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# **Current Status of Advisory and Extension Services for Organic Agriculture in Europe and Turkey**

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Additional information is available at the end of the chapter

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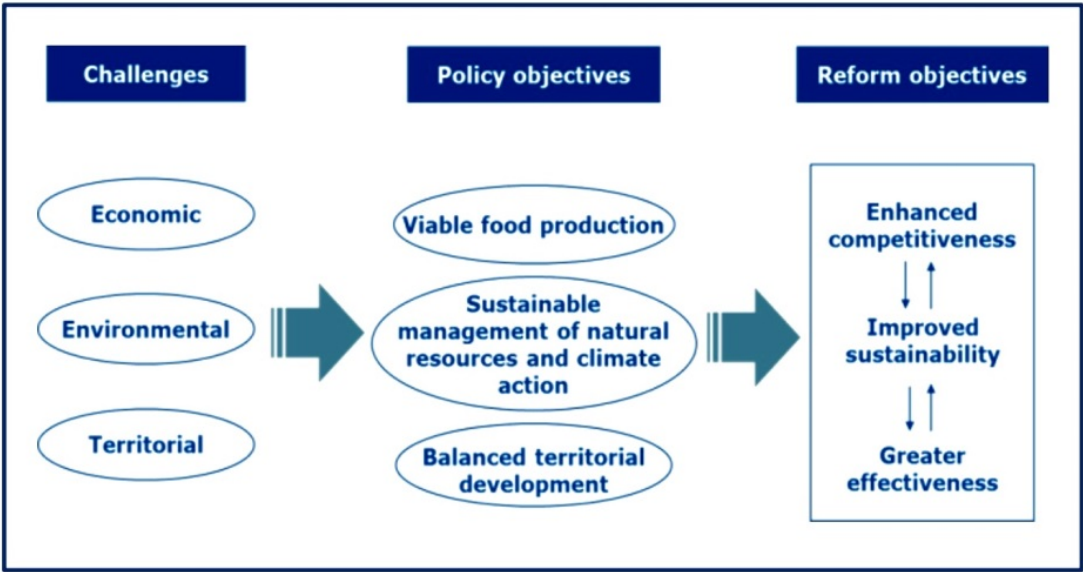
## **1. Introduction**

Europe continent is covering more than 50 countries and the third most populous and the world's second-smallest continent by surface area of which 28 belong to the European Union (EU). The European Union reached its current size of 28 member countries with the accession of Croatia on July 1, 2013. The EU was not always as big as it is today. When European countries started to cooperate economically in 1951, only Belgium, Germany, France, Italy, Luxembourg and the Netherlands participated. Since that day, more and more countries decided to join the Union. As it known the European Union was built after the Second World War by the six countries who signed the Treaty of Rome in 1957. Since its creation European agricultural policy discussions have been dominated by the Common Agricultural Policy (CAP) has always been adapted to respond to the challenges of its time. From its start in 1962, the CAP begins to restore Europe's capacity to feed itself. In the 1980s production control measures begin. The CAP refocuses on quality, safety and affordability of food and on becoming greener, fairer and more efficient. The EU's role as the world's biggest trader in farm goods gives it additional responsibilities. A big CAP reform package in 1992 requires farmers to assume responsibility for environment protection and sustainable agriculture [13].

Significant reforms have been also made in recent years, notably in 2003 and during the CAP Health check in 2008, to modernise the sector and make it more market-oriented. The Europe 2020 strategy offers a new perspective. In this context, through its response to the new economic, social, environmental, climate related and technological challenges facing our society, the CAP can contribute more to developing intelligent, sustainable and inclusive growth. The CAP must also take greater account of the wealth and diversity of agriculture in the EU Member States. As a result it is adapted to meet the challenges ahead by being more efficient and contributing to a more competitive and sustainable EU agriculture. EU agriculture

needs to attain higher levels of production of safe and quality food, while preserving the natural resources that agricultural productivity depends upon [14]. As shown in Figure 1, in the current situation economic, environmental and territorial challenges, sustainable use of the environment, and sustainability development are among the most important objectives.

The above information shows that in the EU common agricultural policy are given high importance such as sustainability, conservation of natural resources, safe food and quality food production issues. For these reasons, organic agriculture is to serve the basic objectives of the CAP. In this context, the development of organic agriculture is one of the important issues. Therefore, a brief information on the subject is presented below.



Source [14]

**Figure 1.** The CAP post-2013: challenges to reform objectives

In recent years, the organic movement has increasingly become a focus of policy interest in Europe. EU countries support organic farming through agri-environmental programmes and action plans, among other instruments. These policy interventions aim at both supporting consumer choice through development of the market for organic food and encouraging the provision of public goods through support for organic land management [29]. At the EU level, organic farming as a policy domain is a recent development, and arose when the CAP became more sensitive to environmental issues. In consequence, the concept of organic farming is now increasingly shaped by actors outside the organic movement.

The EU Action Plan for Organic Food and Farming was elaborated over a period of five years from a first formulation of the idea at a European Conference in Vienna 1999 to the final communication of the Commission in 2004. Organic action plans are widely used in Europe as a means of integrating different policies that can be used to support organic food and farming.

At a global level, many countries have regulatory requirements similar to those in the EU, and there are formal agreements covering trade in organic products between these countries. The International Federation of Organic Agriculture Movements (IFOAM) has formulated principles, sets international baseline standards, accredits national certification schemes to facilitate international trade and collaborates with the UN Food and Agriculture Organisation (FAO) and other international organisations to harmonise International Organic Standards [35].

## 2. An overview on organic agriculture

Overall for organic farming, could be called the oldest forms of agriculture on earth. But today, this definition has become quite complex. In this context organic agriculture is a holistic production management or agricultural production system that uses matter, energy knowledge and natural life for its production and processes and for providing services. Organic agriculture is a farming system which promotes and enhances agro-ecosystem health, including biodiversity, biological cycles, and soil biological activity. It emphasizes the use of management practices in preference to the use of off-farm inputs, taking into account that regional conditions require locally adapted systems [15]. This is accomplished by using, where possible, agronomic, biological, and mechanical methods, as opposed to using synthetic materials, to fulfill any specific function within the system. The production factor natural life is considered here a natural resource with particular sets of characteristics that in order to function effectively has to be respected [18]. To assess the resilience of a farming system, various elements that can build resilience are identified and the analysis shows that organic farming has a number of promising characteristics building resilience [33]. In general, the relative importance of agriculture has decreased in all European countries over last decades. However, 28 countries of the EU have significant shares in both export and demand of agricultural products in the world [8, 22]. As a result, organic agriculture is very important production system for health of human, food, soils and ecosystem.

Albert Howard is often referred as the father of the modern organic agriculture because first he applies the modern scientific knowledge and method to traditional agriculture. He worked as agriculture advisor from 1905-1924 in Bengal India where they documented the traditional Indian farming practices and came to regard them as superior to their conventional agriculture science. In Germany Rudolf Steiner's development was probably first comprehensive system of what we now call organic farming. Steiner emphasized the role of farmers in guiding and balancing the interaction of the animals, plant and soil. Healthy animal depend on healthy plant, health plant depends on healthy soil and health soil depends on healthy animal [24].

According to this, European organic agriculture emerged in 1924 based on the work of Rudolf Steiner (1861-1925) delivered his bio-dynamic agriculture course (7-16 June 1924), at Koberwitz in Silesia. His courses, the first known to have been given on organic agriculture. After Steiner, was delivered by other persons on bio-dynamic agriculture in the 1930s and 1940s. Organic agriculture was developed in Switzerland by Hans Mueller, in Britain by Eve Balfour and Albert Howard and in Japan by Masanobu Fukuoka.

In Europe, numerous farms have started to convert to organic farming since 1960s, and development of organic agriculture has been supported by government subsidies. In many other countries, organic agriculture was adopted because of the growing demand for organic products in Europe, North America and Japan [54].

Technological advances during Second World War accelerated post-war innovation in all aspects of agriculture, resulting in large advances in mechanization, fertilization, and pesticides. In 1944, an international campaign called the Green Revolution was launched in Mexico which encouraged the development of hybrid plants, chemical controls, large-scale irrigation, and heavy mechanization in agriculture around the world. During the 1950s, sustainable agriculture was a topic of scientific interest, but research tended to concentrate on developing the new chemical approaches. One of the reasons for this, was the widespread belief that high global population growth, would soon create worldwide food shortages unless humankind rescue itself through agricultural technology. In 1962, Rachel Carson, a prominent scientist and naturalist, published *Silent Spring*, chronicling the effects of DDT and other pesticides on the environment [41]. In 1972, the International Federation of Organic Agriculture Movements (IFOAM) was founded and dedicated to spread principles and practices of organic agriculture throughout the world. In the 1980s, around the world, farming and consumer groups began seriously pressuring for government regulation of organic production. This led to legislation and certification standards being enacted through the 1990s and to date. Since the early 1990s, the retail market for organic farming in developed economies has been growing by about 20% annually due to increasing consumer demand.

In recent years, there has been growing trend in world trade for organic agricultural products and EU countries rank in the first place in terms of organic agricultural trade. There has been growing debate that using chemical inputs excessively following the green revolution in agricultural production raised concerns on environment and human health. For this reason, organic agriculture has developed rapidly and spread around the world [56] and organic farming is considered an alternative production system. In fact, demand for organic products has increased tremendously in last a couple of decades.

IFOAM, International Federation of Organic Agriculture Movements established in 1972, a non-profit organization, is a international umbrella organisation of organic agriculture organisations, and has about 778 affiliates (members, associates, and supporters) in 117 countries [26]. The mission of this organization is to lead, unit and assist the organic movement in its full diversity and its main goal is to enhance the worldwide adoption of ecologically, socially and economically sound systems based on the principles of organic agriculture [25, 26]. As it seen, organic agriculture is not a temporary fashion since bio-dynamic farming was introduced as early as in 1924. There are also other farms of organic farming with a long-standing tradition such as organic-biological or environmentally adapted farming. Organic farming is managed in harmony with nature and the agricultural holding is mainly perceived as an organism comprising humans, flora, fauna and soil [3]. However, organic agriculture, a new model for farming development, has set the goals such as minimization of environmental pollution and sustainability of farming systems [56].



In Turkey, organic agriculture has been started in 1985 with the aiming for mainly export purposes. Turkish Association of Organic Agriculture Movements (ETO), a non-profit organization of organic agriculture, established in 1992 after twenty years IFOAM [1, 11]. By the Turkish Ministry of Food, Agriculture and Livestock, prepared the Regulation for plant and animal production based on organic production methods in 1994 [2].

According to norms of EU-Regulation on organic production of agricultural products determined on June 24th 1991 the regulation (EEC) NO. 2092/91 was published in the Official Journal of the EU and became legally binding on January 1st 1993. Until then it was only valid for organic plant products. The publishing of the regulation (EEC) No 1804/99 also included organic livestock products. The regulations on livestock products became effective on August 24th 2000 [20].

Advisory or extension services have been developing for organic farming in developed and developing countries. While this services have mainly provided by producer organizations and special advisory firms in EU countries it is given by buyers of organic products products in Turkey [39].

In this study, developments of organic farming in European countries and European Union members and Turkey were investigated with special attention given to advisory and extension services. More specifically, advisory service providers, how these services provided and similarities and differences were investigated between EU-28 countries, and Turkey.

### 3. Organic development

Evidence for significant environmental amelioration via conversion to organic agriculture is very substantial, pesticides are virtually eliminated and nutrient pollution has been substantially reduced loss of biodiversity, wind and water erosion, and fossil fuel use and greenhouse warming potential are all reduced in organic agriculture relative to comparable conventional agriculture systems. As it given above the agroecological characteristics of organic agriculture are reviewed-weed, invertebrate, disease, and soil fertility management practices. Yield reductions of organic agriculture systems relative to conventional agriculture average 10-15%, however these are generally compensated for by lower input costs and higher gross margins. Large-scale conversion to organic agriculture would not result in food shortages and could be accomplished with a reduction in meat consumption. Organic agriculture systems consistently outperform conventional agriculture in drought situations, out-yielding conventional agriculture by up to 100% [30]. One argument for supporting organic farming has been that it requires more labour and leads to higher rural employment. On the other hand, the high labour costs may constrain the development of the organic sector [27, 39].

Worldwide there are 1.8 million organic producers more than three quarters of the producers are located in Asia, Africa and Latin America. The countries with most producers are India (547591), Uganda (186625) and Mexico (169570). There has been 12% increase in number of producer from 2010 to 2011. Total number of producers in 2000 were 0.25 million which and

it was 1.8 in 2011, 34% are from Asia, 30% in Africa, 18% in Latin America, 16% in Europe and 1% in each Latin America and Oceania.

With regard to the growth of organic agriculture after first decade of 21st century organic agriculture area has been trebled (37.2 million hectare in 2011) as compared to 1999 (11 million hectare). According to the SOEL's Survey results, more than 37.2 million hectares are managed organically worldwide [57]. Among regions Oceania is the region with highest organic agriculture area 12.2 m ha (32,8%) followed by Europe (10.6 million ha, 28,5%), Latin America (6.9 million ha, 18,5%), Asia (3.7 million ha, 9,9%), North America (2.8 million ha, 7,5%) and Africa (1.1 million ha, 3%).

Australia (12 million ha) followed by Argentina (3.8 million ha) and USA(1.9 million ha) are the countries with highest share of organic agriculture land. The total share of top three countries is 48 percent of world organic agriculture land and 70% of world organic agriculture land is based in 10 countries with 26.3 million ha.

The world total organic agriculture land is just 0.9% of total agricultural land; again Oceania is the region where organic agriculture land is 2.9% of total agriculture land followed by Europe (2.2%) and Latin America (1.1%). China, Spain, Canada, France, Poland, Russia Federation, Kazakhstan, Turkey and Romania are the countries where the rate of increase in organic agriculture land is very high.

Much of the increase is occurring in third world countries where some farmers are attracted to the export benefits of organic food production. Many governments have been encouraging farmers to convert to organic farming for this reason, however, the study calls for a cautionary approach for the potential of export markets is often overstated. Market growth rates are slowing and supply-demand imbalances are expected to become a feature of the global organic food industry. The global market is projected to continue to expand however at slower growth rates. The industrialized world is expected to comprise most revenues, however, other regions are expected to show high growth due to the growing popularity of regional markets. The formation of trading blocs and convergence of consumer demand are also other main factors stimulating demand in other countries [54, 39].

In European Union organic farming has been implemented in almost all countries, but five of these countries – Spain, Italy, Germany, England and France-account for about 57.4% of total organic farming area. Turkey with a 325 thousands hectares organic farming area has about 3.92% organic farming area compared to EU. With respect to organic farming enterprises, the share of organic farms in Turkey is around 17% (Table 1). These indicators show that organic farming has been realized in small scale. In fact, average farm size in Turkey (9.2 ha) is significantly lower than that of EU-28 (39.7 ha).

Realizing that favorable climatic conditions and topografic structure in Turkey, organic farming area is relatively low. In order to use organic farming more effectively and increaase organic farming area in Turkey, suitable conditions need to be provided.

Country	Organic Area		Farm		Avarage
	Hectares	%	Number	%	Farm Size Scale (ha)
Spain	1330774	15.97	25291	12.05	52.6
Italy	1106684	13.28	43029	20.51	25.7
Germany	947115	11.37	21047	10.03	45.0
UK	721726	8.66	5156	2.46	140.0
France	677513	8.13	16446	7.84	41.2
Austria	518757	6.23	21000	10.01	24.7
Czech Republic	398407	4.78	2665	1.27	149.5
Sweden	391524	4.70	4816	2.30	81.3
Poland	367062	4.41	17092	8.15	21.5
Greece	326252	3.92	23665	11.28	13.8
Portugal	209090	2.51	1902	0.91	109.9
Romania	168288	2.02	3078	1.47	54.7
Finland	166171	1.99	4087	1.95	40.7
Latvia	160175	1.92	4016	1.91	39.9
Denmark	156433	1.88	2694	1.28	58.1
Slovakia	145490	1.75	363	0.17	400.8
Hungary	140292	1.68	1617	0.77	86.8
Lithuania	129055	1.55	2652	1.26	48.7
Estonia	66767	0.80	1277	0.61	52.3
Netherlands	51911	0.62	1413	0.67	36.7
Ireland	47864	0.57	1328	0.63	36.0
Belgium	41459	0.50	997	0.48	41.6
Slovenia	29388	0.35	2096	1.00	14.0
Croita	14193	0.17	885	0.42	16.0
Bulgaria	12320	0.15	379	0.18	32.5
Cyprus (South)	3816	0.05	732	0.35	5.2
Luxemburg	3614	0.04	77	0.04	46.9
Malta	26	0.00	12	0.01	2.2
<b>Total EU-28</b>	<b>8307943</b>	<b>100.00</b>	<b>210501</b>	<b>100.00</b>	<b>39.7</b>
<b>Turkey</b>	<b>325 831</b>	<b>3.92</b>	<b>35 565</b>	<b>16.90</b>	<b>9.2</b>

Source: [26, 57].

**Table 1.** The Avarage Scale and Number of Farm and Land Area Under Organic Management in EU and Turkey (2009)

In table 2, developments of organic farming in EU and Turkey were examined during last 14 years. Organic farming area and number of holdings main countries of the EU were showed about 5.9 and 3.5 folds increases during 1995-2009. Turkey has experienced an increase in the organic farming area (21.4 folds) but average organic farm size showed a decrease during the same period.



Countries/ Indicators	1995	2000	2004	2009	Growth rate (folds)
European Union					
Organic area (ha)	1.407.850	3.944.953	4.792.381	8332166	5.2
Number of farms	59.752	138.919	139.046	209812	3.5
Turkey					
Organic area (ha)	15.250	59.649	57.001	325.831	21.4
Number of farms	4.035	18.385	18.385	35.565	8.8

Source: [3, 13, 57].

**Table 2.** Development of Organic Agriculture in EU and Turkey

4. Organic product market

Worldwide organic food market has been significantly increasing. It is related to the commercial certified organic agriculture which has spread to over 130 countries worldwide. Sustained high rates of growth in sales of certified organic products in the U.S. and worldwide, averaging 20-25% in each year since 1990, have spurred concomitant growth and activities in production, processing, research, regulation and trade agreements, and exports. The global organic products market value in 2001 was estimated to be \$20 billion, and the organic products share of total food sales is near 2% in the US and 1-5% in EU countries. Processed organic products have shown particularly rapid growth, often over 100% annually [30]. In 2002, the global market for organic food and drink was valued at \$23 billion. Although production of organic crops is increasing across the globe, sales are concentrated in the industrialised parts of the world. North America and Western Europe comprise the bulk of global revenues, however consumer interest is growing in other regions [39].

As an illustration of the growing international trade for organic food, its sale at retail level showed 2.5 folds increase from 9.5 billion dollars in 1996. Organic food sales mainly increased in Western countries, USA, Japan and Australia, 2.2, 2.3, 2.5 and 3 folds respectively, and 5.3 folds in other countries. These values show that demand for organic products has been growing and strong [39].

The Western European market for organic food and drink was traditionally the largest (44.3%) in the world, however it has now been overtaken by North America (37.1%). European sales of organic products were estimated to have expanded by about 8 percent in 2002 to reach \$ 10.5 billion [19, 44].

Today, globally market for certified organic foods and drinks has also become fourfold larger as compared to 1999 (15billion USD) which is more than 63 billion USD in 2011 and largest market were USA 21 billion euros of organic food sales. In Europe largest market were also Germany 6.6 billion euros and France 3.8 billion euros of organic food sales. Highest per capita consumption was recorded in Switzerland (177 Euros) and Denmark (162 Euros). Denmark, Switzerland and Austria had highest shares of organic food sales [16].

It is related that organic imports into European Union members states from the developing world are growing rapidly. Certification regulations for the import of organic products are

very rigorous and smallholder farmers, in common with all farmers<sup>7</sup>. Despite the developments for organic sale in the world market, domestic market is not enough strong in Turkey and almost all of the organic food is produced for export. During the period of 2000 and 2011, organic food export in Turkey showed significant increases, rising from about 18 million to 200 million euros-an increase of nearly 11 folds. Turkey has mainly exported organic products to Germany, the Netherlands, United Kingdom, Switzerland, Northern European countries, USA, Canada, Australia and Japan are most important for Turkey. In 2023, export target of Turkish organic production is 1.7 billion Euros [1, 19].

This structure shows that Turkey has not been using its organic farming potential very efficiently. Main reasons for these can be stated as insufficient domestic demand and not using proper extension systems and approaches etc. Furthermore, poor advisory services and limited number of advisory activities are other factors that prevented the development of organic farming in Turkey [39].

## 5. Advisory and extension services and legislation

Organic agriculture production has different features from than conventional farming. For that reason it should be different extension and advisory services. Organic farming is realized under controlled field and applied prespecified rules. Moreover, all stages of production need to be documented. Therefore, producers and all involved firms or individuals in organic production should have enough information and experience. For this reason, all firms or individuals need to have cooperation with each others. In other words, producers are not independent as in conventional production since organic production is a controlled production system until the product reaches to consumers. There are some difficulties for organic agriculture that is mainly stem from applying international standards, production, processing and import of organic products, inspection procedures, labelling and marketing [39].

Especially two regulations on organic agriculture are significantly important, the US and the EU legislation which influence strongly the standards of organic production and trade worldwide. Production and inspection standards of US organic products, EU organic products and organic products from a lot of other parts of the world are equivalent with each other. The EU regulation on organic production and plant-animal products, and processed agricultural goods imported into the EU were also investigated. In the member states of the European Union (EU), the labelling of plant products as organic is governed by EU Regulation 2092/91, which came into force in 1993, while products from organically managed livestock are governed by EU Regulation 1804/99, enacted in August 2000. Each European country is responsible for enforcement and for its own monitoring and inspection the system. Applications, supervision and sanctions are dealt with at regional levels. At the same time, each country has the responsibility. All these regulations lay down minimum rules governing the production, processing and import of organic products, including inspection procedures, labelling and marketing [28].

As it noticed, producers, processors and export-import firms of organic products are responsible for certification bodies. Otherwise farmers or traders who want to export organic products

should already with application for certification know the potential final destinations of their products to assure that both production standards and procedures for imported products in the aimed market are met.

In Turkey, on the other hand, the Ministry of Food Agriculture and Livestock provide extension service at the national level. In addition, due to organic production is made mostly for foreign markets, advisory and extension services for organic agricultural producers in particular are provided by private companies who contract production. Therefore, beside the Ministry, the exporter companies also provide extension service for organic farmers [9].

In Turkey, the Ministry takes a major role on extension services. According to 2006 regulation, private advisory system and advisory companies are encouraged. But the support method behind this policy is not yet enough to develop the system. Provincial directorates of the Ministry gave organic training to 1214 employees in 2003-2009 periods. In addition, they organized 2093 training programs for farmers and a total of 40.010 farmers were given training related to organic farming between 2004 and 2009. These trainings are extremely important. For this reason, the number of training activities and farmers' participation must be increased. Training activities should be more practical instead of giving theoretical information and emphasis should be placed on improving the quality and effectiveness. To achieve this, technical personnel in charge with organic agriculture departments must be provided with adequate equipment and update their professional competencies to overcome with the shortcomings in the sector. In order to develop the organic system in the central and provincial levels, a strong extension model must be developed with adequate infrastructure, physical equipment, and human resources. In order to institutionalize and build a suitable infrastructure for organic farming an effective extension model must be developed. Because as it is in developed countries, the development of organic agriculture in Turkey also depends on farmers' training and extension and advisory services provided for this purpose. Undertaking this mission in our country for many years, and organized in every province and district, the Ministry of Food Agriculture and Livestock has been carrying an important task [9].

Turkey may learn about expert knowledge and advisory systems in the EU and the roles of the stakeholders. In the European Union, advisory services are provided by the ministries, advisory companies working under ministries, agricultural chambers, private advisory firms, and private advisors. There have been an increasing trend in private advisors and advisory companies in Europe. Most of the countries want to decrease the effect of the state in advisory services, Yet, even in North-West Europe were farmers are on average much, much better off than Turkish farmers, only the most successful are prepared to fully pay their advisors. All others, including most organic farmers, rely on the state to at least contribute substantially to advisory systems. Often this is done as a project based support to research one of the many open questions concerning organic agriculture. Organic farmers in Northern Germany have therefore founded "Research and Advisory Associations" [48].

## 6. Advisory and extension services in Europe

Organic farming is not simple production activity for farmers because of they have a huge experience of conventional farming. For that reason advisory and extension service is vital for

farmers. Since organic farming is applied under strict rules, producers and processors need to have high level of knowledge for organic farming. All the rules has to be performed and can be controlled by certification firms. For these reasons, extension services need to be provided by advisory units, having expert knowledge, in order to educate farmers and assure that necessary information reach to farmers at proper time. Considering the importance of advisory units, special advisory units specializing on organic farming has to be established [39].

The advisory services play an important role in transferring of scientific results into agricultural practice, ideally it should be the link between practice and research. The organic advisory services are quite well developed in the German language and in the Nordic countries which is partly integrated into the conventional advisory service. Most development in terms of advisory service is needed in the countries of southern Europe [55].

Based on development levels, countries use different extension sytems and approaches [36]. When organic farming is evaluated for farmers training and extension, fourteen major subjects should be considered:

- adopting an organic farming philosophy to farmers
- training of farmers for organic farming [39]
- training of organic farming for conventional farmers
- training of processors of organic production [39]
- teaching the benefits of organic farming to supermarket chains
- training of trainers on organic farming [39]
- training of researchers and extension worker or adviser on organic farming
- teaching the benefits of organic products to children
- making awareness of consumers on organic products [39]
- developing awareness of policy maker on organic sector
- developing awareness of all relevant direct and indirect stakeholders on organic products
- organizing promotional and educational activities (urban extension) for enhancing domestic and foreign markets
- considering the use of information technology and internet in this subject [39]
- developing awareness to cooperate all relevant public, farmers' organization, and private sector on organic products.

One of the major aims of this study is to examine advisory services for organic agriculture in EU member states and Turkey. These advisory units were examined in four groups based on services provided to farmers such as fundemantal knowledge required for organic farming, increasing problem solving ability of farmers, deciding suitable product variety and purchasing production inputs. These four groups were determined as Private advisory services, Farmer's organizations, Ministries of agriculture and Others. In table 3, advisory service units

in EU and some other European countries and Turkey were presented. All countries have more than one or more advisory units having different characteristics.

Advisory Service Units	TOTAL	Switzerland	Serbia	Norway	Macedonia	Albania	Total (EU-28)	Total (EU-13)	Croatia	Malta	Cyprus (south)	Estonia	Hungary	Lithuania	Latvia	Czech Rep.	Bulgaria	Slovakia	Slovenia	Romania	Poland	Total (EU-15)	U.K.	Sweden	Spain	Portugal	Netherlands	Luxembourg	Italy	Ireland	France	Greece	Germany	Finland	Denmark	Belgium	Austria	Turkey	
Private Advisory	14						26	12																															
Local advisors direct contact with farmers	1						1																																
Private advisory institutes(ököringe)	2						2																																
Private consulting advisory firms	3						10	7																															
Companies selling input / commercial advice/ Input producers	2						4	2																															
Private/Exporter firms via contract farming	-						-	-																															
Conventional advisory firms	3						3	-																															
No state advisory service	1						2	1																															
Independent advisory/consultant	2						4	2																															
Farmer's Organizations	12						19	7																															
Organic Producer organizations	3						7	4																															
Producer organizations/Chamber of Agric.	3						4	1																															
Organic association advisors	2						3	1																															
Organic agriculture consulting units	4						5	1																															
Ministries/Public	6						19	13																															
Ministry of Agriculture	-						4	4																															
Min.of Agric. in organic farm unit	2						2	-																															
Regional agric.authorities(in districts)	2						3	1																															
Min.of Agriculture, organic conversion information service	1						2	1																															
National Agric.Advisory Service	1						2	1																															
Ministry of Agriculture& other Organization/institute/centre	-						6	6																															
Others	7						7	-																															
Agr.schools/courses/seminar/demonstration	5						5	-																															
Exchange between organic farmers	1						1	-																															
Telephone helpline	1						1	-																															
Advisory service units number	3	4	1	2	1	4	4	2	2	2	2	2	2	2	2	2	2	2	2	3	3	5	39	4	4	2	3	2	4	2	2	2	1	3	2	2	1	12	
(*) Based on author's computations from [4, 5, 6, 10, 17, 21, 23, 31, 32, 34, 36, 37, 40, 42, 43, 45, 46, 47, 49, 50, 51, 52, 53, 55, 58].																																							

(\*) Based on author's computations from [4, 5, 6, 10, 17, 21, 23, 31, 32, 34, 36, 37, 40, 42, 43, 45, 46, 47, 49, 50, 51, 52, 53, 55, 58].

**Table 3.** Advisory Services for Organic Agriculture in European Countries (\*)



In order to see the number and share of these units, table 4 was produced from the table 3. Similar units according to management and functions were considered in the same group.

Advisory Service	The number of advisory unit service (European Union)						The number of advisory unit service	
	EU-15 (a)		EU-13 (b)		EU-28 (a+b)		Europe (34 Countries)	
	Number	Share (%)	Number	Share (%)	Number	Share (%)	Number	Share (%)
Private services	14	35.9	12	37.5	26	36.6	29	34.9
Farmer's organization	12	30.8	7	21.9	19	26.8	21	25.3
Ministry of agriculture	6	15.4	13	40.6	19	26.8	25	30.1
Others	7	17.9	0	0.0	7	9.9	8	9.6
Total	39	100.0	32	100.0	71	100.0	83	100.0

**Table 4.** Distribution of Advisory Units in European Countries

As shown in table 4, the most important advisory units in EU-15 are private advisory services (35.9%) and farmer's organizations (30,8%). These units are followed by the ministry of agriculture (15.4%) and others (17.9%). But the situation for the EU-13 is different, the main advisory units are private advisory services (37,5%) and ministry of agriculture (40,6%). These units are followed by farmer's organizations (21,9%). When all EU Members and non-member European countries are considered together, the most important advisory units are private advisory services (34.9%) and ministry of agriculture (30,1%). These units are followed by farmer's organizations (25.3%) and others (9.6%). As can be seen in tables 3 and 4, there are some differences between the first 15 members of the European Union (EU-15) and the 13 countries. These differences are related with their extension systems. Especially after 2004, the higher presence of the ministry of agriculture was interesting in the farmer's organization.

Generally, in the group of private advisory, the most important services provided are called Private consulting advisory firms and conventional advisory firms, however, Organic agriculture consulting units and Organic Producer organizations are important services in the farmer's organizations. In the ministries, the most important services are Ministry of Agriculture in organic farm unit and Regional agriculture authorities in districts.

Since organic farming is mainly considered for export purposes, advisory services for organic products have been implemented by Private firms via contract farming (foreign exporter firms) which is the most important advisory unit for contract farmers. For this reason, advisory units have been mainly formed and managed by importing firms in Turkey.

In addition to this, Ministry of Food Agriculture and Livestock has been conducting advisory services for organic agriculture with cooperation of Universities and Turkish Association of Organic Agriculture Movements (ETO). It is expected that these units will have significant importance in providing extension services in Turkey. However, the major difference between EU-15 countries and Turkey is the lack of producer organizations in Turkey.

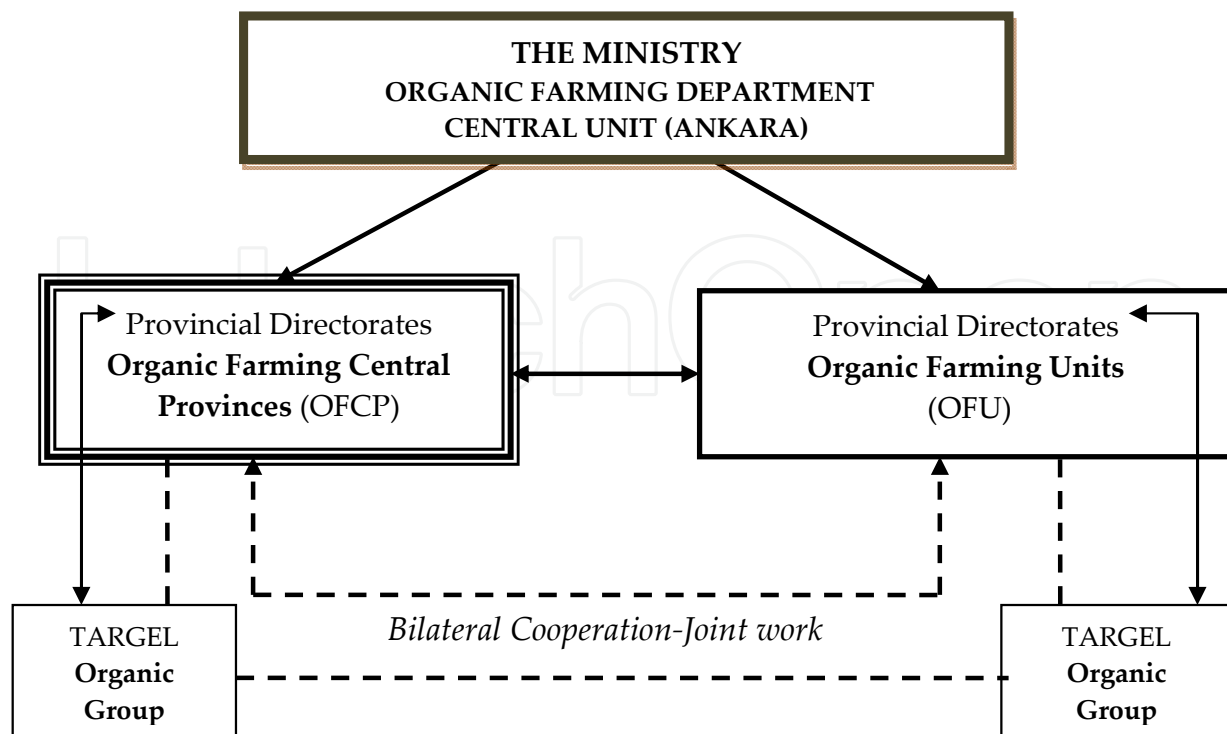
## 7. The public extension model for organic agriculture of Turkey

In Turkey, mostly extension and advisory services for organic agriculture are implemented by public (the Ministry of Food Agriculture and Livestock). In order to institutionalize and build a suitable infrastructure for organic farming an effective and applicable extension model must be developed for the country. Because as it is in developed countries, the development of organic agriculture in Turkey also depends of farmers' training and extension and advisory services provided for this purpose. Undertaking this mission in our country for many years, and organized in every province and district, the Ministry of Food Agriculture and Livestock has been carrying an important task and the organic farming units of the Ministry are carrying out their mission.

Currently organic agriculture units in 81 provinces mostly employed in Farmer Training and Extension Division are serving as extension agents. In general, except a couple of provinces, 2-5 personnel are working in organic farming units. These aren't completely devoting their efforts for extension activities but for some other departmental work. Considering provincial potential of organic farming and personnel status of each province, the number of personnel working for organic units must be arranged. The determined leader provinces will also make contributions to the neighboring provinces due to similarities in environmental conditions and agricultural structures [9]. Therefore, these provinces can be identified as "Organic Farming Central Provinces" (OFCP). Administratively no province will supersede each other but the provincial directorates will work in a cooperative way with a professional manner (Figure 2). Once the professional staff members of OFCP work effectively, they will probably develop organic farming in their own province and will make further contributions to neighboring cities. In this way professional staff of organic farming units working in provinces with lower and/or uneconomical organic potential may concentrate on other activities. In addition, the TARGEL (public extension) personnel must also be used for organic agriculture especially in villages with high organic potential. All this process will increase the effectiveness of extension services and will contribute to organic farming as well as proper use of human resources in the Ministry.

In the new suggested extension advisory system, the following measures must be taken to make the personnel of OFCP and OFU work effectively [9, 38]:

- *Ensuring full-time work in organic agricultural extension:* Among the other duties and responsibilities, personnel working in organic farming must perform two major tasks; control and advisory. However, according to agreement with the international sense, control and extension duties and responsibilities should not be undertaken by the same personnel. The control function is completely different from the advisory function. In this case, the extension advisor and the controller must be different people and independent of each other. Accordingly, workload of the personnel working in the field of organic agriculture must be reduced.
- *Technical information capacity must be increased:* In every region there is a need of expertise and technical information in organic farming activities. Therefore, personnel working for



**Figure 2.** Re-organizing public extension for organic farming in Turkey [38].

the extension services of organic farming must be provided with technical information and update their professional competencies.

- *Personnel must be gained practical skills and field experience:* Beside theoretical information, technical staff must be trained in the field to gain practical experiences, particularly for the specific region. They also must participate in hands-on training activities and be able to apply their skills in the field.
- *Adoption of participatory extension approaches:* It is important to utilize the positive sides of the participatory extension approaches. These approaches require institutional changes and appropriate arrangements for the implementation. In this way, participatory approaches must be taught to extension personnel and the efficiency of extension work must be increased.
- *Continuous in-service education to update and upgrade occupational knowledge of extension personnel:* In order to develop well-educated and skillful extension personnel extension staff must be given in-service education in certain times. In order for the extension personnel to use proper extension methods and to give farmers correct information they must take a “training of trainers” program. This can be possible with adoption of continuous education programs [9, 38].

As it can be seen, if the public wants to provide effective extension or advisory services for organic agriculture the most appropriate model should be develop or use in the actual conditions in Turkey.

## 8. Conclusions

As a result, the main objective of organic farming is to optimize the life circle and to establish a sustainable farming system for the health and productivity of societies of plants, animals and people. Accordingly healthy food and in this context organic agricultural products are vital for all nations. Communities are willing to consume more healthy foods that has been controlled by government or related organizations. Nowadays the quality of food is an emerging trend for consumers especially in developed nations. For this reason, farmers as a food producers are required to benefit from the education and extension services more frequently.

Demand for organic food has been increasing not only in developed but also in developing countries in the last two or three decades. Due to characteristics of organic farming, advisory units has to be establish at the production decision.

Because of high price, the demand for organic food is not expected to increase in a short period of time in Turkey. However, increasing awareness of consumers to health concern might stimulate the demand for organic products in the long term. Regarding advisory units, the approaches used in the EU countries might be used in Turkey such as establishing farmers and private organizations [39].

The contract farming approach which was initiated by importing firms must be considered for Turkey's organic sector. Furthermore, there is a urgent need to stress on encouraging advisory units to achieve the competitiveness and efficiency.

Both, the EU and other countries, it is necessary to benefit from the experiences. Establishing a network to share experiences would be useful to every country.

Participatory extension approaches which are very effective, would be very helpful in the use of organic agricultural producers. Farmers' organizations can play an important role to increase the efforts unfortunately these organizations are not effective. Countries should contribute to the development of organic farming because domestic demand for organic agricultural products has been increasing day by day. Each country according to their own conditions to establish the most effective advisory system.

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## References

- [1] Aksoy,U., 1999. Organic Agriculture in the World and Turkey. First Symposium on Organic Agriculture. 21-23 June 1999, Ege University, Izmir.
- [2] Anonymous, 1994. The Regulation for Plant and Animal Production Based on Organic Production Methods. 18 December 1994, No: 22145 Official Journal of Republic of Turkey, Ankara.
- [3] Anonymous, 2001. Organic Farming in Europe-Provincial Statistics 2001 ([http://organic-europe.net/europe\\_eu/statistic.asp](http://organic-europe.net/europe_eu/statistic.asp)). SÖL:Stiftung Ökologie & Landbau, Germany.
- [4] Anonymous, 2011. Liechtenstein-Country Report. FiBL Sippo 'The Organic Market in Europe Publication, Switzerland. ([www.organic-europe.net/country-report-liechtenstein.html](http://www.organic-europe.net/country-report-liechtenstein.html))
- [5] Anonymous, 2013. Organic agriculture Serbia at a glance 2013. FiBL 2013, Switzerland. ([http://www.organic-world.net/news-organic-world.html?&L=0&tx\\_ttnews%5Btt\\_news%5D=1049&cHash=a39f8ab896e47a8e2087d2dd2326d5a8](http://www.organic-world.net/news-organic-world.html?&L=0&tx_ttnews%5Btt_news%5D=1049&cHash=a39f8ab896e47a8e2087d2dd2326d5a8)).
- [6] Apostolov, S., 2012. Bulgaria: Country Report, The World Of Organic Agriculture. ([www.organic-europe.net/1684.html](http://www.organic-europe.net/1684.html))
- [7] Barrett, H.R., A.W. Browne, P.J.C. Haris, K. Cadoret. 2001. Smallholder Farmers and Organic Certification: Accessing the EU Market from the Developing World. Biological Agriculture and Horticulture, Vol. 19 (2) 183-199,
- [8] BML, 1999. Agriculture and Forestry in Germany. Data and Facts 1999. The Federal Ministry of Food, Agriculture and Forestry.Printed by Mintzel-Druck, 95028. Hof/Saale. feb.1999,Germany.
- [9] Boz, İ, Aksoy, U., Özçatalbaş,O., Enhancing Organic Farming in Turkey. Workshops and Training Programmes, UTF/TUR/052/TUR, July 2011, Published by FAO.
- [10] Dezsény, Z., and Drexler. D., 2013. Organic Agriculture In Hungary-Past, Present and Future, FiBL and IFOAM (2013) The World of Organic Agriculture, Frick and Bonn. ([www.organic-europe.net/2547.html](http://www.organic-europe.net/2547.html))
- [11] Ertem, A., 1993. Organic Agriculture and Rapunzel, Izmir.
- [12] ETO,2012, Organik Tarım Ürünleri İhracatında İşbirliği bildirisi(Organic Agricultural Products Export Cooperation), Turkish Ecological Agriculture Organization Association (Ekoloji Tarım Organizasyonu Derneği), İzmir.
- [13] EU, 2012. The Common Agricultural Policy. European Commission Agricultural European Union. ISBN: 978-92-79-23265-7. printed in Belgium



- [14] EU, 2013. Overview of CAP Reform 2014-2020, European Commission Agricultural Policy Perspectives Brief. No 5, December 2013 ([http://ec.europa.eu/agriculture/policy-perspectives/policy-briefs/05\\_en.pdf](http://ec.europa.eu/agriculture/policy-perspectives/policy-briefs/05_en.pdf))
- [15] FAO, 1999. Food Standard Programme Codex Alimentarius Commission Report Joint FAO/WHO. Rome.
- [16] FiBL, 2011. The World of Organic Agriculture, Statistics and Emerging Trends, 2011. FiBL & IFOAM. Switzerland.
- [17] Frieden, C., and Huber, 2010. Country Report About Organic Agriculture in Iceland. FiBL-Sippo 'The Organic Market In Europe', Handbook. Switzerland. ([www.organic-europe.net/country-report-iceland.html](http://www.organic-europe.net/country-report-iceland.html))
- [18] Goewie E.A., 2002. Organic Agriculture in the Netherlands; Developments and Challenges. Netherlands Journal of Agricultural Science, Vol:50 (2): 153-169. Royal Netherlands Soc. Agr. Sci, Wageningen.
- [19] GTHB, 2013, Organic Agricultural Products Exports and Imports. Republic of Turkey Ministry of Food, Agriculture and Livestock, (<http://www.tarim.gov.tr/>). Ankara.
- [20] GTZ, 2004. Organic Agriculture. (<http://www.gtz.de/organic-agriculture/english/com/com.html>) Postfach 5180 D-65726 Eschborn, Germany.
- [21] Guda, A., 2009. Country Report About Organic Agriculture in Albania. Sasa Project, Tirana. FiBL, Switzerland. ([www.organic-europe.net/country-info-albania-report.html](http://www.organic-europe.net/country-info-albania-report.html))
- [22] Haccius, M., I.Lünzer, 2000. Organic Agriculture in Germany. (<http://organic-europe.net>, 23.06.2000). Stiftung Ökologie & Landbau(SÖL), Bad Dürkheim-Germany.
- [23] Heinonen, S., 2009. Organic Agriculture in Finland 2008. FiBL 2012. Switzerland. ([www.organic-europe.net/finland.html](http://www.organic-europe.net/finland.html))
- [24] Holger Kirchmann; Gudni Thorvaldsson, Lars Bergström, Martin Gerzabek, Olof Andrén, Lars-Olov Eriksson and Mikael Winninge (2008). Holger Kirchmann and Lars Bergström, ed. Organic Crop Production – Ambitions and Limitations. Berlin: Springer. pp. 13–37.
- [25] IFOAM, 2004. Uniting the organic world. International Federation of Organic Agriculture Movements (<http://www.ifoam.org/>).
- [26] IFOAM, 2013. The Organic Movement Worldwide: Directory of IFOAM Affiliates 2013 International Federation of Organic Agriculture Movements (<http://www.ifoam.org/en/about-us-1>).
- [27] Jansen, K., 2000. Labour, livelihoods and the quality of life in organic agriculture in Europe. *Biological Agriculture & Horticulture*, 17 (3): 247-278 2000.

- [28] Kilcher, L., B. Huber, O. Schmid, 2004. Standards and Regulations. The World of Organic Agriculture-Statistics and Emerging Trends-2004. (eds:Willer,H., M.Yussefi) IFOAM, Bonn,Germany.
- [29] Lampkin, N. H. and M. Stolze (2006). EuropeanAction Plan for Organic. Food and Farming. Law, Science and Policy. 3: 59-73.
- [30] Lotter, D.W., 2003. Organic agriculture. *Journal of Sustainable Agriculture*, 21 (4): 59-128 2003
- [31] Maciejczak, M. And Matera, D., 2010. Food Safety in the New Member States. IUCN programme Office for central Europe. Brussels, Belgium.
- [32] Matera, D., 2005. Organic Agriculture in Poland. FiBL 2012, Switzerland, ([http://www.organic-europe.net/fileadmin/documents/country\\_information/ARCHIVE/poland-2005-organic-europe.pdf](http://www.organic-europe.net/fileadmin/documents/country_information/ARCHIVE/poland-2005-organic-europe.pdf))
- [33] Milestad, R., and Darnhofer, K., 2003. Building farm resilience: The prospects and challenges of organic farming. *Journal of Sustainable Agriculture*, 22 (3): 81-97 2003
- [34] Moschitz H., and M. Stolze, 2007. Policy networks of organic farming in Europe. Organic Farming in Europe:Economics and Policy, Volume 12. Published by Universitat Hohenheim, Stuttgart, Germany..
- [35] ORC, 2013. Overview of European Regulation on organic food. The Organic Research Centre, Elm Farm, Hamstead Marshall, Newbury, Berkshire RG20 0HR, UK. (<http://www.organicresearchcentre.com/>).
- [36] Özçatalbaş, O., Y. Gorgen, 1998. Agricultural Extension and Communication. Baki Publication. ISBN: 975-72024-02-3, Adana.
- [37] Özçatalbaş, O., 2000. Horticultural Information System and Extension Organization in Hannover Region, Germany. Hannover University, Horticultural Faculty, Institute of Horticultural Economics. Hanover, Germany (unpublished report).
- [38] Özçatalbaş, 2010. Türkiye’de Organik Tarımın Güçlendirilmesi Bölge için Yeni Fırsatlar:Fındık ve Diğer Ürünler Çalıştayı Raporu, Samsun.
- [39] Özçatalbaş,O., R.Brumfield, B.Karaturhan,2010. Advisory services for organic agriculture in the European Union and Turkey.Journal of Food, Agriculture & Environment Vol.8 (2) : 507-511. 2010, WFLPublisher Science and Technology Meri-Rastilantie 3 B, FI-00980 Helsinki, Finland.
- [40] Padel, S., 2001. Information and Advisory Services for Organic Farming in Europe. 15<sup>th</sup>ESEE Integrating Multiple Landuse for a Sustainable Future Seminar. August 27-31, 2001. Wageningen-The Netherlands.
- [41] Paull, John 2007. "Rachel Carson, A Voice for Organics-the First Hundred Years". Journal of Bio-Dynamics Tasmania. pp. (86) 37–41.)

- [42] Prokopchuk, N. and Eisenring, T., 2011. Switzerland Country Report. Research Institute of Organic Agriculture (FiBL) Switzerland, ([www.organic-europe.net/country-info-ukraine-report.html?&L=0#c6433](http://www.organic-europe.net/country-info-ukraine-report.html?&L=0#c6433)).
- [43] Radulovic, J., 2008. Country Report About Organic Agriculture In Montenegro 2008, FiBL, Switzerland. ([www.organic-europe.net/country-info-montenegro.html](http://www.organic-europe.net/country-info-montenegro.html))
- [44] Sahota, A., 2004. Overview of the Global Market for Organic Food and Drink. The World of Organic Agriculture-Statistics and Emerging Trends-2004. (eds:Willer,H.,M.Yussefi) IFOAM, Bonn,Germany.
- [45] Slabe, A., 2012. Organic Farming in Slovenia. Institute for Sustainable Development (ISD) Slovenia, BiBL 2012 Switzerland. (<http://www.organic-europe.net/slovenia.html?&L=0>)
- [46] Stefanescu, S.L., 2012. Current Status of the Agricultural Advisory and Extension System in Romania. Education-Extension Coordinator, PMU MAKIS/CESAR, Bucharest, Romania.
- [47] Stefanescu, S.L., Steriu,S. and Dumitraşcu, M., 2013. Private and Public Players on the Market Agricultural Advise and Extension in Romania. 21st European Seminar on Extension Education: Extension education worldwide, September 2-6, Antalya, Turkiye
- [48] Thimm, C., et al, 2011. Enhancing Organic Farming in Turkey, FAO, UTF/TUR/052/TUR Sub-regional Office for Central Asia, February 2011. Published by FAO.
- [49] Trajkovic, R., 2011. Organic Farming in The Former Yugoslav Republic of Macedonia. FiBL, Switzerland. ([www.organic-europe.net/country-info-macedonia-fyrom.html](http://www.organic-europe.net/country-info-macedonia-fyrom.html))
- [50] Urban, J., 2012. Organic Agriculture in The Czech Republic (Country Report 2011). In: Wiesinger, K., and Cais, K., (eds) Bayerische Landesanstalt Für Landwirtschaft, Freising, No. 4/2012 pp.169-178. (<http://orgprints.org/20991/>)
- [51] Vatemaa, A., and Milk, M., 2009. Organic Farming in Estonia. FiBL, Switzerland. ([www.organic-europe.net/estonia.html](http://www.organic-europe.net/estonia.html))
- [52] Willer, H. and Niggli, U., 2010. Switzerland-country report. FiBL Switzerland, (<http://www.organic-europe.net/switzerland.html?&L=0#c929>).
- [53] Willer, H., I.Luenzer, M.Haccius, 2002. Organic Agriculture in Germany 2002, (Update: October 2002 [http://www.organic-europe.net/country\\_reports/default.asp](http://www.organic-europe.net/country_reports/default.asp)).
- [54] Willer, H., M.Yussefi, 2001. Organic Agriculture Worldwide 2001, Statistics and Future Prospects. Stiftung Ökologie & Landbau –SÖL No:74. Bad Dürkheim-Germany.
- [55] Willer, H., U. Zerger, 1999. Demand of Research and Development in Organic Farming in Europe. FAO Workshop on Research Methodologies in Organic Agriculture at

the FiBL([http://www.soel.de/inhalte/oekolandbau/research\\_intro.html](http://www.soel.de/inhalte/oekolandbau/research_intro.html)). Frick, Switzerland.

- [56] Xie, B., X.R.Wang, 2003. Organic Agriculture in China, *Journal of Outlook on Agriculture*. Vol.32 (3): 161-164.
- [57] Yussefi, M., 2004. Development and State of Organic Agriculture Worldwide. The World of Organic Agriculture-Statistics and Emerging Trends-2004. (eds:Willer,H., M.Yussefi) IFOAM, Bonn,Germany.
- [58] Zarina, L., 2009. Organic Farming in Latvia:Country Report. FiBL, Switzerland. ([www.organic-europe.net/latvia.html](http://www.organic-europe.net/latvia.html))

