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ARTICLE

New entrants policy into agriculture: researching new farmers' satisfaction

Investigación de la satisfacción de los nuevos agricultores sobre la política de los nuevos participantes en la agricultura

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Abstract: During the last three decades, the European Union has adopted a series of policies aiming to increase the new farmers entering the primary sector. This scheme, namely the "New Entrants Policy", is reflected to the relevant regulations of the Common Agricultural Policy. After many years of implementation, there is still limited information regarding young farmers' perceptions and participation to this scheme. Against this backdrop, a questionnaire was developed in order to assess the degree of new farmer's satisfaction on their decision to enter the agricultural sector by participating in this scheme. Furthermore, we tried to evaluate the factors and motivations that determined their decision. The survey was carried out in Greece during an educational seminar specifically designed for new entrants in agriculture. In total, 254 new farmers answered questions concerning their experience from the implementation of the program. Additionally, executives of public services involved in the program implementation were interviewed in depth. Data analysis revealed that the majority of new entrants declare a high degree of satisfaction from their decision to enter agriculture. Specifically, those who display environmental consciousness related to field practices towards environment protection feel more satisfied with their decision.

Keywords: common agricultural policy, environmental consciousness, Greece, new farmers, participation satisfaction.

Resumen: Durante las últimas tres décadas, la Unión Europea ha adoptado una serie de políticas destinadas a aumentar el número de nuevos agricultores que ingresan al sector primario. Este esquema, a saber, la "Política de nuevos entrantes", se refleja en las reglamentaciones pertinentes de la Política Agrícola Común. Después de muchos años de implementación, información disponible sobre las percepciones y la participación de los jóvenes agricultores en este esquema es todavía limitada. Para superar este obstáculo se elaboró un cuestionario para evaluar el grado de de nuevos agricultores en su decisión de ingresar al sector agrícola participando en este esquema. Además, tratamos de evaluar los factores y las motivaciones que determinaron su decisión. La encuesta se llevó a cabo en Grecia durante un seminario educativo diseñado específicamente para nuevos participantes en la agricultura. Totalmente 254 nuevos agricultores respondieron preguntas sobre su experiencia de la implementación del programa. Por lo demás ejecutivos de los servicios públicos involucrados en la implementación del programa se entrevistó en profundidad. El análisis de datos reveló que la mayoría de los nuevos participantes declaran un alto grado de satisfacción de su decisión de ingresar a la agricultura. Específicamente, aquellos que muestran conciencia ambiental en prácticas de cultivo principalmente se sienten más satisfechos de su decisión.

Palabras clave: política agrícola común, conciencia medioambiental, Grecia, nuevos agricultores, satisfacción con la participación.

1. Introduction

European Union (EU) faces a steady decline in the number of agricultural holdings and farmers, responsible for a subsequent critical decrease in the number of new farmers (NF). Although several series of EU policies have been developed in attempt to reverse this situation, the "young farmer problem" remains an issue of major importance in European agriculture (European Parliament, 2014; Kontogeorgos et al., 2017). Recent data estimated a slight percentage of only 5,94% of the EU farms managed by farmers younger than 35 years old, whereas old farmers manage more than 54% of the EU farms. Furthermore, the same data revealed an absence of a sufficient replacement rate, in terms of passing the farms from a generation to the next one (Zagata et al., 2017). This concern for the needs of renewal of the rural population there was since the 1970s (Fennell, 1999). As mentioned in Zagata & Sutherland (2015), this problem is particularly intensive in countries with prevalent small-scale holdings, namely Portugal, Italy, Romania and Greece. In these countries, the scarce presence of young farmers is considered one of the main weak points in the competitiveness of agriculture. In addition, the competitiveness of the sector suffers from the lower investment and innovation propensity of elder farmers (a horizon problem).

In order to address the scarcity of NF in combination with the rapid ageing of the farmer population, the EU developed a specific policy that has been applied throughout the last 30 years. This policy is based on a series of legislation actions including decisions and regulations, in an effort to thoroughly face the problem. Following those previous policies, the novel Common Agricultural Policy (CAP) approached this target by two different but complementary paths, (a) the early retirement and (b) the new entrant scheme. According to the former, older farmers were provided financial incentives for premature retirement, in order to transfer their farming activities to younger farmers, while based on the latter, new entrant schemes were designed to financially assist NF as head of agricultural holdings. These schemes facilitate the new entrants' initial establishment and the structural adjustment of their holdings after the initial set up. By the comparison of the two paths, new entrants seem to have a more positive impact than the early retirement scheme (Davis et al., 2013). The major policy tools for the new entrants into agriculture include Young Farmer Payments (YFP) and Start-up aid for young farmers (Zagata et al., 2017).

In Greece, although the proportion of people employed in agriculture is constantly decreasing, it remains high compared to the EU-28. In particular, while 4.4% of the total labor force in the EU-28 is employed in the sector of agriculture, the corresponding percentage of Greeks stood at 11% in 2015 (European Union Statistical Office, 2017). According to the Labor Force Survey (LFS) of 2016, the age composition of the employed in Greek agriculture holds at 24,8% for those with age <39 years old, at 68,4% for people between 40-64 years old and the remaining 6.8% holds for employees over 65 years old. Interestingly, more detailed survey data show that the percentage of the farm managers aged over 55 years old in Greece exceeds 55% of the total, while young farm managers aged <35 years reach less than 6% of the total farmers. It should be noted however that the last two programming periods of new entrants policy after 2000, as well as the early retirement yielded satisfactory results (Greece, 2014).

According to international standard classification of education (ISCE), the educational level of the majority (64,2%) of Greeks employed to agriculture remains low, whereas only 4,5% are highly educated. In the EU-28 the percentage of farmers with low and high educational level is 40,7% and 8,9%, respectively. Yet, more than 90% of all Greek farmers have only practical experience with no basic agriculture training and barely 1% has passed a complete agricultural training (European Union Statistical Office, 2017). Between 1981 and 2016, the women farm managers in Greece increased from 15,1% to 26% of the total farmers. Regarding the implementation of the new entrants policy, there are two major factors that remain unclear; (a) if the total of the new farmers who benefit are actually new entrants and (b) if all new women farmers are really linked with employment in agriculture or they just serve as beneficiaries for the needs of the family farming (Soukiouroglou, 2011).

The main objective of this study was to assess the degree of NF satisfaction from their decision to apply for the new entrants' scheme and be activated into the agricultural sector. The present paper starts with a literature review focused on the course of new entrants policy

implementation as well as on the problems that either the new farmers or the policy as outcome, face. After the following section, i.e. Materials and Methods in which the survey is described, in the sections of results and discussion, the factors related with the new farmers satisfaction are investigated. Further their demographic characteristics, perceptions, attitudes are discussed and their farming practices after a 5-year-period from their initial set up and participation in the measure 112 (§ 22 of Council Regulation 1698/2005 (European Union, 2005) - Setting up of young farmers) of Rural Development Programme 2007-2013 are also described. Finally, at the end of the manuscript, some general conclusions are presented.

2. An overview to the policy of new entrants in agriculture

From the beginning of the 1980s, the European Parliament had realized the need for a financial support system for young people willing to initiate agricultural activities. The main purpose of this support system was to cover the considerable costs required in the first stage of establishment. From 1985 until now, a series of chain regulations has been adopted (Appendix, Table 1A), intending, inter alia, to support the renewal of the rural population and to create viable agricultural holdings by the new farmers.

The official EU policy documents define as "young farmer" a farmer who is under 35 years of age and as a "new entrant" someone who intends to break into farming. According to Cook et al. (2008) a new entrant to farming is a person or organization, who for the first time acquires farmland in their own right through succession, purchase or contractual agreement. Young farmers that have been registered in the past as agricultural entrepreneurs cannot be regarded as "new entrants" (Zagata & Lostak, 2014). "New farmers" could be defined as a group that includes young farmers (under 35 or 40 years old) who are also new entrants in agriculture. In the current programming period 2014-2020, beneficiaries of the new entrants' scheme must be less than 40 years old, must be the head of an agricultural holding for the first time and should also have occupational skills for submitting and implementing a business plan for the development of their farming activity (Greece, 2014).

Before the Regulation 1257/1999, the implementation of the new entrants policy in the majority of Member-States of EU did not have the desired outcomes. The scope of attracting young people to the agricultural sector was not achieved and the results of the first regulations have been evaluated as poor (Ray, 1997; Tsiomidou, 2006). While from the first three regulations, the outcomes from the policy implementation in all EU countries were in total 226.151 beneficiaries, the regulation 1257/1999 in only six years resulted to the addition of 177.516 more (European Commission, 2006). The number of Greek young farmers that became beneficiaries by each of the Council regulations is shown in Figure 1. According to the implementation of the first three regulations, within one decade (1989-1999) a total of 13.514 young farmers were included in the policy of new entrants, while 39.447 were beneficiary in the 2000-2006 programming period and 19.128 young farmers in the period of 2007-2013.

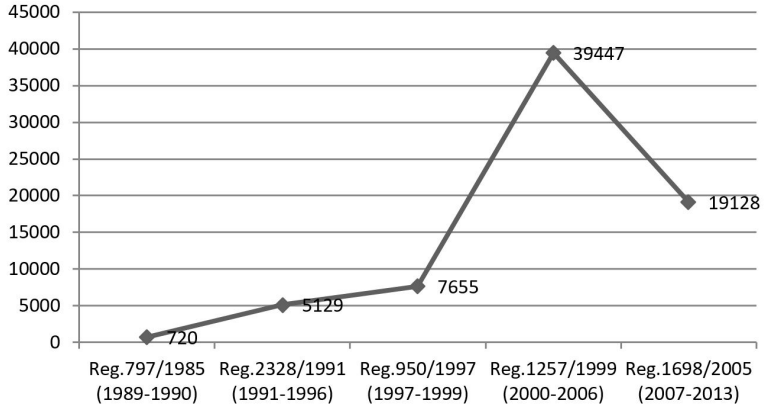

Figure 1. Number of Greeks new farmers that joined to the new entrants' policy according to the Council Regulations and the programming periods. Source: Authors' own work based on MRDF official data.

The regulations that followed 1257/1999 were improved in the sense of supporting young farmers, aiming to become more attractive than the previous ones. Changes made in the regulations, including the significant increase in the premium for the first establishment (from € 8.800 to 40.000 in the 2007-2013 programming period), the reduction of employment farm units and the possibility provided to young farmers for parallel non-agricultural employment, are shown in Table 1 (Ploeg, 2003).

Table 1. Conditions for involved in the policy of new entrants according to the regulations and the changes between them in Greece

CHANGES	REGULATIONS					
	797/85 (European Union, 1985)	2328/91 (European Union, 1991)	950/97 (European Union, 1997)	1257/99 (European Union, 1999)	1698/2005 (European Union, 2005)	1305/2013 (European Union, 2013a)
Age (yrs)	18-40	18-40	18-40	18-40	18-40	18-40
Subsidy /premium for 1st establish *(€)*	8.800	11.000	13.000	25.000	20.000-40.000	17.000-22.000
Compulsory remain to agriculture *(yrs)*	10	10	10	10	10	4-5
"Active farmer" status from 1st establish	N	N	N	N	N	In 18 months
Business Plan (in max 5 years) 1st target	N	N	N	N	Status of professional farmer	
Business Plan (in max 5 years) 2nd target	N	N	N	N	1 A.W.U. & 12.000 € Gross Added Value	8.000€+ 10%
Parallel non-agricultural employment	N	Y	Y	Y	Y	Y
Farm size or typical performance (in Annual Work Unit – A.W.U. or €)	1	1	0,5	0,5	0,5	8.000€
Professional seminars (in hours)	150	150	150	150	150	150
Environment protection	N	N	N	Y	Y	Y
Codes of Good Agricultural Practice *(COGAP)*	N	Y	Y	Y	Y	Y

Source: Authors' own work based on Strategic Documents of Rural Development Programmes.

In Greece, the regulation 1257 of 1999, implemented under the RDP 2000-2006 in the period of the 3rd Community Support Framework, resulted in a total of 39.447 young farmers beneficiaries to the measure 3.1 and thus was evaluated as the most successful to date. Of equal importance is characterized the Regulation 1698/2005 (European Union, 2005) that followed in the RDP 2007-2013 and covered a smaller number of young farmers (19.128) in

the measure 1.1.2 (Setting up of young farmers). After 2007 and until now (Regulation 1305/2013) (European Union, 2013a), young farmers were forced to submit an initial business plan with specific goals. In the last part of the business plan, there was a setting of targets related to the increase of the primary sector competitiveness as well as to the prospect of new farmers as farming entrepreneurs, which however was proved to be relatively difficult to be achieved. This fact led to a reduction in the number of new farmers in comparison with the 2000-2006 period (Schimmenti et al., 2015).

The EU in the current programming period (2014-2020), through the CAP, supports the new entrants to surpass both economic and market barriers to enter farming. The implementation of the regulation 1305/2013 and specifically the sub-measure 6.1 of the RDP 2014-2020, which concerns to the new farmers, is one of the most widespread measures trying to support young people entering agriculture (Conseil Europeen des Jeunes Agriculteurs, 2015; European Commission, 2013).

In the frame of sub-measure 6.1, apart from the various conditions and commitments concerning the beneficiary and the holding, the status of the "active farmer" was added for the first time. According to this addition, which is described in the article 9 of Regulation 1307/2013, the new farmer has to active for at least 18 months from the date of the first installation (Greece, 2014). An active farmer is considered a farmer who received the previous year a total amount of direct payments up to € 5.000. Similarly to the previous Regulation, in 1307/2013, the new farmers are obliged to submit an original business plan with implementation horizon of 5 years, for the creation of a sustainable agricultural exploitation adapted to national and community requirements. In order to avoid problems with the business plans in the current period their final targets were reduced. As shown in Table 1, new farmers' holdings at the end of business plan must have succeeded the minimum increase of at least higher from 10% of the original typical performance (€ 8.000). The 0,5 original annual work unit (A.W.U.) after 5 years that was the case in the previous programming period (2007-2013), was modified to 1 A.W.U. and the gross added value to reach over € 12.000 (Greece, 2007), in 1307/2013.

The new farmers in the current period are supported from both Pillar I and Pillar II of the Common Agricultural Policy. According to the Regulation of European Commission 1307/2013, NF entering the primary sector since 2015 has the opportunity to receive an additional payment from the Pillar I, which complemented the start-up aid under the Pillar II. For this purpose, in addition to the basic grants, the 2% of the national ceiling for direct payments is granted to new farmers in the form of annual area payments.

During the last years' financial crisis in Greece, many young people either from the rural or from the urban areas, thought of or attempted to return and start farming as a way out of unemployment (Greek Statistics Authority, 2017). This could be a great opportunity for Greek agriculture, if this return is really combined with the entry of highly educated young people, for the creation of a new model of "farmer". The economic crisis, especially in the implementation of new farmers' business plans, has led to an increase in demand for the sub-measure 6.1 of the new entrants in agriculture in the current period in Greece.

3. New farmers' problems and their contribution

New farmers could represent a major part of the driving force for rural development in the European Union and in many other countries, through greater efficiency and innovation adoption (Chatzitheodoridis et al., 2013; Grisa & Schneider, 2014; Barnes et al., 2016).Young farmers holding appropriate training (Brinia & Papavasileiou, 2015) can bring eco-friendly new skills and practices as well as a more professional management to the farming sector (Redigor, 2012). The present image of the "European new farmer" reflects a male under the age of 40 years old, who manages a small sized farm, with sufficient differences from their above described role.

NF face various problems in agriculture activities and rural life (Carneiro & De Castro, 2007; EIP-Agri Focus Group, 2015). One of the most serious drawbacks is the access to land (Ingram & Kirwan, 2011; Ilbery et al., 2010; European Parliament, 2017) that is related with the viability of the farm and the agriculture entrepreneurship (White, 2012; Pechova, 2017). Older

farmers, following a traditional way of thinking, concentrate and do not pass their land or holdings to the younger ones (Pezaros, 2004; Kontogeorgos et al., 2014). Although the economic incentives to encourage participation in new entrants' policies are useful (Aggelopoulos & Arabatzis, 2010; Knezevic Hocevar, 2012), they are considered not sufficient (Kazakopoulos & Gidarakou, 2003). The installation premium given to young farmers is in many cases ineffective, on account of the high start-up costs and the low profitability (Tarangioli & Trisorio, 2009; Directorate General for Internal Policies, 2012; Carbone & Corsi, 2013; EIP-Agri Focus Group, 2015). For instance, regarding Italy, Carbone & Subioli (2008) stated that "the size of the payment provided by the EU measure for young farmers offers an ineffective incentive to attract young people into the sector, and it is also insufficient to finance an increase in the competitiveness of the existing holdings through the familiar turnover within the farm". In general, it is extremely difficult for new entrants in agriculture to acquire farms that would be economically viable with full-time employment (Graziano Da Silva & Del Grossi, 2001; Schneider & Niederle, 2010; Zagata & Lostak, 2014), ensuring a satisfactory income (Redigor, 2012; Kageyama et al., 2013). For several years in numerous countries, new farmers had no right to receive direct payment entitlements through the national reserve in case they were not passed to them through inheritance (Matthews, 2013). Bureaucracy constitutes a serious problem as well, correlated with the policy implementation especially in south European countries (Tarangioli & Trisorio, 2009; Schimmenti et al., 2015; Krisane & Pilvere, 2016). Complexity of definitions, processes and time delays comprise additional crucial factors for the decision for participation in the relative measure and to the implementation of a new farmer's project.

Occasionally, the way of life in rural areas may be associated with difficulties and negatives aspects for the new farmers (Gidarakou et al., 2007; White, 2012). Distance from urban centers and markets, lack and limitations to information and to communication technologies may be some of the factors responsible for consideration of low social status (Sutherland et al., 2015; Madueira et al., 2015), which also make the rural life of limited desirability.

However, in Greece and some other European countries, life pattern and financial crisis led to some extent the young people to engage in agriculture and move back to rural areas (Mailfert, 2007; Greece, 2014). According to Petcovic & Williamson (2015), there seems to be skepticism, as young farmers confront various problems related with bureaucratic approach to the concept of the farmer and with procedures required for their involving into the program. Furthermore, there is a lack of state support in terms of funding, liquidity, guarantees, high production costs and low profitability and eventually a lack of social recognition as young farmers. The Greek young farmers, according to Petcovic & Williamson (2015) survey, do not trust rural entrepreneurship and innovation, noting that a potentially greater effort in Greek economy may reverse this situation. Finally, they believe that it is not easy for a young farmer to move from an urban to a rural area, in order to create a sustainable agricultural holding. Nevertheless, this movement is probably easier for a young farmer with family tradition to agriculture.

However, there is only partial participation in such policy schemes. In some cases, the young farmers have no access to the aid or the participation conditions to the policy are prohibitive (Kontogeorgos et al., 2017). In many cases, there are not enough economic resources to cover the demand for involving to the measures of the programs. For instance, this was the case of the last calls for proposal of the sub measure 6.1 in the Greek Rural Development Programme (RDP) 2014-2020 in Greece. According to the beneficiary selection procedure, only one out of the three applications for membership will be beneficiary of the policy in some rural regions of the country, such as Central Macedonia. Similar problems were observed in other parts of Europe in the previous new entrants policies. For example, in the period between 2007-2013, only 177.516 new farmers in whole Europe benefited from these support measures (that is approximately 17% of young farmers and a little more than 1% of total farmers).

Young farmers could generate more value for agriculture than their older counterparts, increasing the competitiveness and sustainability of European agriculture and justifying the increased concern of the EU about the scarcity of young farmers. Keeping these facts in mind,

it is worth investigating the perceptions of new entrants in agriculture and the derived satisfaction of their choices.

4. Materials and methods

The present study was conducted in Central Macedonia, which is situated in the northern part of Greece. According to the 2011 census, the population of this region (1,874,590 residents) accounts for approximately 19% of the total population in Greece, whereas the total area occupied by this region is 18.811 km^2 (14.3% of total area of Greece). The selection of this region was based on its high importance for the agricultural sector in the Greek economy. According to 2009 data of the Greek statistics agency, the agricultural sector of Central Macedonia contributes to Regional Domestic Product more than 20%, in contrary to the overall agricultural sector in the national level, which contributes to Gross Domestic Product only 4.5%.

Two methodological approaches were applied for the needs of the study's scope. Firstly, in depth interviews were addressed to executives of the managing authority (experts) of the operational programme "Rural Development 2007-2013" as well as to executives from Central Macedonia and also to trainers of young farmers seminars. The aim of these interviews was the description of the implementation of the new entrants program and the recognition of possible problems linked to satisfaction of the young farmers. The second approach was a questionnaire survey aiming to directly identify the satisfaction and perceptions of the young farmers in the study.

In-depth interviews were performed in both central and regional level between January and May of 2014 and aimed at the collection of qualitative primary data. A total of nine executives and trainers took part in the interviews, of which three were from the program managing authority, three from Central Macedonia involved with the young farmers program implementation and three seminar trainers for young farmers. The analysis of these data was based on the quality approach as described in Milburn (1995). The interviews were carried out through a semi-structured questionnaire divided into two sections. The first section included questions relevant to the previous experiences of the executives and trainers from the implementation of young farmers programmes (previous and current programming period). In the second section, there were questions in which the interviewee had to note down opinions and estimations for the main profile of the Greek young farmer, the problems they face, as well as the estimated perspectives for their future.

Using the questionnaire, we tried to assess the young farmer's satisfaction from their decision to participate and enter the agricultural sector, and determine the factors affecting this decision. The questionnaire was distributed to beneficiary young farmers of the measure 1.1.2 (Setting up of young farmers) of the Operational Programme "Rural Development 2007-2013", during an agricultural educational program in Central Macedonia in the second semester of 2013. Questionnaires were applied to all 286 young farmers that participated in the educational program, 254 of which evaluated as reliable and were therefore used to constitute the final sample. The questionnaires consisted of three parts: the first one included demographic and professional questions; the second, questions related to the evaluation of their satisfaction from the participation in the program and their decision to work in agriculture. The third part included relevant questions to their views and beliefs for various factors that may have influenced their decision and questions regarding cultivation farming practices they tend to use.

The collected data were statistically analyzed applying a descriptive analysis, an ANOVA and a cluster analysis, using the statistical analysis software SPSS (Statistical Package for Social Sciences) version 20.0. The obtained results are shown in an operational flow presented in the methodological framework of Figure 2.

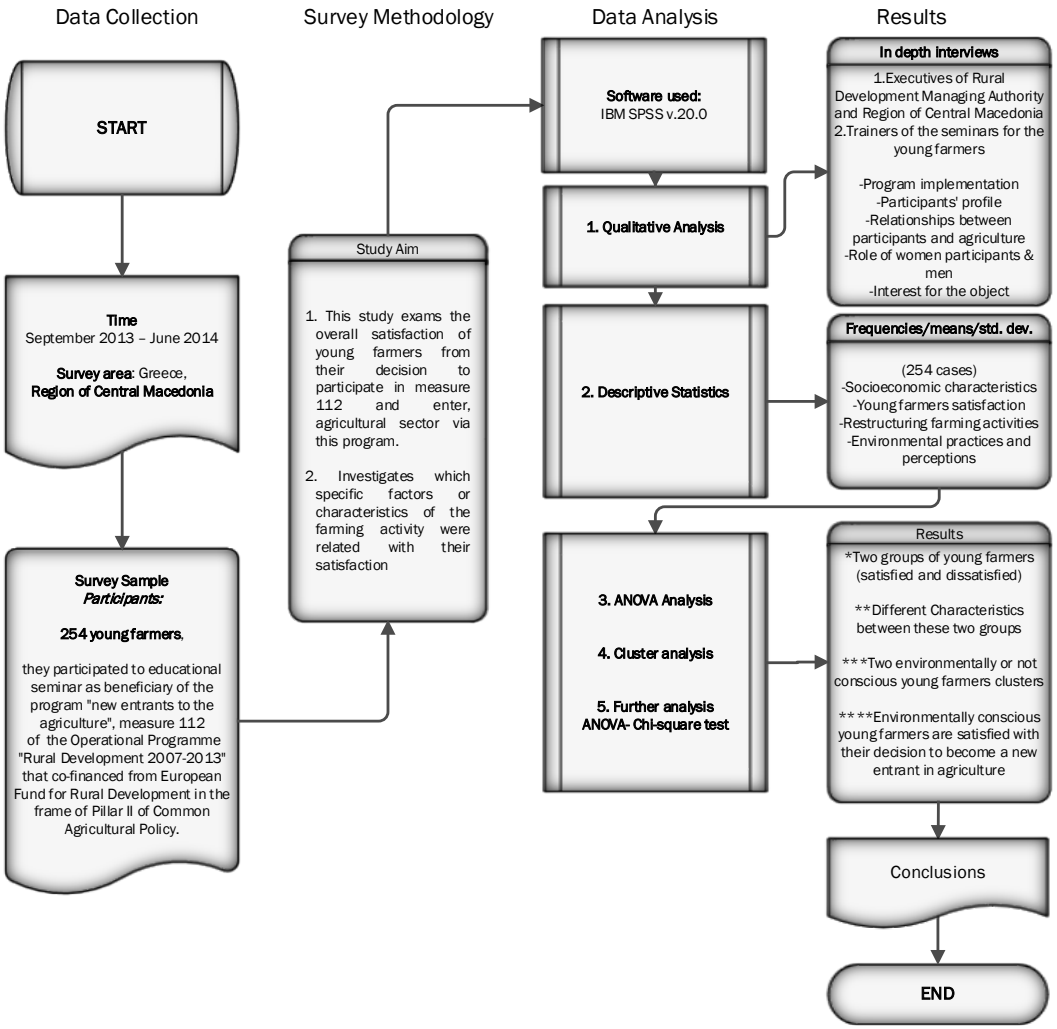

Figure 2. Methodological framework. Source: Own research.

5. Results and discussion

The participants of this survey are mainly married (51,2%), men (61,8%) who have graduated from high school (57,5%). Most of them (87,0%) are employed exclusively in agriculture, whereas the majority (67,0%) have up to 10 years of previous experience in agriculture and almost half of them (44,9%) claim that their annual income is less than 10.000 €. An interesting point concerning new entrants is the fact that 16% of the sample was previously occupied in agriculture. This fact, in combination with the relatively high experience with agricultural practices, disputes if new entrants in Greek agriculture are indeed new entrants, or are simply successors taking over the farm of their parents. The demographic profile of the respondents is presented in Table 2.

Table 2. Greek new farmers' demographic characteristics

Respondents' features	Count /Mean	Percentage / Std Dev
Male	157	61.8%
Married	130	51.2%
Age	32.83	5.5 (years)
Full time farmer	221	87.0%
Farming Experience	10 years	6 (years)
Education		
< 9 years (Basic)	69	27.2%

Table 2. Continued...

Respondents' features	Count /Mean	Percentage / Std Dev
9-12 Years (High School)	146	57.5%
12- 14 years (College)	29	11.4%
15-16 years (Higher)	10	3.9%
Previously occupied as:		
Private employee	61	24.0%
Public employee	2	0.80%
Self employed	28	11.0%
House keeping	39	15.4%
Unemployed	41	16.1%
High school student	41	16.1%
Farmers	42	16.5%
Annual income (from agricultural activities):		
<10,000 €	114	44.9%
10,001 to 20,000 €	88	34.6%
20,001 to 30,000 €	23	9.1%
>30,001€	27	10.6%

Source: Results analysis.

According to experts (executives of the managing authorities), a significant percentage of new farmers had already been occupied in agriculture within previous programming periods before joining in the policy measure of new entrants. This is mainly due to family continuity in this profession, which represents one of the most important reasons for setting up young people in agriculture. Other factors related with young people establishment in holdings are their personality, their willing to return to rural areas and the legal and political framework in both a national and European level. The existence of family lands and the need for land passing to the youngsters is a major problem in whole Europe. In Greece, although older farmers pass their holdings to the younger ones due to early retirement, occasionally they remain the unofficial farm managers. In some other cases, the children of a farmer are employed to the holding from a very young age, hence feeling as farm managers due to their many-year experience.

Survey respondents had already been installed approximately five years ago as new farmers. Their attendance to the training seminar was a prerequisite for completing their business plan to meet their obligations under the program. As a result, they already had the required experience to the status as professional farmers. Many of them held previous farming experience or had been previously employed as farmers. More specifically, from the examination of the in depth interviews and the personal contacts with new farmers and their trainers, we realized that an approximately 20% of the new farmers were not really new entrants into agriculture.

There is a general consideration in Greece implying that young women entered dynamically the young farmers' programs as beneficiary from the previous programming periods of the CAP, mainly from the middle of the 1990s (Soukiouroglou, 2011). This inference is in accordance with our survey, as the female young farmers correspond to the 40% of the total sample. Nevertheless, Gidarakou et al. (2008) mention that women, who participate in the program of new entrants to agriculture, do not abandon their traditional role as farmer's wives or daughters. In this sense, they exhibit a typical role, not having an active involvement in the cultivation of their holdings. On the other hand, Charatsari et al. (2013) claim that young female farmers present a significantly higher level of motivation to participate in agricultural educational programs compared to men, whose motives derive from self-actualization needs and not from their expectation to gain economic benefits.

It has to be clarified that the participation in the new entrant program requires the beneficiary to join specific training programs in order to obtain the basic knowledge for the

responsibilities of the job. It is therefore necessary for the young female farmers to attend these seminars. Based on the personal experiences of the interviewed executives involved in the implementation of the rural development programme, a large proportion of women in the new entrants program have participated to benefit their family farms. These young female farmers are not likely to intend following up with the farmer's work systematically.

However, the holding of the obligatory educational seminars constitutes a pleasant respite in the monotonous life of the women in the village or in isolated rural areas. Possibly in this case, there are numerous motivations related to socializing or to the interruption of the everyday care of the household combined with daily visits to a city and its market (the seminars are implemented in training centers of specific cities). These motivations are probably strongly correlated with women rather than with men. The seminar trainers' opinion on the contribution of participants to training process verifies the reduced interest of young female farmer. Based on their assessments, male farmers participate actively in the seminars, while female farmers are less involved in the educational process and only a few of them seem to be interested.

Cluster analysis divided the respondents in two groups, the satisfied farmers and the dissatisfied ones. This clustering was chosen in order to minimize the various ranges of satisfied or dissatisfied NF targeting on a more compatible analysis and intact conclusions. The cluster of satisfied NF is positively correlated to their decision to participate in the new entrants' policy scheme and with their new working role as farmers and vice versa. Satisfied farmers is represented the greatest proportion (74.8%) of the total sample, concerning both the new entrants program and their new job. On the other hand, one out of the four participants claimed that has been satisfied neither by their decisions nor for their future in primary sector.

The main reasons related to dissatisfaction from participation to the measure 112 are presented in the Figure 3. The high promotion of this policy scheme corresponds to the most serious cause, creating this way higher expectation than the true potentials. One other reason that makes new farmers dissatisfied is the generally insufficient direct payments from the policy scheme in combination with the low farming income. In addition, young farmers believe that public authorities and their services support insufficiently the implementation of this policy program. Time delays, illiquidity and uncertainty in the Greek economy puzzle even more this situation, bringing difficulties for any investment effort to grow up.

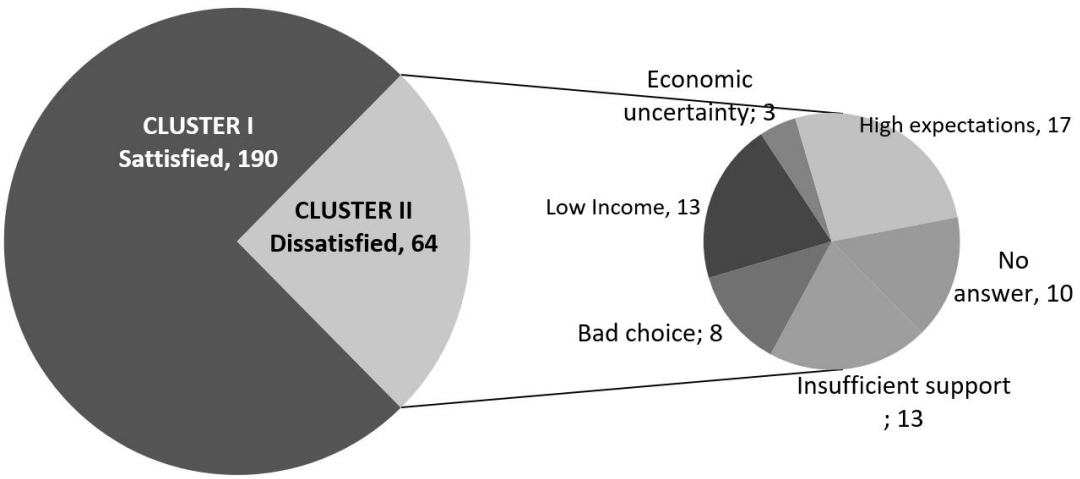

Figure 3. Satisfied and dissatisfied new farmers and the causes of their dissatisfaction. Source: Results analysis.

Dissatisfied NF are often mainly young farmers who have worked as farmers before their participation to measure 112 and are continuing necessarily the exploitation of the family holding. Their judgment is harder and more direct than the rest of the farmers owing to the better knowledge regarding the difficulties and the economic conditions of the work in the

primary sector. The causes of dissatisfaction among NF do not differ from those mentioned in the bibliographic review. However, according to the experts (executives of RPD managing authorities), these complaints are estimated to be sometimes biased. During the programming period 2007-2013, new entrants were given higher expectations by the government authorities both for the first establishment premium and regarding the program implementation. Although the first establishment premium within the period 2007-2013 ranged in higher levels than the previous period, namely between € 20.000 and 40.000, it continued to be accompanied by significant bureaucratic problems, excessive delays and non-regular finance on subsidy.

The ANOVA was employed to identify potential differences between the two groups of new farmers (Table 3). Among several variables examined concerning demographical and professional characteristics and eco-environmental aspects, only two characteristics appeared to be statistically divergent between the two groups. In particular, the answers in the questions: "I understand that my agriculture practices affect the environment" and "I feel responsible to protect the environment", are the only different perceptions between young farmers.

Table 3. Satisfied and dissatisfied new farmers ANOVA Analysis

		Sum of Squares	Df	Mean Square	F	Sig.
Farming Experience	Between Groups	14.760	1	14.760	0.409	0.523
	Within Groups	9099.795	252	36.110		
	Total	9114.555	253			
Gender	Between Groups	0.412	1	0.412	1.743	0.188
	Within Groups	59.545	252	0.236		
	Total	59.957	253			
Age (in years)	Between Groups	4.646	1	4.646	0.153	0.696
	Within Groups	7663.732	252	30.412		
	Total	7668.378	253			
Exclusively occupied as farmer	Between Groups	0.151	1	0.151	1.329	0.250
	Within Groups	28.562	252	0.113		
	Total	28.713	253			
Annual Income	Between Groups	1.593	1	1.593	0.640	0.424
	Within Groups	627.088	252	2.488		
	Total	628.681	253			
Self Consumption	Between Groups	0.349	1	0.349	0.999	0.319
	Within Groups	88.029	252	0.349		
	Total	88.378	253			
GMO Awareness	Between Groups	0.358	1	0.358	2.113	0.147
	Within Groups	42.732	252	0.170		
	Total	43.091	253			
Willing to adopt a GM crop	Between Groups	0.207	1	0.207	1.735	0.189
	Within Groups	29.951	251	0.119		
	Total	30.158	252			
I understand that my agriculture practices affect the environment	Between Groups	12.639	1	12.639	4.747	0.030
	Within Groups	671.018	252	2.663		
	Total	683.657	253			
I feel responsible to protect the environment	Between Groups	17.244	1	17.244	5.236	0.023
	Within Groups	829.937	252	3.293		
	Total	847.181	253			

Source: Results analysis.

These two perceptions of the respondents regarding environmental impact of their farm and their responsibility to protect it were used in the cluster analysis of Table 4, revealing 2 clusters. In the first one, respondents were aware of their environment impact, feeling also responsible to protect the environment. Hence, we conclude that cluster one consists of farmers that could be characterized as "environmentally conscious". On the contrary, farmers of the second cluster were

less aware of their farms' impact to the environment, whereas they feel less responsible to protect it. In this context, the second cluster was characterized as "less environmentally conscious". In this survey, there are substantially more "environmentally conscious" young farmers (N=209, 82.3%) than the "less environmentally conscious" ones (N=45, 17.7%).

The results of the crosstab analysis between the aforementioned clusters of young farmers and their satisfaction are in Table 5. This analysis revealed that almost 8 out of 10 young farmers that are satisfied with their decision belong to the "environmentally conscious" cluster, while only 22% of the "environmentally conscious" farmers are not satisfied with their decision. On the other hand, 40% of the "less environmentally conscious" farmers' state dissatisfied with their decision to become a young farmer.

Table 4. Descriptive statistics for the two clusters and ANOVA analysis for the environmentally conscious clusters

		N	Mean	Std. Deviation	Std. Error
I understand that agriculture practices affect the environment	Cluster 1	209	4.40	0.821	0.057
	Cluster 2	45	2.91	1.345	0.201
	Total	254	4.13	1.092	0.068
I feel responsible to protect the environment	Cluster 1	209	4.44	0.713	0.049
	Cluster 2	45	1.78	0.517	0.077
	Total	254	3.97	1.227	0.077

		Sum of Squares	df	Mean Square	F	Sig.
I understand that agriculture practices affect the environment	Between Groups	81.766	1	81.766	93.795	0.000
	Within Groups	219.683	252	0.872		
	Total	301.449	253			
I feel responsible to protect the environment	Between Groups	263.412	1	263.412	565.440	0.000
	Within Groups	117.395	252	0.466		
	Total	380.807	253			

Source: Results analysis.

Table 5. Environmentally conscious clusters and satisfaction among Greek new farmers

			Satisfied Young Farmers		Total
			Yes	No	
Environmentally Conscious clusters	No	Count	27	18	45
		% within Environmentally Conscious clusters	60.0%	40.0%	100.0%
		% within satisfied young farmers	14.2%	28.1%	17.7%
	Yes	Count	163	46	209
		% within Environmentally Conscious clusters	78.0%	22.0%	100.0%
		% within satisfied young farmers	85.8%	71.9%	82.3%
Total		Count	190	64	254
		% within Environmentally Conscious clusters	74.8%	25.2%	100.0%
		% within satisfied young farmers	100.0%	100.0%	100.0%

Chi square test: Pearson Chi-Square 6.358, df= 1, Asymp. Sig. (2-sided) = 0.012
Source: Results analysis.

Therefore, the vast majority of environmentally conscious young farmers are satisfied with their decision to become a new entrant in agriculture. The experts believe that this majority (satisfied and environmentally conscious new farmers) includes mainly the female new farmers and those who had any farming experience before. Young people that leave the urban life and move to rural areas with a more simple and traditional vision of life in mind are usually more environmentally conscious and implement eco-friendly methods to their holdings or apply organic farming.

The strong correlation between environmentally consciousness and satisfaction of the new farmers from their participation to the new entrants led us to investigate the use of good farm practices and the adoption of environmentally friendly techniques by them. Respondents were requested to evaluate a series of farm practices by using a five-point liker scale ranging from (1) "never" to (5) "always". These practices are usually reported as common examples of Good Agricultural Practices (Kontogeorgos et al., 2015). Mean values for all responses were relatively high, indicating a wide and high adoption level of these practices by new farmers in this survey (Figure 4). Additionally, although the majority of the new farmers (54,7% of the total sample) seem to be reluctant to change their main cultivation, there is a nucleus of young farmers applying innovative approaches and techniques. Particularly, there is a 24% and 37% of total new farmers that have applied plant tissue and soil analysis, respectively. These techniques could not only result in reduced production costs in the long-term but also could support the environmental friendly agriculture.

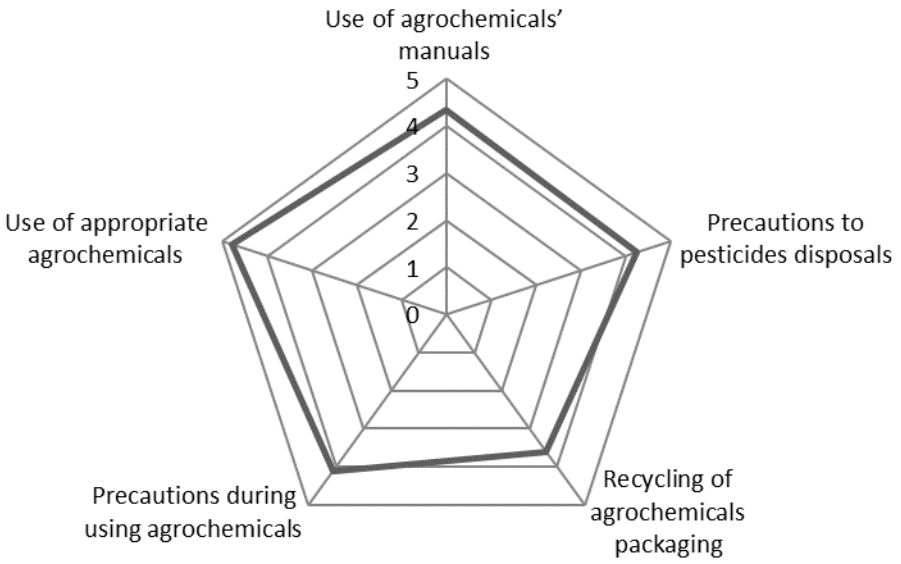

Figure 4. Mean value of the indicative environmental practices of the survey respondents.
Source: Results analysis.

The multifunctional nature of agriculture pushes farmers into accepting a more general role at local level, mainly through their operation in a context that seeks economic, environmental and social benefits. After the 1990s, when other rural activities such as agrotourism flourished, employment in agriculture has been linked with both income and environmental protection (Cayre et al., 2004). The most recent reform of the CAP recognizes the central role of the European agricultural sector in environmental management. However, farmers are still known as polluters (Michel-Guillou & Moser, 2006). This acknowledgement has led legislators to modify CAP objectives and consequently to set up new environmental measures (Bertoni et al., 2012). Nevertheless, new entrants in agriculture are more interested in environmental and social aspects of their holdings in comparison to older farmers (Sutherland et al., 2015). Due to their particular relationship with nature, NF constitute the target of multiple implicit and explicit pressures, in the sense of adaptation to novel environmental facts, including climate change and reduction in water resources

(Barkmann et al., 2015). These pressures cause a reconsideration of daily practices towards a more eco-friendly exploitation.

This empirical study contributes to the research on the motivations of the new farmers on several levels. First, it enhances the empirical evidence on their decisions' relation and influence by environmental aspects and from their role in the modern agriculture. The advanced provided knowledge regarding demographic characteristics of the new farmers and the degree of their satisfaction by the CAP will contribute policy makers to design more accurate agriculture strategies. Although the agricultural sector is of vital importance for the Greek economy, there are limited surveys that investigate this topic, probably because of the severe economic crisis and the high rates of unemployment in Greece (Greece, 2014; Greek Statistics Authority, 2017). Nevertheless, an economic and performance analysis of new farmers is required in order to identify more factors that affect this decision and wholly determine if new farmers are satisfied with this policy scheme. In any case, satisfaction of new entrants in agriculture is a crucial parameter and needs further investigation in order to enchase competitiveness of the existing holdings and create a driving force for rural development of Greece.

6. Conclusion

In order to maintain the primary sector, the European Union supports strongly the rural areas during the last three decades, through rural development programmes of the Common Agricultural Policy and the New Entrant Schemes. These policy measures provide assistance to young farmers towards the establishment of their own agricultural holdings. This kind of policy measures could therefore attract new entrants into agriculture that may contribute in restructuring the agricultural sector. In southern European countries, as well as in developing ones, where major employment and income problems occur due to the economic crisis, the new entrants into agriculture increased within the last years. Apart from the young farmers employing family farms, young people move from the urban to the rural areas asking for work in agriculture and bringing with them a new culture. These young people constitute the new generation of young farmers that incorporate eco-friendly practices in the agriculture activities.

This paper examined Greek young farmers' perceptions, practices and demographic characteristics in order to identify the parameters that determine their satisfaction from their participation into the New Entrants' European policy scheme. Based on the results, the only variables that determine their satisfaction are the responsibility to protect the environment and the farmers' awareness for their daily farming practices and how they affect the environment. The rest tested variables, namely "demographic" and other "farm practices" proved to be statistically insufficient to distinguish satisfied and not satisfied young farmers. Farmers' perceptions and attitudes before and after the implementation of a new policy is a critical issue that has to be taken into account for designing an effective agricultural policy. Such information can support policy makers either at local or European level to design effective measures, desirable from farmers and more targeted towards specific agricultural development goals and strategies.

It should be noted that these results are based on a dataset originating from farms in northern Greece and consequently are influenced by the weights attached to the farm and household goals in this region. For this reason, further research is needed at the European level, since young farmers, their environmental practices and the derived satisfaction from their work could determine the future of the agricultural sector. Further research is also suggested for the complementary policy measure of the "early retirement" in combination with the policy of new entrants, because, so far, the investigations of this measure remain in low level. Critical themes and problems between retired old farmers and new ones have to be examined for adoption of a more effective policy of new entrants, including the agricultural land transfer, the trust to the youth, the farms management transfer and the vision for the rural way of life.

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Appendix. EU regulations for new entrants into agriculture.

Table 1A. Basic EU Regulations regarding the policy of new entrants into agriculture (new farmers)

REGULATION	REGULATION OBJECT	PROGRAMMING PERIOD - OPERATIONAL PROGRAMME IN GREECE	ARTICLE – AXIS - MEASURE
COUNCIL DIRECTIVE of 17 April 1972 (72/159/EEC) (European Union, 1972)	on the modernization of farms	1972-1978	-Article 14 of Regulation
COUNCIL REGULATION (EEC) No 797/85 of 12 March 1985 (European Union, 1985)	on improving the efficiency of agricultural structures	1985-1991 1ST CSF 1989-1993	-Article 7 of Regulation -2nd purpose of 1ST CSF (Developing agriculture by promoting structural changes)
COUNCIL REGULATION (EEC) No 2328/91 of 15 July 1991 (European Union, 1991)	on improving the efficiency of agricultural structures	1991-1996 Operational Programme 2nd CSF "Development of Agricultural sector 1994-1999"	-Subprogram 1: Structural adjustments -Measure 1: Improving the efficiency of agricultural structures -Action 2:Young farmers
COUNCIL REGULATION (EC) No 950/97 of 20 May 1997 (European Union, 1997)	on improving the efficiency of agricultural structures	1997-1999 Operational Programme 2nd CSF "Development of Agricultural sector 1994-1999"	-Subprogram 1: Structural adjustments -Measure 1: Improving the efficiency of agricultural structures -Action 2:Young farmers
COUNCIL REGULATION (EC) No 1257/1999 of 17 May 1999 (European Union, 1999)	on support for rural development from the European Agricultural Guidance and Guarantee Fund (EAGGF) and amending and repealing certain Regulations	2000-2006 Operational Programme 3rd CSF "Rural Development – Reconstruction of the Countryside 2000-2006"	-Measure 3.1. (Improving of the composition of agricultural population age)
COUNCIL REGULATION (EC) No 1698/2005 of 20 September 2005 (European Union, 2005)	on support for rural development by the European Agricultural Fund for Rural Development (EAFRD)	2007-2013 "Rural Development Programme 2007-2013"	-Measure 112 (§22-Setting up of young farmers)
COUNCIL REGULATION (EU) No 1305/2013 of 17 December 2013 (European Union, 2013a)	on support for rural development by the European Agricultural Fund for Rural Development (EAFRD) and repealing Council Regulation (EC) No 1698/2005 (European Union, 2005)	2014-2020 "Rural Development Programme 2014-2020"	-Sub measure 6.1. (Establishment of young farmers)
COUNCIL REGULATION (EU) No	establishing rules for direct payments to	2014-2020	Article 9 (Active farmers)

REGULATION	REGULATION OBJECT	PROGRAMMING PERIOD - OPERATIONAL PROGRAMME IN GREECE	ARTICLE – AXIS - MEASURE
1307/2013 and THE EUROPEAN PARLIAMENT of 17 December 2013 (European Union, 2013b)	farmers under support schemes within the framework of the common agricultural policy and repealing Council Regulation (EC) No 637/2008 (European Union, 2008)and Council Regulation (EC) No 73/2009 (European Union, 2009)		Chapter 5 (Payment for Young farmers) – Articles 50 and 51

Source: Authors' own work based on EU official documents.