess necessary competence. Therefore, at least 2 out of these 4 tactics chosen by the majority of the Employers had been about investing in the existing staff development.

Some 19% also mentioned automation of the work and change in the recruitment process (11%).

4.7 Future challenges and competences

As mentioned in the methodology, several questions revealing presence of the strategic thinking among those forming demand and offer in the market of competences were asked throughout this survey.

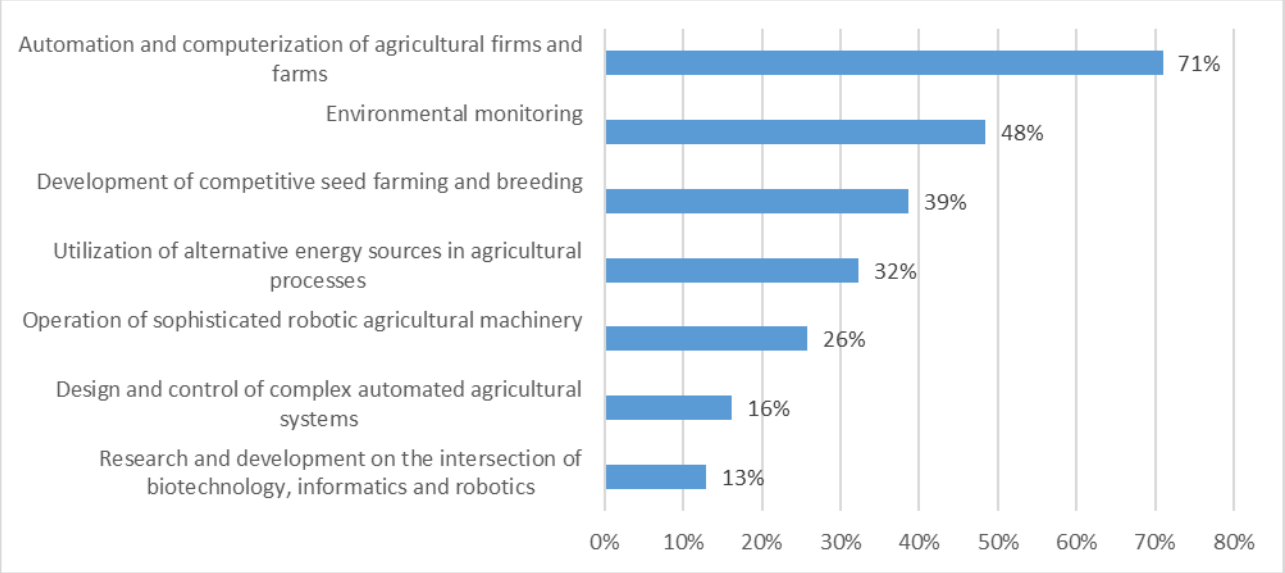
Respondents were given a list of seven challenges and asked to identify those that industry will face in the upcoming 5-10 years (see Figure 20).

Automation of the processes gained the highest score. Employers' key messages were about the price lowering effect on the final product. It is noteworthy, that no one expressed the widespread fear on possibility that modern technology, like drones and Artificial Intelligence, will raise unemployment. On the contrary, the conversation was about answering the growing maw of consumption in the country and worldwide.

The Food and Agriculture Organisation of the UN estimates[4] *that, in order to feed a growing and increasingly urban world population, annual grain production will need to increase to 3 billion* metric *tons; meat production will need to increase to 470 million metric tons.*

Research and developments on the intersection of biotechnology and informatics was mentioned the least and the picture was the same while prioritising technical and soft skills for the Youth to empower them for employment.

Figure 20. Future Challenges



Respondents were asked to identify the **top three future business** and **sectoral skills.**

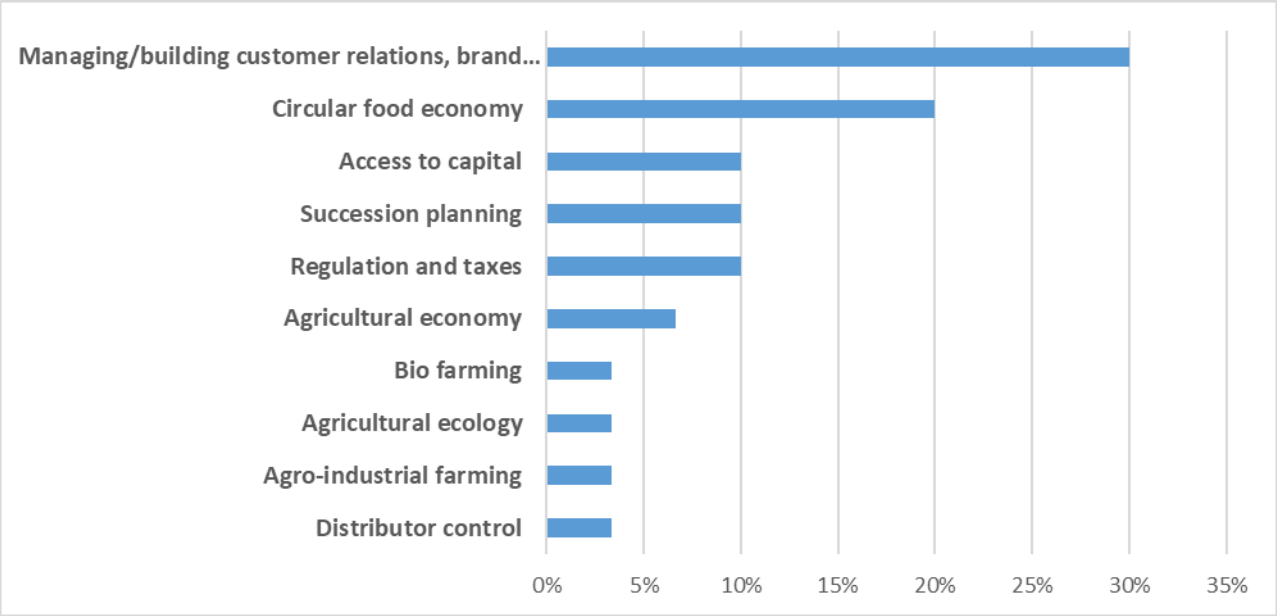
There is a remarkable situation with choice of business and sectoral skills that would keep agro-professional in the employment for the upcoming 5-10 years. **Managing customer relations and branding** received **30%** of the Employers' choice. However, this section got overall small amount of answers, which shows weak focusing on future human resource matters (see Figure 21).

Superior customer service leads to customer satisfaction and loyalty. Customer service adds value to the products and services of any business. It is essential for repeat customers, sales growth and sustained profitability as satisfied customers are those to determine company's long-term viability.

It is notable that **Circular food economy** was also strongly supported by **VET respondents**. This approach is natural and already pre-determined path following one of the world's megatrends – urbanisation. It is also closely related to the first choice of the Employers' on building relations, though, this time not with customer, but with other field players, as increased efficiency, sustainability, diversity in food sources, new business models and turning food "waste" into a resource can be efficient only in wide-ranging partnerships.

[4] World agriculture towards 2030/2050: the 2012 revision. Nikos Alexandratos and Jelle Bruinsma. Global Perspective Studies Team FAO Agricultural Development Economics Division. http://www.fao.org/docrep/016/ap106e/ap106e.pdf.

Figure 21. General and Sectoral Skills as seen by Employers and VET representatives

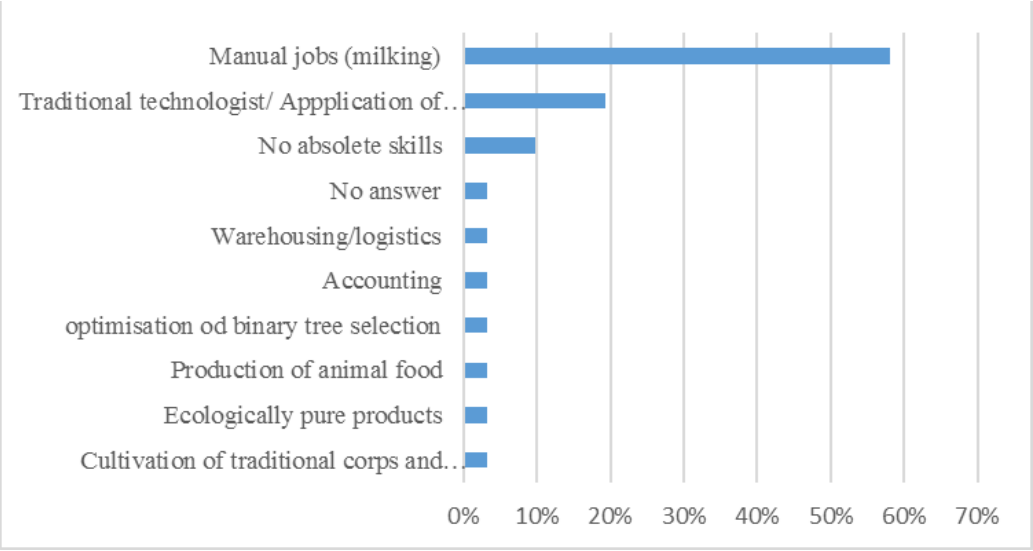


Obsolete skills

As it is seen in the chart below, the majority see manual jobs and traditional skills as becoming less applied, nevertheless, the Employers placed one the highest requests for the position of Milkman. VET respondents chose only Manual jobs within the selection (see Figure 22).

Other answers are also interesting, like those, who are confident that there are no obsolete skills and those who talk about binary tree selection. This question had another target as well, that was to, once again, stimulate Employers and colleges in following market and industry trends and apply critical forward thinking in planning their operations.

Figure 22. Obsolete Skills



4.8 Motivation of Youth to be employed

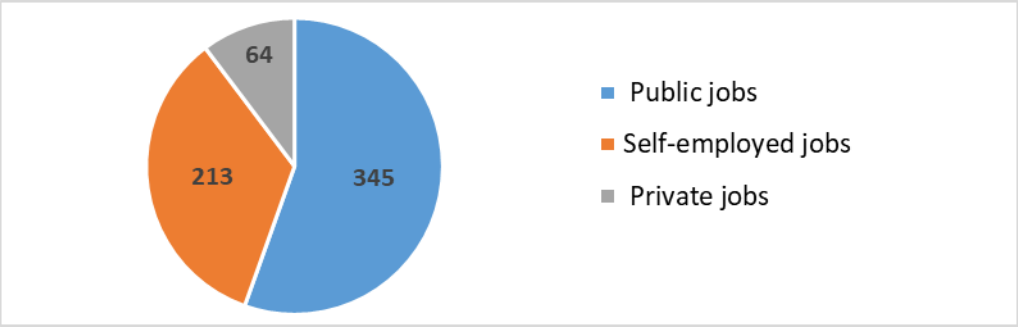
While targeting Youth occupation future, the survey focused on their wishes and abilities as well motivation that would enable them.

Half of the Youth population is facing the future with no fear or concern. 15% has concerns about their current jobs and future employment; however, this can be affected by the prevalence of the upper age respondents, who are more in the employment stage rather than education.

Almost all respondents (**45% out of the total**), who shared their concerns about future occupations talked about 2 things: **adequate monetary compensation for the job** and **stable employment place**. Only 7% of those having have concerns on their employment opportunities (regardless of the industry) due of serious health issues (mainly spinal and coronary diseases).

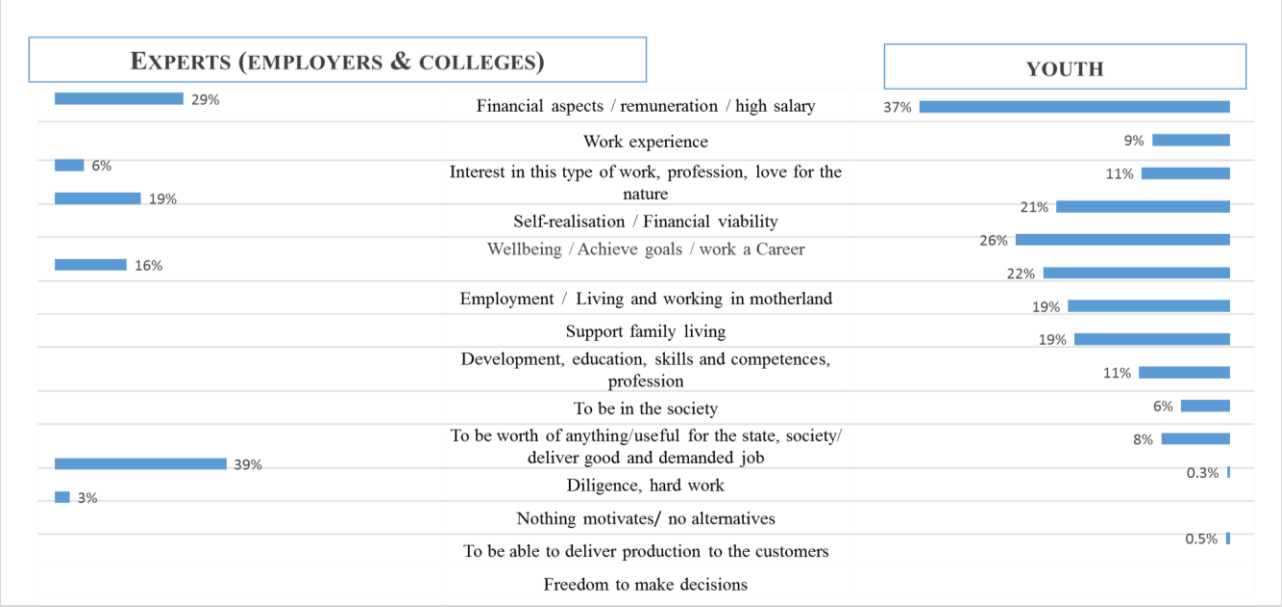
Job choice is highly influenced by what is going on in the rest of the life and strive for stability was proven once again with the vast majority's preference in public jobs (see Figure 23).

Figure 23. Youth preferred job types



Youth was asked a general question on why it should get into employment, and Employers/VET were asked more specifically on why should Youth seek employment in Agriculture to make question on motivation less vague for them. The result obviously points to theory of generation, where elder generation assesses from the prism of their own values, whereas has its own agenda, which is more about putting self-wellbeing rather than serving society on the first priority list. The aspect of self-realisation reflected in financial viability should be considered by the Employers while shaping company's compensation schemes; the situation is granted and attempts to disregard it may cost much more.

Figure 24. What drives Youth in general to pursue career



There is difference in being "in the employment" for male and female. As survey showed, males are preoccupied with meeting family and other needs, acting in their traditional role of a **bread-winner**, whereas for women gave slightly more importance to "self-realisation" than to the need to earn. Figures below shows top 5 employment motifs for women and men (see Figure 25, Figure 26).

Figure 25. Top-5 motifs for female to be in the employment

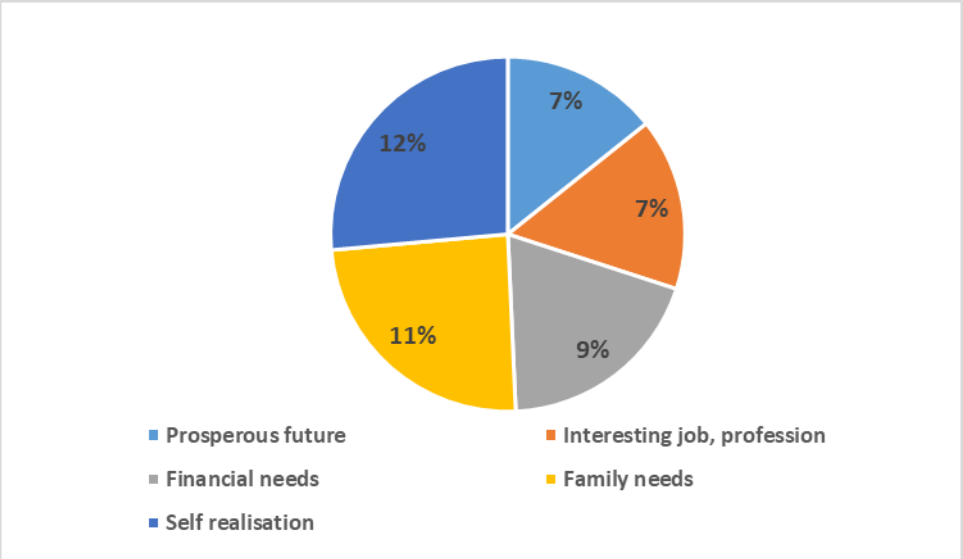
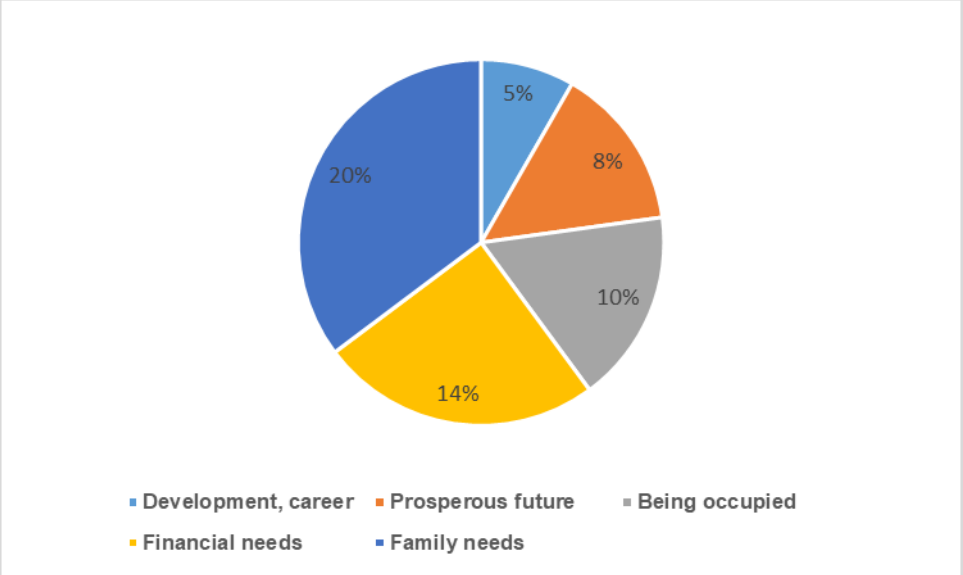


Figure 26. Top-5 motifs for male to be in the employment



4.9 Opportunities for flexible transition from training to work /readiness to study

41% of respondents describe the transition from the education to work as easy and quite easy only 14% consider the process extremely difficult and 16% as impossible, with 34% out of them having no remedy in their minds to improve the situation. It is remarkable that 16% and 23% of the respondents in both groups of negative and positive answers, correspondingly, offered creation of jobs as means to increase employment.

Creation of job is also supported by more than half of all respondents 56%, while answering the question on the requested assistance if they would wish to proceed with their studies.

With a non-significant number of those not in work and education and high occurrence of financial support expectations in any kind of further studies, **78%** of the respondents **would like to participate at a short-term certification programme,** with and **75%** of them in **upper survey age** (30-35 y/o) and **38%** of being **currently employed**. Gender/age/city distribution see in the Table 14.

Table 14. Youth gender and age distribution by city

City	Ararat			Gavar			Stepanavan			Alaverdi		
Age	15-19 yo	20-29 yo	30-35 yo	15-19 yo	20-29 yo	30-35 yo	15-19 yo	20-29 yo	30-35 yo	15-19 yo	20-29 yo	30-35 yo
Male	9	32	44	12	8	40	9	11	31	1	11	31
Female	23	22	43	12	22	46	3	11	28	6	6	36
Total	**32**	**54**	**87**	**24**	**30**	**86**	**12**	**22**	**59**	**7**	**17**	**67**

249 respondents were ready to get enrolled into certification programs/program in the Agriculture sector, with 7 people being currently employed in it. Survey results supported program's areas of interest: winemaking, diary milk processing (cheese-making), cattle/sheep/swine breeding and veterinary (see Table 15 below).

Figure 27. Youth interest in agriculture

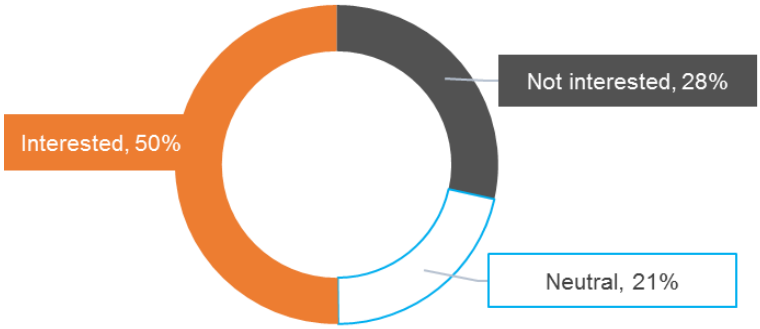


Figure 28. Youth interest in Agriculture per city

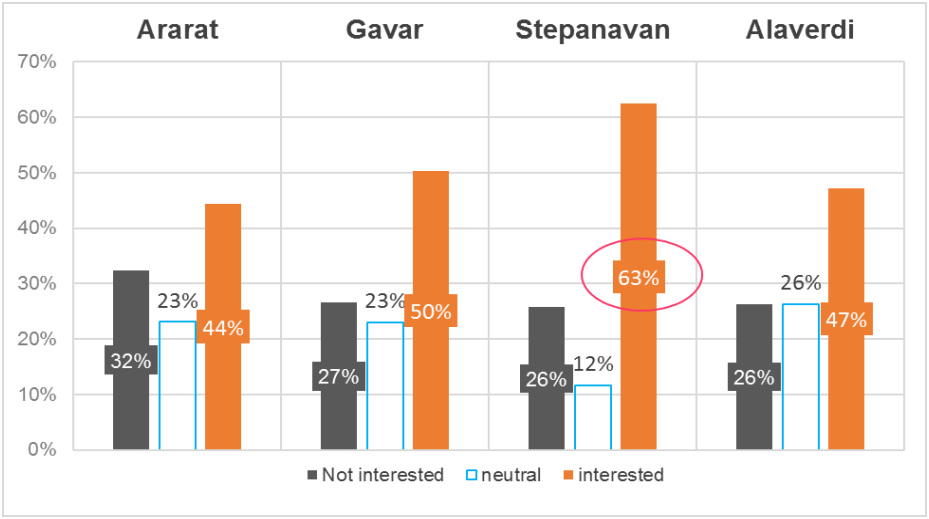


Table 15. Youth's preferred areas for the training programs

Preferred areas for the training programme	Frequency rate
Winemaking and juice production	26%
Butter, cheese and milk production technology	17%
Exploitation and repair of machinery and equipment	15%
Cattle breeding	11%
Mechanisation of the	9%
Veterinary	8%
Agronomy	5%
Green housing	5%
Horticulture cultivating	4%

Viticulture and fruit growing	4%
Vegetable growing	2%
Swine breeding	2%
Apiculture	2%
Public food/catering technology	2%
Crops growing	2%
Poultry breeding	1%
Ichthyology and pisciculture	1%
Canned food and food concentrate technology	1%
Meat and meat product technology	1%
Biotechnology of protected soil	1%
Sheep breeding	0%
engineering	0%
Technical support to works	0%
Fish processing technology	0%

In general, Employers' demands per city revealed matching in the areas of programme interests (see Table 16 below).

Table 16. Youth and Employers' training programs need per city

Training program need	Alaverdi	
	Youth	Employer
Mechanisation of the agriculture	10%	29%
Green housing	4%	29%
Vegetable growing	4%	29%
Biotechnology of protected soil	0%	29%
Winemaking and juice production	31%	14%
Exploitation and repair of machinery and equipment	21%	14%
Cattle breeding	12%	14%
Agronomy	8%	14%
Veterinary	4%	14%
Canned food and food concentrate technology	2%	14%
Ichthyology and pisciculture	0%	14%
Agriculture	0%	14%
Meat and meat product technology	0%	14%

Training program need	Ararat	
	Youth	Employer
Winemaking and juice production	37%	83%
Viticulture and fruit growing	9%	67%
Mechanisation of the	9%	50%
Green housing	9%	17%
Agronomy	5%	17%
Crops growing	3%	17%
Agriculture	2%	17%
Canned food and food concentrate technology	2%	17%

Training program need	Gavar	
	Youth	Employer
Exploitation and repair of machinery and equipment	11%	27%
Cattle breeding	7%	27%
Veterinary	7%	27%
Butter, cheese and milk production technology	25%	18%
Meat and meat product technology	0%	18%
Sheep breeding	0%	18%
Mechanisation of the	9%	9%
Winemaking and juice production	22%	0%

Training program need	Stepanavan	
	Youth	Employer
Butter, cheese and milk production technology	24%	71%
Exploitation and repair of machinery and equipment	18%	14%
Veterinary	13%	14%
Agriculture	3%	14%
Green housing	9%	14%
Cattle breeding	23%	
Winemaking and juice production	14%	

Targeting more effective intervention, there was a question about the type of assistance that would be welcomed by the Youth to support with further studies. The question offered non-monetary choices: for this support: career advice, finding perspective job and transportation. **50%** of all responses were about support **in finding relevant job.**

As other non-primary data shows (like choice of the profession based on its geographical availability of the training institution), incapability of the labour market players (Youth, Employers and Education) to synthase and apply existing knowledge/competences/abilities in alternative operations, demonstrate dramatic situation with labour in Armenia; and it will aggravate further. Despite of the concept of life-long-learning, which is widespread today and will be the prevailing method for individuals willing to stay in the employment people still hope to capitalise on their modest investment into self-education and seek third party's support to create jobs matching their knowledge.

4.10 General opinion about the Agriculture

People are social creatures and are hardly impacted by their network. As the conventional belief goes, Agriculture is generally perceived as an archaic lifestyle and a future with limited opportunities. It is also regarded as less prestigious sector, than that of the finance, because of the mainly hard work conditions and low-income.

The survey revealed that **44%** respondents stated that their network's general attitude towards the sector is **normal** and **23%** told that it is **very positive**. Only **9%** thought that their network has **negative attitude** towards the sector.

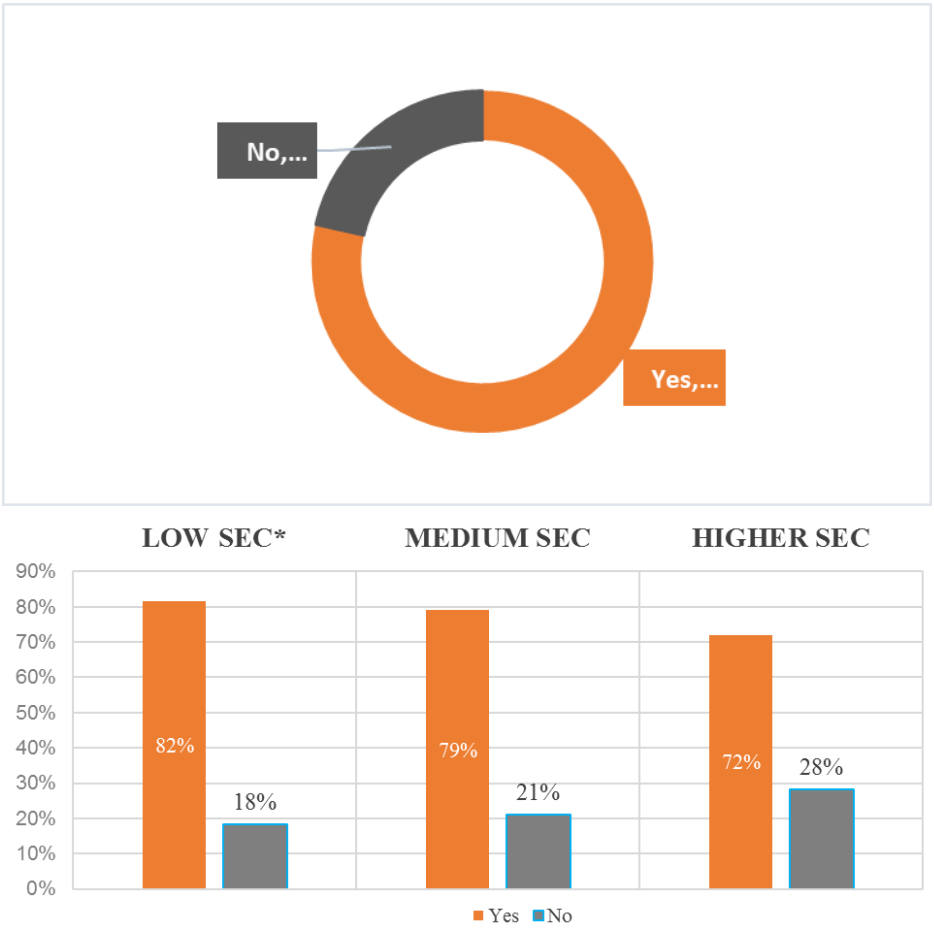
As for the perception about being a sector attracting mostly **low-income families**, Social Economic Class (SEC) question confirmed it; the highest rate among those willing to participate in the training programme s

were those forming low SEC; the higher SEC index goes less respondents showed interest in the Agriculture trainings (see Figure 29).

78% of the Youth respondents are interested in trainings, with **50%** out of them, specifically, **in Agriculture**.

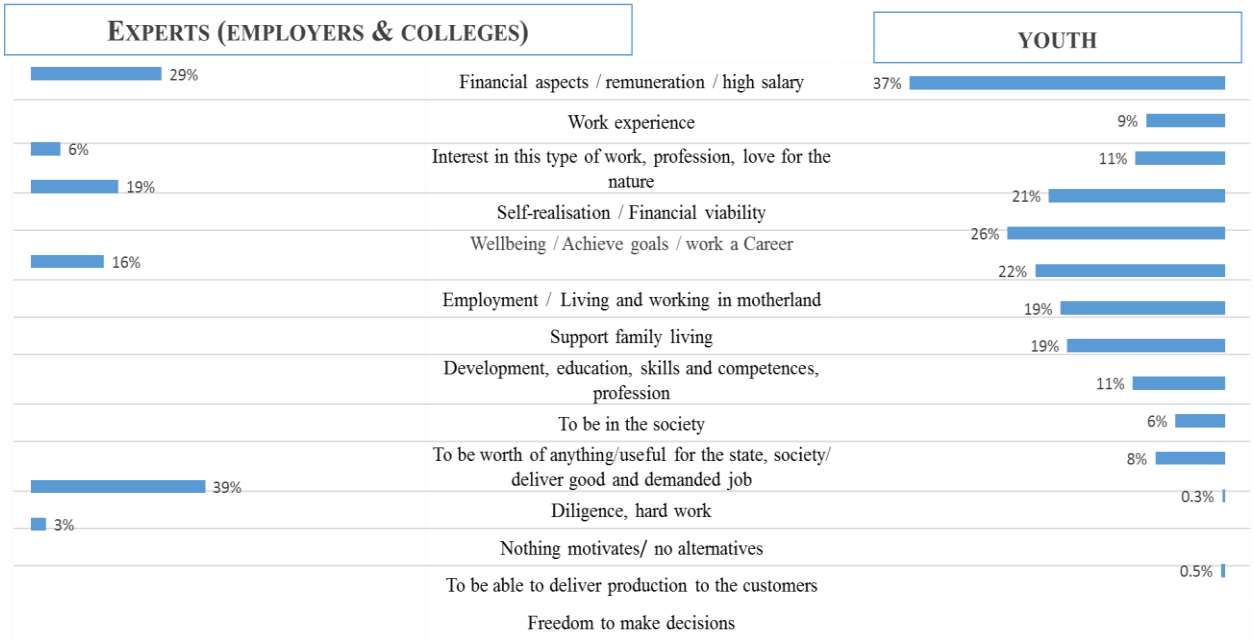
Respondents with **Low** and **medium economic status, 84%** out of 78% showed much higher interest in having trainings, whereas only **half (50%)** of those that were generally interested in the agriculture employment (50% of overall Youth population) expressed willingness to be enrolled in a short certification programme. And **80%** of them had **low-medium socioeconomic status.**

Figure 29. Youth socio-economic status per willingness to be enrolled into the training programs



A big number of dire answers of the industry Employers show that they believe **farming is struggling**. They would be wrong, in Youth perception, who state, that industry is **thriving** and soon the request for personnel will be so high that Employers will be hiring more of labour market **entrants.**

Figure 30. Vision of all groups on the overall situation with the employment in the industry



4.11 Training

To assess adherence to the legislation, knowledge capacity and people strategy set in the companies, the respondent Employers were asked on whether there was any training for the personnel delivered either by corporate means or through external companies during in the last 12 months. The results show that trainings were realised by 41%. Alcohol companies in Ararat region and some diary production companies mainly organised trainings.

The trainings were of the following types: on-the-job – 45%, off-the-job – 36% and both – 18%. Only one training on Food Security was of mandatory nature. Training covered overall **124** employees with **96** hours of duration.

As per those who did not provide trainings either on-job or through funding biggest part of the answers were about full proficiency of the personnel to reliever proper quality of the tasks – 33% and lack of financial means 15%. The main contributors are Gavar and Alaverdi, and as per company size – 36% of those pointing financial means are "up to 10 people" Employers.

VET were inquired on possible appeals for **extra-curriculum trainings/instruction**. Only Gavar state college delivered trainings responding rural business requests. There were more than 5 trainings, such as Wielder Electrician profession for 12 people, trainings for 13 Veterinary Experts, Computer (hardware) classes, etc.

Is there company employees' **current future** training and development need assessment available?

82% of the Employers do not have **current** and **73% – future personnel development need assessment instrument** or process in place and those who have it are companies with the medium size up to 50 people. Only Yeraskh Winery had alignment with its employees on annual assessment exercise. Van 777, another wine producing company, realises assessment with its experts once in 6 months, but only demand-based.

78% of the companies failed to understand the question on their need to be aware on who is **competing with them in the skills' market.** Only two companies and one VET provided information on their competitors: Agrarian University, Agricultural college, Seeds Agro holding, Food Security laboratory (Vedi Alco)

4.12 Correlation of employment and volunteering

During the pre-survey period, there formed a hypothesise that mechanisms, by which volunteering could lead to an increase in the likelihood of finding employment for those out of work because of the similar competences and as another mechanism to dispose the individual to the market and, overall, increase his marketability thus increasing their odds of finding work. Alternatively, some workers may see volunteering as a possible entry route into an organisation where they would like to work.

In addition, given the impact of social capital on employment outcomes, I expected to see a positive relationship between volunteering and unemployment for those individuals with lower levels of such capital. This includes individuals with lower education; still this was limitation of the survey, as the sampling did not include equal quantity of the respondents with high and pre-high education.

The survey showed that only 10% of the interviewed – 66 people confirmed their volunteering experience. This number consisted of 16% of those with the higher and post-higher education and of those with pre-high education.

As a result, we found that volunteering is associated with increase in odds of finding employment. **53 people out of 66** were either in active socio-economic status – employed, in education or self-employed. Volunteers without a high school degree in rural areas have **10%** and those with higher education – **16%**, respectively.

Besides these groups, the relationship between volunteering and employment is relatively stable across gender: 30 men and 36 women. Whereas per age **36%** are formed by those **of 20-29 age**.

As per labour market conditions, with regard to high vulnerability rates at the bordering regions, the picture confirmed this assumption; number of Ararat volunteers was three times more if compared to Alaverdi (27 vs 9).

An individual may volunteer for a number of reasons, and finding employment may not be one of them. Nevertheless, individuals that volunteer with employment in mind may be more likely to find work because they are actively developing social and human capital, while individuals that are not explicitly looking for work through their volunteer experience or do not involve into volunteering already lack these competences.

As for the mentioned 19 types of the volunteering works, the considerably bigger numbers go for:

Organisation of events	24%
Rendering trainings	12%
Technical, labour work	5%
Support to the disadvantaged	18%
Tree planting	8%

Volunteers are more likely to be extroverts (Wilson, 2000), and may be more motivated – two factors that are attractive to Employers. If volunteers are gaining or updating skills that are needed in the workplace through their volunteer activities, those skills may make them more attractive to and productive for Employers and increase their chances of becoming employed.

Only two of the Employers applied volunteer work and only one of them employed up to 15 volunteers. Apparently, (though maybe not only because of this) they had medium level of employee turnover out of all the surveyed Employers.

4.13 Job search channels

As for the Job search and employee sourcing channels, the survey approved the hypothesis on high popularity of personal contacts. However, it is surprising to see such a big share of Employers pointing it, and, most surprisingly, irrelevant to the size of the personal (personal contacts are N 1 both for large Employers or an individual entrepreneur), of being a region close to the capital or a bordering community.

This means that despite of the efforts in setting proper management, introduction of basic HR disciplines during last decade, the business community has no contemporary trustful system to rely upon. It is again the **Word of mouth,** which has always been a peculiarity of doing business in Armenia.

Both Youth and Employers have the same vision on the **3 places in the hiring channels**. Most common hiring channels selected are **Personal contacts** chosen by the **93% by Employers** and **44% of Youth**, which is followed by the **Recruitment websites**. The latter category though selected by **32% of Youth,** was mentioned by only **19% of the Employers** sharing the same frequency with the "Education entities" category. The rest of suggested selection gained 10 times less. It is notable that 10% of Youth mentioned Social media as job search channel (Facebook, Odnoklassniki, LinkedIn, even Instagram (!)).

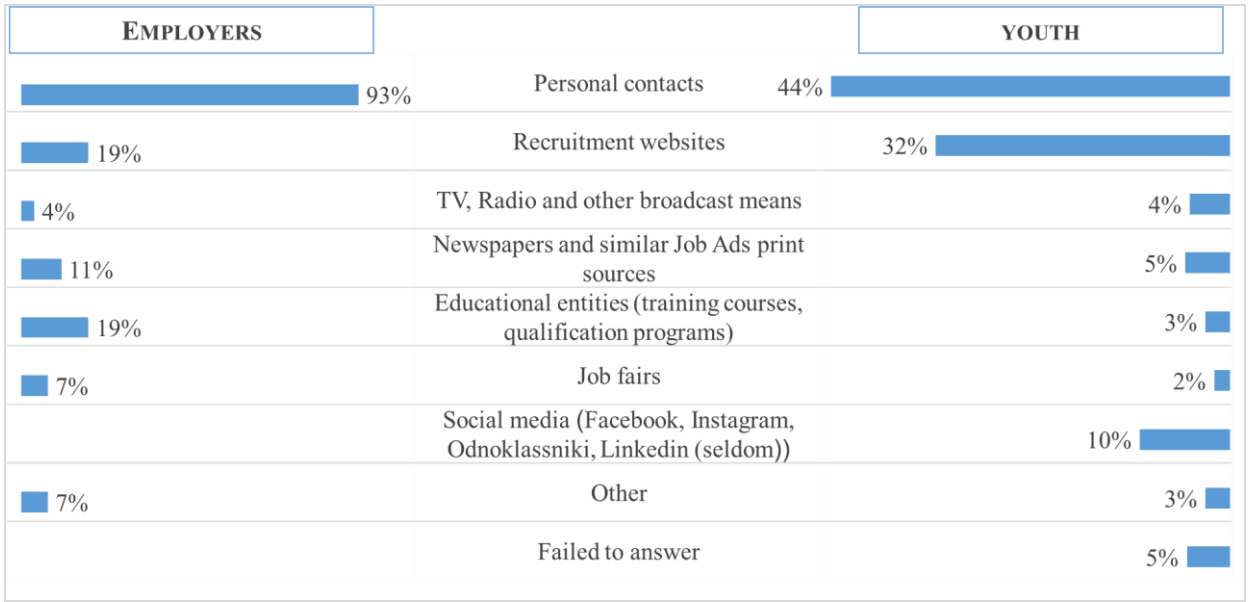
3% of the Youth selecting Other category meant Employers' websites and Employment Centres. Only 1 Employer mentioned Employee referral mechanism (not programme) for the company recruitment.

At the beginning of the survey, there was a hypothesis, backed with the experience and labour market information about low level of the Youth's trust towards the educational entities. Nevertheless, granting **Education entities** with only **3%** for the employment opportunity is really very low and alarms for rapid responses. This discrepancy is eye catching with regard to 19% of Employers considering Educational entities as a recruitment source.

Small and medium enterprises form considerable segment of the labour market, still cannot offer attractive job places due to the insecurity for individuals. Overwhelming number of the jobs are not official, and employees work without formal contracting; this bring in high risk of being abused in health and security, payment, rest and work time and other aspects.

Another sad story about the efforts of the state and international organisations to solve unemployment issues or otherwise to say, help Employers and employees meet each other is shown by **2%** of Youth, the least common source, for Job Fairs that are so largely advertised and applied.

Figure 31. Sourcing channels



Only **one** employer told about the **competitors in talent sourcing and talent expertise/skills**. This one employer refused to name them, so, it is clear that respondents either had no idea or underestimate the need for competitors' analysis on this aspect.

37% of the Employers cooperate with the rural, and sectoral establishments **for Human Resource sourcing and development.** Majority of the Employers named State Agrarian University**.**

4.14 Not in Employment, Education, or Training

The survey also reveals quantity of NEET (Not in Employment, Education, or Training) category among the Youth respondents, specifically those, economically inactive (being unskilled, unemployed yet NOT seeking training or employment) as the most vulnerable within the labour market and falling into the future groups of risk of social exclusion. This is category has **14%** of the total Survey population.

The survey also had aim to check the hypothesis on strong **gender effect** on the NEET group. The result supported the assumption as it revealed that from out of those who appeared to be not employed or ever been employed and not seeking work, **60% are young female (aged 20-35)** NEETs bring their family (husband doesn't allow employment) or baby-sitting reasoning for being economically inactive.

The remarkable finding and a full surprise was to get answers about the dream – employer and occupation among these women. In general, **20%** of those who is neither employed or have been employed or looking for a job, still, have **dream Employers**.

Thus, within the survey there was only **3 people** who can be categorised as **pure NEET**, as they stated about their satisfaction with their status and absence of any will to either be trained or employed.

5. RECOMMENDATIONS

Insufficient demand for relevant (intellectual) resources, substitution of education with graduation, ensuring social employment instead of contribution to human capital and lack of conditions for self-realisation are the main obstacles that keep targeted sectors of Agriculture away from becoming sustainable and efficient economy.

Employers expect that graduates will be prepared for life, work, and self-realisation in the new environment. Question of agenda is the new content of the education system, and, though, the survey did not aim at covering this aspect, it ran out of all the answers. Apart of obtaining purely academic (professional) competences, the survey revealed a big demand in shifting the emphasis to developing general and soft skills. The selection of these skills was provided based on the analysis of the universal "skills of the 21st century" that so-called "knowledge economy countries", like UK or Singapore included in the sets their Future competency model. Bearing this in mind, the recommendations had been developed to provide solutions for the particular survey topic as well as guide for further research and action plans to reach compound results.

One of the high priority interventions is the development of the county's national set of future skills list[5] and Armenian Atlas of Emerging jobs to fill the vacuum of effective professional orientation and help all labour market participants, including Youth (15-20 y/o) parents to minimise future uncertainty while choosing education and career path and help Employers and education to thoughtfully plan business operations and human resources. In short ran, the latter can be very instrumental in the increase of vocational education relevance for the sector.

[5] Example of the Russia Competency model 2025 https://asi.ru/upload/ff5/compmodel-big-en.jpg

There are some forecasting tools that are applied worldwide, but the most effective one that has been applied for the last 4 years is Skills Technological Foresight[6]. Some foresight questions were already used in the survey, allowing seeing the situation in the context and stimulating complex thinking among the Employers.

5.1 Short term trainings

It is vital that short-term trainings curricula developed by and with strong intervention of the specific sector key experts (recent project has shown that there are a few experts representing the field) disregarding their formal positions and nominations. Also, training programmes should not only be based on conventional lower level skills, such as memorisation and recall, but help students develop higher-order thinking skills such as applying, analysing, evaluating, and creating through allocation of a greater portion of the training time to learning by doing.

Along with the training programmes, a scheme of quality control of the agenda and delivery should be applied.

5.2 Promoting Agriculture among Youth

There is a tendency to look at the Agriculture through a very narrow prism of production industry, whereas, it tends to an expanding, entrepreneurial, creative, opportunistic aspect of our economy and over time, in foreseeable future, it will offer fairly **stable** kinds of opportunities to maintain careers.

Moreover, other "more stable" sectors of Economy like finance, management and entrepreneurship will be closely interlinked to Food, Agriculture and related segments. There are already exist positions on intersection of these industries, ranging from agriculture loan-officers, farm labour and marketing specialists to land use managers, sales and service representatives.

Today, more than before, climate change and a growing demand for nutritious food are for fresh ideas and renewed knowledge to explore ICT in, foster climate-smart and innovate in the sector to power future growth. Armenia possesses necessary human resources and expertise, and the solution is to involve young successful farmers to speak about themselves, bring validity to their generation's mats and change the perception about the Agriculture in the society.

As an example, participants of previous Agriculture projects can be involved, like World Bank's $ 32.67 million budgeted project for the Second Community Agricultural Resource Management and Competitiveness (CARMAC), designed to improve productivity and sustainability of pasture and livestock systems in up to 100 communities in eight regions of Armenia, with significant pasture areas and increase the marketed production from selected livestock and high value agro-food value chains.

5.3 Volunteering

While there have been numerous strategies for out of work persons to increase their chances of finding employment, such as acquiring additional training or education, there is little empirical literature to date on the extent to which volunteering can serve to maximise one's chances of finding employment in Armenia. Many studies show the potential and direct correlation between employment and volunteering and higher rates of volunteering among rural inhabitants, its potential need to be studied and revealed. It is especially true about Z generation (born between 1995 and 2010) – the one, which is reported with highest Corporate Social Responsibility index amongst all the rest of generations and to form the major part of the world's labour force.

[6] Skills Technological Foresight manual, ILO, SKOLKOVO school of Management, 2016 http://www.ilo.org/skills/areas/skills-training-for-poverty-reduction/WCMS_534225/lang--en/index.htm

As for this particular intervention, it is recommended to appeal to Agriculture training future participants to invite their friends to the programme as well, though, in a number suitable for effective class lessons.

5.4 Sourcing channels

Though Employers number is not sufficient to make valid conclusions about the situation in the country, still, taking into account that we have bordering and close-to the capital areas, small and large enterprises which act on national level and export goods, this 93% of recruitment through personal contacts illustrates little effect that HR qualification and short-term programmes, which have been run intensively in the recent years, have on business. Distrust, present for the old professional areas soon will touch upon recently introduced disciplines. Unfortunately, market of qualification and short-term programmes is also volatile with no guarantee for the quality and market need. Individuals are left alone in their choice of the training programme or provider testing their good or bad luck in getting enrolled into quality programme and later bringing the knowledge back to the employment market

Low level of trust towards the educational entities in Armenia is not a unique phenomenon – the world education system is in a turmoil. There is a need of thorough analysis of the reasons for such a low trust towards the academia and VET across all the ages of socially active population both in rural and urban areas.

Using employee referrals is one of the best talent sourcing strategies for recruitment. However, it is the cake-topper. To enjoy the results of this strategy, the organisations have to realise considerable time and effort (not monetary) input into the corporate culture and Employer branding development. The latter is one of a few global trends that cannot be overlook, so it would be helpful to offer Employers a splendid (quality) **practical training course on Employer branding.**

5.5 Employers' smart flexibility in managing people

Industry Employers, especially those of mainstream, need to be taught contemporary management techniques and take into consideration the types/age and interests of people working in their companies. Managing "the way it goes" or with good old principles may be tricky and with all the best intentions, the results may be not that satisfying. "Best offer" that they suggest is different for employees of different age. Knowing how to form optimal compensation package is as important as knowing taxation or getting well with the balance sheet. It is recommended to support participating Employers with **short training (modules) on people management** and **sourcing** (much-tailored one).

5.6 Further cooperation with the Employers and interested college directors who expressed their interest during the survey and roundtables

Notwithstanding the difficulties of obtaining the agreement of managers of establishments to participate in surveys such as this, some effort should be made to capitalise on those respondents who replied positively to the question "would it be OK to contact you again in connection with future studies?" to revisit them in future with a view to constructing a panel element within the survey.

In addition, IMR highly honoured Stepanavan and Gavar colleges Directors, since our cooperation with them was the most efficient in terms of accuracy of provided data, which reflected in higher quantity of interviews.

5.7 Policy review: apprenticeships

The survey has obvious policy relevance. Moreover, when linked to other data sets, it has the further potential of facilitating policy evaluation. Cross industry surveys will produce correlations and the panel data set, most probably, will show similar results.

With regard to high demand of Youth in opportunities to practice the knowledge on the one hand, and need of Employers for more specific and relevant competences on the other, and also the speed of real changes possible in the education, the best-fitted solution can be introduction of modern apprenticeships. The system has proven its effectiveness in many of those countries who are driving global GDP and are economically viable.

- The education system needs to take actions to increase the involvement of Employers in the formative and summative assessments of students.
- More focus should be placed on the quality of general skills, such as foreign languages, communication, management, and IT skills. The relevant requirements should be reflected in the VET standards and curricula.
- The mechanisms of VET system cooperation with social partners should be expanded at both the national and local levels. Initiatives for the advancement of this cooperation should be promoted to the benefit of all involved: the education system, business community and individuals.
- Colleges to undertake/increase career guidance initiatives for the terminal years of compulsory education and lead projects "open days" for school graduates and their parents in sectorial enterprises and in VET institutions, should be among the priorities in the education system.
- Form database of the graduates formed by the project team for this study can be provided to the corresponding colleges to assist in the establishment of graduates' databases for further tracer studies.

5.8 Correct survey timing

Surveys related to particular types of the economy, e.g. Agriculture, must be thoroughly planned with regard to correct timing of the implementation approach, to be utmost cost-effective and with bigger number of answers, making results much more representative.

ANNEX 1. TERMS OF REFERENCE

SURVEY TO IDENTIFY SKILLS NEEDED IN AGRARIAN SECTOR IN LORI, GEGHARKUNIK AND ARARAT REGIONS AND MOTIVATION OF YOUTH TO PURSUE A CAREER IN THE AGRICULTURAL SECTOR

Background

World Vision Deutschland e.V. in partnership with World Vision International in Armenia and Global Developments Funs as well as World Vision International in Georgia and Association ANIKA and Georgian Farmers Association implements EC funded project entitled EU4Youth – SAY YES Skills for Jobs within the EU 4 Youth Grant Scheme.

The **overall objective** of the project is to contribute to the (self)-employability of young women and men aged between 15 and 35 years old, particularly those with fewer opportunities as the most vulnerable amongst youth.

The overall objective has been identified against the current context in Armenia and Georgia and specifically the situation of young people in both countries. The main conditions that determined the design of the intervention were the following:

1. High youth unemployment in rural areas
2. The agricultural sector is undervalued, but in development focus of national strategies
3. Lack of adequate education for competence development of young people with fewer opportunities
4. Limited operational capacity of public structures and societal stakeholders for fostering youth employability, particularly for young people with fewer opportunities

The intervention focuses on two components: I. Formal and non-formal education for competence development, and II. Youth support structures and quality development of education, translated into two specific objectives:

Specific objective 1: The opportunities for youth to develop adequate key and professional competences for integration in the labour market are increased through enhanced formal and non-formal education.

Specific objective 2: Support structures for youth employability are strengthened at local and national levels and quality development of formal and non-formal education for fostering youth (self)-employability is enhanced through cross-sectoral cooperation.

Under the Activity Cluster 3 "Needs and skill-based inclusive VET programmes" of the 1st Component, a *Survey on skills needed in the agrarian sector and motivation of youth to pursue a career in the agricultural sector in Armenia,* is planned to be implemented in three marzes.

Objective and the scope

Objective of this assignment is to implement a survey among employers including agro companies and large farmers for defining demanded labour force skills, as well as among youth to identify the skills shortcomings they have experienced while trying to obtain employment. The results will be used for developing Work-based learning (WBL) programmes for 4 agricultural qualifications.

In parallel, the motivation of youth to be involved in non-formal training should be assessed. Therefore, in total 600 interviews (distribution as by regions and as by employers/youth is to be proposed in the methodology by the bidder) will be conducted through structured questionnaires developed specifically for employers and youth. As a result, an analytical report will be produced identifying the skills on-demand in the labour market for which WBL programmes need to be developed and which motivations to respond to in order to encourage young people to pursue a career in the agricultural sector.

The Contractor is required to complete Organisation & Methodology which shall be provided as part of the offer to the Request for Services and will be evaluated together with the price quotation and the CVs of the bidder.

Activities to be performed

Within this assignment, the following activities are to be performed:

1. Finalise detailed methodology on sampling and timeline of the survey provision;
2. Develop questionnaire for employers: to define demanded labour force skills;
3. Develop questionnaire for youth:
   - for identifying the skills shortcomings, they have experienced while trying to obtain employment,

- for assessing their motivation to be involved in non-formal training;

4. Develop initial list of employers/companies to be interviewed;
5. Develop list of localities where youth should be interviewed[7];
6. Orientate the interviewers provided by the Service provider (selection is a subject to separate tender);
7. Supervise implementation of interviews by interviewers (limited number of travels to regions will be necessary);
8. Based on the processed data delivered by the Service provider, develop analytical report (in English and Armenian) identifying:
   - the skills on-demand in LM for which WBL programmes need to be developed,
   - which motivations to respond to in order to encourage young people to pursue a career in the agricultural sector.

Deliverables

Deliverables to be produced by the consultant and the deadline for submission are presented in the table below:

№	Deliverable	Deadline
1	Detailed methodology on sampling and timeline of the survey to be performed in 4 regions	16 April 2018
2	First draft of the Structured questionnaire for employers to be discussed with the Customer	20 April 2018
3	First draft of the Structured questionnaire for youth to be discussed with the Customer	20 April 2018
4	Final version of Structured questionnaire for employers agreed with the Customer	25 April 2018
5	Final version of Structured questionnaire for youth agreed with the Customer	25 April 2018
6	Draft list of identified employers/companies/youth to be interviewed	30 April 2018
7	Interviewers orientated	02 May 2018
8	First draft of Analytical Report to be reviewed by the Customer	10 July 2018
9	Final draft of the Analytical Report on the survey findings (in English)	20 July 2018
10	Presentation of the survey results at events organised by the Project (if requested)	31 July 2018

Reporting

Contractor will provide:

1. Ad-hock reports on the process of providing interviews, as per the Customer's request;
2. Monthly mid-term progress reports, within the first working 3 days of each next month;
3. Final Report with all deliverables, within a week after completion of the assignment.

Required expertise and qualification

Contractor who will be an individual consultant (physical person) must have:

1. At least 10-year experience of performing statistical surveys and analyses;
2. Experience conducting qualitative research studies using in-depth interviews and discussions and analysing qualitative data;
3. Strong background and experience in skills anticipation and methods of filling the gap between market demand and the education;
4. Technical expertise in assessing issues of labour market demand and supply in Armenia, and the ability to draw strong and valid conclusions;
5. Knowledge of Armenian as mother-tong and English at least at C1 level;
6. Excellent communication, problem solving and report writing skills.

[7]Both the lists of employers and youth to be interviewed, should be strongly gender balanced.

ANNEX 2. QUESTIONNAIRES

QUESTIONNAIRE FOR YOUTH

PART I. GENERAL INFORMATION ABOUT THE RESPONDENT

1. Respondent's name

2. Age in years

3. Sex

1. Male
2. Female

4. Marital status

1. Unmarried
2. Married
3. Divorced
4. Widow/widower

5. Current location

Part II. Educational and employment background

1. Highest educational attainment _____

2. Years in which graduated _____

3. Title of first degree _____

4. Have you had training (other than degree program) for any subject for the last 12 months.

1. Yes
2. No

If Yes

N	Training type	Training name / description	Duration	Provider
1	Off-line			
2	Online			
3	On-the-job			
4	Other			

5. Present employment situation. Please, select from the list below.

N	Status	Details	
1	Working in the position related to your degree	State position name Employer's name	
2	Working in the position not related to your degree	State position name and employer	
3	Further study	Subject of the study and training establishment	
4	Looking for your first job	1. What type of job 2. Search is done by means of… 3. How long does tour search last?	
5	Unemployed, but have previously been employed	State previous position name Date of resignation Employer's name	

		Reason	
6	Neither employed nor looking for employment	Reason	
7	Other (please, specify)		

6. Do you have volunteering experience?

1. Yes
2. No

If Yes

N	Experience type	Time period	Organisation
1			
2			

PART III. AWARENESS ON EMPLOYABILITY SKILLS AND LABOUR MARKET SITUATION

1. Please, name the occupations/jobs that would like to have and select reasons, that hinder you of getting the job you wish? (multiple answers)

N	List occupations you would like to have	1. Low wage 2. Lack of necessary experience 3. Being overqualified 4. Lack of necessary knowledge and skills 5. Lack of necessary qualification 6. High competition 7. Lack of motivation to work 8. The Job is of seasonal type 9. The Job is of Shift/night hours' nature 10. Need to commute long to the job place/lack of transportation means 11. Scarce opportunities for promotion 12. Poor working conditions 13. No future prospective job												
1		1	2	3	4	5	6	7	8	9	10	11	12	13
2		1	2	3	4	5	6	7	8	9	10	11	12	13
3		1	2	3	4	5	6	7	8	9	10	11	12	13
4		1	2	3	4	5	6	7	8	9	10	11	12	13
5		1	2	3	4	5	6	7	8	9	10	11	12	13

2. If you selected points 2-5 of the Paragraph 1, what are those general competences/skills that you'd like to get in terms of further employment?

Please, select from the table below or describe required skill.

N	General skills / Competences
1	Adaptability
2	Basic knowledge in the field of study
3	Capacity for analysis and synthesis
4	Capacity for applying knowledge in practice
5	Capacity for generating new ideas (creativity)
6	Capacity to adapt to new situations
7	Capacity to learn
8	Critical and self-critical abilities
9	Decision-making
10	Elementary computing skills
12	Interpersonal skills
13	Knowledge of a second language
14	Oral and written communication in your native language
15	Research skills
16	Ability to work independently

17	Information management skills(ability to retrieve and analyse information from different sources)
18	Problem solving
19	Teamwork
20	Leadership

Other (specify) _____

3. What according to you are the two most important factors responsible for getting a satisfactory job? (mark and rank 1, 2 in order of preference, i.e. (1) as the most important and (2) as the second most important:

N	Factors	Rank
1	Education	
2	Hard work	
3	Personal contacts	
4	Influential friends and contacts	
5	Recommendations from important persons	
6	Luck	
7	Bribery	

Other (specify)_____

4. Do you feel that education you have received at TVET/academia has been adequate?
(for those graduated)

1. Very much
2. Much
3. Some
4. Little
5. Very little

5. How would you rate the employment potential of your degree? (if student/ graduated)

1. Very poor
2. Poor
3. Fair
4. Good
5. Very good

PART IV. FUTURE CAREER

1. What would you like to do in the future - what is your career choice or passion?

2. Do you have any concerns about your future study or employment?
(tick all that apply to you)

1. Study concerns
2. Employment concerns
3. No concerns

Reason (age, marital status, gender, etc.):

3. Do you have any health concerns which would stop you studying/working?

1. Yes
2. No

Comments:

4. What industry would you like to study and work?
(Applicable to those who answered "to get employed" to the question 4.)

5. Would you like to work in agriculture?

1. Yes
2. No

3. No, reason
4. Yes, reason

6. Are you able to name TVET or other training provider you would like to study at?

1. Yes (name of the provider)
2. No

7. Which is the most preferable job (in general), according to you?

1. Public jobs
2. Private jobs
3. Self-employed jobs

8. Are you able to name companies that you would like to work for?

1. Yes
2. No
3. I would like to work for (name companies) . . .

PART V. JOB SEARCH CHANNELS

1. What means do you usually use for job search?

	Channel type	
1	Personal contacts	
2	Recruitment websites	
3	TV/radio/other broadcast means	
4	Newspapers and similar Job Ad print sources	
5	Educational entities. (training courses, qualification programs)	
6	Job fairs	
7	Other (please, specify)	

2. What are existing opportunities/challenges for more flexible transition from education to work?

	Opportunities /Challenges	Reason

PART VI. READINESS TO STUDY

1. What type of assistance do you need to proceed with you studies?

(tick all those that apply to you)

1. Carrier advice
2. Finding prospective job
3. Transportation

2. Would you like to be invited to the free short-term certification programs?

1. Yes (please, select from the list below)
2. No

If yes, add your contact details (name, cell phone, e-mail address)

If Yes to the question 7 on agriculture, select from the list of agriculture sectors or tell other options that you prefer.

N	Skill/Competence
1	Viticulture and fruit growing
2	Winemaking and juice production
3	Vegetable growing
4	Horticulture cultivating
5	Crops growing
6	Cattle breeding

7	Swine breeding
8	Sheep breeding
9	Apiculture
10	Ichthyology and pisciculture
11	Agronomy
12	Green housing
13	Veterinary
14	Industrial equipment technology
15	Biotechnology of protected soil
16	Butter, cheese and milk production technology
17	Agriculture engineering
18	Technical support to agriculture works
19	Mechanisation of the agriculture
20	Exploitation and repair of agriculture machinery and equipment
21	Canned food and food concentrate technology
22	Meat and meat product technology
23	Fish processing technology
24	Milk and dairy products technology
25	Public food/catering technology
26	Other

3. **What drives youth in general to pursue career? (record answers in the same sequence as the respondent mentions).**

4. **Describe your vision on the overall situation with employment in the agriculture.**

5. **Which one of these statements applies to your family income?**

1. We can't make ends meet. We don't even have enough money for food.
2. We have enough money for food, but it's difficult to buy clothes.
3. Our income is enough for food and clothes, but we cannot afford things such as a TV set or fridge.
4. We have enough money for clothes, food and long-usage items, but not for things such as a car, a country house and so on.
5. We can afford to buy a car, a country house, go on a trip abroad and many other such things.

QUESTIONNAIRE FOR EMPLOYERS

PART I. INFORMATION ABOUT THE COMPANY

1. **Company name**

2. **Position of the Interviewee.**

3. **Geography of the establishment's operations**
   - International
   - Republic
   - Marz
   - Community

4. **Type of the establishment**
   - Sole proprietorship
   - Unregistered
   - Cooperative
   - LLC
   - OJSC
   - CJSC
   - NGO
   - Branch (company name)
   - College/TVET
   - Other

5. **Will you describe your operations as**
   - Start-up
   - Mature
   - Growing
   - Reducing of turn-over
   - Diversification of business

6. **What is your Company/TVET principal (economic) activity?**

Please, name.

	Company principal economic activity	Operations Start Day
	Other activities	

PART II. INFORMATION ABOUT THE COMPANY PERSONNEL AND EMPLOYMENT.

1. **What are the challenges, new or ongoing, that your company (Colleges: industry, sector) face in present and is to** encounter over the next 12 months and the nature of these?
   - manufacturing (technologies, working methods, digitalization)
   - production (materials, quality, etc.)
   - increased competition from inside/outside Armenia
   - attracting appropriately skilled staff
   - labour costs
   - cash flow
   - Other (SPECIFY)

2. Provide information on the company personnel per number and type

	Employee number	Total	Composition				
			Full time employee	Short term contracts	Seasonal*	Interns	Volunteers
1.1	Up to 10 people						
1.2	11-49 people						
1.3	50-250 people						
1.4	more than 250						

**provide seasonable employment description*

3. Provide information on the Employee/intern age distribution

	Age	Number
2.1	15-18	
2.2	18-30	
2.3	31-45	
2.4	46-64	
2.5	65+	
2.6	**Total**	

4. Provide information on the Employee/intern number by Gender

Male	Female

In case female < than male, please, provide the reason.

5. Provide numbers employed 12 months ago _____

6. Provide numbers who had quit over the 12 months' period _____

7. Provide numbers expected to be employed over the forthcoming 12 months _____

8. From those recruited in the last 2-3 years, are there new entrants into labour market from school, college, university? _____

9. Employee distribution by operation category and education

If Yes, please, name position and quantity.

	Job Category	Total number of employees	Employee number by education		
			Secondary	VET (Vocational education)	Higher
1	Management (senior, middle)				
2	Experts				
3	Accounting/Finance/Office				
4	Sales, Marketing				
5	Technical staff/labour				

10. While recruiting personnel, which factors you consider as critical in decision-making:

	Job Category	Education level	Profession/ Qualification	Experience	Experience in the sector	Experience in a particular operation	Competences	Diploma/ Certifications	Values	Other factor (SPECIFY)
1	Management (senior, middle)									
2	Experts									
3	Accounting/Finance/Office									
4	Sales, Marketing									
5	Technical staff/labour									

11. Tell total number of individuals with skill gaps as % of the total number of employees.

_____

PART III. SKILLS AND COMPETENCES.

6. Please, name those positions that you (employers) have failed to fill or they are hard-to-fill and the reason (multiple answer).

No	List up to 5 vacancies that are difficult to fill	1. Lack of candidates 2. Low wage 3. Candidates lack necessary experience 4. Candidates overqualified 5. Lack of candidates with necessary knowledge and skills 6. Lack of candidates with necessary qualification 7. TVET graduates lack necessary the qualification 8. TVET graduates lack necessary knowledge and skills. 9. High competition with the similar companies 10. Candidates didn't dispose required attitude and motivation to work 11. The Job is of seasonal type 12. The Job is of Shift/night hours' nature 13. Need to commute long to the job place/lack of transportation means 14. Scarce opportunities for promotion 15. Poor working conditions														
1		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
2		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
3		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
4		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

7. What consequences did the "hard-to-fill" vacancies incur? (multiple answer):

1. Loss of business to the competitors
2. Loss of orders to the competitors
3. Decrease in productivity
4. Delays in meeting deadlines
5. Withdrawal of products/service ranges
6. Difficulty in achieving demanded quality standard
7. Postponement of the planned development
8. Postponement of the planned implementation of new technologies
9. The employee had to work harder
10. Increasing operations costs
11. Other

(specify)_____

8. If you selected points 3-9 of the Paragraph 1 (hard-to-fill vacancies) and for those occupations, for which you notice a serious lack of personnel, what are the most requested skills? **Please, select from the table below or describe required skill.**

For each of the skills listed below, please estimate:

1. **the importance of the skill or competence for work in your organization (contemporary agribusiness in Armenia);**
   Use the following scale:
   1 = none; 2 = weak; 3 = considerable; 4 = strong

2. **source of training; while pointing source of training for the selected knowledge/skills, consider numerals of the below –given source of training:**
   1. Formal education (TVET courses, diploma, qualification)
   2. Corporate education/training
   3. External training/qualification programs
   4. Self-development
   5. Other (specify)_____

3. the level to which each skill or competence is developed by degree programs at TVET and academia. The blank space may be used to indicate any other skills that you consider important but which do not appear on the list.
   Use the following scale:
   1 = very much; 2 = much; 3 = moderate 4 =some; 5 = little

N	Skill/Competence	Importance	Source of training (where applicable)	Level to which developed by TVET qualification/academia degree
1	Viticulture and fruit growing	1 2 3 4	1 2 3 4	1 2 3 4
2	Winemaking and juice production	1 2 3 4	1 2 3 4	1 2 3 4
3	Vegetable growing	1 2 3 4	1 2 3 4	1 2 3 4
4	Horticulture cultivating	1 2 3 4	1 2 3 4	1 2 3 4
5	Crops growing	1 2 3 4	1 2 3 4	1 2 3 4
6	Diary milk processing (cheese making)	1 2 3 4	1 2 3 4	1 2 3 4
7	Cattle breeding	1 2 3 4	1 2 3 4	1 2 3 4
8	Swine breeding	1 2 3 4	1 2 3 4	1 2 3 4
9	Sheep breeding	1 2 3 4	1 2 3 4	1 2 3 4
10	Apiculture	1 2 3 4	1 2 3 4	1 2 3 4
11	Ichthyology and pisciculture	1 2 3 4	1 2 3 4	1 2 3 4
12	Agronomy	1 2 3 4	1 2 3 4	1 2 3 4
13	Green housing	1 2 3 4	1 2 3 4	1 2 3 4
14	Veterinary	1 2 3 4	1 2 3 4	1 2 3 4
15	Industrial equipment technology	1 2 3 4	1 2 3 4	1 2 3 4
16	Biotechnology of protected soil	1 2 3 4	1 2 3 4	1 2 3 4
17	Butter, cheese and milk production technology	1 2 3 4	1 2 3 4	1 2 3 4
18	Agriculture engineering	1 2 3 4	1 2 3 4	1 2 3 4
19	Technical support to agriculture works	1 2 3 4	1 2 3 4	1 2 3 4
20	Mechanisation of the agriculture	1 2 3 4	1 2 3 4	1 2 3 4
21	Exploitation and repair of agriculture machinery and equipment	1 2 3 4	1 2 3 4	1 2 3 4
22	Canned food and food	1 2 3 4	1 2 3 4	1 2 3 4

	concentrate technology			
23	Meat and meat product technology	1 2 3 4	1 2 3 4	1 2 3 4
24	Fish processing technology	1 2 3 4	1 2 3 4	1 2 3 4
25	Milk and dairy products technology	1 2 3 4	1 2 3 4	1 2 3 4
26	Public food/catering technology	1 2 3 4	1 2 3 4	1 2 3 4
27	Other			

General skills/competences		
N	Competence	Importance
1	Adaptability	1 2 3 4
2	Basic knowledge in the field of study	1 2 3 4
3	Capacity for analysis and synthesis	1 2 3 4
4	Capacity for applying knowledge in practice	
5	Capacity for generating new ideas (creativity)	1 2 3 4
6	Capacity to adapt to new situations	1 2 3 4
7	Capacity to learn	1 2 3 4
8	Critical and self-critical abilities	
9	Decision-making	1 2 3 4
10	Elementary computing skills	
11	Interpersonal skills	1 2 3 4
12	Knowledge of a second language	1 2 3 4
13	Oral and written communication in your native language	1 2 3 4
14	Research skills	1 2 3 4
15	Information management skills(ability to retrieve and analyse information from different sources)	1 2 3 4
16	Problem solving	1 2 3 4
17	Teamwork	1 2 3 4
18	Leadership	1 2 3 4
19	Ability to work independently	
20	Maintaining financial records	
21	Other	

4. What is the time period to fill these hard-to-fill vacancies?

	Tick	Period
1		Up to 1.5 month
2		Up to 3 months
3		More than 3 months

5. What measures do you (employer) undertake to overcome the problem of having hard-to-fill vacancies?

- changing recruitment practices (referral program, social network, college recruitment, in other marzes)
- changing the job specification
- retraining internally
- recruiting without demanded qualification and training for the job
- outsourcing work
- automation of the work
- employees worked overtime
- temporary employees were used
- other categories were approached (e.g. women instead of men, other age, etc.)
- other (specify)_____

6. What are possible future challenges for the industry in the upcoming 5-10 years. See a few listed trends in the chart below.

	Future Challenges	Comment
1	Automation and computerization of agricultural firms	

	and farms	
2	Operation of sophisticated robotic agricultural machinery	
3	Design and control of complex automated agricultural systems	
4	Development of competitive seed farming and breeding	
5	Utilization of alternative energy sources in agricultural processes	
6	Research and development on the intersection of biotechnology, informatics and robotics	
7	Environmental monitoring	
8	Other (please, specify)	

7. Which 3 business and sectoral skills will sectoral professionals need to develop in order to compete successfully in the upcoming 5-10 years?

	Business/technical Skill	Comment
1	Managing and building customer relations, brand awareness	
2	Regulation and taxes	
3	Distributor control	
4	Global competition	
5	Succession planning	
6	Access to capital	
7	Agricultural informatics and engineering	
8	Agro-industrial farming	
9	Agricultural economy	
10	Agricultural ecology	
11	GMO farming	
12	Bio farming	
13	Circular food economy	
14	Other (please, specify)	

8. What are the skills that you foresee becoming obsolete in the upcoming 5- 10 years.

	Obsolete knowledge/competence. Skills	Reason

PART IV. STAFF TRAINING AND DEVELOPMENT. SOURCING CHANNELS AND PARTNERSHIPS.

1. Where there any trainings realized or funded by the company in the last 12 months?

Yes No

If No, then, please, explain why

1. Staff has already been fully proficient
2. No training was necessary, given the nature of the business
3. Necessary training was not available
4. No funds to finance the training
5. Other ----------

If Yes, please, select

1. On-the-job
2. Off-the-job
3. Both

1. Please, provide details for the **off-the-job trainings** (e.g. health and safety; supervisory training; management training; training in new technology etc.), statutory nature, and Training provider (industry/professionals; colleges; universities; external; consultants, etc.)

N	Off-the-job training subject	Statutory	Duration (N	N of employees that	Training provider

		nature	of days)	received the trainings	

2. Have you been contacted for provision of any form of vocational training apart of certification program? (for Colleges only)

Yes No

If Yes, please select the type and describe it.

N	Training type	Training description	N of people that received the trainings
	On-the-job		
	Off-the-job		
	Other		

3. Is there company employees' <u>current</u> training and development need assessment available?

If Yes,

a. Describe the way it operates. _____

b. How often it has been done. _____

c. Who participates in the assessment? _____

4. Is there company employees' <u>future</u> training and development need assessment available?

Yes No

If Yes,

1	How often it has been done	
2	How it operates	

Part V. Sourcing channels

1. What means do you usually use for attracting staff? (multiple answer)

	Channel type	
	Personal contacts	
	Recruitment websites	
	TV/radio/other broadcast means	
	Newspapers and similar Job Ad print sources	
	Educational entities. (training courses, qualification programs)	
	Job fairs	
	Other (please, specify)	

2. List your main competitors in talent sourcing and talent expertise/skills that you compete for.

_____

3. List industry establishments that you cooperate with in terms of Human Resource sourcing and development.

4. What are existing opportunities/challenges for more flexible transition from education to work?

	Opportunities	Reason

5. What drives youth in general to pursue career in the agriculture?

6. Describe your vision on the overall situation with employment in the industry.

7. Would it be Ok to contact you again in connection with future studies?

ANNEX 3. LIST OF LOCALITIES PER REGION

№	Ararat	Lori	Gegharkunik
1	Ararat town	Vanadzor town	Gavar town
2	Abovyan v.	Alaverdi town	Martuni town
3	Aralez v.	Spitak town	Sevan town
4	Ararat v.	Stepanavan town	Artsvakar v.
5	Arevshat v.	Tashir town	Artsvakar v.
6	Argavand v.	Agarak v.	Gandzak v.
7	Armash v.	Akori v.	Gegharkunik v.
8	Artashat	Amrakic v.	Hatsarat v.
9	Avshar v.	Arjut v.	Hayravank v.
10	Aygavan v.	Atan v.	Karmir v.
11	Aygeshat v.	Bazum v.	Lanjaghbyur v.
12	Aygezard v.	Chochkan v.	Lchap v.
13	Ayntap v.	Dsegh v.	Lchashen v.
14	Azatavan v.	Dzoraget v.	Lichk v.
15	Banavan v.	Gargar v.	Norakert v.
16	Bardzrashen v.	Gyulagarak v.	Noratus v.
17	Berdik v.	Hobardzi v.	Sarukhan v.
18	Berkanush v.	Karmir Aghek v.	Tsaghkashen v.
19	Byuaravan v.	Katnarat v.	Tsovagyugh v.
20	Dalar v.	Koghes v.	Tsovak v.
21	Deghdzut v.	Kurtan v.	Tsovarat v.
22	Dimitrov v.	Lejan v.	Tsovazard v.
23	Dvin v.	Lernapat v.	Tsovinar v.
24	Geghanist v.	Mikhaylovka v.	Vahan v.
25	Getazat v.	Odzun v.	
26	Ginevet v.	Pushkino v.	
27	Goravan v.	Sanahin v.	
28	Hovtashat v.	Sarchapet v.	
29	Jrahovit v.	Shamlugh v.	
30	Jrashen v.	Shnogh v.	
31	Kaghcrashen v.	Sverdlov v.	
32	Kanachut v.	Tsaghkashat v.	
33	Khor Virap v.	Urut v.	
34	Lusara v.	Vardablur v.	
35	Marmarashen v.		
36	Masis town		
37	Mkhchan v.		
38	Mrgavet v.		
39	Nor Kharberd v.		
40	Nor Kyanq v.		
41	Nor Ughi v.		

42	Norashen v.		
43	Noyakert v.		
44	Nshavan v.		
45	Pokr Vedi v.		
46	Shahumyan v.		
47	Sipanik v.		
48	Sisavan v.		
49	Surenavan v.		
50	Taperakan v.		
51	Urcadzor v.		
52	Vanashen v.		
53	Vedi town		
54	Verin Artashat v.		
55	Vosketap v.		
56	Vostan v.		
57	Zangakatun v.		
58	Zod v.		

ANNEX 4. STATISTICS ON CALLS

FIGURE 1, gender distribution

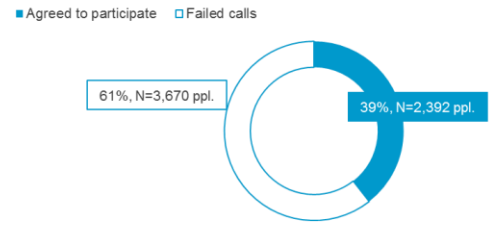
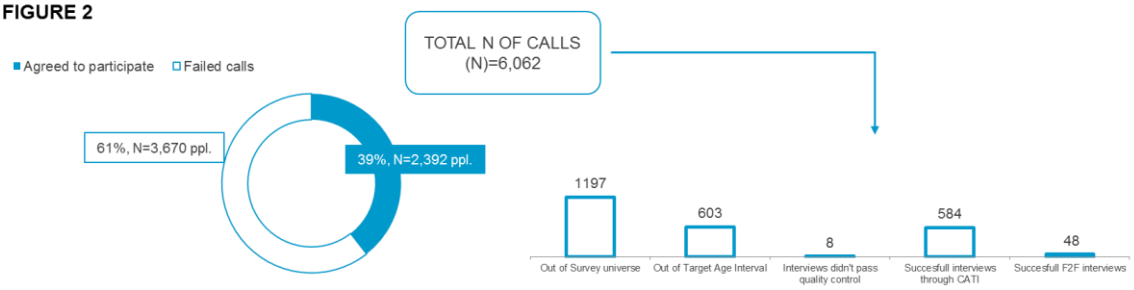


FIGURE 2



ANNEX 5. LIST OF EMPLOYERS

City	Company name	Business area
Alaverdi	Self-employed	Cattle breeding
		Corn growing
		Bean growing
		Potato growing
		Crops growing
	Self-employed	Cattle breeding
		Field works
		Corn growing
		Potato growing
		Crops growing
	Self-employed	Cattle breeding
		Corn growing
		Potato growing
		Crops growing
	Self-employed	Bean growing
		Raspberry growing
		Onion growing
	Self-employed	Bean growing
		Potato growing
		Crops growing
	Self-employed	Berry growing
		Bean growing
		Tomato growing
		Green housing
Ararat	Ararat Wine Factory	Alcohol (incl. wine making)

	Yeraskh Wine Factory	Wine production
		Brandy production
		Vodka production
	Van 777	Wine production
		Wine Secondary fermentation
		Grape harvesting
		Brandy production
		Tourism
	Vedi Alco	Wine production
		Brandy production
		Vodka production
	Tavinko Wine and Brandy Factory	Wine production
		Brandy production
Gavar	Self-employed	Cattle breeding
		Equipment production
	Self-employed	Cattle breeding
		Pig breeding
		Diary food (milk, cheese) products
		Rye growing
		Crops growing
	Ishkhan Dsuk	Fish products
		Solutions to Sevan's environmental problems (fish species saving)
	Self-employed	Cattle breeding
		Rye growing
		Crops growing
	Self-employed	Diary food (milk, cheese) products
		Meat products
	Self-employed	Corn growing
		Bean growing
		Corp growing
	Self-employed	Cattle breeding
	Self-employed	Diary food (milk, cheese) products
		Meat products
		Cheese making
	Self-employed	Cattle breeding
		Diary food (milk) products
		Meat products
	Self-employed	Pig breeding
		Diary food (milk) products
		Meat products
Stepanavan (Tashir)	Ashot Sukiasyan, Self-employed	Cheese making
	State Service for Food Safety	Veterinary
		Phytosanitary
		Food control
	Doustr Melanya	Cheese making
	Lorva Kat	Diary food (milk) products
		Cheese making

	Kalinino Kat	Diary food (milk) products
		Cheese making
	Stepanavan agricultural and veterinary service centre	Veterinary
		Artificial insemination,
		Sale of pesticides
		Sale of equipment and machinery
		Training for farmers

ANNEX 6. LIST OF COLLEGES

City	Name of the college
Ararat	Ararat State College
Gavar	Gavar State Agricultural College named after Academician A. Tamamshev
Stepanavan	Stepanavan State Agricultural College named after Professor A. Kalantar
Alaverdi	Alaverdi State Vocational School

ANNEX 7. LIST OF SEASONAL JOBS AND SEASONALITY

Seasonal jobs	Total number of seasonal employees	Ararat	Gavar	Stepanavan	Alaverdi	Seasonality	Seasonality	Seasonality
Cattle pasturing	3	0	3	0	0	May-October		
Soil processing / pulping	2	0	1	0	1	May-October		
Grass harvesting	2	0	2	0	0	August-October		
Sheep pasturing	1	0	1	0	0	June	August-October	
Harvesting	2	0	1	0	1	Sept-October		
Harvest processing	6	5	0	0	1	June -July	Sept-October	May-October

ANNEX 8. INTEREST IN AGRICULTURE SECTOR PER CITY