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SECTORAL STUDY

Identifying Young People as Potential New Farmers (Youth Employment)

Coordinator: Karanikolas Pavlos

Researchers: Zografakis Stavros, Tsiboukas Konstantinos, Nellas Eleftherios, Goussios Ioannis, Economopoulou Elpiniki, Haleplidi Stamatina, Polyhronidis Minas, Kavaklis Emmanouel

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«Recharging Greek Youth to Revitalize the Agriculture and Food Sector of the Greek Economy»

Final Report

Sectoral Study 1.
Identifying Young People as Potential New Farmers
(Youth Employment)

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Research Team Members

Karanikolas Pavlos	AUA, Assistant Professor, Scientific Manager
Zografakis Stavros	AUA, Vice Rector, Associate Professor
Tsiboukas Konstantinos	AUA, Professor
Nellas Eleftherios	AUA, Other Research and Teaching Staff
Goussios Ioannis	AUA, Other Research and Teaching Staff
Economopoulou Elpiniki	AUA, Other Research and Teaching Staff
Haleplidi Stamatina	Ministry of Rural Development and Food, Employee
Polyhronidis Minas	Ministry of Rural Development and Food, Employee
Kavaklis Emmanouel	Panteion University, Student

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Executive Summary

This study aims at the systematic demographic mapping of young people - either employed or unemployed - who would be eligible to join the program actions.

During the last six years, employment in Greek agriculture has decreased by 10%, while, among all Greek farms, those with young operators present the highest rate of reduction.

The continued economic crisis has taken a heavy toll on both the society and the labor market in Greece. The severity of unemployment varies widely across age groups, the highest rate being recorded in males and females aged 15-24 and females aged 25-39. The underemployed, together with the unemployed, have come to represent a very high proportion of the workforce, which is close to or exceeds 50% for the ages up to 29 years. Unemployment rates are also very high for young agronomists.

Our study has been based on two data sources: (a) the processing of raw micro-data from two large databases, i.e. the Labor Force Survey of the Greek National Statistical Authority (the 2nd quarter of 2015 with 67,000 records) and the Farm Accountancy Data Network for 2011, 2012 and 2013, with 12,910 records in total, and (b) field surveys with a questionnaire addressed to young people who have attended training courses at both the Agricultural Training Centers and the Institute of Agricultural Sciences. Through these surveys we have collected 243 filled questionnaires.

The vast majority of young unemployed are not currently in education or training, consequently there is a large potential for developing educational programmes targeting young unemployed, on various subjects within the broader agri-food sector.

From the analysis of the FADN database, which represents all “commercial” farms i.e. almost half of the total Greek farms, we find that the average farm with young operator (aged up to 40 years), is much more dynamic than the average FADN farm, in terms of physical and economic farm size, labor inputs, assets, and economic performance. In terms of increasing economic size, between 2011 and 2013, the most dynamic farms with young managers are those specializing in sheep, vegetables-flowers and cereals.

Fifteen percent of the trainees in our sample were *unemployed prior to attending an educational programme*. Of these, 58% are already engaged in agriculture (half of them have agriculture as their main occupation), while 42% have not started agricultural activity as yet due to *lack of funding and lack of own land*. These two obstacles have also been identified by a smaller number of people who were underemployed before attending an educational programme and have not started yet engaging in agriculture.

In our study we have identified **five potential target populations** of young people (up to 40 years) who present a remarkable variation as well as similarities across a series of characteristics:

1. Active Young Farmers who have attended training within the “Young Farmers” Scheme
2. Young People who, after training, have started farming as their main occupation
3. Young People who, after training, have started farming as a secondary occupation
4. Young People who, after training, have started farming as amateurs
5. Young People who, after training, have not started farming yet.

Available land is the main *limiting factor* for the entry of active young farmers (e.g. in our case study area of Aridea, Northern Greece), while they face serious problems within the “Young Farmers” scheme. Active young farmers *specialize* in cultivation of trees and arable crops. Also, in the 2nd, 3rd and 4th groups arboriculture and apiculture are the most popular productions followed by viticulture (3rd group) and vegetables (4th group).

As for *occupational status prior to attending a course*, most of the respondents were already employed, while unemployment concerns a small share of young people in 2nd, 4th and 5th group.

Succession in the family farm has been stated as the sole *motivation for initiating agricultural activity* in the 1st group, as well as the most important in the 2nd group, while the 3rd group attaches it a lower degree of importance. Amateur interest, lifestyle change and implementation of an innovation prevail in the 3rd, 4th and 5th groups. Unemployment only appears in two groups (2nd and 5th), in low ranking.

Diverging views have been expressed regarding *the most effective incentives for initiating farming*. Tax deductions appear in the 1st group as the only incentive, as well as in the 2nd group, along with investment aid. On the other hand, education and training, granting of land and investment aid have been reported as effective incentives from respondents in the 3rd, 4th and 5th groups.

A noteworthy unanimity is expressed around lack of facilities (capital infrastructure) and lack of funding for investments, which are considered as the *obstacles preventing trainees from putting into practice what they have learnt in the training programs*.

Despite the satisfaction of the great majority of participants with *the quality of the programmes* they have attended, there is room for improvement, mainly with more practice and more adequate printed and electronic educational materials. *New subjects have been proposed*, including new developments in arboriculture (species, varieties and techniques), more emphasis on tackling plant diseases, information about organic farming, more focus on livestock breeding and fodder culture, etc.

Regarding *the immediate plans of young farmers*, it is worth noting that despite the difficulties, the large majority of respondents plan to expand their holdings by buying or renting land, by making new investments in their existing holdings, as well as by diversifying their production. The dynamism of young farmers is also attested by the export orientation and, to a lesser extent, their openness to e-commerce and product standardization. Most importantly, giving up on the existing farm is seriously considered, on average, only for 8% of the respondents.

Young farmers' planning for the near future is closely linked to *the effects of the economic crisis on the operation of the farm*. Respondents in all groups agree that the ongoing crisis increases the cost of production and thereby reduces the income, forcing them to explore alternatives such as a diversification of production and export orientation. Also, efforts to ensure viability involve increasing personal work, while at the same time reducing hired labor inputs.

It seems that despite the ugly prospects of the Greek economy and the bleak landscape of the labor market, some dynamic segments of Greek youth have already successfully engaged in agriculture, while developing ambitious plans for the future. For a significant part of our respondents, farming is a promising perspective, although their strategies lack any collective framework.

Finally, some sections of young unemployed people could be the new generation of modern farmers. However, the extent to which this can be achieved will depend on

the ending of austerity for the Greek economy, as well as a carefully designed package of incentives and action to overcome obstacles identified.

Introduction

The ongoing crisis of the Greek economy poses a number of challenges to all sectors, including agriculture. Ageing farming population, long-term declining trends in farm numbers, restrictive macroeconomic policy measures, along with aspirations for a pivotal role of agriculture as a way out of the crisis, are just a few of the processes related to Greek agriculture nowadays. The crisis manifests itself in financial difficulties, restricted access to capital for most of the farmers, as well as a constant decrease in farm incomes.

Young farmers and new entrants in agriculture play an essential role in boosting the competitiveness of the farming sector, by undertaking new investments and modernizing agricultural holdings. The revitalization of farming population is a prerequisite for viable food production, as well as for the development of rural areas. For these reasons generational renewal has long been one of the most important agricultural policy goals (EU, 2012).

A series of difficulties and obstacles facing young farmers have been identified in literature. According to Shute *et al.* (2001), beginning farmers in the USA face three major obstacles, related to capital, land and health care. In particular, farmers have concrete capital needs for the start-up and expansion of their business, mainly better access to capital, credit and small operating loans. Also, it is very difficult for farmers to find inexpensive land to purchase or property-owners willing to make long-term lease contracts. Still, although health care is necessary for beginning farmers, it is not affordable to them.

For young farmers to become more modern and competitive, three needs have been pointed out, i.e. support for initial investments, access to loans, and business advice and training (EU, 2012).

In an investigation of the factors affecting financial performance of new and beginning farmers,

Mishra *et al.* (2009) found that “although there is an inverted U-shaped relationship between age of the operator and financial performance, management strategies such as increasing the number of decision makers, engaging in value-added farming, and having a written business plan can lead to higher financial performance”.

Recent research on the ‘young farmer problem’ indicates that in EU countries where small-scale holdings are more prevalent, there is shortage of young farmers; Greece is one of these countries, along with Portugal, Italy and Romania (Zagata and Sutherland, 2015).

Some of the studies examine the relationship of the crisis with a movement back to agriculture in

Greece. Kasimis and Zografakis (2014) found that the crisis and return to agriculture do not appear to be directly related. For some people, the decision to 'return' is out of necessity, for others by choice. The average age of new entrants in the primary sector is 41.7 years, while 33% of them are higher education graduates. Newcomers in agriculture originate mostly in cities of over 10,000 inhabitants, and nearly half of the total new entrants have origins in the Greater Athens region. Additionally, two thirds of lost jobs in rural areas are unpaid labor from farm family members, while newcomers to the primary sector coming from the urban areas are directed mainly to positions of self-employed without staff.

In another recent study focusing on Athens residents, the potential of a crisis-led counterurbanisation, particularly amongst younger individuals, has been confirmed (Gkartzios *et al.*, 2013). The study involved a survey, in which half of the respondents expressed willingness to relocate within Greece, with 86% wishing to move to rural residential areas (such as villages and rural towns) and 66% admitting that this had become stronger during the last five years and 80% of the latter category attributing this to the economic crisis. Furthermore, the choice experiment results highlighted the role of land, cultural opportunities, presence of international migrants, and distance from cities in the migration decision.

Moreover, the continued economic crisis has taken a heavy toll on both the society and the labor market in Greece. Detailed investigation and sophisticated techniques are needed in order to identify those people among the unemployed crowds, who would be willing to undertake agricultural activity.

This study aims at the systematic demographic mapping of young people - either employed or unemployed - who would be eligible to join the program actions.

This aim is justified by the fact that young farmers need to acquire skills, knowledge and experience to manage the farm as a business, to adapt to changing consumer preferences and new scientific developments, and to engage in continuous upgrading of skills required to practice agriculture within a constantly evolving environment. They also need to develop strategic management skills necessary to make their farms as efficient as possible and to have effective access to a wide range of options that will improve the quality of work and resultant products. The key question that needs to be answered is: to what extent can the large numbers of young unemployed people be the new generation of modern farmers? The identification of young people who could engage in agricultural production and the agri-food sector and their support with training and services in new entrepreneurial skills is an issue of major importance for the project.

In pursuing the aim of the study, **two data sources have been used**. Firstly, the processed raw micro-data from two large databases, i.e. the Labor Force Survey of the Greek National Statistical Authority (the 2nd quarter of 2015 with 67,000 records) and the Farm Accountancy Data Network for 2011, 2012 and 2013, with 12,910 records in total. Secondly, two field surveys with a questionnaire addressed to young people who have attended training courses at both the Agricultural Training Centers (ATCs) and the Institute of

Agricultural Sciences (IAS). These two organizations have for many years provided agricultural training courses on a regular basis.

More specifically, we interviewed a sample of 113 Young Farmers, trained at four ATCs (at Skydra-Northern Greece, Karditsa and Fthiotida-Central Greece, and Kyparissia-Southern Greece), so as to include areas with a diversity of farming systems. We also interviewed 130 persons at the IAS, taken from a stratified random sample of all young trainees in 2014 (1,165), across 28 subjects. Thus, through these surveys we have collected 243 filled questionnaires.

This study comprises four parts. The first part presents four profiles of Greek Youth in 2015, i.e. those for young workers in the agri-food sector, for unemployed and underemployed youth, as well as for unemployed young agronomists. The second part contains the field surveys among both active farmers and those who have expressed willingness to return to farming. The description of potential target populations for the Project follows in the third part, and the study is completed with a concluding summary.

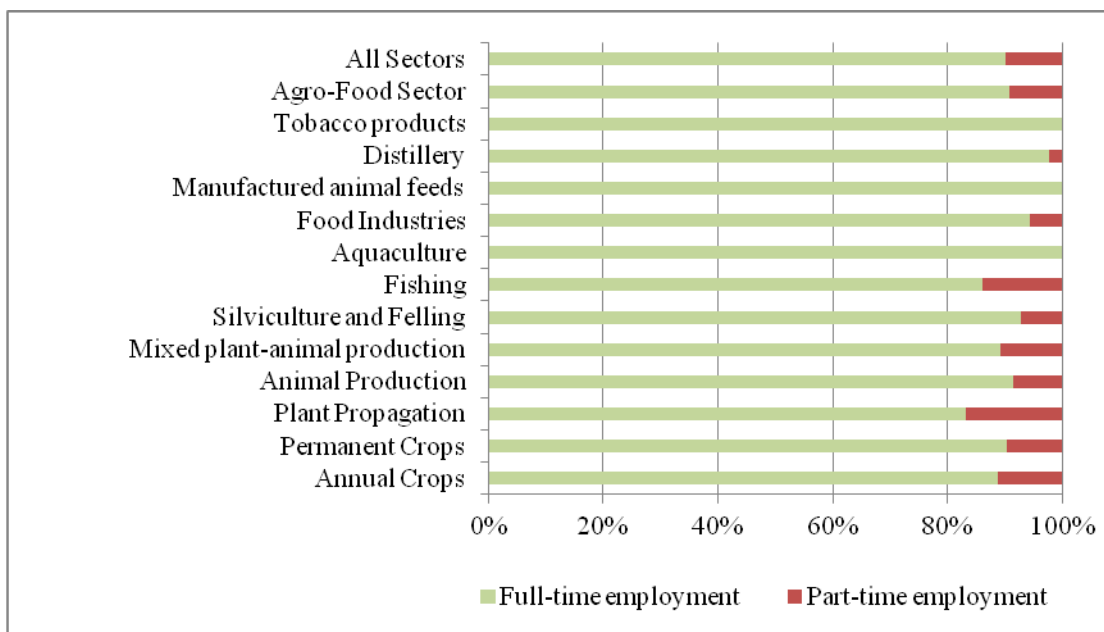
I. Profiles of Greek Youth in 2015

I.1 Young workers in the agri-food sector

The agricultural and food (agro-food) sector is one of the most important industries of the Greek economy. In the context of this research, we consider 23 sub-sectors in primary agricultural production, forestry, fisheries-aquaculture, manufacture of food, animal feeds and tobacco, in order to obtain an insight into agro-food employment in Greece. Based on the latest data from the Labour Force Survey (Q2 2015), we find that employment in the agro-food sector accounts for 17.1% of total employment, of which 13.6% in primary production, forestry and fisheries-aquaculture and 3.5% in the agro-food manufacturing industries mentioned above.

According to official figures, the vast majority (91%) of workers in the agro-food sector work on a full-time basis, which is also the case with the Greek economy as a whole. The sub-sectors that have higher than average shares of part-time employment are plant propagation, annual crops, mixed plant and animal production, and fisheries (Figure 1). It is worth noting that no part-time employment is recorded in aquaculture, tobacco products and manufactured animal feeds.

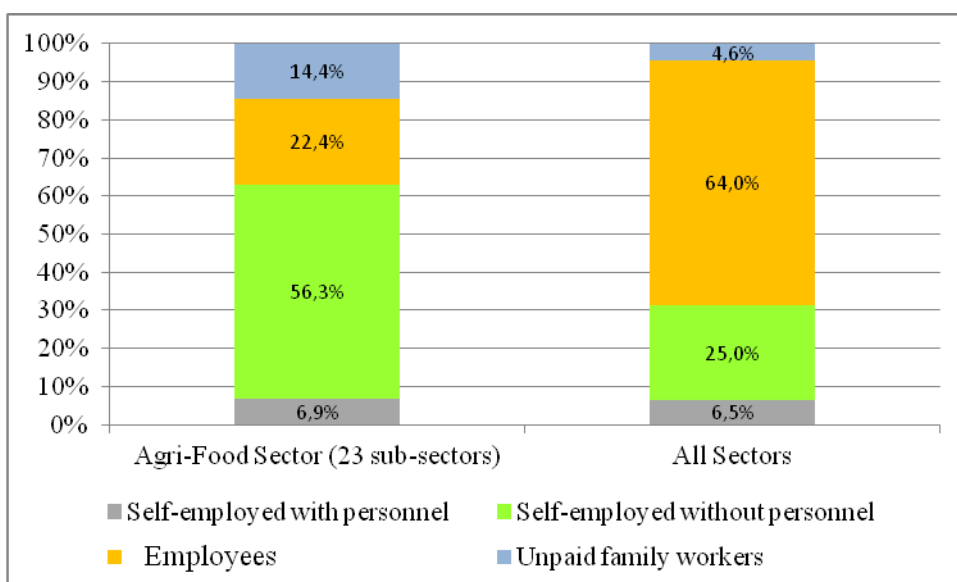
Figure 1: Full-time and Part-time Employment in the Agri-Food Sector



Source: Greek Statistical Authority, Labor Force Survey (Q2 2015), processed original micro-data

Occupational status varies significantly across the different categories of workers (Figure 2). In particular, in the agri-food sector the shares of self-employed without staff and unpaid family workers are more than double the respective averages for the total economy (all sectors), while the share of employees is about one third of the total economy average.

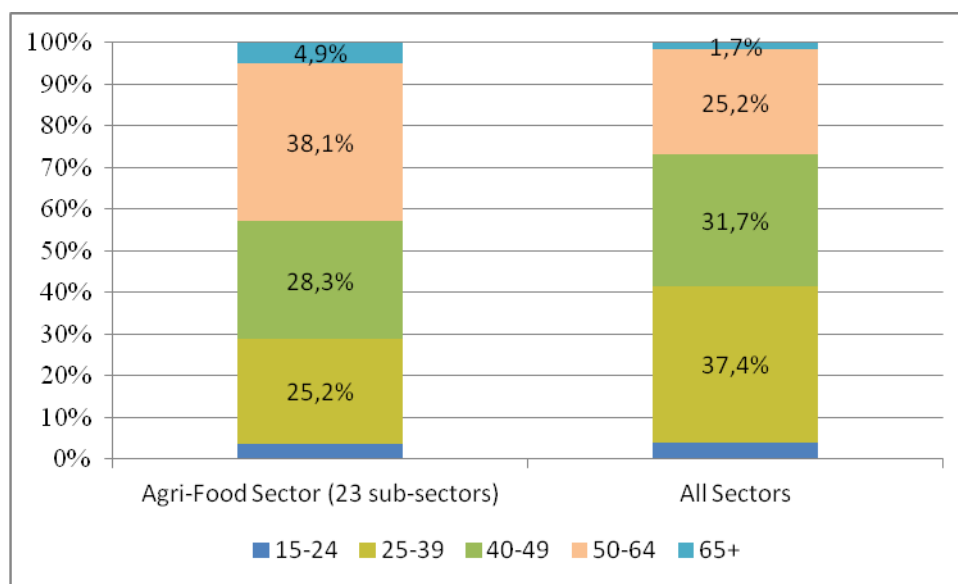
Figure 2: Occupational Status, 2015



Source: Greek Statistical Authority, Labor Force Survey (Q2 2015), processed original micro-data

Another salient feature of the agri-food sector is its more aged workforce. As shown in Figure 3, workers aged 25-39 year old, forming the age group in focus here, account for 25.2% of employment in the agri-food sector, compared with 37.4% in the total economy. The respective share for the 50-64 age group is 38.1% (total economy: 25.2%) and for the 65+ group it is 4.9% (total economy: 1.7%), pointing to an ageing workforce, particularly in primary production.

Figure 3: Age structure



Source: Greek Statistical Authority, Labor Force Survey (Q2 2015), processed original micro-data

The agri-food sector is also important from a regional perspective. In all Greek regions but three (Attica, South Aegean and Ionian Islands), the employment rate in the agri-food sector is higher than the respective figure for all sectors, in fact in some regions (e.g. the Peloponnese and Eastern Macedonia-Thrace) this difference is more than 5 percentage points.

Finally, another stylised fact of the agri-food sector is the lower educational level of its workforce, as post-secondary education graduates represent just 11%, compared with 43% in the total economy.

I.2 Unemployed youth

In this section we describe the characteristics and the overall profile of unemployed youth in Greece, using data from the latest Labour Force Survey (Q2 2015). The results reported here have been derived by processing the raw micro-data of the survey, to provide a clear picture

of the age groups in focus, i.e. primarily the 25-39 group and secondarily the 15-24 and 40-49 groups. It should be noted that young people aged 25-39 years are the largest category of unemployed persons in Greece today, with a share of 45% in total unemployment, followed by the next older group (40-49 years) with a share of 25%. According to official figures, the unemployment rate in the country is 24.6%, but varies widely across age groups, standing at a massive 49.5% for those aged 15-24 and at a relatively more moderate 28.1% for those aged 25-39.

The phenomenon of unemployment is much more acute among females (28.3%, compared with 21.5% in total population) than among males. However, looking at individual age groups, we can see that those most severely hit by unemployment are males and females aged 15-24 and females aged 25-39 years.

One of the major problems facing the unemployed is social security coverage, or rather the lack of it. While 35.1% of all unemployed persons have no social security coverage, for the 25-39 age group this percentage comes to an exorbitant 40.6%, the highest among all age groups.

Turning to a breakdown of the unemployed by nationality, whereas in total population the highest unemployment rates are seen in non-Greek and non-EU nationals, for the age group of 25-39 years the highest unemployment rate is recorded for Greek nationals.

Important information is derived from an examination of unemployment rates based on the degree of urbanisation. As shown in Table 1, when total population is considered, the urban complex of Thessaloniki has the highest unemployment rates, while the lowest rates are seen in rural areas of the country; the difference between these extreme values is 8.1 percentage points. In the age group of 25-39 years, unemployment rates are consistently higher than the nation-wide average for all types of areas, without major differences across areas. Finally, a staggering employment rate of 66.4% is recorded in the age group of 15-24 years for the semi-urban areas of the country.

Table1: Unemployment rates by degree of urbanization (percentage breakdown)

	Age groups			Total population of Greece
	15-24	25-39	40-49	
Greater Athens	49.1	28.1	20.9	25.2
Greater Thessaloniki	43.3	28.8	28.6	28.1
Other urban areas	45.7	28.5	21.8	26.1
Semi-urban areas	66.4	27.8	19.5	24.4
Rural areas	47.3	27.2	16.0	20.0
Total	49.5	28.1	20.7	24.6

Source: Calculations based on data from the Labour Force Survey, ELSTAT, second quarter 2015.

Unemployment figures also vary significantly across regions. In total population, the highest unemployment rates are recorded in the regions of Western Macedonia (30.1%), Western Greece (27.8%) and Thessaly (25.8%). In the age group of 25-39 years, Western Macedonia has by far the highest unemployment rate (39.9%), followed by Western Greece and the Peloponnese (with 34.6% and 34.2%, respectively), while Epirus and Thessaly come next with more than 30% each.

Moreover, for those of the unemployed who previously had a job, their transition to unemployment occurred either because they were laid off or because they held a fixed-term contract that ended. The latter reason is more prevalent among young people of 25-39 years of age compared with the general population.

It should be noted that both among the total population and among the youth, the respondents who report that their last job was in the primary sector represent negligible percentages of no more than 1.2%. Among young people 25-39 years old, this in absolute figures translates to 9,521 persons, two thirds of which were employed in crop-livestock production. In general, the overwhelming majority of young unemployed persons previously had jobs in services, in sales, as well as office workers.

Also, 92.2% of young unemployed were employees in their last jobs, while only 7% were selfemployed.

Another interesting feature of the labour market is that, in addition to the young unemployed, the total number of job seekers includes a percentage of 11.2% referring to young employees who are looking for a new job. In addition, 1.5% of job seekers are economically inactive young people who are looking for a job.

Regarding the steps that the young unemployed aged 25-39 years have taken in order to find a job, the four most common responses are the following, in descending order: asked among friends and relatives; applied to employers; looked at classified ads; and contacted a public employment office. This undoubtedly highlights the significance of informal networks, with friends and relatives playing a key role in job hunting.

A very worrying fact is that almost three quarters of the young unemployed aged 25-39 have been looking for a job for more than 12 months. Besides, across all age groups of the unemployed, percentages of more than 90% report that they have not rejected any job offer. Among young people aged 25-39, those who have rejected job offers have done so mainly because the journey to work was not convenient and, to a lesser extent, because the working times and/or pay were not satisfactory.

As mentioned above, a proportion of workers who already have a job are looking for another job. Among young workers aged 25-39 years, this primarily occurs because they seek better

working conditions (29.5%) or want to work longer hours than in their present job (24.1%) or because their present job does not match their qualifications (15.5%).

More than two thirds of the young unemployed aged 25-39 years are registered with a public employment office but do not receive unemployment benefits, while 23.6% are not registered. Those who are registered with a public employment office and receive an unemployment benefit are only 8.5% of the young unemployed, which is very disappointing.

Regarding the sources on which the young unemployed aged 25-39 rely for their sustenance, the data show that family is the predominant source with a share of 72.1%, while “other people” and “social benefits” have shares of 16.4% and 7.3%, respectively. As expected, the role of family is even more important for the category of unemployed aged 15-24. Clearly, the families of the unemployed are a strong pillar of social protection, while the welfare state has a minor role.

In terms of educational profile, the young unemployed aged 25-39 generally have a higher educational level, as about half of them have completed various types of post-secondary education, compared with 36.2% of all unemployed.

It is also interesting to look at the educational background of the young unemployed aged 25-39 years: 40.3% report having attended “general programmes”, 14.6% social, economic and legal sciences, and 13.7% engineering-industry-construction. Only 1.6% appear to have studied agriculture and veterinary medicine, and 0.6% life sciences.

A very significant finding is that 96.4% of the unemployed aged 25-39 years (and 85.7% of those aged 15-24) are not in education or training. In this age group, the total number of those in education is 19,397, of which 5,677 in universities; 4,555 in Technological Educational Institutes (TEI); 2,847 in public or private post-secondary institutes; and 2,790 in postgraduate programmes. Obviously, the vast majority of the young unemployed who are not in education or training face a risk that their skills may become obsolete and that they may not be able to keep pace with new developments in the labour market.

Regarding the fields of studies, only 1.3% of young unemployed aged 25-39 pursue studies in the area of life sciences, and 4% of young unemployed aged 15-24 focus on subjects related to agriculture and veterinary medicine.

The latter two findings reveal a large potential for developing curricula and training programmes on various subjects within the broader agri-food sector, targeting the young unemployed.

Finally, just 1% of the unemployed aged 25-39 years and 3% of the unemployed aged 15-24 years report that in the recent period have been attending courses outside official educational institutions (e.g. language schools, dance schools, music schools, vocational training centres, etc.).

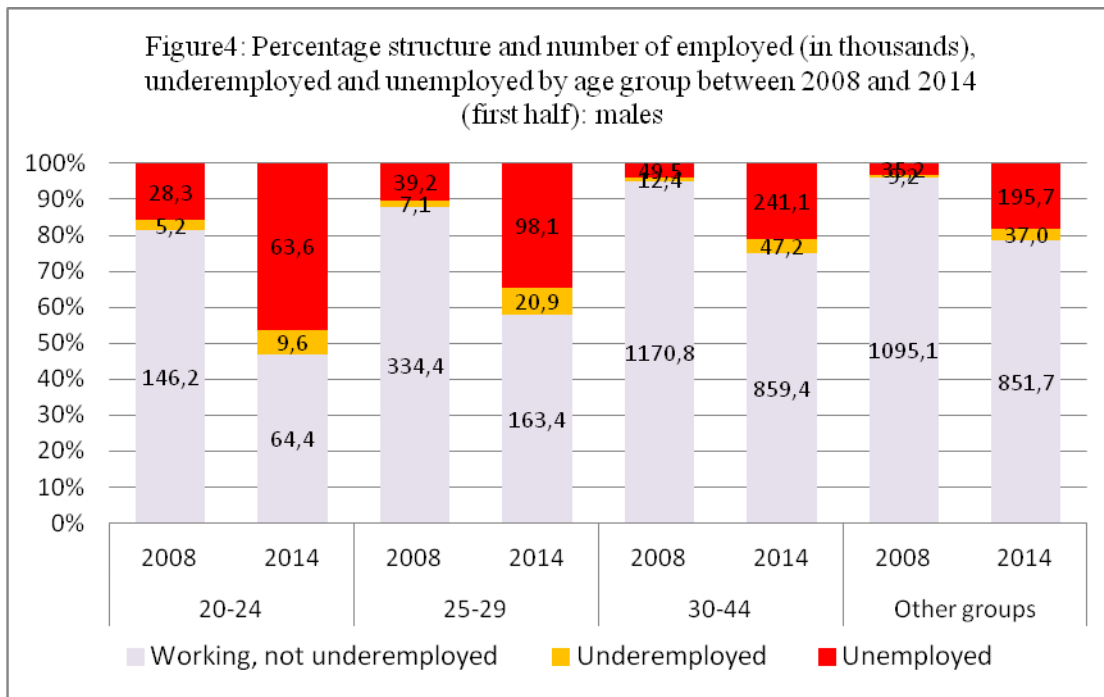
I.3 Underemployed Youth

Besides the problem of unemployment, another very important aspect of the labour market is underemployment. Underemployed persons form a specific category of workers, technically identified as employed. It should be recalled that ELSTAT [the Greek Statistical Authority] defines as “part-time underemployed” all persons aged 15-74 who worked part-time during the reference week, wish to work more hours and were available to work more if they had the chance.

More detailed information on this phenomenon is provided by Figures 4 to 11, which reflect calculations based on Labour Force Survey data.

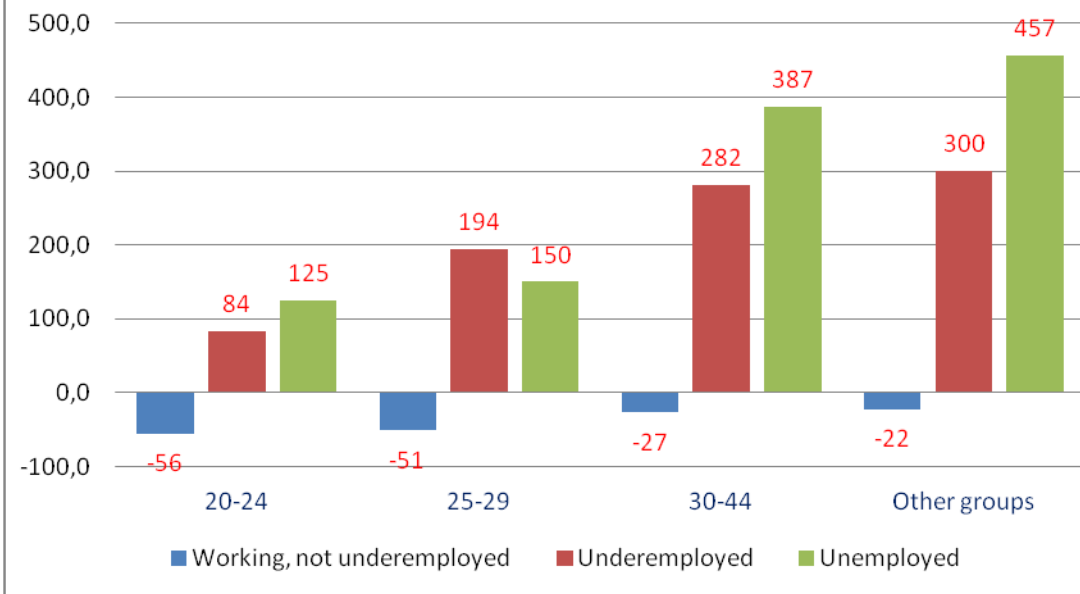
Thus, between 2008 and mid-2014 we can observe a decline in the number of employed males across all age groups, a rise in the number of unemployed persons but also a substantial increase in those underemployed. In absolute figures, the underemployed in the 20-24 and 25-29 age groups increased by 7,900 and 23,900, respectively. Similarly, in the 30-44 group, the underemployed increased by 64,200. Expressed in percentage terms, this is a growth of between 65.3% and 152.5%. Even higher is the growth in underemployment for workers over 45 years (246.7%!), suggesting rapidly worsening labour market conditions for older age groups, too.

Particularly worrying is the fact that the underemployed, together with the unemployed, have come to represent a very high proportion of the workforce, which is close to or exceeds 50% for the ages up to 29 years.



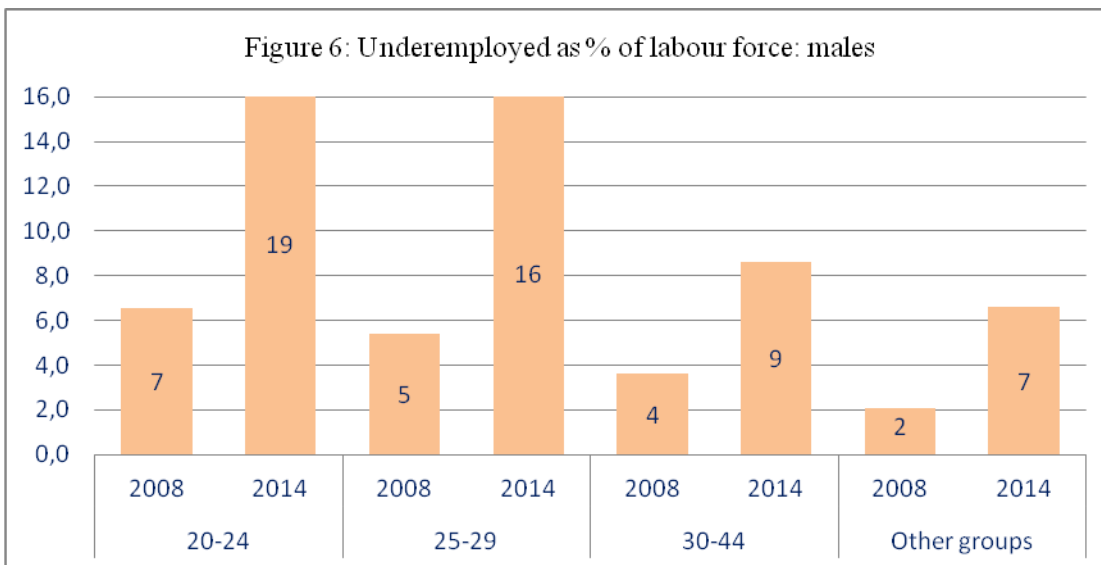
Source: Greek Statistical Authority, Labor Force Survey

Figure 5: Percentage change (%) in number of working (not underemployed), underemployed and unemployed (first half 2015 / first half 2008): males

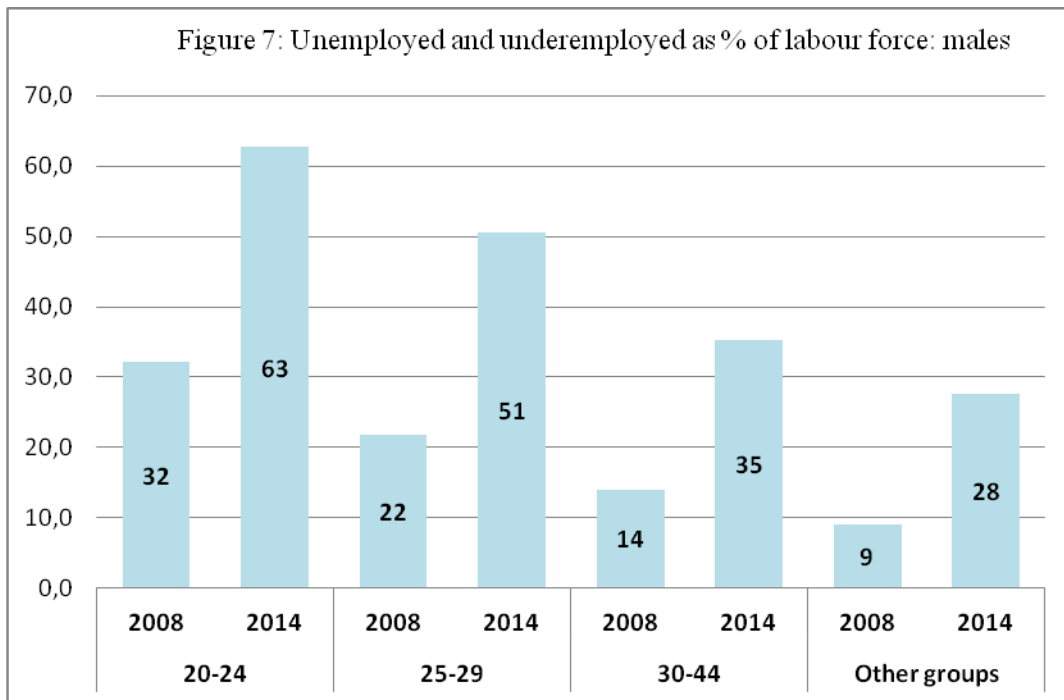


Source: Greek Statistical Authority, Labor Force Survey

Figure 6: Underemployed as % of labour force: males

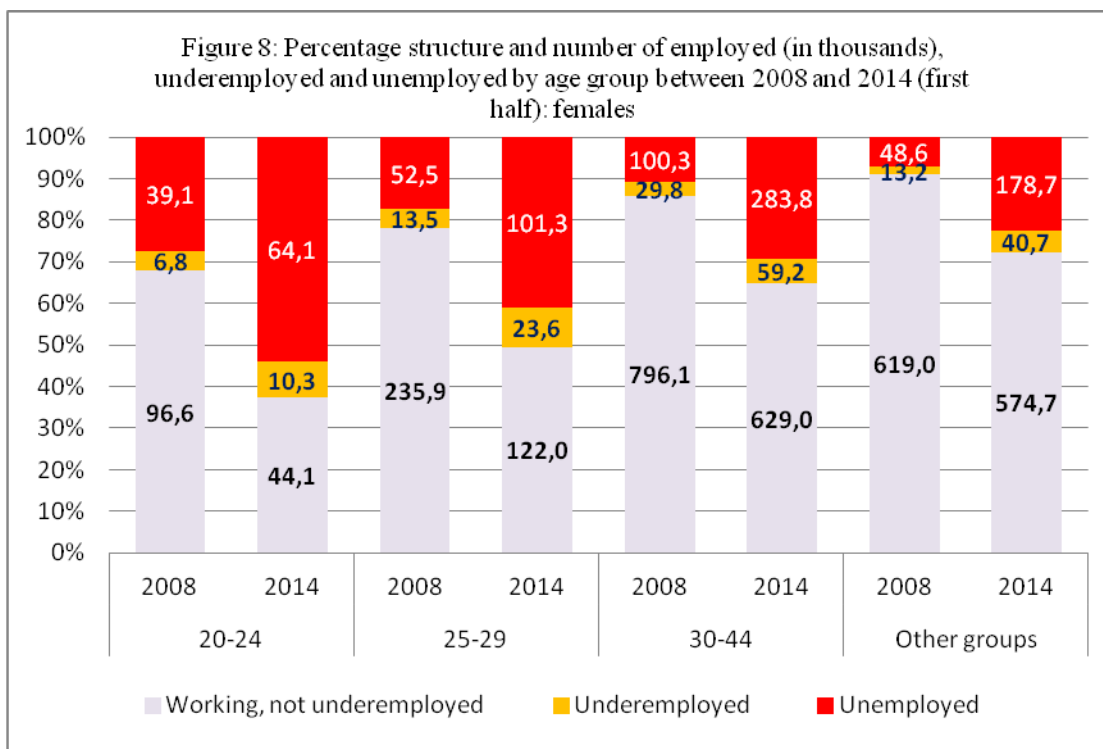


Source: Greek Statistical Authority, Labor Force Survey



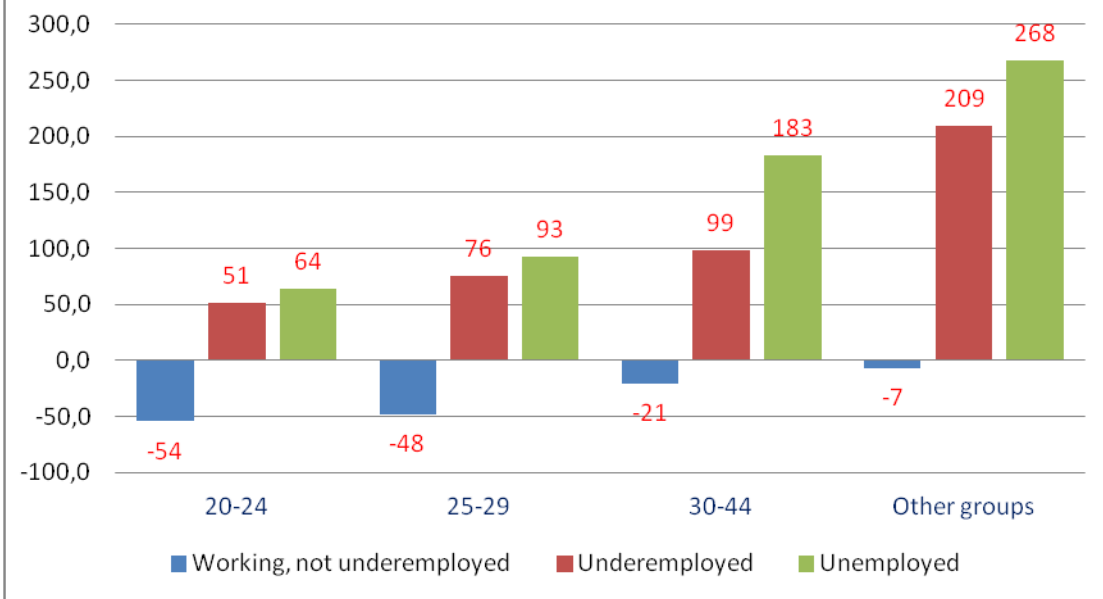
Source: Greek Statistical Authority, Labor Force Survey

The situation described above with respect to underemployment is even more true in females. Particularly at younger ages of up to 29 years, unemployed and underemployed women now represent one-half to two-thirds of the workforce.



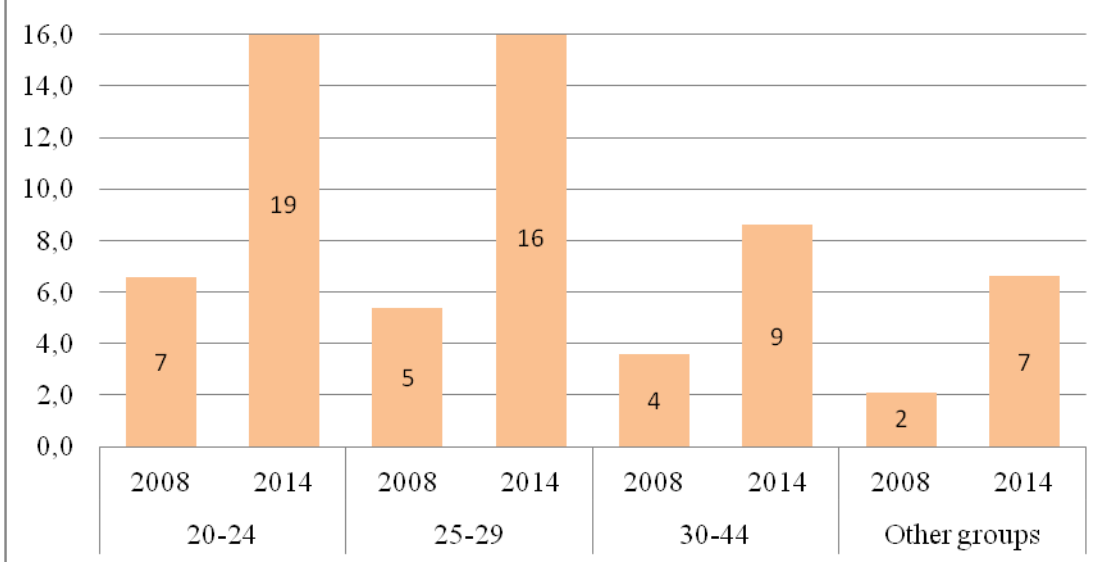
Source: Greek Statistical Authority, Labor Force Survey

Figure 9: Percentage change (%) in number of working (not underemployed), underemployed and unemployed (first half 2015 / first half 2008): females

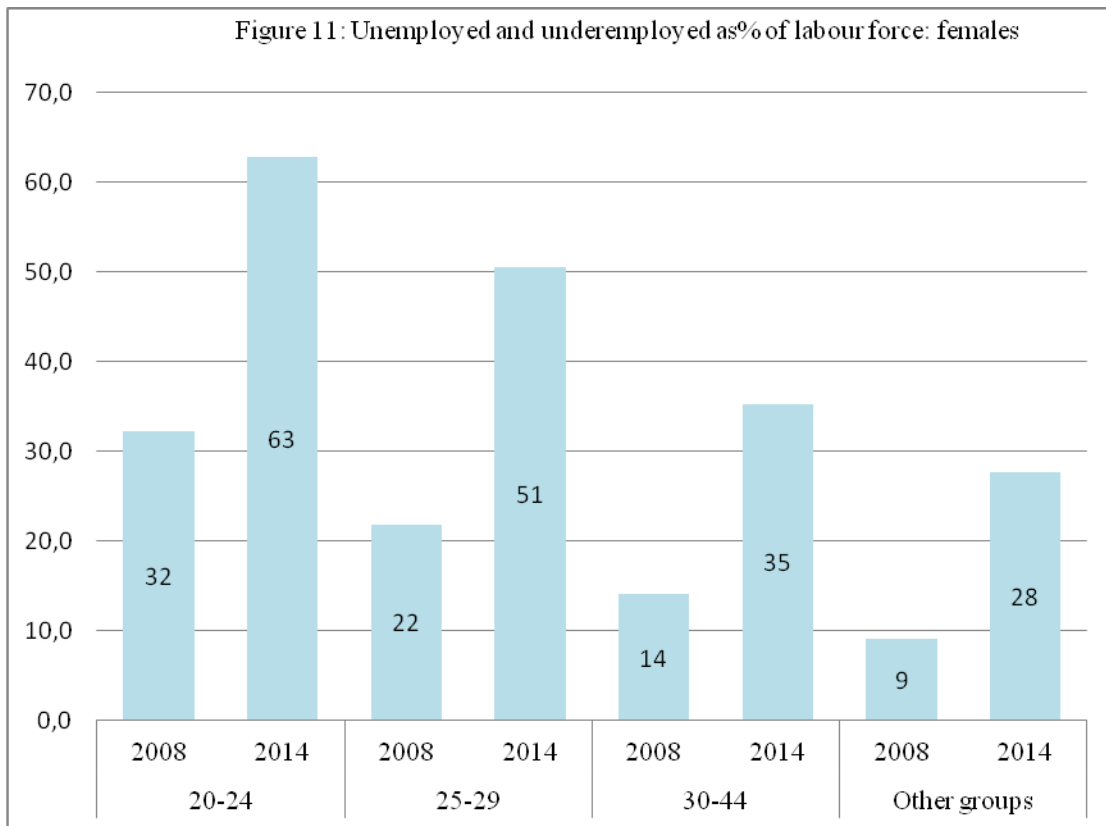


Source: Greek Statistical Authority, Labor Force Survey

Figure 10: Underemployed as % of labour force: females



Source: Greek Statistical Authority, Labor Force Survey



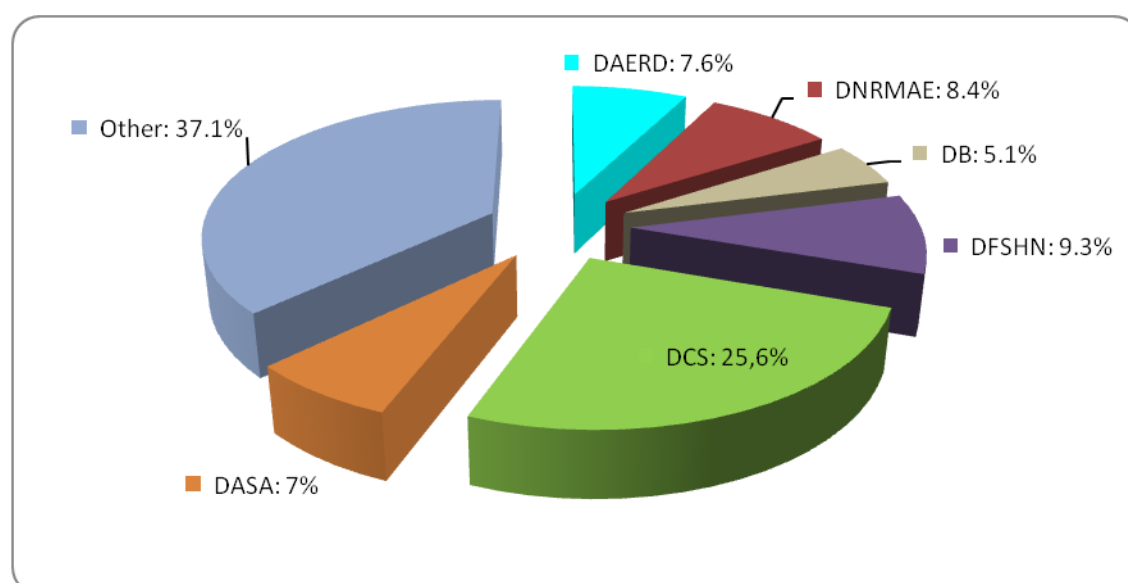
Source: Greek Statistical Authority, Labor Force Survey

I.4 Unemployed young agronomists

As part of a study entitled “*Mapping the labour market profile of private sector enterprises in AUA databases*” (AUA Career Office, 2014), data from the Geotechnical Chamber of Greece (GCG) were processed, regarding the unemployment situation of GCG registered members.

The study showed that, as at early 2014, the total number of AUA graduates registered with the GCG was 4,685. Of these, 25.6% were graduates of the Department of Crop Science (DCS), 9.3% of the Department of Food Science and Human Nutrition (DFSHN), 8.4% of the Department of Natural Resources Management & Agricultural Engineering (DNRMAE), 7.6 of the Department of Agricultural Economics and Rural Development (DAERD), 7% of the Department of Animal Science and Aquaculture (DASA), and 5.1% of the Department of Biotechnology (DB). For 37.1% of registered members, the department is not identified (Figure 12).

Figure 12: Breakdown of AUA graduates registered with the GCG (%)



The unemployment rate of AUA graduates who are registered with the GCG is, on average, 41% (see Table 2). In particular, the highest unemployment rate is recorded in graduates of the Department of Animal Science and Aquaculture and the Department of Food Science and Human Nutrition) with 48%, followed by graduates of the Department of Agricultural Economics and Rural Development with 47%.

Table 2: Breakdown of AUA graduates registered with the GCG by occupation status

	AUA Department of Graduation							Total
	Agricultural Economics and Rural Development	Natural Resources Management and Agricultural Engineering	Biotechnology	Food Science and Human Nutrition	Crop Science	Animal Science and Aquaculture	Other	
UNEMPLOYED	47%	37%	44%	48%	38%	48%	38%	41%
CIVIL SERVANTS	6%	6%	9%	8%	4%	12%	7%	7%
EDUCATION & RESEARCH	1%	3%	3%	3%	2%	2%	4%	3%
INDEPENDENT PROFESSIONALS	15%	23%	17%	8%	23%	11%	18%	18%
WORKING ABROAD	1%	0%	0%	0%	0%	0%	0%	0%
WORKING IN JOBS UNRELATED TO THEIR QUALIFICATIONS	4%	3%	1%	3%	2%	1%	2%	2%
PRIVATE SECTOR EMPLOYEES	15%	14%	13%	21%	17%	17%	17%	17%

LOCAL AUTHORITIES	4%	5%	6%	2%	6%	1%	5%	5%
EMPLOYED WITH A SHORT-TERM CONTRACT	6%	4%	4%	6%	5%	5%	7%	6%
EMPLOYEES IN THE BROADER PUBLIC SECTOR	1%	5%	2%	1%	2%	2%	2%	2%
RETIRED	0%	0%	0%	0%	0%	0%	0%	0%
TOTAL	100%	100%	100%	100%	100%	100%	100%	100%

Moreover, unemployment rates vary significantly across age groups and genders (Table 3).

Table 3: Unemployment rates of AUA graduates registered with GCG, by department of graduation and age group

	AUA Department of Graduation								
	Age group	Agricultural Economic s and Rural Developm ent	Natural Resour ces Manag ement and Agricul tural Engine ering	Biotech nology	Food Science and Human Nutriti on	Crop Science	Animal Science and Aquacu lture	Other	Total
Males	up to 35 years	57.3%	61.8%	64.2%	48.5%	58.9%	58.4%	56.1%	57.2%
	36-50 years	33.3%	11.9%	19.0%	26.3%	15.8%	28.2%	20.4%	19.6%
	50+					12.2%	20.0%	5.4%	6.7%
	Total	40.4%	27.5%	40.5%	38.2%	31.9%	44.0%	32.3%	33.9%
Females	up to 35 years	66.4%	71.8%	64.0%	69.0%	65.9%	70.6%	61.2%	65.5%
	36-50 years	28.3%	27.9%	23.1%	27.6%	33.6%	29.4%	28.9%	29.5%
	50+		0.6%			0.4%		0.8%	0.4%
	Total	53.2%	51.9%	47.2%	56.0%	49.1%	54.7%	45.3%	49.5%
Total	up to 35 years	62.6%	67.1%	64.1%	61.3%	62.0%	64.0%	58.6%	61.5%
	36-50 years	31.2%	16.9%	20.9%	26.9%	21.9%	28.7%	23.5%	23.3%
	50+		8.3%			12.3%	16.7%	9.1%	9.2%
	Total	46.6%	37.2%	44.1%	48.4%	38.5%	48.5%	37.7%	40.6%

Specifically, the unemployment rate of young agronomists stands at 61.5%, more than double that of the 36-50 age group (23.3%), while the 50+ age group has an unemployment rate of below 10%. In greater detail, the highest percentages of young unemployed agronomists are recorded for graduates of the Department of Natural Resources Management & Agricultural Engineering (two in three young graduates are unemployed), and for graduates of the Department of Agricultural Economics and Rural Development aged 36-50 (31.2%).

From a gender perspective, across all age groups, females are more severely hit by unemployment relative to males. One in three male and one in two female AUA graduates are unemployed, while the highest unemployment rate is seen in women aged up to 35 years who are graduates of the Department of Natural Resources Management & Agricultural Engineering (71.8%) and the lowest in men over 50 years for whom the department of graduation is not identified (5.4%).

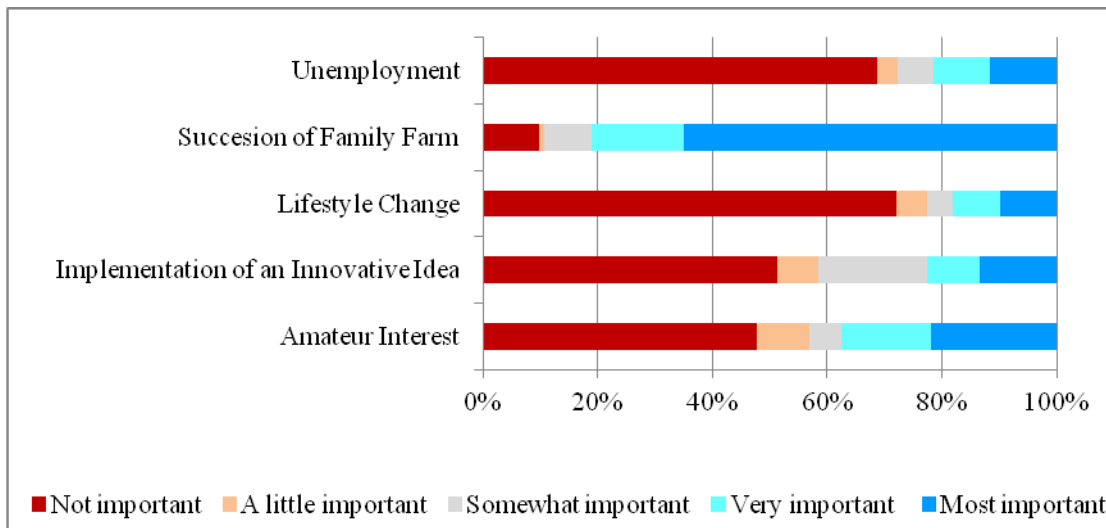
II. Field surveys

II.1 Active Farmers

Organization “Dimitra” which is supervised by the Ministry of Rural Development and Food, runs 40 Agricultural Training Centers (ATCs or “Κέντρα Γεωργικής Εκπαίδευσης”) across the country.

In our survey to ATCs’ trainees, the male to female ratio is more than 4 to 1, and the majority (63.6%) of respondents are upper secondary education (lyceum) graduates. Their average age is 33 years, and most of them are married (61%). About half of the respondents were school or university students before enrolling at ATC training courses, indicating that they decided to engage in agriculture very early in their lives. Only 6.2% were unemployed and only 1 in 5 cites unemployment as an important factor behind their choice of agriculture as a primary occupation. As their main motivation to pursue a career in agriculture they report succession in the family farm (83.1%). Obviously, these are young people with a strong farmer identity, coming from an agricultural background and wishing to continue the family business.

Figure 13: Motivation for engaging in agriculture



The current economic situation seems to have influenced respondents’ evaluation of incentives for young people to engage in agriculture, as almost 8 in 10 consider tax deductions as “very important” or “most important”, closely followed by ongoing education and technical support (73.5%), investment aid (72.6%) and concession of farm land at a low rent (71.7%). Investment aid, although seen as an important incentive by 2 in 3 respondents, is evaluated by 1 in 5

respondents as “Not important” or “Not very important”, which can be attributed to the negative experience and example of many overindebted farm businesses.

Arboriculture, including olive growing, was the most popular subject in training courses, attended by the 27.4% of respondents, well above the percentages for horticulture (8%), arable crops (7.1%), greenhouse crops (5.3%), livestock production (5.3%) and viticulture (3.5%).

A substantial proportion (68.5%) are “very satisfied” or “extremely satisfied” with the training courses they attended, only 14% are “somewhat satisfied” and “dissatisfied”. Those reporting dissatisfaction invoke various reasons, such as inadequate content of training, lack of practice, heterogeneity of classes (inexperienced alongside experienced farmers), etc.

At this point, it is interesting to compare some of the findings of this survey with the results of an earlier survey conducted among trainees (a sample of 510 respondents) at eleven ATCs across the country in 2003-2011, asking them to evaluate the training they had received (Koutsouris, 2012). In that survey, 61% of respondents were satisfied with the training programmes, in fact 55% reported that they would attend a similar agricultural training programme even if they had to pay themselves for it. Also, 59% of participants indicated that after having completed the programmes they felt to be better off relative to other farmers who had not attended, all other factors being equal. In that survey too, those who reported unsatisfied with the programmes cited as the main reason the coexistence of experienced and inexperienced farmers in the same class.

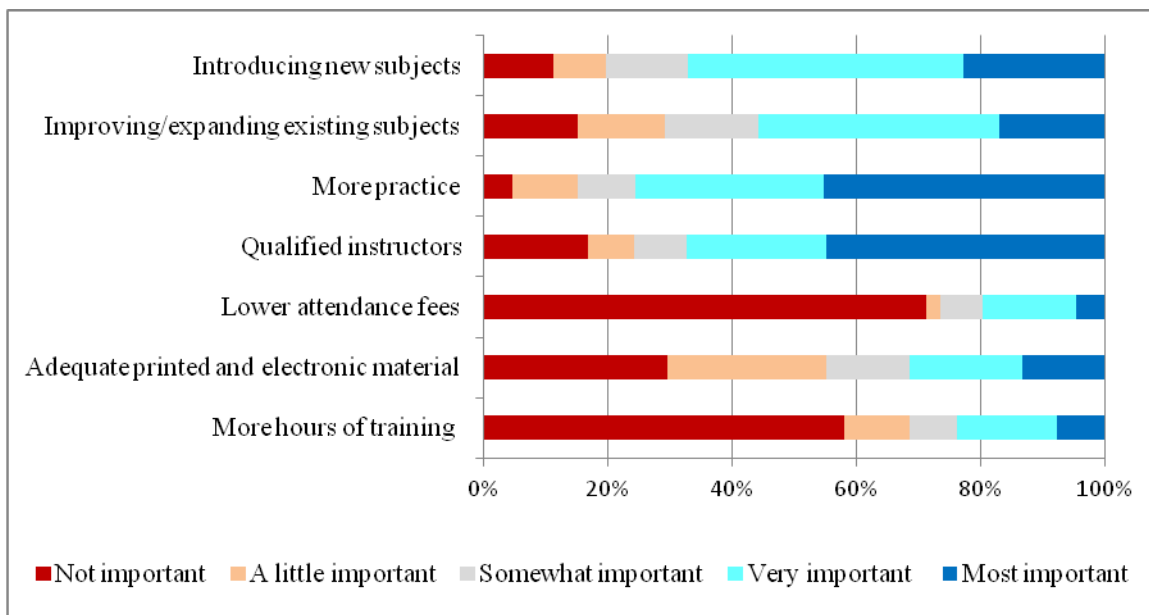
Our survey also shows that although the great majority of participants report to be satisfied, there seems to be scope for improving the programmes by introducing new subjects (as suggested by 2 out of 3 respondents) and improving their content (as suggested by 56% of respondents). The new subjects proposed include: new developments in arboriculture (species, varieties, techniques), plant diseases, organic farming, more focus on livestock breeding and fodder culture, etc.

In the survey for the period 2003-2011, 29% of respondents indicated that they would like to learn more about EU subsidies and compensations, 25% about new machinery and equipment, and 24% about new cultivation techniques, pesticides and fertilisers. Smaller percentages of respondents cited marketing and pricing (7%), anything that’s new in the industry (6%) and new development/subsidized programmes (3%).

In our survey, on the other hand, practice emerges as the most important factor for improving training, as 3 in 4 respondents identify a need for more hours of practice. A similar point had been made in the survey for the period 2003-2011, where 60% stated that practice was not sufficient and needed to be expanded.

In addition, our data show that 67.3% of respondents consider well-qualified instructors as a “very important” or “most important” for improving the training provided. It is unclear whether this response refers to the specific training courses or rather reflects the respondents’ belief that qualified instructors in general are very important for high-quality training. In the survey for the period 2003-2011, satisfaction with the adequacy of instructors had also been very high (82%).

Figure 14: Agricultural Training Centers: Improvements in Training Courses



It is worth noting the great importance attached by respondents to hands-on experience: 96% consider it as “very important” or “most important”. Vocational training is seen as important by a smaller percentage (83.7%).

Turning to the farming sector in which respondents are active, arboriculture is the most common activity (28.2%), followed by arable crops (17.6%) and horticulture (15.3%), to which we should add 4.6% of greenhouse and hydroponic vegetable crops.

The farm holdings of 47% of respondents have two different lines of business, while 1 in 3 respondents focus on a single production.

The farms of 51% of respondents are up to 5 km far from their permanent residence, while for 85% the piece of farm land farthest from their home is less than 15 km away.

Just 7.2% of respondents had not engaged in agriculture before attending the ATCs.

Almost all respondents (96.5%) had been included in the Young Farmers Scheme and only 1.8% had eligible farms of their own. The others whose farm fell short of the minimum size requirements (expressed in Annual Work Units - AWUs) had to be given additional land by their parents and inlaws (77.1% of respondents) or spouses (4.6%), to rent (75.2%) or purchase (23%) land. On average, two of these sources were used in each case of such acquisition.

Economic and financial distress emerges as the key reason why young farmers have not put into practice what they learnt in the ATCs. Specifically, 1 in 3 reported a lack of funds for the investment (“very important” or “most important”, while 45.8% lacked the necessary infrastructure and/or facilities. Just 15% felt that they lacked the necessary knowledge to apply what they had been taught. There were also some cases of respondents who attributed such failure to neglectfulness.

As far as the use of the produce is concerned, 50.4% of respondents use a part of their output for own consumption, while 47.8% give away some of their produce to friends and family. The commercial exploitation takes place mainly through traders (83.2%) and to a lesser extent through a network of customers (31.9%) developed by the producers themselves, as well as

through collective schemes, i.e. cooperatives (29.2%) and producer groups (13.3%). Selling to customer networks or in street markets can involve travelling up to 75 km from home, as is the case with

74.2% of respondents.

Regarding the near-term plans of young farmers, it is worth noting that just 8.1% (“very important” or “most important”) seriously consider giving up on farming. Keeping the farm unchanged in its present form is not included in their plans, which should be seen as a positive finding.

Despite the difficulties, a large majority (63.7%) of respondents plan (“very important” or “most important”) to expand their farms by a purchase or rental of land, 47.9% plan to invest in their existing farm holding and 1 in 3 intend to diversify their production. The dynamism of young farmers is attested by the export orientation (“very important” or “most important”) of 28.6% of respondents and, to a lesser degree, their plans for online marketing (11.5% “very important” or

“most important”), as well as product standardisation plans by 31% of respondents, interestingly with a self-reported high degree of confidence.

The economic crisis weighs heavily on young farmers’ plans for the near future. In particular, the ongoing crisis affects them in the form of higher costs of production and lower income (“very important” or “most important”) for 92% of respondents, forcing them to explore alternatives such as diversification of production (39% “very important” or “most important”) and export orientation (31.9% “very important” or “most important”). Also, against the backdrop of the economic crisis, respondents often second-guess the viability of their business, and some do not preclude giving up (19% “very important” or “most important”), and efforts to prevent this from happening involve more personal work, while at the same time reducing dependent labour inputs (“very important” or

“most important”) by 58.4% of respondents.

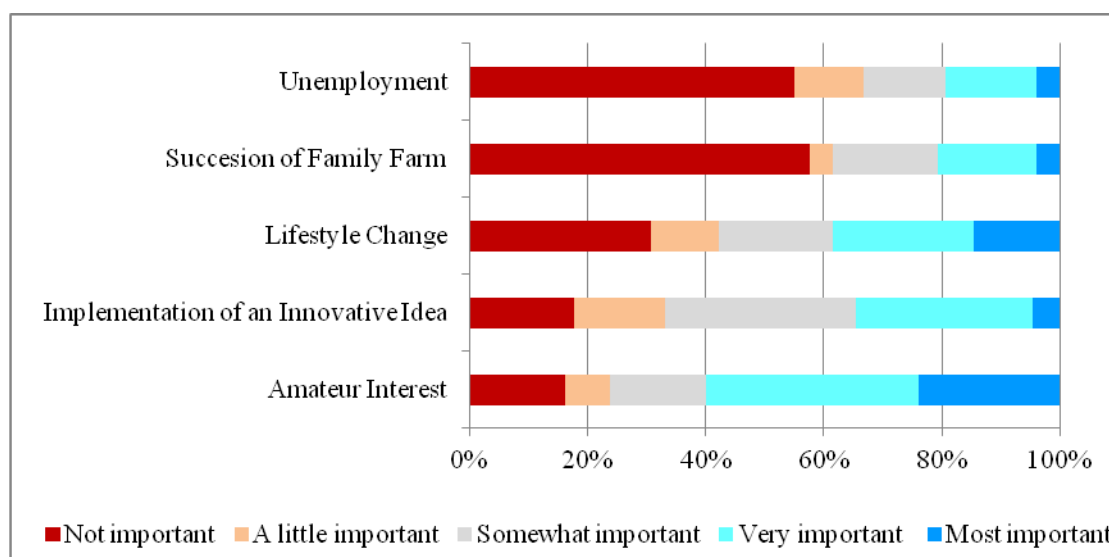
II.2 People who have expressed willingness to return to farming

Among a total of 130 respondents who attended the training courses of the IAS, the male to female ratio was 3 to 1. Their educational level is very high: 55.4% are university graduates, of which 1 in 5 hold a master’s or doctorate degree. The age of respondents averaged 33 years. Most of them are yet unmarried (60%), and the vast majority (85%) live in Athens.

About 2 in 3 were employed (58.5% worked full-time) before they attended training at the IAS, while 22.3% were unemployed.

Regarding their motivation to engage in agriculture, only 1 in 5 respondents cite the spectre of unemployment as an important factor. A higher proportion cite amateur interest (60%), followed by those who saw it as a chance to change their lifestyle and live closer to nature (38.4%) or to apply an innovative idea for a new cultivation technique or crop (34.6%).

Figure 15: Motivation for engaging in agriculture



Investment aid is highlighted by the majority of respondents (76.9%) as an important incentive for engaging in farming, followed by continuing vocational education and training (74.6%) and concession of farm land at a low rent (64.6%).

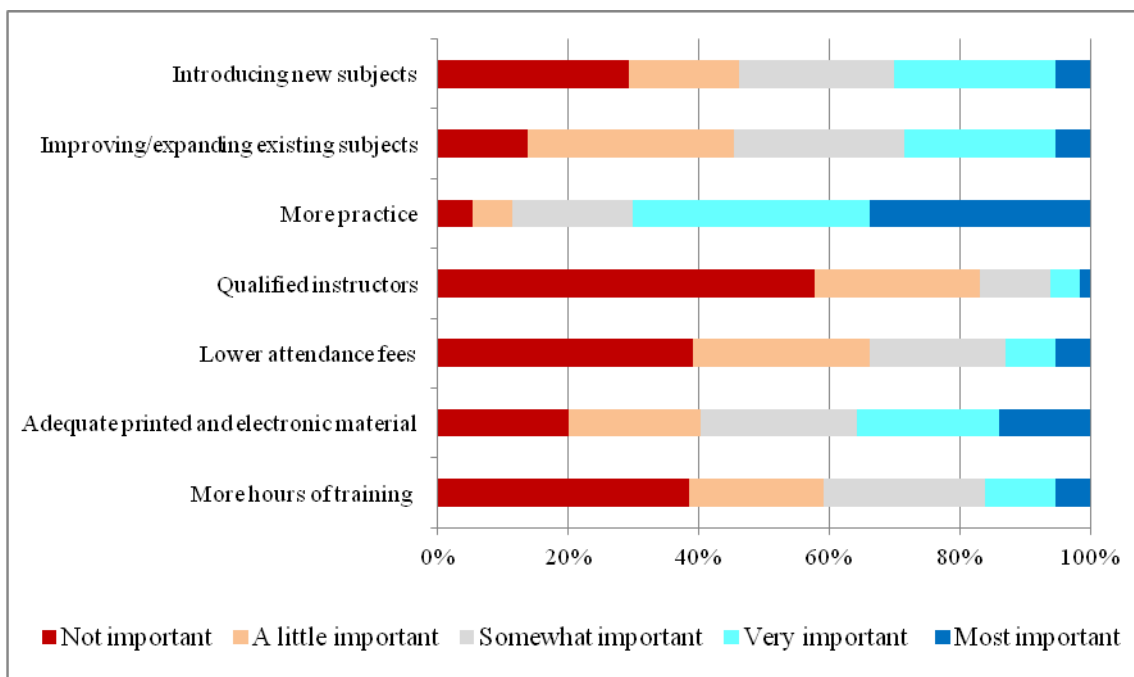
As indicated by the list of participants in the IAS training courses in the first and second half of 2014, one in three were interested in beekeeping, followed by viticulture/oenology (6%), olive growing and gardening (3.5%).

Eight in ten respondents are “very” or “extremely” satisfied with the training they attended, and just 3% report “somewhat satisfied” or “dissatisfied”. Those dissatisfied suggest that there should be separate courses for professionals and amateurs, respectively.

Despite the satisfaction of the large majority of trainees, there is a perceived scope for improvement, mainly by more hours of practice which is ranked as “very important” or “most important” by 70% of respondents, followed by adequate printed and electronic material (34.2%) and introduction of new subjects (30%).

It is worth noting that 45.1% of respondents consider that the level of the instructors is so high that it leaves no room for further improvement in the quality of training provided.

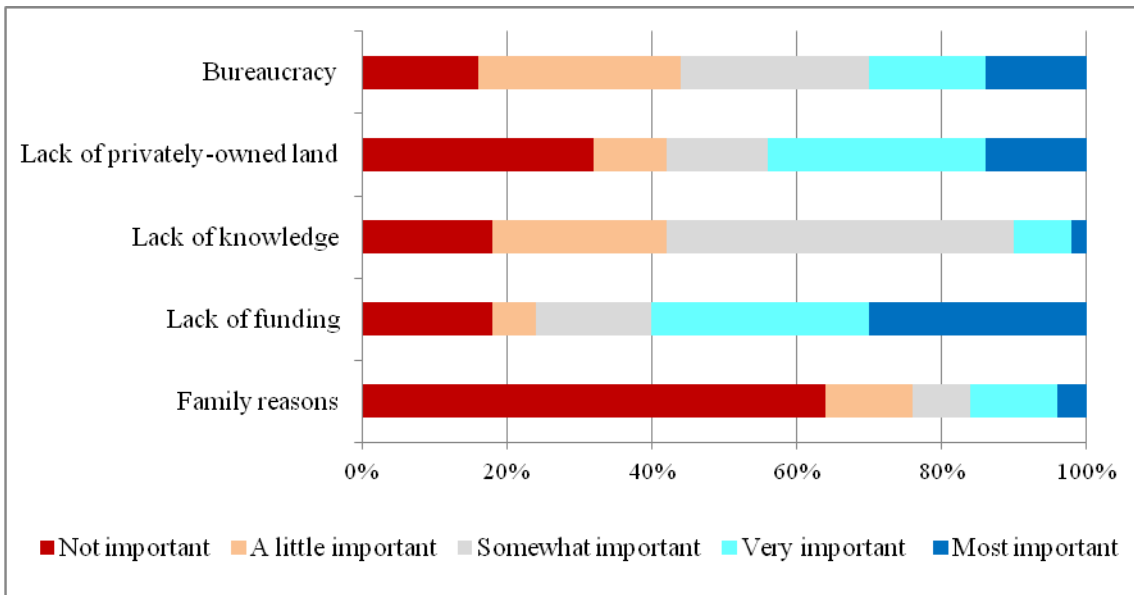
Figure 16: Institute of Agricultural Sciences: Improvements in Training Courses



Hands-on experience and vocational training are considered by respondents as equally important factors (87.7%) for a successful career in farming. Moreover, 38.5% have not yet started farming, citing as “very important” or “most important” reasons the lack of funding (60%), lack of privately owned agricultural land (54%) and bureaucracy (30%).

These findings are consistent with similar findings in recent international literature (e.g. Shute *et al.*, 2001). It should also be noted that Haniotis (2015) finds that access to finance and privately owned agricultural land along with ongoing education/training are the major barriers to enter the agricultural sector, which Europe’s young farmers have to overcome in order to cope with contemporary challenges.

Figure 17: IAS: Reasons for not engaging in agriculture



These difficulties are seen as prohibitive for 38% of those still not active in farming, while only 16% plan to implement their plans. The remaining 46% cannot at present provide a definite answer. Among respondents who do engage in agriculture, 55% see it as a hobby, 30% as a means to supplement their income and only 15% as a primary occupation, i.e. a primary source of income. The main production orientation of active farmers is arboriculture (35.2%), followed by beekeeping (32.4%). Also, 58.7% grow a single crop, while 38.7% grow two different crops. It is worth noting that about half of the respondents (49.2%) have to travel more than 100 km. from their permanent residence to arrive at their farms.

More than 1 in 3 respondents had not worked in agriculture before attending the IAS training courses. Only 4% have been included in the Young Farmers Scheme. Those included in the scheme secured farm land by a rental or purchase, except only one of them who already had a farm. Economic and financial distress emerges as the key factor preventing young farmers from applying what were taught in the IAS training courses: 40.5% cited as “very important” or “most important” a lack of funding, while 34.2% lacked the necessary infrastructure and/or facilities. Finally, 19.2% felt that they lacked the necessary knowledge.

Sixty percent of respondents reported that a part of their output goes to own consumption, while 53.8% give away some of their produce to friends and family. The commercial exploitation of the output takes place mainly through networks of customers developed by the producers themselves (20.8%) and to a lesser extent through traders (10%). Selling to customer networks or in street markets can involve travelling up to 50 km from home, as is the case with 77% of respondents.

Regarding the near-term plans of young farmers, it is worth noting that only one respondent considers giving up on farming, while all respondents plan to improve their farm, by taking full advantage of any opportunities offered to them. Thus, a large majority (52.6%) of respondents plan seriously (“very important” or “most important”) to expand their farm by buying or renting

land, and 36.7% plan to invest in the existing farm. 50.6% of respondents report that standardisation of products is included in their immediate plans, which is consistent with the farming sector they are active in (arboriculture and apiculture), and feel very confident about this. Indicative of the dynamism of these young farmers is their export orientation (“very important” or “most important”) of 43.8% of respondents and their plans for online marketing (37.5% “very important” or “most important”). Finally, one in five intend to diversify their production.

The economic crisis weighs heavily on young farmers' plans for the near future, since it increases production costs and thus reduces farmers' income (an impact seen as “very important” or “most important” by 71.3% of respondents), forcing them to look for alternatives such as exports (47.4%

“very important” or “most important”) and, to a lesser extent, diversification of production (20%). Also, as a result of the economic crisis, respondents do not preclude the possibility of giving up on farming (11.4% “very important” or “most important”) and efforts to prevent this from happening involve more personal work, while at the same time reducing dependent labour inputs (“very important” or “most important”) by 45% of respondents.

III. Potential Target Populations for the Project

Using the data we have collected through our field researches, we have identified five potential target populations for the project.

TARGET POPULATION 1:

Active Young Farmers (Training within the “Young Farmers” Scheme)

The average young farmer who has attended training at Agricultural Training Centers (ATCs), as an eligibility requirement for funding under the Young Farmers Scheme, is 34 year old, upper secondary school (lyceum) graduate and married, took up farming either soon after graduating or after occasional work in other jobs for a short time before succeeding their parents in the family farm and had worked in the family business before such succession.

The production of the farm is oriented to one or two crops and is spatially differentiated: arboriculture is predominant in the area of Pella (Northern Greece), olive growing in Messinia (southern Greece) and arable crops in Fthiotida and Karditsa (Central Greece), and the subjects taught at the training programmes are differentiated accordingly.

The government's intention to increase the taxation of farmers appears to influence responses to the question about the incentives that could help young people to engage in agriculture. Indeed, the majority of respondents cite tax deductions as the most important incentive.

Training at ATCs is assessed as satisfactory, although most respondents believe that more hours of practice were needed to make up for the lack of experience, which is seen as the most crucial factor for a successful career in farming. Nevertheless, economic and financial constraints (lack of facilities and/or investment funding) have prevented trainees from applying what they have been taught.

The average farm is located within 15 km from home; in most cases, rented land has been added to a core land transferred by parents, in order to meet the minimum size requirement and qualify for the Young Farmers Scheme. Part of the produce goes to own consumption and/or is given away to friends and relatives, while the bulk is sold through wholesalers/retailers and, to a smaller extent, through collective schemes (agricultural cooperatives and/or groups of producers). In several cases, farmers have developed their own networks of customers which can extend to a range of 200 km from the location of the farm holding. This is perhaps a factor that motivates them to plan product standardisation in the near future. In addition, their future plans include an expansion of the farm by buying or renting land (where this is feasible, given that there are also some cases of land shortages), investment activity, diversification of production and export orientation.

Young farmers in this category believe that the current crisis of the Greek economy affects them in multiple ways: it increases production costs, reduces their income and forces them to reduce dependent labour inputs and increase personal and family work.

Despite the difficulties and frustration, most respondents do not consider giving up on farming, at least not as an intentional option, although they do not preclude this possibility should they have no other choice due to adverse developments in the broader economic environment.

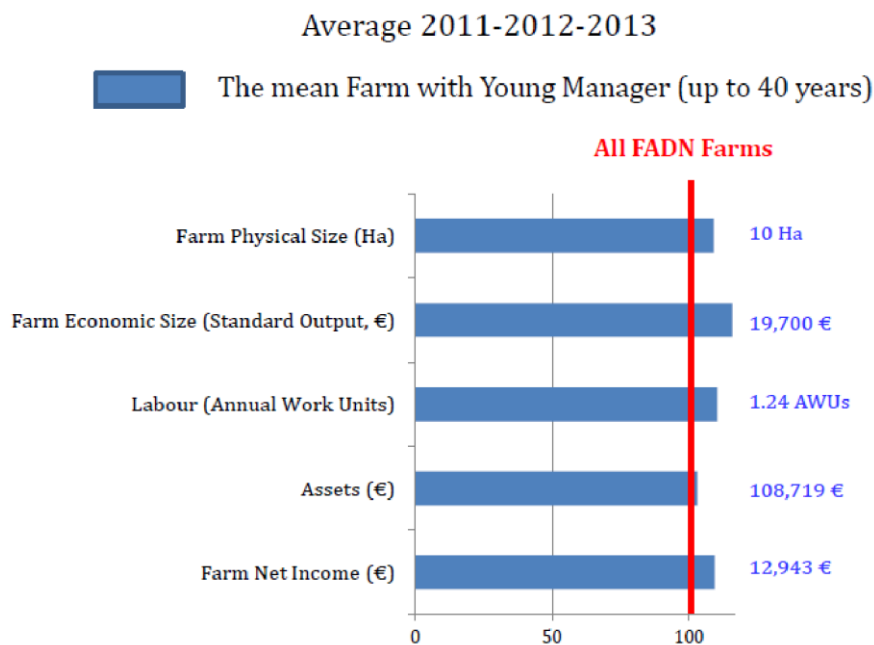
Additional information on active young farmers from FADN

In addition to the above information obtained through the survey that we conducted, invaluable additional data on young active farmers in the country can be drawn from the database of the Farm Accountancy Data Network (FADN). In the context of FADN, accountancy data from a sample of the agricultural holdings are gathered every year, concerning a series of physical and structural data, as well as economic and financial data. FADN includes all farms defined as commercial, i.e. those with an Economic Size above a certain economic size threshold (which

for Greece has been set at €4,000) in terms of Standard Output. Thus, the FADN sample for Greece represents 47.2% of all farms.

By processing raw FADN data for the three latest available years (2011-2012-2013), we find that the mean farm with a young manager shows more dynamism than the average of the all FADN farms aggregate (Figure 18). In particular, it has a larger physical size (10.0 ha compared with 9.2 ha) and economic size (€19,700 against €17,000) and uses higher labour inputs (1.24 Annual Work Units against 1.13 AWUs). Young farmers have, on average, invested capital worth €108,719, compared with €105,325 for the mean FADN farm. Also, the mean farm with a young manager has much better economic performance, attaining a farm net income of €12,943, compared with €11,827 for the mean FADN farm.

Figure 18: The mean FADN farm with a young manager (aged up to 40 years)



Source: Calculations based on micro-data from the FADN Database

Moreover, looking at farms by type of farming, we can observe that farms with young managers have a greater economic size than the mean FADN farm across all types of farming but three: Horticulture (vegetables and flowers), Sheep and Cattle (see Table_). On average, in the period 2011-2013, the mean farm with a young manager increased its economic size by 4.0%, compared with a decline of 1.1% for the mean FADN farm. The most dynamic farms with young managers in terms of economic size growth are those specialising in sheep, vegetables-flowers and cereals.

Table 4: Economic Size of FADN Farms (Standard Output, Thousand Euros)

TYPES OF FARMING		2011	2012	2013	Average 2011-2013	Change 2011-2013
All types of farming	All farms	17.1	17.0	17.0	17.0	-1.1%
	Farms with Young Managers	19.1	20.0	19.9	19.7	4.0%
Cereals	All Farms	13.0	12.7	12.9	12.8	-0.8%
	Farms with Young Managers	12.8	15.6	14.2	14.2	10.9%
Cotton	All farms	16.1	16.0	15.5	15.9	-3.2%
	Farms with young managers	22.8	21.9	20.1	21.6	-11.6%
Vegetables/Flowers	All farms	58.0	46.2	53.0	52.4	-8.6%
	Farms with young managers	42.9	34.7	55.8	44.4	30.0%
Olive trees	All farms	10.1	10.2	9.5	9.9	-5.7%
	Farms with young managers	13.0	13.5	11.3	12.6	-13.1%
Sheep	All farms	14.4	14.5	17.7	15.5	22.6%
	Farms with young managers	12.1	13.0	16.6	13.9	37.1%
Goats	All farms	16.4	16.9	17.2	16.8	4.5%
	Farms with young managers	25.8	19.0	18.7	21.1	-27.7%
Cattle-Dairying	All farms	50.3	48.7	52.5	50.5	4.4%
	Farms with young managers	50.5	45.9	43.8	46.8	-13.2%

Source: FADN Database, elaboration of the original micro-data

TARGET POPULATION 2:

Young people who, after training, have started farming as their main occupation

Young farmers in this category have a high likelihood (42%) of being female, have completed training at the Institute of Agricultural Sciences (IAS), engage in farming as their main occupation, are on average 29 years old and single. They have a 50% likelihood of being upper secondary education graduates and 50% of having a higher educational attainment, even a PhD. Their motivation to engage in agriculture was mainly succession in the family farm and/or application of an innovative idea (a new crop or cultivation technique), but also -- with a likelihood of 25% -- unemployment.

The production of the farm is oriented towards one or two crops, most likely horticulture and beekeeping, followed by dairying. The topics of the training course they attended were diverse, with beekeeping as the predominant subject.

The high investment costs required for applying an innovative idea is probably the major factor leading respondents to indicate investment aid as the most important incentive for someone to engage in agriculture. Tax deductions are ranked as the second most important incentive, reflecting strong concerns about farm viability amid speculation about an impending increase in the taxation of farmers.

Training is assessed as satisfactory, with some scope for improvement identified as regards the printed and electronic educational material distributed to trainees. More often, however, respondents suggest an increase in the hours of practice to make up for experience, which is seen as the most important factor for a successful career in farming.

Economic and financial constraints (lack of facilities and of investment funding) are reported to have prevented trainees from applying what they learned in training programmes, although they have not applied for funding from the Young Farmers Scheme.

The farm is up to 20 km far from the farmer's home, and the output is sold mainly through an own network of customers, which can extend in a radius of 400 km from the farm. Its products are marketed through wholesalers/retailers and to a lesser extent through collective schemes (agricultural cooperatives and/or producer groups). Finally, the type of farming (arboriculture or beekeeping) is compatible with own consumption, but also holds a potential for standardisation, which in turn would facilitate online marketing and export-orientedness. This dynamism, coupled with the plan to expand the farm, are the antidote to the consequences of the economic crisis, which increases production costs and reduces the income of farmers, forcing them to reduce dependent labour inputs and increase personal and family work.

It should be noted that giving up on farming is not seen as an option for the near future and is not even considered as a possibility, despite the current adverse circumstances of the economy.

TARGET POPULATION 3:

Young people who, after training, have started farming as a secondary occupation

The average young farmer who has completed training at IAS and has turned to agriculture as a secondary source of income is 36 years old, with a high educational level (university degree), and was employed before deciding to start farming. The motives for this decision can vary: amateur interest and/or a wish to change lifestyle and live closer to nature are more commonly cited, while less so are succession in the family farm and/or application of an innovative idea (new crop or cultivation technique), without excluding unemployment as a possible motive.

The production of the farm is oriented towards a single crop, predominantly arboriculture and apiculture and, to a lesser extent, viticulture. The subjects covered by the training attended are diverse, with apiculture featuring more prominently.

People of this profile see farming as a secondary source of income and in several cases as a hobby, therefore they tend to downplay financial incentives and instead highlight continuing education and training as the most important incentive for engaging in agriculture. This finding can explain their higher likelihood of not having taken up farming before attending the training programme. The next most important incentives are the concession of agricultural land and investment aid.

Although training is assessed as satisfactory, needs for constant improvement are identified across almost all areas: introducing subjects, improving the content of training programmes, adequate printed and electronic educational material and more hours of practical training.

In this case too, economic and financial constraints (lack of facilities and/or funding for investment) have prevented respondents from applying what they have been taught in training programmes, although they have not applied for funding under the Young Farmers Scheme.

The farm can be located at a long distance (up to 300 km) from the farmer's home. Production other than the part used for own consumption and/or given away to friends and relatives, is marketed mainly through an own network of customers, extending in a radius of up to 300 km from the farm.

Although farming is not the main source of income for people in this category, their plans for the near future include an expansion of the farm. Moreover, the types of farming (olive growing or beekeeping) hold a potential for product standardisation, online marketing and export orientation.

Finally, the economic crisis increases the cost of production and reduces agricultural income, but does not significantly raise the chances of giving up on farming.

TARGET POPULATION 4:

Young who, after training, have started farming as amateurs

The young amateur farmer who has completed training at the IAS is on average 35 years old, highly educated (university graduate) and was employed before deciding to engage in agriculture. The motives for such decision were, beyond the obvious amateur interest, a wish to change lifestyle and live closer to nature and secondarily to implement an innovative idea.

The production of the farm is oriented towards one or two crops, predominantly arboriculture, horticulture and apiculture and, to a lesser extent, viticulture. The subjects of the training attended were diverse with apiculture holding first place, followed by olive growing and viticulture.

Probably reflecting the amateur nature of farming activity in this category, as the main incentives that would encourage someone to engage in agriculture, respondents cite investment aid, concession of agricultural land and education/training.

Training is assessed as satisfactory, with room for improvement identified as regards the adequacy of printed and electronic training materials, but mainly the hours of practical training to make up for experience, which is perceived as the most crucial factor for a successful career in agriculture.

Once again, economic and financial constraints (lack of facilities and/or funding for investment) have prevented trainees from applying what they have learned, only this time the lack of practical knowledge is indicated as an additional reason.

The farm can be located at a long distance (up to 300 km) from the farmer's home. Its output is used for own consumption and/or is given away to friends and family.

Although farming is not a main or a secondary source of income for people in this category, their plans for the near future include an expansion of the farm. Moreover, the types of farming (olive growing or beekeeping) are very compatible with product standardisation, online marketing and export orientation.

The economic crisis increases the cost of production and reduces agricultural income, but does not significantly raise the chances of giving up on farming.

TARGET POPULATION 5:

Young people who, after training, have not started farming yet

The young person who has attended training at the IAS but has not yet taken up activity in farming is on average 34 years old, single, high school or University graduate and employed or unemployed before deciding to engage in agriculture. It should be noted that the highest percentage of the unemployed falls within this category, as reflected in the fact that unemployment is cited as an important motive to engage in agriculture, followed by amateur interest, a wish to change lifestyle, and application of an innovative idea.

The subjects of the training programme attended covered a very broad spectrum, with beekeeping, herbs, viticulture and alternative crops featuring more prominently.

Lack of funding emerges as the cause of failure to actively engage in agriculture. This is reflected in the responses about the incentives for someone to engage in agriculture: start-up support (investment aid and concession of agricultural land) and education/training are seen as the most important. On the other hand, only one in six respondents intend to engage in agriculture in the near future.

Training is assessed as very satisfactory, with some room for improvement identified as regards the adequacy of printed and electronic training material and, most importantly, an increase in the hours of practical training.

Table 5: Profiles of Target Populations
(answers to criteria are displayed in order of importance)

	I. Active Young Farmers (Training within "Young Farmers" Scheme)	II. Young People, who after training, have started farming as their main occupation	III. Young People, who after training, have started farming as secondary occupation	IV. Young People, who after training, have started farming as amateurs	V. Young People, who after training, have not started farming yet
Mean Age (years)	34	29	36	35	34
Educational Status	" Upper secondary education	<ul style="list-style-type: none"> • Upper secondary education • University graduate 	" University graduate	" University graduate	<ul style="list-style-type: none"> • Upper secondary education • University graduate
Marital Status	" Married	" Single	<ul style="list-style-type: none"> • Married • Single 	<ul style="list-style-type: none"> • Married • Single 	" Single
Occupational Status prior to attend an agricultural training program	<ul style="list-style-type: none"> • High school student • Employed 	<ul style="list-style-type: none"> • Employed • High school student • Unemployed 	<ul style="list-style-type: none"> • Employed • Part-time employed 	<ul style="list-style-type: none"> • Employed • Unemployed 	<ul style="list-style-type: none"> • Employed • Unemployed
Respondents' Motivation for initiating agricultural activities	" Succession of the family farm	<ul style="list-style-type: none"> • Succession of the family farm • Implementation of an innovative idea • Unemployment 	<ul style="list-style-type: none"> • Amateur interest • Lifestyle change • Succession of the family farm • Implementation of an innovative idea 	<ul style="list-style-type: none"> • Amateur interest • Lifestyle change • Implementation of an innovative idea 	<ul style="list-style-type: none"> • Amateur interest • Lifestyle change • Implementation of an innovative idea • Unemployment
Farming as source of income for respondents	main	main	secondary	Amateur interest	Not yet engaged in agriculture

Productive orientation of respondents' farm	<ul style="list-style-type: none"> Arboriculture - Olive Trees, Arable crops 	<ul style="list-style-type: none"> Arboriculture Apiculture 	<ul style="list-style-type: none"> Arboriculture Apiculture Viticulture 	<ul style="list-style-type: none"> Arboriculture Horticulture Apiculture Viticulture 	
Respondents' views on the most effective incentives for initiating farming	" Tax deductions	<ul style="list-style-type: none"> Investment aid Tax deductions 	<ul style="list-style-type: none"> Continuous education and training Concession of farm land at a low rent Investment aid 	<ul style="list-style-type: none"> Investment aid Granting of land Education 	<ul style="list-style-type: none"> Investment aid Concession of farm land at a low rent Training
Subject of the course(s) they have attended	<ul style="list-style-type: none"> Arboriculture - Olive Trees, Arable crops 	<ul style="list-style-type: none"> Apiculture others 	<ul style="list-style-type: none"> Apiculture others 	<ul style="list-style-type: none"> Apiculture Olive trees Viticulture others 	<ul style="list-style-type: none"> Apiculture Aromatic Plants Viticulture Alternative Crops
Proposals for improvement of training courses	" More practice	<ul style="list-style-type: none"> More practice Adequate printed and electronic material 	<ul style="list-style-type: none"> Introducing new subjects Improving/expanding existing subjects Adequate printed and 	<ul style="list-style-type: none"> Adequate printed and electronic material More practice 	<ul style="list-style-type: none"> More practice Adequate printed and electronic material

			electronic material " More practice		
Experience vs Training	Experience	Experience	Training	Experience	
Obstacles in implementation of what they have learnt in the training programs	<ul style="list-style-type: none"> Lack of facilities Lack of funding for investments 	<ul style="list-style-type: none"> Lack of facilities Lack of funding for investments 	<ul style="list-style-type: none"> Lack of facilities Lack of funding for investments 	<ul style="list-style-type: none"> Lack of facilities Lack of funding for investments Lack of empirical knowledge 	
Distance of the farm from place of residence, up to:	15 km	20 km	300 km	300 km	
Land acquisition for inclusion in "Young Farmers" Scheme	<ul style="list-style-type: none"> transfer from parents rental 	Not included in "Young Farmers" scheme	Not included in "Young Farmers" scheme	Not included in "Young Farmers" scheme	
Marketing channels	<ul style="list-style-type: none"> Traders Own customer network Agr. Co-ops Producer Groups 	<ul style="list-style-type: none"> Own customer network Traders Agr. Co-ops Producer Groups 	Own customer network	Self-consumption	

How far from your farm are your products sold? [up to:]	200 Km.	400 Km.	300 Km.		
Short-term plans	<ul style="list-style-type: none"> • Product standardization • Expanding my farm (purchase or rental of land) • New investment • Diversifying production by new products • Exploring export potential 	<ul style="list-style-type: none"> • Product standardization • Expanding my farm (purchase or rental of land) • New investment • Diversifying production by new products • Exploring export potential 	<ul style="list-style-type: none"> • Expanding my farm (purchase or rental of land) • Product standardization " Online marketing • Diversifying production by new products • Exploring export potential 	<ul style="list-style-type: none"> • Expanding my farm (purchase or rental of land) • Product standardization • Online marketing • Diversifying production by new products • Exploring export potential 	
Giving-up the farm (short-term plan)	8,5% - 18,7%	Not at all	4,2% - 12,5%	0% - 13,6%	
Impact of economic crisis	<ul style="list-style-type: none"> • It increases production costs • It reduces my income • It forces me to reduce hired 	<ul style="list-style-type: none"> • It increases production costs • It reduces my income • It forces me to reduce hired labour inputs 	<ul style="list-style-type: none"> • It increases production costs • It reduces my income • It forces me to reduce hired labour inputs 	<ul style="list-style-type: none"> • It increases production costs • It reduces my income • It forces me to reduce hired 	
	labour inputs and increase personal and family work	and increase personal and family work	and increase personal and family work	labour inputs and increase personal and family work	

V. Concluding Summary

The aim of this study is the systematic demographic mapping of young people - either employed or unemployed - who would be eligible to join the program actions.

Our study has been based on two data sources: (a) the processing of raw micro-data from two large databases, i.e. the Labor Force Survey of the Greek National Statistical Authority (the 2nd quarter of 2015 with 67,000 records) and the Farm Accountancy Data Network for 2011, 2012 and 2013, with 12,910 records in total, and (b) field surveys with a questionnaire addressed to young people who have attended training courses at both the Agricultural Training Centers and the Institute of Agricultural Sciences. Through these surveys we have collected 243 filled questionnaires.

During the last six years, employment in Greek agriculture has decreased by 10%, while, among all Greek farms, those with young operators present the highest rate of reduction.

The continued economic crisis has taken a heavy toll on both the society and the labor market in Greece. The severity of unemployment varies widely across age groups, the highest rate being recorded in males and females aged 15-24 and females aged 25-39. The underemployed, together with the unemployed, have come to represent a very high proportion of the workforce, which is close to or exceeds 50% for the ages up to 29 years. Unemployment rates are also very high for young agronomists.

The largest category of unemployed people in Greece today are those aged 25-39; almost three quarters of these persons are long-term unemployed, while 41% have no social security coverage. For these people, friends and relatives play a key role in seeking job opportunities, whereas family is the primary and dominant source for their sustenance, in contrast to the welfare state which has an insignificant role.

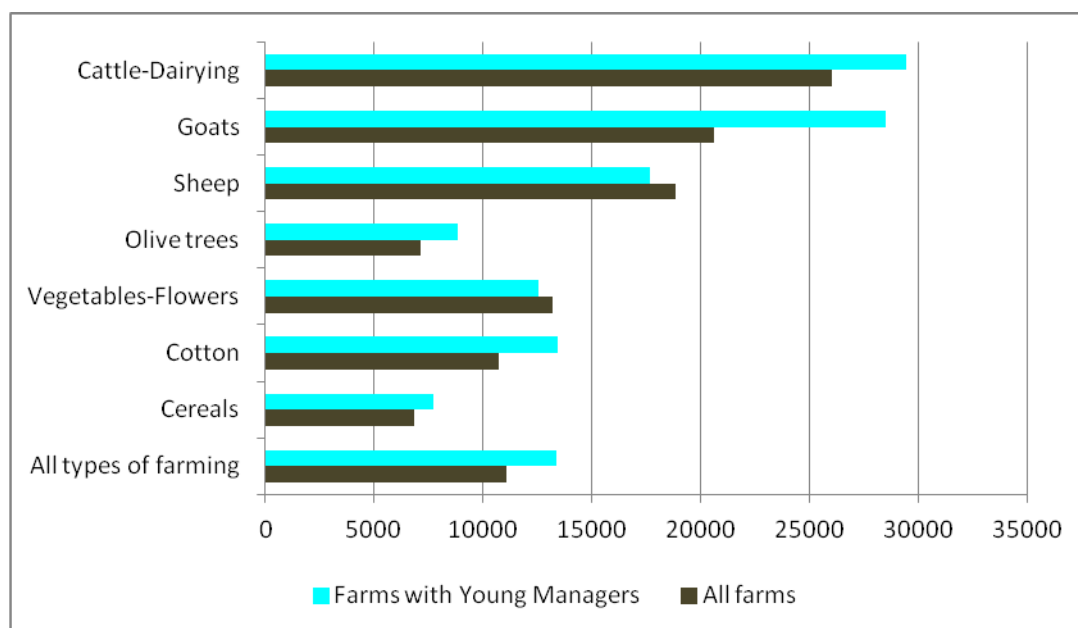
Among the total population and among young persons, those unemployed who report that their last job was in the primary sector represent negligible percentages of no more than 1.2%.

The vast majority of young unemployed are not currently in education or training, therefore they face a risk that their skills may become obsolete and they may not be able to keep pace with new developments in the labor market. Only 1.3% of young unemployed aged 25-39 pursue studies in the area of life sciences, and 4% of young unemployed aged 15-24 focus on subjects related to agriculture and veterinary medicine. Thus, there is a large potential for developing educational programmes targeting young unemployed, on various subjects within the broader agri-food sector.

From the analysis of the FADN database, which represents all “commercial” farms i.e. almost half of the total Greek farms, we find that the average farm with young operator (aged up to 40 years), is much more dynamic than the average FADN farm, in terms of physical and economic farm size, labor inputs, assets, and economic performance. As we

see in figure 19, for the period 2011-2013, the mean commercial farm with a young operator attains a much better farm net income, in five different farm types, i.e. farms specializing in cereals, cotton, olive trees, goats and cattedairying. Although farms with young operators that specialize in sheep and vegetables-flowers have a lower farm net income, it should be noted that it is precisely these farms that are the most dynamic, as between 2011 and 2013 they increased their economic size, by 37% and 30%, respectively.

Figure 19: Net Income per farm, by Types of Farming (Average 2011-2012-2013, €)



Source: FADN Database, elaboration of the original micro-data

Fifteen percent of the trainees in our sample were *unemployed prior to attending an educational programme*. Of these, 58% are already engaged in agriculture (half of them have agriculture as their main occupation), while 42% have not started agricultural activity as yet due to *lack of funding and lack of own land*. These two obstacles have also been identified by a smaller number of people who were underemployed before attending an educational programme and have not started yet engaging in agriculture.

In our study we have identified **five potential target populations** of young people (up to 40 years) who present a remarkable variation as well as similarities across a series of characteristics:

6. Active Young Farmers who have attended training within the “Young Farmers” Scheme
7. Young People who, after training, have started farming as their main occupation
8. Young People who, after training, have started farming as a secondary occupation
9. Young People who, after training, have started farming as amateurs
10. Young People who, after training, have not started farming yet.

Farming exhibits a significant potential as a youth employment opportunity, though with varying degrees of accessibility and attractiveness for different categories of young people.

Active Young Farmers who have succeeded their parents as managers of the family farm are the first target population. Some of them had tried other jobs, but their early involvement with agriculture and a strong willingness to stand on their own feet were the key factors behind their final decision. Farming is familiar, and hard work is not a problem for them. Also, this group includes young people who have chosen to implement an innovative idea, such as a new crop or novel cultivation techniques, as well as those pushed by unemployment.

For Active Young Farmers, most of the capital infrastructure of the farm was already there while by their inclusion in the “Young Farmers” scheme this infrastructure has been modernized (e.g. new tractors). They comprise a dynamic part of farming population, who despite the harsh economic conditions, face the future with optimism and it is no surprise that the vast majority of them intend in the near future to expand their holdings by purchasing or renting land, where possible. Some of these dynamic young farmers use a part of their agricultural area to experiment with new crops and/or differentiating their productive orientation towards the cultivation of new species, responding in this manner to market requirements (e.g. cultivation of nuts because of producer price increase).

They are quite skeptical about agricultural cooperatives because of a long tradition of corruption and opportunistic attitudes connected with co-ops. Thus, although most of the production volume of active young farmers is handled by traders, however, they have also created their own customer networks.

Available land is the main limiting factor for the entry of active young farmers (e.g. in our case study area of Aridea, Northern Greece). This is the case especially with arable crops, for which a satisfactory income is achieved only with large cultivated areas. Serious problems also arise within the “Young Farmers” scheme, such as a reduction by half of the initially expected aid for setting-up their farms, causing them to revise and reverse their initial investment plans.

On the other hand, interest rate subsidy for loans is not considered a desirable incentive by active young farmers, due to the existence of many indebted farms, which act as a negative example. Also, interviewees were very skeptical about financing their investments from a bank loan.

Active young farmers *specialize* in cultivation of trees (such as peach and cherry in Pella area, and olive trees in Kyparissia and Fthiotida) and arable crops. Also, in the 2nd, 3rd and 4th groups arboriculture and apiculture are the most popular productions followed by viticulture (3rd group) and vegetables (4th group).

As for *occupational status prior to attending a course*, most of the respondents were already employed, while unemployment concerns a small share of young people in 2nd, 4th and 5th group.

Succession in the family farm has been stated as the sole *motivation for initiating agricultural activity* in the 1st group, as well as the most important in the 2nd group, while the 3rd group attaches it a lower degree of importance. Amateur interest, lifestyle change and implementation of an innovation prevail in the 3rd, 4th and 5th groups. Unemployment only appears in two groups (2nd and 5th), in low ranking.

Diverging views have been expressed regarding *the most effective incentives for initiating farming*. Tax deductions appear in the 1st group as the only incentive, as well as in the 2nd group, along with investment aid. On the other hand, education and training, granting of land and investment aid have been reported as effective incentives from respondents in the 3rd, 4th and 5th groups.

A noteworthy unanimity is expressed around lack of facilities (capital infrastructure) and lack of funding for investments, which are considered as the *obstacles preventing trainees from putting into practice what they have learnt in the training programs*.

Despite the satisfaction of the great majority of participants with *the quality of the programmes* they have attended, there is room for improvement, mainly with more practice and more adequate printed and electronic educational materials. *New subjects have been proposed*, including new developments in arboriculture (species, varieties and techniques), more emphasis on tackling plant diseases, information about organic farming, more focus on livestock breeding and fodder culture, etc.

Regarding *the immediate plans of young farmers*, it is worth noting that despite the difficulties, the large majority of respondents plan to expand their holdings by buying or renting land, by making new investments in their existing holdings, as well as by diversifying their production. The dynamism of young farmers is also attested by the export orientation and, to a lesser extent, their openness to e-commerce and product standardization. Most importantly, giving up on the existing farm is seriously considered, on average, only for 8% of the respondents.

Young farmers' planning for the near future is closely linked to *the effects of the economic crisis on the operation of the farm*. Respondents in all groups agree that the ongoing crisis increases the cost of production and thereby reduces the income, forcing them to explore alternatives such as a diversification of production and export orientation. Also, efforts to ensure viability involve increasing personal work, while at the same time reducing hired labor inputs.

It seems that despite the ugly prospects of the Greek economy and the bleak landscape of the labor market, some dynamic segments of Greek youth have already successfully engaged in agriculture, while developing ambitious plans for the future. For a significant

part of our respondents, farming is a promising perspective, although their strategies lack any collective framework.

Finally, some sections of young unemployed people could be the new generation of modern farmers. However, the extent to which this can be achieved will depend on the ending of austerity for the Greek economy, as well as a carefully designed package of incentives and action to overcome obstacles identified.

References

- EU (2012): *Generational Renewal in EU Agriculture: Statistical Background*, Agricultural Economic Briefs, Brief N° 6, June 2012, http://ec.europa.eu/agriculture/rural-area-economics/briefs/pdf/06_en.pdf
- Gkartzios, M., Garrod, G. and K. Remoundou (2013): *"Going Rural": Counterurbanisation in times of crisis*, Research Project Report, www.latsisfoundation.org.
- Haniotis, T. (2015): Challenges ahead: Key question for the future, Presented at the Seminar *"New challenges, New generation"*, EU DG Agriculture and Rural Development, EXPO, Milano 2015.
- Kasimis, Ch. and St. Zografakis (2014): Crisis and Return to Farming, in Zambarloukou, St. and M. Kousi (Eds) *Social Aspects of Crisis in Greece*, Pedion Editions, Athens, pp. 135-170 [in Greek].
- Koutsouris, A. (2012): *Evaluation of training courses for Young Farmers in Agricultural Training Centers, during the period 2003-2011*. Agricultural University of Athens, mimeo [in Greek].
- Mishra, A., Wilson, Chr. And R. Williams (2009): Factors affecting financial performance of new and beginning farmers, *Agricultural Finance Review*, 69 (2), pp. 160-179.
- Shute L., Anderson, A., Bernhardt, H., Creech, T., Fleming, S., Oakley, E. and B. Shute (2011): *Building a Future with Farmers: Challenges Faced by Young, American Farmers and a National Strategy to Help Them Succeed*, Available at: www.youngfarmers.org
- Zagata, L. and L.A. Sutherland (2015): Deconstructing the 'young farmer problem in Europe': Towards a research agenda, *Journal of Rural Studies*, Vol. 38 (2), pp. 39-51

APPENDIX - SURVEY QUESTIONNAIRE

1. Gender

- Male Female

2. Age

3. Educational level

- Primary education Lower secondary education Upper secondary education
- Post-secondary education (Vocational Training Institute) Tertiary Education (University - Technological Education Institute) Post-graduate degree (Master's) Doctorate degree

4. Marital status

- Single Married

Number of children:

5. Place of permanent residence

6. What was your employment situation before you decided to engage in agriculture [i.e. before attending an agricultural course]?

- Employed Part-time employed Unemployed
- Homemaker
- Secondary school student Higher education student

7. What was your motivation to engage in farming? Please rank the following by importance:

	Not important	A little important	Somewhat important	Very important	Most important
Unemployment					
Lifestyle change					
Family farm succession					
Applying an innovative idea					
Amateur interest					

Other (please specify):

8. In your view, what would be the most effective incentives for someone to pursue a career in farming? Please rank the following by importance:

	Not important	A little important	Somewhat important	Very important	Most important
Concession of farm land at a low rent					
Ongoing education and technical support					

Loan interest rate subsidies					
Tax deductions					
Investment aid					

Other (please specify):

9. Have you received training on agriculture?

- At the AUA training courses
- At the Institute of Agricultural Sciences (IFE)
- At a Technical Vocational Lyceum
- At Agricultural Training Centers (KEFE)
- At an Institute of Vocational Training (IEK)
- At a Vocational Training Centre (KEK)

10. What were the subjects/topics covered by the training?

11. How satisfied are you with the training you have received?

- Dissatisfied
- A little satisfied
- Moderately Satisfied
- Very satisfied
- Extremely satisfied

12. If your response to the previous question is “Dissatisfied” or “A little satisfied”, please indicate the reason

13. What are, in your opinion, possible ways to improve training? Please rank the following by importance:

	Not important	A little important	Somewhat important	Very important	Most important
Introducing new subjects					
Improving/expanding existing subjects					
More practice					
Lowering attendance fees					
Adequate printed and electronic material					
Qualified instructors					
More hours of training					

Other (please specify):

14. Do you have any suggestions about the subjects or their content?
New subjects

Improving/expanding existing subjects

Other suggestions

15. Which is in your opinion the most important factor for a career in farming?
Mark only one oval per row.

	Not important	A little important	Somewhat important	Very important	Most important
Hands-on experience					
Vocational training					

16. Have you already started work in farming?

- YES (Skip to question 19)
- NO

You have not started work in farming

17 Why not? Please indicate the reasons and rank them by importance

	Not important	A little important	Somewhat important	Very important	Most important
Family reasons					
Lack of funding					
Lack of knowledge					
Lack of privately owned land					
Bureaucracy					

Other (please specify):

18. Do you plan to start work in farming within the next twelve months?

- YES
- NO
- I am not sure

You engage in farming

19. You engage in farming as:

- A primary occupation (primary source of income)
- A secondary occupation (supplementary source of income)
- A hobby

20. How far (in km) from the place of your primary residence is your farm?

21. What farming sector are you active in?

- Aromatic and medicinal plants
- Energetic plants
- Legumes (grain/forage)
- Arable crops
- New arable crops. (eg stevia)
- Vegetables
- Greenhouse and hydroponic facilities
- Arboricultural crops
- New arboricultural crops (goji, aronia berries, etc.)
- Vineyard
- Dairy cattle breeding
- Meat cattle breeding
- Aquaculture
- Mushroom cultivation
- Beekeeping
- Heliciculture
- Production of certified quality products
- Online marketing of agricultural products
- Food processing facilities
- Wineries
- Milk processing facilities
- Meat processing facilities

Other (please specify):

22. Had you engaged in farming before you attended training?

- YES
- NO

23. Have you been included in the “Young Farmers” Scheme?

- YES
- NO

23.1 If YES, how did you qualify? How did you obtain the necessary farm land or cattle to meet the Annual Work Units requirement?

- I already owned an eligible holding
- transfer from spouse
- transfer from parents/in-laws
- purchase
- rental

Other (please specify):

24. If you have not applied what you have learned in the training, what are the reasons for this? Please rank the following by importance:

	Not important	A little important	Somewhat important	Very important	Most important
I learned nothing new					
The training was irrelevant to my activity					
I lacked the necessary facilities/infrastructure					
	Not important	A little important	Somewhat important	Very important	Most important
to apply what I learned					
I lacked practical knowledge					
I lacked the funds for the investment					
I am too old to make changes					

Other (please specify):

25. If you have already started production, how is your output used?

- Own consumption (you and your family)
- Sold through a wholesaler/retailer
- Sold through a cooperative
- Sold through a group of producers
- Sold to my own network of customers [how far from your farm?]
- Sold in street markets [how far from your farm?]
- Sold to a network of producers-consumers
- Given away to friends and family

Other (please specify):

25.1 How far from your farm are your products sold to your own network of customers or in street markets?

26. What are your near-term plans? Please rank the following by importance:

	Not important	A little important	Somewhat important	Very important	Most important

Expanding my farm (purchase or rental of land)					
Keeping it in its present form					
Diversifying production by new products					
Product standardisation					
	Not important	A little important	Somewhat important	Very important	Most important
Online marketing					
Exploring export potential					
Giving up					
New investment					

Other (please specify):

27. How does the current crisis affect your plans for the future? Please rank the following by importance:

	Not important	A little important	Somewhat important	Very important	Most important
It increases production costs [higher taxation, less tax exemptions (e.g. oil)] and consequently reduces my income					
It increases the chances that I give up on farming					
It forces me to differentiate my production					

It forces me to explore alternative channels for marketing my products e.g. exports					
It forces me to reduce hired labour inputs					

Other (please specify):