New Agriculture for a New Generation: Recharging Greek Youth to Revitalize the Agriculture and Food Sector of the Greek Economy

Task 4 Deliverable: Education and training needs and development programs

July 2020

NEW AGRICULTURE FOR A NEW GENERATION

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Acronyms

EQF	European Qualifications Framework
EOPPEP	National Organization for the Certification of Qualifications & Vocational Guidance
EPAL	Vocational High Schools
EPAS	Vocational Training School
ERP	Enterprise Resource Planning
E&T	Education & Training
IEK	Training Institute
SEK	Vocational Training School
VET	Vocational Education & Training

1. Introduction

The Greek agriculture sector together with key activities of the secondary and tertiary economic sectors constitute important driving forces behind the country's economy and present a strong growth potential that can substantially assist the economy to further recover from the recent recession.

The favorable climatic conditions facilitate the production of high quality food products of significant nutritional value (e.g. vegetables, fruits, olive oil, etc.) that affect greatly the country's balance of trade as they cover an important part of the Greek exports. Furthermore, the country's strategic geographical location is an important factor for the growth of the Agrologistics sector as it provides a gateway to the Balkan region and to central Europe as a whole.

Despite the fact that the agribusiness chain has been hit hard during the economic crisis, it can serve as a factor of change for a smart, inclusive and sustainable development in Greece. The growing competition at European level along with the challenges arising from the handling and transportation of perishable goods make it necessary to implement innovative ideas and adopt integrated solutions throughout the entire agribusiness value chain. It is therefore important for the Greek agribusiness sector to strengthen its position at European and international level and take advantage from the consumers' growing interest for healthy, high-quality and environmentally friendly products.

To this context, the efficient production and marketing of agricultural products along with more simplified transportation, storage and handling procedures through the use of new technologies and automation can increase exports and transform the country into a leading force in the field of logistics as it will promote the development of high value added services that can be a major source of income and employment (Greek Government, 2019).

Technological advancements, digitalization, environmental regulations and circular economy led to innovation-driven business processes that pose significant challenges to the labour market by transforming the traditional forms of work. The skill-sets of the Agrologistics sector employees have been updated and many activities and job contents have been readjusted in order to adapt to automated work practices. There is an increasing need for skilled personnel as well as for reskilling and upskilling of the existing workforce. This will be achieved through the restructuring of the existing educational curricula and the development of targeted work-based vocational training programs designed in cooperation with the industry in order to effectively cope with these changes. Up-to-date training of the employees preparing them for a green and digital future by addressing the specifics of the agribusiness sector, is of paramount importance as it relies heavily on qualified and competent workforce in order to stay competitive and keep up with emerging trends and changes.

A key enabler towards the sustainability of the Agrologistics sector is the development of strategies for the promotion of education and vocational training that will enable human resources to adapt to the new industry requirements and acquire the necessary professional qualifications.

2. Methodological framework

Considering the relative characteristics of the Greek Agrologistcs sector and in order to properly understand its dynamics and growth potential a structured methodological framework was devised consisting of the following consecutive steps:

Step 1: Overview and assessment of the relevant educational and training programs currently available in Greece

Within the context of the agrologistics sector, the relevant Greek educational and training offers (E&T) that cover the various aspects of the production, manufacturing & processing and distribution of agricultural products are identified and analyzed, to give an overview of the framework within which Agrologistics education and training is taking place.

The identification and analysis of the E&T offers consist of 2 parts:

i) At first, all the relevant programs that are addressing the specifics of key activities of the Agrologistics value chain from the primary sector of production to the processing and distribution of the final products, are mapped. To this end, online platforms and databases were exploited (e.g. the website[1] and the National Database[2] of Educational Opportunities of the National Organisation for the Certification of Qualifications & Vocational Guidance (EOPPEP), websites of Universities and Vocational Education and Training (VET) schools, the Hellenic Agricultural Organization Dimitra[3], etc.).

ii) Subsequently, these programs are categorized based on the type (e.g. vocational education, under-graduate, post-graduate, etc.), corresponding European Qualifications Framework (EQF) level and the main theme of study and /or specialization on a particular subject that they offer. In addition, several training programs leading to the acquisition of professional certificates for a specific profession or activity were also identified and mapped but these programs do not correspond to a specific EQF level.

The European Qualifications Framework (EQF) comprises eight levels with each one being defined by a set of descriptors indicating the learning outcomes relevant to qualifications at all levels in any system of qualifications[4]. The EQF is taken as the main reference basis for making the qualifications acquired from the Greek programs more readable and understandable for facilitating the mobility of learners between European countries and match the education systems across the European countries (Cedefop, 2020).The table below (Table 1) provides an overview of the eight reference levels and details on how the

[1] https://www.eoppep.gr/index.php/en/
[2] http://ploigos.eoppep.gr/ekep/external/index.html
[3] https://www.elgo.gr/
[4] https://ec.europa.eu/ploteus/content/descriptors-page

Greek qualifications types belonging to the country's formal educational system are linked to the EQF.

Table 1: Qualification Types as they correspond to the eight reference levels of the EQF.

Levels	Vocational Education & Training	General Education	Higher Education
1		Elementary school certificate	
2		Lower secondary school certificate	
3	Training school (SEK) certificate (post lower secondary level)		
	Vocational training institute certificate (level 1, I.E.K.)		
4	Vocational school certificate (EPA.S)	General upper secondary school certificate	
	Vocational upper secondary school degree (EPA.L) level 4 vocational upper secondary school certificate (EPA.L)		
5	Vocational upper secondary school degree, apprenticeship class		
	Vocational training diploma (I.E.K.) (issued to graduates of I.E.K. after certification) (post-secondary and not higher education diploma/ degree)		
6			Bachelor's degree
7			Master's Degree
8			Doctorate

Source: authors' elaboration on data from Hellenic Qualifications Register (2015)

Through the aforementioned process, 116 E&T programs ranging between the 4th and 7th levels of the European qualifications framework (EQF) are currently available for the academic year 2019-2020 year, which have been identified and reviewed.

Step 2: Assessment of youth aspirations and identification of opportunities and barriers to choose a career path in the Agrologistics sector

For assessing youth aspirations and opportunities and barriers towards choosing a career path in the Agrologistics sector, two methods were undertaken. Initially an extended online search of testimonials of students and graduates, who are currently studying at or have graduated from education and training institutions relevant to the sector, was

undertaken. The search concluded with minor findings and thus the assessment was complemented by a questionnaire survey launched online and addressed to young people, aged between 18 and 40 years old. The questionnaire was divided in three parts, whose contents are described in detail below:

i) Personal information including questions relevant to demographics, their education and training, their employment status and their job satisfaction. More specifically, the respondents were asked about their (a) age, (b) gender, (c) education level, (d) skills certifications, (e) whether their educational background is relevant to Agrologistics, (f) employment status, (g) income, (h) whether their current job position is in the Agrologistics sector, (i) whether their first job was in the Agrologistics sector, (j) acquirement of on-the-job training, (k) job satisfaction level, (l) whether they wish to change their current job, (m) reasons for wishing to change their current job, and (n) years of paid work experience.
ii) Youth career aspirations, asking for their personal interests and preferences about the ideal work conditions. More particularly, the questions were about their (a) personal interest in following a career in the Agrologistics sector, (b) the reasons for choosing a career path in the sector, (c) goals for starting or continuing education and training in the field of Agrologistics, (d) the characteristics of the ideal work environment, and (e) the perceived importance of specific work conditions characteristics.
iii) Youth career opportunities and barriers in the Agrologistics sector, investigating their perceptions on current career opportunities, their access to career counseling services, market's skills requirements and their willingness to attend upskilling programs. To be more specific, the respondents were questioned about (a) the sources of information for job seeking, (b) availability of job positions, (c) main career barriers, (d) willingness to relocate for a job position, (e) access to career counseling services, (f) accessible types of career counseling services, (g) perceived importance of soft skills, (h) employers' criteria for hiring a job applicant, (i) self-assessment of skills, (j) interest in attending an upskilling education and training program, (k) reasons for participating in an upskilling education and training program, (l) ideal duration of an upskilling program, (m) ideal upskilling program type, (n) information about available upskilling programs, and (o) the ideal solution for matching youth career aspirations with market's skills requirements.

Step 3: Gap analysis between existing education and training offerings and industry needs and requirements

To further complement the analysis of current situation in the Greek Agrologistics sector, a questionnaire survey was launched addressed to relevant companies that cover multiple activities of the whole value chain of the sector. The main objective of this questionnaire is to identify the skills needs and qualifications that the Agribusiness industry requires and the current workforce fails to present. The industry's skills needs

and requirements were then assessed vis-à-vis the curricula of the aforementioned education and training programs, in order to identify any skills gaps and imbalance between them. These findings were utilized so as to provide recommendations on how contemporary education and training programs should be structured towards ensuring a well-qualified and well-trained current and future workforce in the Agrologistics sector, supporting thus the Agrosynergy training programs and contributing in the near future to the further development of the sector.

3. Educational and training programs provided in Greece related to the Agrologistics Sector

The mapping process of the targeted educational and training programs that are currently being offered in Greece was conducted in the context of the education and training needs of this sectoral analysis and resulted in the identification of 116 programs in total with qualifications ranging between the 4th and 7th levels of the European qualifications framework (EQF). The recognition of these programs was based on information gathered from the website and the National Database of Educational Opportunities of the National Organisation for the Certification of Qualifications & Vocational Guidance (EOPPEP), the websites and the E&T offers' curricula of the respective university departments and Vocational Education and Training (VET) schools, the website of the Hellenic Agricultural Organization Dimitra and several other sources and reports regarding the agricultural education and training in Greece.

The following figure (Figure 1) presents the distribution of the 116 identified E&T offers and their correspondence to the EQF levels. According to the extracted results, the majority of relevant programs that are available in Greece constitute mainly post-graduate programs (EQF level 7) comprising 47%, followed by under-graduate programs (EQF level 6) with 33% and Vocational Education and Training programs (VET) of the 5th and 4th levels with 9% and 7% respectively. Training programs awarding professional certificates not corresponding to a specific level of the qualification's framework constitute only 4% of the total list.

These programs cover a wide range of themes and specializations of the agricultural sector addressing key activities of the entire value chain. The figure below (Figure 2) gives an overview of these specializations presenting also the share each one holds in the total list of the identified programs.

From the analysis it was observed that the majority of the programs are specifically designed and directly applied to the general agriculture & agronomy field of knowledge comprising 27% of the total identified programs. The primary sector proves to be the solid base regarding the stratification of agricultural studies in the Greek educational system. Their course content covers key subjects of the agricultural science and their applications to all crop and animal production activities, farming, as well as to agricultural and food businesses active in rural, urban and suburban areas. Over the last years, the curricula of these programs reformed in a way to adapt to the new perspectives of the agricultural sector imposed by the emerging technological trends and developments, environmental regulations and consumer requirements that have impacted the business practices worldwide. Their main purpose is to ensure the environmentally friendly behaviour of all the farming activities and the consequent production practices as they

are key parameters that determine the sustainability of any manufacturing and commercial activity in agriculture.

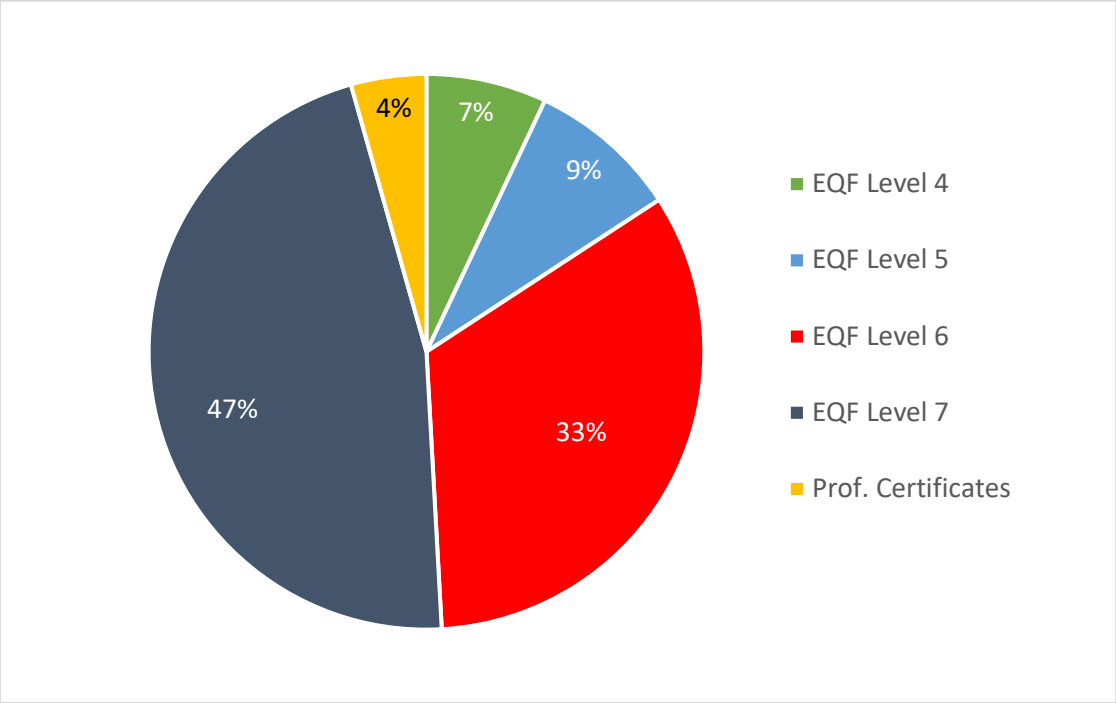

Figure 1: Distribution of E&T offers per EQF level (Source: authors' own elaboration)

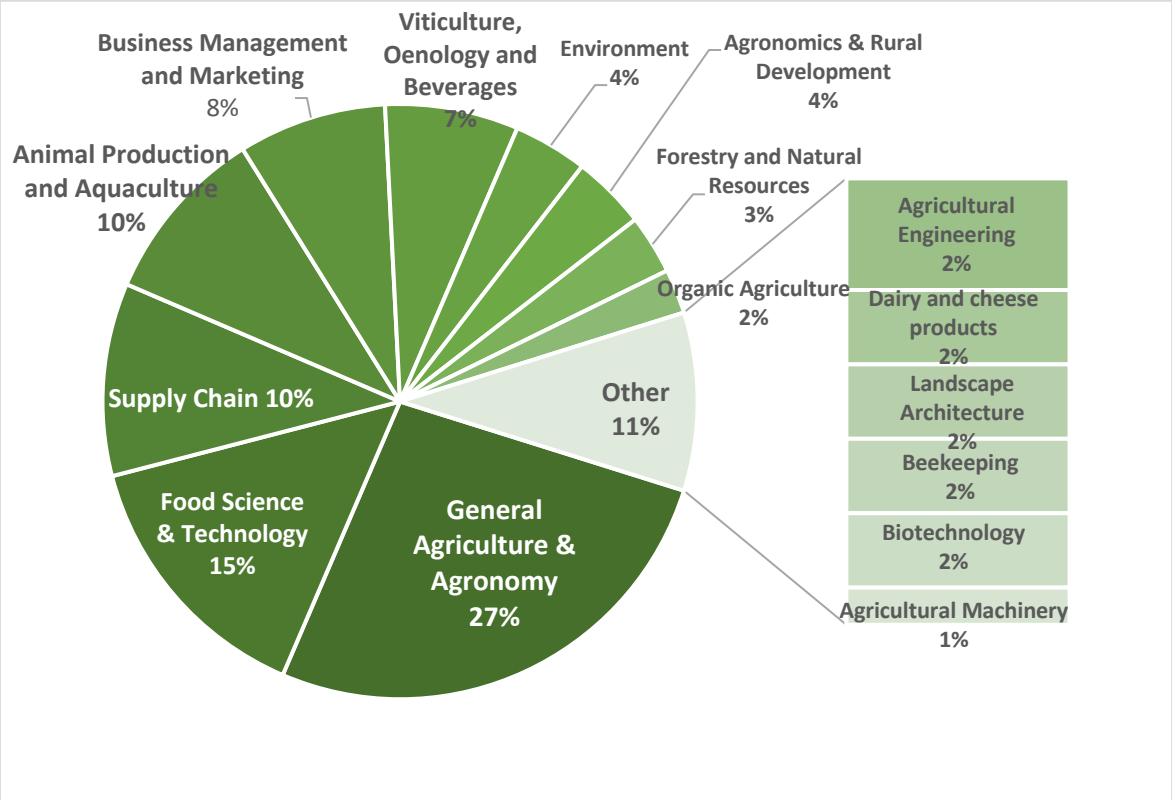

Figure 2: Overview and percentage of the E&T programs' main fields of specialization (Source: authors' own elaboration)

Furthermore, the E&T programs covering the Food Science and Technology aspects are those that follow in terms of availability as they constitute 15% of the total list. The main objective of these programs is to provide graduates with the necessary knowledge and skills in a wide range of subjects which are essential to the Greek food industry. Most of the food science and technology programs are following closely the emerging trends and developments affecting the food industry by introducing courses to ensure quality and safety in the entire food chain. The content of their subjects spanning across the production, processing and quality control of the food products covering sectors like microbiology, chemistry, food biotechnology and the promotion of food safety management systems.

In addition, educational and training programs targeting the fields of Supply Chain Management and Animal Production and Aquaculture constitute 10% of the total number respectively. Supply chain management is a field of study that keeps growing during the recent years. The E&T offers available throughout the Greek universities, colleges and vocational institutes intent to qualify the attendees by providing essential knowledge and skills to cover all those functions related to the movement of goods or services of the individual business or organization from the initial stage to the final consumer by achieving the optimal inflow, outflow, storage and distribution.

Programs dealing with animal production and aquaculture matters aim to provide their graduates with skills and competences on animal husbandry and fish farming through thorough education on the nutrition, physiology and metabolism of animals, biotechnology applications in farm animal breeding, genetic improvement and biodiversity management. Additionally, an important aspect of the course content of the majority of these programs is that they focus on the evaluation of interactions between animal production and the environment in light of the different conventional and integrated animal production systems involved in the sector and the way in which they are developed with the application of new technologies.

Other important subjects of today's agribusiness sector like business management of farming facilities and agricultural businesses, agronomics and rural development, marketing and digital marketing practices for communication and promotion activities of the various agricultural organizations as well as more specialized programs for specific segments or products like viticulture and oenology, forestry, dairy products, etc., also found to be available, to a lesser extent, supplementing in that way the agricultural education and training in Greece.

A key point extracted from the mapping process is that the initial VET programs addressed to the Agrologistics sector comprised of standardized curricula as defined by the Ministry of Education and the National Organisation for the Certification of Qualifications & Vocational Guidance (EOPPEP) and are offered from public and private institutes of Vocational Training. Moreover, the 4% of the mapped E&T offers is

comprised of programs providing professional certificates for certain processes or occupations that require a specific type of specialization.

The figure below (Figure 3) presents the distribution of the applicable reference levels of the qualifications' framework to the main fields of specialization of the collected E&T offers.

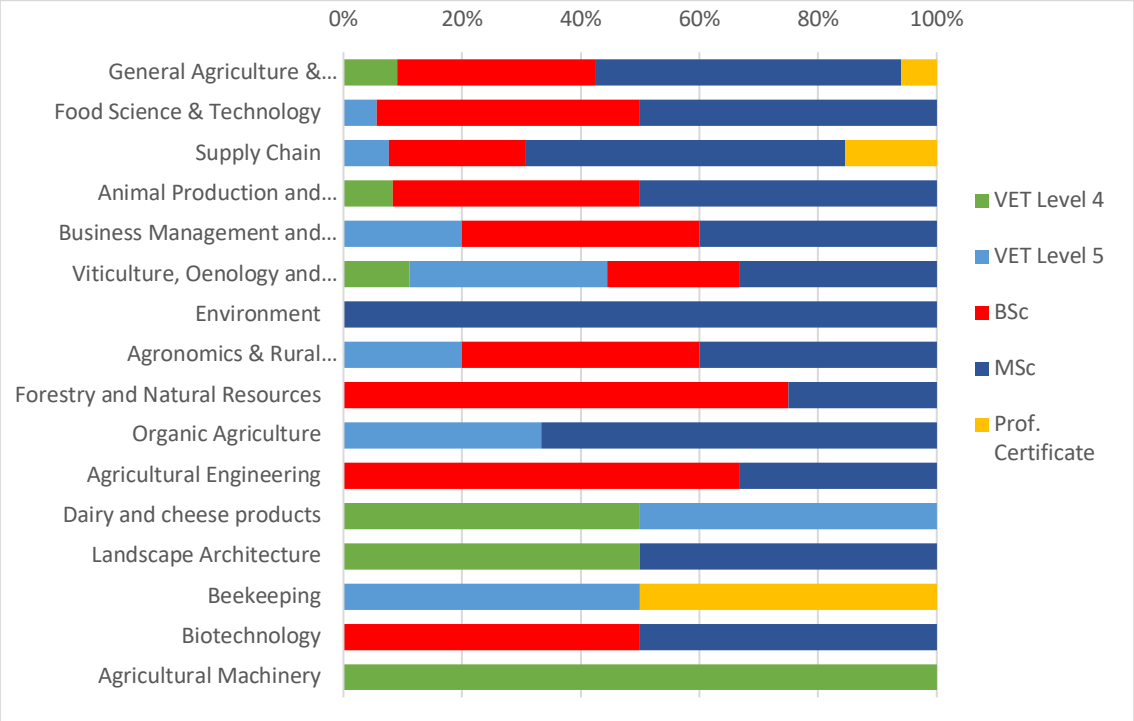

Figure 3: Distribution of the EQF levels per field of specialization of the E&T offers (Source: authors' own elaboration)

It must be noted at this point that the mapping process for this study conducted after the recent reform of the Greek educational system, taking 2019-2020 as the reference year for the E&T programs and not taking into consideration programs that were still active but on their final academic year without any indication of the re-establishment of these programs. To this end, the E&T offers addressing the specifics of the textiles production are covered by elective courses contained in the curricula of other programs referring to the general industrial production while the tobacco production is only covered by private initiatives and programs offered by the tobacco industry in collaboration with private vocational schools. As next steps, an update of this knowledge basis should be conducted periodically should additional information become available in order to re-assess and validate the educational and training framework in relation to the Agrologistics sector in Greece.

The collected information and content regarding the programs' curricula and field of specialization should be carefully assessed in order to identify and evaluate the qualifications, skills and competences that these programs provide their graduates with. This procedure will be the basis towards the recognition and documentation of the

existing gaps and shortages related to the current and future needs of the agrologistics sector facilitating in that way a sustainable future for the sector and the provision of highly skilled and competent workforce.

4. Youth aspirations, opportunities and barriers for a career in the Agrologistics sector

In total, 64 young professionals and undergraduates participated in the questionnaire survey (see questionnaire in Annex A), with their age ranging mainly between 25 and 30 years old (45% of the respondents). At least half of them have already acquired a Master Degree, although for most of them (56%) Agrologistics is not their main educational background. Details on the distribution of the respondents in accordance with the aforementioned are provided in Figure 4. They are also qualified with certified *Digital Soft Skills* (49%) or acquired through work experience (61%) as well as skills in *Finance* (25%). To a lesser extent, other skills that they mentioned to have include *Statistical Analysis and Data Analytics*, *ERP systems*, *Management* and *Foreign languages* (mainly *English*).

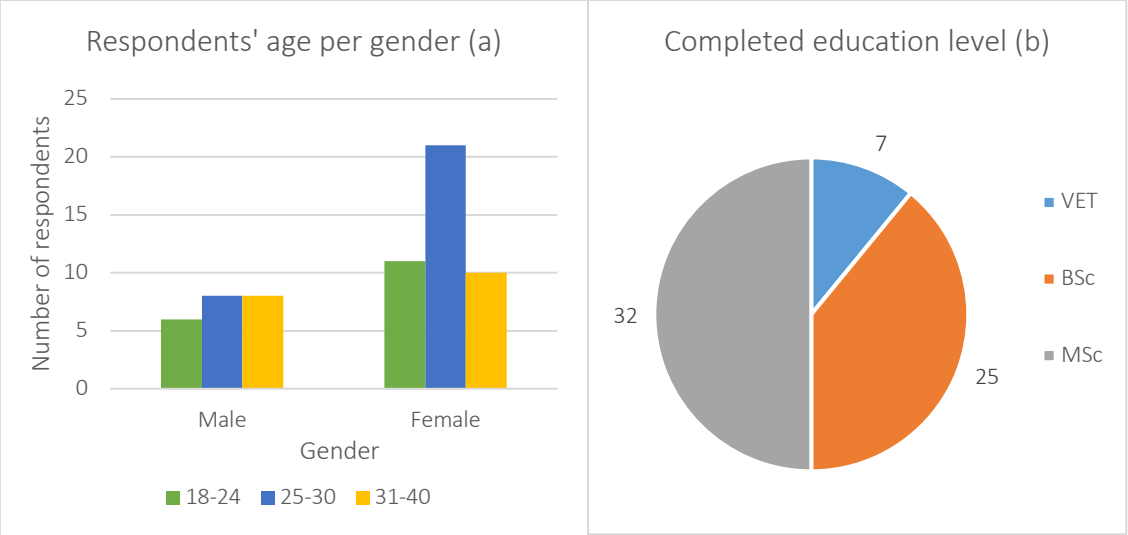

Figure 4: Distribution of respondents (a) according to their gender and age; (b) according to the education level they have completed. (Source: authors' elaboration on data)

Employment in the private sector consists of the main employment status (27% of the respondents), followed by freelancing (20%). The majority of them receives a monthly income of up to 500€. However, a significant proportion of the respondents are unemployed (23%), mainly of age between 25 and 30 years old (65% of unemployed people) and with only one of them being a postgraduate student at the same time. This observation raises concerns, regarding the high unemployment rates in Greece, especially within the age class of 25-30 years old. Focusing on those being employed, only 25% of them are occupied in the sector of Agrologistics, with the majority of them being older than 30 years old (67% of Agrologistics employees). The latter have also received an on-the-job training at least once during their working life. For approximately half of them, their first job was relevant to the sector.

4.1 Youth career aspirations

The investigation of youth career aspirations aims at identifying the attractiveness of the Agrologistics sector to young professionals as well as their preferences in accordance with the ideal job positions, work environment and work conditions.

Agrologistics comprises an economic sector with a high potential to attract young professionals and undergraduates. Survey respondents indicated that they have a strong interest in following a career path in the sector. Those already employed in the sector expressed their unwillingness to change their current career. More specifically, the majority of the questionnaire respondents (74%) stated that they are interested in following a career path in Agrologistics, while some of them (24%) are already employed in the sector with more than 1 year of relevant paid work experience. Those employed in the sector are not willing to change their current career, although they might be moderately satisfied by their current position. Change of their current job is considered only in case of another relevant job in the sector, which would enable the full use of their skills and qualifications, better wages and a more secure job, in order of preference.

The main reasons for being attracted to a career path in Agrologistics include their *personal interest* in the field and its relevance to their *personal career aspirations*. Few of the respondents mentioned that the sector provides *good career opportunities*, which is strongly encouraging for professionally engaging in any sector of the economy. A small proportion of the respondents (6%) based their choice on *career advice* on their social environment (i.e. parents and friends) and career counseling services as well as on *practical reasons*, such as the availability of job offers and their proximity to their place of residence. On the other hand, those that do not have career ambitions relevant to Agrologistics, described the sector as a not mature enough job market. To this end, it does not offer enough opportunities for career development as well as for personal growth that does not provide a secure work environment with stable employment, lacking also social benefits.

Their aspirations included ideally their professional involvement mainly in the private sector activities with a preference to entrepreneurship and running their own businesses. Regarding also the characteristics of the ideal work environment, they indicated the following as the most important ones (in order of preference):

a. Friendly work environment
b. Provision of healthcare and insurance
c. Safety at work
d. Continuous training opportunities
e. Opportunities for promotion and career advancement

In addition to the aforementioned, the respondents consider also as important characteristic of the ideal work environment the *recognition of their achievements*, *good*

wages, *job security* and *flexible work arrangements*, such as flexibility in the work schedule and the job location. In the same context, the provision of maternity and paternity leaves as well as of bonuses were indicated as of moderate importance.

Last but not least, the respondents were asked whether they intend to study or continue their studies in the field of Agrologistics, claiming by majority that they have not considered it yet. In particular, 59% of those that are interested in a career path in the sector have not thought yet about continuing their studies, while 41% of them intend to study or continue their studies in this field. The fact that none of them is unwilling to be specialized or expand their skills and qualifications in Agrologistics, is encouraging and indicates once more the attractiveness of the sector to young workforce.

4.2 Opportunities and barriers for a career path in Agrologistics

The final part of the questionnaire survey contained a set of targeted questions focused on assessing how employment opportunities are presented to graduates and the most common barriers they are facing towards a career path in Agrologistics while the importance of career counseling and mentoring was also evaluated. Furthermore, the final section of this part aimed at investigating young professionals' perceptions on personal qualifications and skills development taking also into consideration the main characteristics and requirements of the labor market.

It should be noted at this point that this part of the survey proved to be the most demanding for the participants since approximately 20% of them chose to skip some of the questions by not responding, indicating in that way that young people currently employed or seeking employment opportunities in the Agrologistics sector do not have a clear idea and find it difficult to identify the key enablers that will strengthen their career opportunities and help them meet the labor market's requirements.

4.2.1 Employment opportunities

With regard to what are the respondents' key sources of information when seeking for a new job, the vast majority of the responses (94%) identified **internet and media** sources as the top choice of preference followed by i**nsights on job vacancies gained from the immediate social environment**. To this context, participants' perceptions regarding the overall availability of employment opportunities in Agrologistics sector proved to be moderate with a total score of 3.2 out of 5, a point of view that is also complemented by the fact that approximately half of them (44%) stated that **they are willing to move to a new location within the country** and even to **another country** if required by a job position, followed by the moving to a new location within their current region and a new location in their city with 38.5% and 36.5% respectively.

Furthermore, responders were asked to identify out of thirteen (13) pre-listed challenges those that they are being faced with the most, when trying to find a desirable job in the

Agrologistics sector. According to their responses, the **lack of connections** constitutes the main barrier (50%) they have to overcome to be employed in the sector followed closely by the **lack of work experience** (48%) which highlights the need to establish effective collaboration channels and synergies between education and training providers and the industry in order to strengthen employment opportunities through e.g. apprenticeship programs or a form of targeted subsidized employment programs that will supply the students and graduates with the necessary skills to meet the current sector needs. Additionally, the **lack of guidance on job-seeking and skills matching** was also regarded as an important barrier from the 40% of the responses, stressing out the need for job counseling and mentoring services when it comes to the search of skilled employment.

4.2.2 Career counseling and mentoring

For complementing the findings regarding the main barriers to the Agrologistics job opportunities that were presented above, responders were also asked to provide information on whether they have access to career counseling and for what kind of services and how useful they proved to be for their careers by prioritizing their top choices out of 11 pre-defined counseling services options. To this end, only 33% of the respondents stated that they were able to resort to career counseling services and based on their answers, (a) **talks and seminars with industry professionals** as well as (b) **placement in educational programs** and (c) t**alks and seminars with alumni from educational institutes**, recorded the highest score and were acknowledged as the most effective ways to draw valuable insights on the requirements of the sector and benefiting them towards a career in Agrologistics.

4.2.3 Perceptions on personal qualifications, skills development and market requirements

One of the key sections of the questionnaire focused on exploring the young people's perceptions regarding their level of qualification and the necessary skills a graduate should present for being employed in the Agrologistics sector, examining also their views on the importance of attending a skills development training program and their provided recommendations on how such a program should be ideally structured.

According to the survey results, **teamwork** and **creativity and initiative** were equally regarded by the 77.5% of the respondents as the most important soft skills someone should possess for their ideal job in the sector followed closely by **organizational and good time management skills** as reported by a considerable share of the respondents (73.5%). Furthermore, participants were also asked to identify the most important factors and characteristics that employers consider when hiring new employees. The vast majority (71.5%) highlighted **the relevant work experience in a similar position or field** as the most important feature in the hiring process, underlining the need to effectively address the young people's lack of work experience as mentioned in the previous part. Less but of substantial importance were also noted **the years of work experience and the level of technical and hard skills** of the candidates by 55% and 53% of the respondents respectively. To further complement the aforementioned findings, some interesting conclusions can be drafted with regard to how competent the participants believe they

are as they were asked to evaluate the level of qualification that they present for a job in the Agrologistics sector. Based on the responses received, the majority of them stated that they are moderately qualified marking an average rating of 3 out of a 5-grade scale.

Moreover, the extracted results highlighted that the optimum way for connecting youth career aspirations with labor market's requirements in the Agrologistics sector is mainly through:

a. on-the-job training,
b. skilling strategies and skills development programs
c. more investment in new hires by the private sector

Besides the identification of the participants' perceptions on the requirements of the market and the key characteristics of young professionals, the role and usefulness of skills development training was also examined through a set of questions within the survey's final part. It is worth noting that although the bulk of the respondents (84.5%) reported that they are not aware of currently available skills development programs in Agrologistics, the results indicated the great interest from graduates and young professionals as 82% of them stated that they would be very interested in attending such a program for the three main reasons mentioned below (on a priority order):

a. The development of general skills
b. Advice on skills improvement and training or educational programs
c. Opportunities for internships or work experience

The ideal duration and the attendance type of such program was also considered and based on the collected responses a duration of no more than 4 weeks with online and classroom attendance would be the best for skills development coursers. Additionally, feedback was also provided for the main reasons that would prevent someone from attending a skills development program, with time constraints and lack of financial resources being acknowledged as the most common barriers.

5. Balance between skills demand and supply

The balance between the skills demand and supply in the Agrologistics sector was identified through the investigation of the industry's skills needs and requirements through a questionnaire survey (see questionnaire in Annex B), addressed to Agribusiness, and of how well the existing education and training programs provide them. Section 5.1 presents the results of the aforementioned questionnaire survey on the Agrologistics industry needs and requirements for skills. Section 5.2 provides the results of the comparative analysis that examines how adequately the E&T programs that were identified in Section 3, provide the necessary skills and knowledge to the current and potential workforce of the sector by comparing them vis-à-vis the industry skills needs to those programs' curricula. The analysis concludes to a table that summarizes the skills gaps in the Agrologistics sector and contributes to putting them into hierarchy, in order to be tackled in priority.

5.1 Industry needs and requirements

For complementing the analysis of current situation in the Greek Agrologistics sector and identifying the industry needs and requirements regarding the necessary skills and qualifications the current workforce fails to present, a questionnaire survey was launched for drawing valuable conclusions on the competence of the workforce. The results of the survey will then be examined against the findings extracted from the mapping of the relevant education and training programs, in order to highlight the existing shortages and gaps between the supply and demand of skills that ought to be addressed.

Two key topics were examined through a set of targeted questions, namely i) the assessment of the workforce's current skills and ii) shortages and gaps on skills required by the industry. The following section briefly describes the key outcomes for each topic that according to the industry need to be taken into careful consideration.

In total, 5 private companies participated in the survey covering distribution (20%), cold storage (40%) and wholesaling activities (40%) where the majority of them (80%) are SMEs employing between 0-49 employees and the rest are large corporations with more than 250 employees. Furthermore, regarding the age distribution of their employees, those who are younger than 30 years of age constitute less than 10% of the total personnel in 80% of the companies, while the older ones (more than 50 years old) are less than 10% only in half of the companies, indicating that a significant part of the workforce is close to retirement.

5.1.1 Skills assessment

According to the survey results, 20% of the respondent companies review the skills and training needs of their employees on an annual basis while the vast majority (80%) prove to be placing particular emphasis on the matter as they repeat this process more than once a year. Furthermore, it is worth noting that all the companies stated that they

provide training opportunities to their employees and more specifically for i) upskilling and ii) reskilling of their existing workforce in order to adapt to new trends impacting their business activities.

5.1.2 Skills shortages and gaps

The most important section of the questionnaire focused on the identification of the shortages and gaps between the supply and demand of skills that are currently affecting the Agrologistics sector in Greece. At first, the availability of skilled personnel in the labor market was examined. Particularly, 60% of the companies stated that they have currently vacant positions, but it is somewhat difficult to fill them mostly due to the lack of applicants with the required qualifications and adequate education or training for working on the sector and to a lesser extent due to lack of work experience. Moreover, regarding the skills requirements, participants were asked to choose from a pre-defined list the specific skills associated with key activities of the sector that present complete gaps or shortages. According to the feedback received, the Agrologistics sector proved to experience complete gaps in skills associated with:

i) Food legislation knowledge
ii) Market research
iii) Supply Chain management
iv) Logistics and Operations management
v) Transportation of goods regulation knowledge
vi) Transport network design skills

Considering also the importance of these activities, they need to be effectively addressed so that further developments in the sector can be efficiently supported. Additionally, to further complement the gaps and shortages in the sector related skills, hard skills in general were also considered. To this end, the participants mentioned that the Agrologistics sector is currently experiencing gaps and shortages in:

i) Project management and monitoring
ii) ICT/Digital skills
iii) Business management
iv) Investment and financing skills

Similarly, as was the case above, the respondents were asked to highlight the most important soft skills gaps by taking into consideration their impact on the sector. Based on the extracted results, i) leadership and ii) teamwork, followed by iii) flexibility and adaptability and iv) learning new ideas, methods and techniques were pointed out as the most important soft skills that employees should possess but fail to present as gaps are observed throughout the sector.

In addition, the impact that all key trends and technologies will likely have on existing business practices and associated skills of the Agrologistics sector in the near future was also considered. To this end, respondents chose from a list of 7 predefined technological trends and concluded that digitalization of systems and processes (e.g. SAP software, digital logistics platforms) and Track and Trace systems are the technologies that will

affect the sector's activities in the **short term** (until 2025) while **blockchain technology and Internet of Things (IoT)** are most likely to be well established in the **mid term** (until 2030). Moreover, the aforementioned trends were examined to a greater extent and feedback was requested on whether it is important to incorporate them into the skills of the workforce in order to maintain sustainability and enhance the further development of the Agrologistics sector in Greece. According to the responses received, the **track and trace systems** were marked as the most important to address, followed closely by the **digitalization of systems and processes** and **process automation**.

Besides the identification of the skills gaps and shortages that the sector is experiencing and the technologies that will transform the business practices, the final part of the questionnaire was focused on identifying the most appropriate method for employees to acquire or develop the necessary skills. According to their views, the most appropriate way of acquiring the desired **hard skills** is by *on-the-job training* and the *In-house transfer of experience and knowledge of older workers*. On the other hand, VET programs are reported to be the best ways for someone developing the necessary **soft skills**.

Finally, respondents also indicated that the **skills that are expected to emerge from new trends and technologies** it is best to be addressed at postgraduate level (i.e. Master's Degree) highlighting in that way the importance of restructuring the current Agrologistis-oriented curricula for properly prepare the students in new business practices.

5.2 Skills and knowledge gaps between education and training, and industry needs and requirements

The gaps between the Greek Agrologistics industry skills needs and the skills provided by the relevant E&T programs of Greece are derived from a comparative analysis between the skills requirements and gaps identified through the questionnaire survey, which was addressed to the industry, and the analysis of the curricula of the aforementioned E&T programs. The results of this analysis are summarized in the following table (Table 2) through which the industry skills requirements are examined vis-à-vis the contents of the E&T programs.

Regarding the skills and knowledge provided by the current curricula of the identified E&T programs, it is worth mentioning that the number of those programs is very small and therefore this can, to some extent, explain the gaps identified by the industry. More specifically, considering the skills in *Business Management*, they are provided only by 8% of the total E&T programs on Agrologistics. Likewise, knowledge of *Supply Chain Management* and *Transport Network Design* is offered by 10% of the total programs that are related to the field of Supply Chain. To this end, such a limited provision of E&T can negatively affect the adequacy of skills and knowledge by the current and potential workforce of the sector as well as the efficacy of the sector.

Concerning the skills gaps and shortages, they are identified by the inadequate or complete absence of relevant to those skills and knowledge courses from the curricula of

the E&T programs. Such skills and knowledge courses include for example *market research, project management and monitoring, investment and financing*. More specifically, this inadequate provision was defined by taking into consideration that a significantly small number of relevant programs (e.g. 1 out of 116 programs) offered them. As an example, knowledge of *Market Research* is included in only 1 E&T program related to *Business Management and Marketing*. Likewise, the complete absence of some skills and knowledge was verified by their missing from the curricula of several programs. This is the case for *Project management and monitoring* and *Investment and financing*, for instance, for which there is not any E&T program or at least any course that emphasizes on how project management and finance are applied in the Agrologistics sector.

Table 2: Results of the comparative analysis on skills and knowledge required from the Agrologistics industry and that provided by E&T programs.

Industry's skills requirements	Provided by E&T	Shortage/Gap
Skills		
Project management and monitoring		✓
ICT/Digital skills		✓
Business management	✓	
Investment and financing skills		✓
Knowledge		
Food legislation knowledge	✓	
Market research		✓
Supply Chain management	✓	
Logistics and Operations management		✓
Transportation of goods regulation knowledge		✓
Transport network design skills	✓	

Source: authors' own elaboration on data.

Exceptions to the aforementioned are the *ICT and Digital skills* and the *knowledge of food legislation*, which are included in the curricula analyzed in Section 3, but they do not fulfil the current market needs. More specifically, the industry currently requires specialized qualifications with regard the *ICT and Digital skills*, which refer to the use of specialized ERP systems, such as SAP and so on, and which are not provided by any relevant course. Furthermore, *knowledge of food legislation* is taught through several courses of programs relevant to Food Science, but its application in practical arrangements of the sector is insufficient.

The development of soft skills has specificities, since they cannot just be taught through an education and training procedure and they strongly depend on personality traits. Apart from that, the majority of the curricula that were analyzed, did not provide any further information about them, such as the development of team projects that cultivate

teamwork or requirements for oral presentations of essays in order to improve someone's presentation skills. To this end, regarding soft skills gaps, they consist of leadership, teamwork, flexibility and adaptability and capabilities to learn new ideas, methods and techniques, as they were pointed out by the questionnaire survey addressed to the industry.

6. Recommendations for supporting the Agrosynergy training programs

Summarizing the findings from the various tasks of the study, the following recommendations are provided as input and support to the Agrosynergy training programs.

- Future investment in the sector is required, to improve employment opportunities. The sector should be made more attractive, to offer more, better quality and higher paying jobs.
- Information should be provided on opportunities that this sector presents and on the key enablers in terms of skills and competences of the new hires, to help them meet the labor market requirements. In this direction, Internet based campaigns may prove to be rather effective, as most young professionals use the Internet and media as sources for information. Furthermore, counseling and mentoring programs for better and more targeted guidance on job-seeking and skills matching are suggested.
- It is recommended that effective means of providing valuable insights on the sector requirements are devised, mainly through seminars with industry experts, industry placements in educational programs, and talks/seminars with alumni of educational institutions.
- Collaboration channels and synergies between education and training providers and the industry should be established, to strengthen employment opportunities. In addition, apprenticeship programs should be supported, to enable young professionals acquire the skills sought out by the industry.
- Stronger investment by the private sector on new hires should be sought as ways to improve employability in the sector, seconded by on-the-job training, skilling strategies and skills development programs.
- The establishment of new skills development programs should be supported. Short duration (about 4 weeks) programs seem to be preferable, with low cost of participation or sponsorship opportunities.
- Based on responses from the two sides, supply (E&T programs) and demand (industry), there seems to be a disconnect, as employers indicate that there are vacant positions that they cannot fill, mostly due to lack of applicants, while on the other hand, prospective employees indicate that there is lack of job opportunities. Noting, however, the fact that prospective employees indicate that their qualifications level is average, while employers indicate that job vacancies are mainly due to lack of applicants with the required qualifications, it becomes apparent that more and better targeted programs for skills acquisition are needed.
- Gaps in skills identified, focused mainly on food legislation knowledge, market research, supply chain management, logistics and operations management, transportation of goods regulation knowledge, transportation network design

related skills. The majority of gaps seem to be related to the transport and handling processes and these need to be considered in future training programs.
- Hard skills are best acquired through on-the-job training and in-house transfer of knowledge and experience. Soft skills are better acquired through VET programs. These findings support the earlier recommendations for industry placements in education and training programs, and apprenticeship programs.
- Existing programs should be better structured, to include curricula aiming to provide skills that are expected to emerge as requirements from new trends and technologies.

7. Future Directions

Considering the main findings of the study in light of new technology developments that are related to the Agrologistics sector, it may be pointed out that the establishment of an Agrologistics center could support the further development of the primary agricultural activity, also through proper exploitation and implementation of new technologies.

For example, development and use of electronic auction platforms may further assist in this direction. Development of clusters in the Agrologistics sector aiming mainly at supporting exports and interfacing with the tourism sector, would be a sustainable business proposition. Furthermore, smart agriculture, with the use of Internet of Things, Big Data, etc., would add value to organized groups of producers.

The Agrologistics sector has been industrialized. Yet, the post Covid-19 era will see further advancements, with innovative proposals for developing digital ecosystems and e-Logistics processes to support business continuity and operational risk reduction. A virtual rural community ecosystem will interconnect cultivated fields, products and production volumes with wholesalers, tourism, institutions and consumers. Strengthening the secondary and tertiary sector can substantially support agricultural production by treating and making available the right products in the right quantities at the right place and the right time, at the lowest cost and according to the right specifications.

Greece has to invest in Agrologistics and the agro-food sector in general, build upon its strengths and potential, and exploit its competitive advantages. Technology has a great potential to assist in this direction and this potential has to be examined in greater detail.

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ANNEX A – Questionnaire survey for identifying youth aspirations, career opportunities and barriers in the Agrologistics sector

A. Personal information

1. How old are you?
   ☐ 18-24
   ☐ 25-30
   ☐ 31-40
2. Please choose your gender.
   ☐ Male
   ☐ Female
   ☐ No answer
3. What is your highest completed level of education?
   ☐ Upper-secondary/Vocational
   ☐ Bachelor of Science
   ☐ Master of Science
   ☐ Doctor of Philosophy
4. Do you have acquired any other education/training? (Check all boxes that apply)
   ☐ Digital Soft Skills (Certified ECDL, etc.)
   ☐ Digital Soft Skills (Earned by Experience)
   ☐ Financial Skills (Procurement, Demand, etc.)
   ☐ Other (Please specify) _____
5. Is your main educational background relevant to Agrologistics?
   ☐ Yes
   ☐ No
6. What is your current employment status? (Check all boxes that apply)
   ☐ Student
   ☐ Post-graduate student
   ☐ Employed as a freelancer
   ☐ Employed in the private sector
   ☐ Unemployed
   ☐ Other (please specify) _____
7. Please choose the range of your Monthly Net Income.
   ☐ Up to 500€
   ☐ 500-1000€
   ☐ More than 1000€

A1. Information on employment status

8. Are you currently employed in the Agrologistics sector?
   ☐ Yes
   ☐ No

9. Was your first job relevant to Agrologistics?
   ☐ Yes
   ☐ No
10. Have you ever received on-the-job training?
   ☐ Yes
   ☐ No
11. Are you satisfied from your current job?
   ☐ Not satisfied
   ☐ Moderately satisfied
   ☐ Very satisfied
   ☐ No answer
12. Would you wish to change your job?
   ☐ Yes, for another job in the Agrologistics
   ☐ Yes, for a different career path
   ☐ No
13. What is the main reason for wishing to change your current job (if applicable)?
   ☐ Job security (e.g. fear for losing this job, this job is temporary, etc.)
   ☐ Better working conditions
   ☐ Better wage
   ☐ Better use of my qualifications
14. How many years of paid work experience do you have in the Agrologistics sector?
   ☐ None
   ☐ Up to 1 year
   ☐ 1-3 years
   ☐ More than 3 years

B. Insights into career aspirations

B1. Interest in the field of Agrologistics

15. Are you interested in following a career path in Agrologistics?
   ☐ Yes
   ☐ No
16. What is the main reason for not being interested in a career path in Agrologistics (if applicable)?
   ☐ Lack of career development
   ☐ Job insecurity
   ☐ Lack of personal growth potential
   ☐ Low wages
   ☐ Lack of Market/Sector Maturity
   ☐ Lack of good working conditions (e.g. working schedule)
   ☐ Lack of social status benefits (e.g. lack of prestige)

17. What is the main reason for you to choose a career path in Agrologistics (if applicable)?
    - ☐ Personal interest in the field
    - ☐ Relevant to career aspiration
    - ☐ Good career opportunities
    - ☐ Recommended by family/friends/career advisor
    - ☐ Practical reasons (e.g. proximity to home, jobs availability, etc.)
    - ☐ Other (Please specify) _____
18. Do you intend to start or continue your studies in the field of Agrologistics?
    - ☐ Yes.
    - ☐ I have not considered it yet
    - ☐ No

B2. Preferences on working conditions

19. What is your ideal work environment?
    - ☐ Private sector
    - ☐ Entrepreneurship/Own business
    - ☐ Public sector/Non profitable organization (e.g. International organization/NGO)
20. How would you rate the importance of the following for your ideal job?

	Not important at all	Less important	Moderately important	Very important	Totally important	No answer/Do not know
Good wage						
Friendly work environment						
Achievements recognition						
Continuous training opportunities						
Opportunities for promotion and career advancement						
Job security						
Flexible work arrangements (e.g. location, schedule)						
Safety at work						
Provision of healthcare and insurance						
Bonuses						
Maternity/Paternity leave						

C. Opportunities and barriers for a career path in Agrologistics

C1. Employment opportunities

21. What are your key sources of information when seeking for a new job? (Check all boxes that apply)
    - ☐ Internet and media
    - ☐ Friends and peers
    - ☐ Educational institutes and teachers
    - ☐ Parents and other family members
    - ☐ Career counseling centers
    - ☐ Other (Please specify):_____
22. How would you rate the availability of employment opportunities in Agrologistics?
    - ☐ Very bad
    - ☐ Bad
    - ☐ Moderate
    - ☐ Good
    - ☐ Very good
    - ☐ No answer/Do not know
23. What are the main barriers when trying to find a desirable job in the Agrologistics sector? (Check all boxes that apply)
    - ☐ Lack of guidance on job-seeking and skills matching
    - ☐ Lack of job-seeking information
    - ☐ Lack of connections
    - ☐ Lack of good jobs
    - ☐ Lack of work experience
    - ☐ Lack of relevant hard skills or vocational training
    - ☐ Lack of soft skills
    - ☐ Lack of education
    - ☐ Discrimination from employers
    - ☐ Personal biases (e.g. marital status, family background etc.)
    - ☐ Lack of financial resources
    - ☐ Residence limitations
    - ☐ Insufficient governmental actions for addressing youth unemployment
24. Are you willing to move to any of the following for a job? (Check all boxes that apply)
    - ☐ Another country
    - ☐ A new location within the country
    - ☐ A new location within your current region of your country
    - ☐ A new location in your city
    - ☐ I would not like to move

C2. Career counseling and mentoring

25. Do you have access to career counseling services?
    ☐ Yes
    ☐ No
26. What kind of services have the career counseling mechanisms provided to you and how useful were they (if applicable)?

	Not useful at all	Less useful	Moderately useful	Very useful	Totally useful
Information on relevant vacancies					
Advice on how to look for a job					
Guidance on how to apply for a job					
Guidance on applying for training or educational programs					
Placement for jobs					
Placement in educational programs					
Talks/seminars with industry professionals					
Talks/seminars with alumni from educational institutes					
Interaction with counseling professionals					
Workplace visits					
Reliable career guidance website/magazine					
Other. Please specify					

C3. Perceptions on personal qualifications, skills development and market requirements

27. Which of the following soft skills do you consider being the most important in your ideal job? (Check all boxes that apply)
    ☐ Communication
    ☐ Teamwork
    ☐ Creativity and initiative
    ☐ Leadership
    ☐ Organization and good time management
    ☐ Attention to detail
    ☐ Analytical and critical thinking

28. Which of the following do you think are most important for employers when hiring new employees? (Check all boxes that apply)
    - ☐ Performance in interviews
    - ☐ The applicant's potential
    - ☐ Age of the applicant
    - ☐ Quality of references
    - ☐ Level of education
    - ☐ Education institution (where the applicant studied)
    - ☐ Soft skills
    - ☐ Technical/Hard skill level
    - ☐ Relevant work experience in similar position or field
    - ☐ Years of work experience
    - ☐ Cultural fit (company culture)
29. How well qualified do you feel for a job in Agrologistics?
    - ☐ Not qualified at all
    - ☐ Underqualified
    - ☐ Moderately qualified
    - ☐ Qualified
    - ☐ Overqualified
    - ☐ I do not have a clear view on that
30. How interested would you be in attending a skills development training?
    - ☐ Not interested
    - ☐ Moderately interested
    - ☐ Very interested
    - ☐ No answer/Do not know
31. What would be the reasons for attending a skills development training? (Check all boxes that apply)
    - ☐ Information on relevant vacancies
    - ☐ Advice on job-seeking
    - ☐ Advice on skills improvement and training or educational programs
    - ☐ Support in job placement
    - ☐ Development of job specific skills
    - ☐ The development of general skills
    - ☐ Opportunities for internships or work experience
32. What duration would you prefer a skills development program to have?
    - ☐ More than 1 year
    - ☐ Up to 1 year
    - ☐ Up to 6 months
    - ☐ Up to 4 weeks
    - ☐ Up to 2 weeks

☐ 1 day

33. How would you prefer to attend a skills development program?
    ☐ Online and classroom
    ☐ Online
    ☐ Classroom
    ☐ Distance learning
    ☐ Other (Please specify) _____
34. What would be the reasons for not being interested in attending a skills development program? (Check all boxes that apply)
    ☐ Lack of financial resources
    ☐ Time constraints
    ☐ Lack of value addition to my career aspirations
    ☐ Other (Please specify) _____
35. Are you aware of currently available skills development programs in Agrologistics?
    ☐ Yes
    ☐ No
36. What would be the optimum way for connecting youth career aspirations with labor market's requirements in the Agrologistics sector? (Check all boxes that apply)
    ☐ Effective government actions and policies
    ☐ More investment in new hires by the private sector
    ☐ Career counseling and mentoring
    ☐ Quality and availability of apprenticeships and internships
    ☐ On-the-job training
    ☐ Skilling strategies and skills development programs
    ☐ Promotion of entrepreneurship by the government
    ☐ Digital platforms and information systems on job vacancies

ANNEX B – Questionnaire survey for identifying skills needs and requirements of the Agrologistics sector

A. Company information – Structure of the company

1. Company name: _____
2. E-mail: _____
3. Type:
   - ☐ Private company
   - ☐ Non-profit organization/Public
   - ☐ Other (please specify)
4. Which sectors do your company's activities cover?
   - ☐ Primary production
   - ☐ Manufacturing
   - ☐ Processing
   - ☐ Packaging
   - ☐ Cold Storage
   - ☐ Dry Storage
   - ☐ Distribution
   - ☐ Wholesaling
5. How many employees does your company currently employ?
   - ☐ Up to 9 employees
   - ☐ 10 – 19 employees
   - ☐ 20 – 49 employees
   - ☐ 50 – 249 employees
   - ☐ More than 250 employees
6. What percentage of your company's employees are younger than 30 years old?
   - ☐ Up to 10%
   - ☐ 11 – 25%
   - ☐ 26 – 50%
   - ☐ More than 50%
7. What percentage of your company's employees are older than 50 years old?
   - ☐ Up to 10%
   - ☐ 11 – 25%
   - ☐ 26 – 50%
   - ☐ More than 50%

B. Skills review

8. How often do you review your employees' needs for skills and training?
   - ☐ More than once a year
   - ☐ Once a year
   - ☐ Once every 2 – 3 years
   - ☐ Once every 5 years
   - ☐ Never
9. Do you provide training opportunities to your employees?
   - ☐ Yes
   - ☐ No
10. What type of training do you provide?
   - ☐ Training for new recruits
   - ☐ Training for upskilling the existing workforce
   - ☐ Training for reskilling existing workforce and adapt to new trends

C. Skills gaps

11. Do you currently have any job vacancies in your company?
   - ☐ Yes
   - ☐ No
12. How difficult is it to fill these vacancies?
   - ☐ Very difficult
   - ☐ Somewhat difficult
   - ☐ Neither easy nor difficult
   - ☐ Somewhat easy
   - ☐ Very easy
   - ☐ No answer
13. Which of the following justify the difficulties that your company is facing in filling these vacancies? (Check all boxes that apply)
   - ☐ Lack of applicants with the required soft skills
   - ☐ Lack of applicants with the required general skills
   - ☐ Lack of applicants with the required hard (technical) skills
   - ☐ Lack of applicants with the required qualifications and education/training
   - ☐ Lack of work experience
   - ☐ Other reasons
   - ☐ No answer

14. Which are the sector specific skills and knowledge that the Agrologistics sector is currently missing and how would you rate their lack?

Sector Specific skills / knowledge	Complete gap	Shortage	No answer
Food Science and Technology knowledge			
Agronomy knowledge			
Animal production knowledge			
Food safety and quality management systems and standards			
Marketing and communication techniques			
Market research skills			
Food legislation knowledge			
Production planning techniques and applications			
Supply Chain management			
Logistics and Operations management			
Perishable goods handling skills			
Transportation of goods regulation knowledge			
Transport network design skills			
Warehouse management			
Demand management and forecasting skills			
Sales planning and forecasting skills			
Other (Please specify)			

15. Which are the hard skills that the Agrologistics sector is currently missing and how would you rate their lack?

Hard skills	Complete gap	Shortage	No answer
ICT/Digital skills			
Manual labour			
Office administration			
Basic knowledge of economics			
Investment and financing skills			
Project management and monitoring			
Business management			
Health and safety (occupational hazards, means of protection, etc.)			
Environmental management			
Other (Please specify)			

16. Which are the soft skills that the Agrologistics sector is currently missing and how would you rate their lack?

Soft skills	Complete gap	Shortage	No answer
Creativity and initiative			
Flexibility and adaptability			
Leadership			
Using and understanding numerical or statistical information			
Problem solving			
Foreign languages			
Presentation skills			
Negotiation skills			
Teamwork			
Learning new ideas, methods, techniques, etc.			
Adapt new equipment			
Organizational skills and time management			
Customer handling			
Other (Please specify)			

17. In your opinion, until what time horizon do you estimate the following trends and technologies will be fully adapted to the Agrologistics sector in Greece?

Trends/Technologies	Up to 2025	Up to 2030	Up to 2040	I do not think that it will adapt	No answer/Do not know
Security in ICT systems (e.g. Blockchain)					
Process automation					
Digitalization of processes (e.g. SAP software, digital logistics platforms)					
Internet of Things					
Track and Trace systems					
Smart reefer containers					
Environmental management and climate change					

18. At which level do you estimate that the following trends and technologies should be adapted to your employees' skills for sustaining and enhancing the Agrologistics sector's development in Greece?

Trends/Technologies	At very high level	At high level	At neither high nor low level	At low level	It is not necessary to be adapted	No answer/Do not know
Security in ICT systems (e.g. Blockchain)						
Process automation						
Digitalization of processes (e.g. SAP software, digital logistics platforms)						
Internet of Things						
Track and Trace systems						
Smart reefer containers						
Environmental management and climate change						

19. In your opinion, which of the following educational and training methods can provide the required skills to prospective employees more efficiently?

Educational/training method	Hard skills	Soft skills	New trends	No answer
VET program				
Bachelor program				
Master program				
Targeted training program/seminar (e.g. professional certification)				
On-the-job training				
In-house training (e.g. transfer knowledge of older workers)				