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Ecolearning

AGRICULTURE AND LIVESTOCK SITUATION IN EUROPE

**ECOLEARNING PROJECT
(ES/07/LLP-LdV/TOI-149026)**

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1. Introduction

This report forms part of the European project entitled “Ecolearning: transfer of training tools in organic agriculture to different countries and adapting to the *e-learning* methodology”, developed as part of the Leonardo da Vinci Programme (ES/07/LLP-LdV/TOI/149026). The following eight European countries are taking part in this project (Italy, Germany, Bulgaria, Rumania, Hungary, Sweden, Portugal and Spain). This report contains information about farming (conventional and organic) in these countries¹, taking into account the data concerning the activities that are the subject of the project (cattle for milk, cattle for meat, cereals, pigs, vineyards and wine) and the role played by the organic farming consultant. The situation affecting the farming groups (both conventional and organic) is also taken well into account.

Agriculture, livestock and fishing constitute a major benchmark sector in the economy of a country. It is of such great importance that the sector can end up by modifying the life styles of communities, subject to their geographical location, affect the life expectancy of individuals and, even affect their physical transformation.

The role of agriculture is decisive in the production of high-quality food, in keeping rural zones alive, in protecting the natural environment and in conserving the cultural values of that environment. The fact that production methods must not have any harmful effects on the environment and have to be positive for animal welfare are increasingly being taken into account.

Organic agriculture and livestock farming have become something more than a passing trend in the different countries European countries. It has shown itself to be an effective and efficient alternative in the context of the production of quality food and raw materials, which makes it possible to achieve the balance that is required between production and consumption, while at the same time conserving the values that are associated with animal welfare and an increase in safety, together with enhancing consumers’ trust in food and the products they consume.

The sustainable development of organic farming and livestock production is a clear option achieving sustainable agriculture and livestock farming in Europe, while at the same time guaranteeing supplies of food and raw materials that are sufficient and necessary to supply and feed the population.

Organic livestock farming can be defined as a production system whose basic aim is to obtain healthy food whose quality is optimum, through making the best and most rational use of the resources available in an environmentally friendly way, respecting animal welfare and without using artificial chemical substances..

There is one common aspect that links all the countries that are taking part in this study: making the consumer and the producer aware of the need to improve not only consumption habits but also food production. This rather “ideological” perspective has given way to a business and economic approach to the development of ecologically-friendly activity in most countries. The conversion of conventional farming and land into organically-farmed areas has had commercial aims and, in many cases, these are the objectives that it is necessary to enhance in order to achieve a maximum production yield. Along the same lines, these criteria are the ones that have caused many farmers to give up the organic production mode on their farms because they could no longer run them in an economically viable way.

¹ This information is based upon the data provided by the technical partners included in their national reports.

The differences by countries, with respect to both conventional and organic agriculture and livestock farming, are a result of different factors: their geographical location, the layout of the territory, their climatic conditions, their history and the different political situations, the population and economic pressures to which the land is subject, the different orientations of the regional, environmental and sectoral policies, etc.

The geographical configuration in Sweden, its climatology and its scanty surface dedicated to the agriculture (hardly the 7 % of the territory in 1998) determines the production and the profile of the sector.

Thus, for example, agriculture has undergone a variety of changes in Rumania, Hungary and Bulgaria since the communist regimes disappeared and they joined the European Union. In Hungary, agriculture is considered to be the most varied sector in the country's economy. Its structure is different from that of most of the countries in the European Union and almost all the different forms of "company" can be found in the sector. In Bulgaria, the structure of agriculture was completely transformed when the post-communist era reforms affected the country, in the early 1990s. The sector is fraught with major environmental problems, because farming the land in the mountains was largely given up, and grazing is essential to conserve the pastureland in those zones.

The growth in the organic market is another one of the factors that has led to an increase in organic agricultural and livestock activities. By way of an example, in Germany, in 2007, the organic food market generated a total of 5.45 billion Euros, which amounted to an increase of 18.4% when compared to the figures for 2006. This increase took place, not only as a result of an increase in the quantity of elaborated food produced, but also to an increase in profits for the producers. The number of organic farmers and the amount of land given over to organic production have both increased considerably.

2. Traditional agriculture

2.1 Historical development context

The historical development of the different countries taking part in the project has had a harmful effect on the development of farming and livestock activity. The countries that belonged to the so-called Eastern Block (Hungary, Rumania and Bulgaria) have been greatly affected where their agricultural development is concerned, and these effects can still be seen today. In Rumania, for example, the history of agriculture since the II World War has passed through 3 different stages: the socialist period (1944 to 1989), the transition from socialism to democracy (1990 to 2006) and the democratic period, after the country joined the European Union (from 2007 onwards).

In **Bulgaria**, traditional agriculture has always played a major role in the economy. The country was the first exporter of fresh and processed vegetables and fruit from the Eastern Block. The process of reforms and adapting to the market has been rather complicated and difficult for the sector. The process of privatisation, the relative instability of the economy and the crisis affecting the Russian market, brought about a major rupture in the agricultural sector in Bulgaria, with respect to other countries in the zone. Since 1997, the government of the country has made great progress when it comes to implementing an extensive programme of reforms. The current situation has improved slightly but certain negative aspects still lingered on after Bulgaria joined the European Union in 2007.

Germany has also had as large number of historical vicissitudes. One hundred years ago it was mainly an agricultural country, and 38% of all jobs were in the farming sector. In the second half of the 20th Century, the sector underwent a major transformation, as a result of an increase in industrialisation and the development of the services sector. Many workers who had formerly been in the agricultural sector gave up this activity and moved on to other sectors that gave them higher incomes. The *division* of the country into East Germany and West Germany was also reflected in agricultural differences. In what was formerly West Germany, the size of the farms went from small to large, occupying nearly half the land in that zone. The largest farms are to be found mainly in Schleswig-Holstein and in the eastern part of Lower Saxony. The most typical type of farming in East Germany, which was under the influence of the Soviet Union until 1989, was small farms functioning as state-owned farms, taking the form of cooperatives, which were under strong pressure to increase their production. When the reunification of Germany took place, employment in the agricultural sector in the east dropped sharply. At that time, the western part of the country produced four fifths of the total food production requirements, which guaranteed prices and caused considerable surpluses, especially where butter, meat, wheat and wine were concerned.

In **Italy**, at the end of the 1940s, during the period immediately after the World War II, the agriculture and food sector first developed slightly before entering a negative period, caused by an incorrect application of land reforms. A major change affected the Italian rural landscape in the 1960s: efforts to improve the economy focused on industry and its development, which meant that the cities received their labour force from the rural areas. The investments that were needed to develop modern farming methods were allocated to other sectors and there was an increase in the uncontrolled and excessive use of chemical fertilisers and pesticides to improve the low incomes of the farm workers (especially in the region of Padania and Emilia Romagna).

Three key historical processes in the development of farming in **Spain** can be taken into consideration:

- The situation in the 1930 and the Civil War. At that time agriculture was characterised by the fact that the amount of land given over to agriculture and livestock was very extensive, and there was very little specialisation in production and very little mechanisation in the different activities, which meant that Spanish farming was one of the most backward in Europe.
- Land enclosure during Franco's Dictatorship. The farms tended to merge, which brought about a change in the use of agricultural machinery (the larger the farms, the better the use of large machines, such as combine harvesters, tractors, etc), cutting down on the work force and introducing irrigation and systems and the use of fertilisers.
- When Spain joined the European Union and the Common Agricultural Policy (CAP). When the country joined the European Union in 1986 the agricultural and livestock situation was very different from that of the rest of the countries in Europe. It was far more backward than the European average, which amounted to a major challenge for the sector.

As far as **Portugal** is concerned, a series of observations can be made with respect to farming activity over the past 26 years:

- Gradual decline in its importance in the overall economy of the country.
- Agricultural activity and livestock are heavily dependent upon subsidies.
- Investments are earmarked for machinery and plantations.
- Sharp increase in the price of fuel and other sources of energy in the internal consumption of agricultural activity.

In spite of all this, the importance of agriculture to the Portuguese economy is greater than it is in other countries in the EU.

In **Sweden**, the structural development in the last decades has driven to the specialization of the agriculture, and has caused that the existing farms are bigger in size though minors in number. In 1961, there were 233,000 farms and, in 1998, 85,600. In this date Sweden began to form part of the EU and to be ruled by the Common Agricultural Policy (CAP). In the period 1990-1998, the average size of the farms increased from 29 to 33 hectares.

2.2 Economic aspects of current agricultural activity

The data concerning current agricultural activity in the different countries that are taking part in the project provide information about the different uses to which farmland is put. In the case of **Germany**, approximately 80% of the land is given over to agriculture and forestry. About 11% of all jobs in the country are offered by agriculture and the different associated sectors. The activity provides multiple benefits: the production of high-quality food that lives up to the consumers' expectations, the conservation of landscapes of great ecological value, the production of energies and renewable resources that can be used as raw materials / commodities and which are much more environmentally friendly.

Germany is one of Europe's major farming producers. In 2007, the number of farms with a Utilised Agricultural Area (UAA) has been estimated at 370,800. A further 51% of the entire surface area of the country, 19 million hectares, is covered by farms that have a utilised agricultural area of at least 100 hectares. Regional differences can be observed between the distribution of the average sizes of the farms run exclusively for agriculture and those that have other supplementary activities, such differences being most marked between the westernmost farms and the easternmost farms.

According to the Report concerning Agriculture issued by the German Federal Government in 2006, the profits per farm rose by 23.9% in the period 2005-2006, reaching an average of 36.647 Euros. The profitability of farms given over exclusively to agriculture improved considerably and their average income increased more sharply than in previous years. This could be due to the increase in profit generated by pigs, cattle and farmland, as well as much lower costs in feeding animals. However, much lower income from horticulture and an increase in energy and fuel costs meant lower profits.

According to the World Trade Organisation (WTO), Germany is ranked second in the world where imports are concerned and fourth with respect to exports. Exports have doubled when compared to 1990 and agriculture accounts for 20% of the export sales. Other European countries that buy from and are supplied by Germany are Holland, Italy and France. Two thirds of Germany's imports from non-members of the EU are from developing countries. The United States and Brazil are Germany's biggest suppliers from outside the European Community. Fruit, tropical fruits, vegetables, coffee, seeds and their oils, and fish are imported. Milk and dairy produce, meat and its by-products, as well as textiles and tobacco by-products are exported.

Where agricultural production is concerned, certain changes have taken place between 1980 and 2006 in **Portugal**. The following are the most outstanding changes:

- The number of farms has fallen by 46%, although their average size has increased by 70%.
- The average profit coming from farms has increased from 4,650 to 8,326 Euros.
- In 2005, only 7.3% of farm owners obtained their incomes exclusively from their farms.
- The value of agricultural production has increased by 246% where current price are concerned, but only 12% in relation to constant prices.
- The Gross Added Value (GAV) has increased by 225% where current price are concerned, but have decreased by 1% in relation to constant prices.
- The annual company income per Annual Work Unit (AWU) in agriculture rose from 227 to 4,800 Euros.
- The Gross Added Value (GAV) of agriculture is decreased from 8.8% to 2.2% with respect to the national total.

Between 1980 and 2006, the data concerning production indicated that the surface area given over to cereal growing decreased by more than half, going down from 902,000 hectares to 438,000; the production of tomatoes for the food industry nearly doubled (going from 532,000 to 1,006,000 tonnes); orange production rose by 94%, and wine production fell from 9.105,000 hectolitres to 7.049.000, however, the quality of the wine improved. Where livestock was concerned, pork production more than doubled (a 110% increase), the production of poultry increased from 172,000 tonnes to 294,000 (71%), the production of cows' milk went up by 105% and cheese production by 77%.

The Gross Added Value (GAV) data broken down into regions, indicates that the highest rate is recorded in the Alentejo Region, which showed an increase of 34%, followed by the North and Central regions, with 31% and 24%, respectively. However, the Greater Lisbon region, whose agricultural has the lowest level of any region in the economy, is also one of the areas that have the most productive land.

Since 1989, which is when the first general census was conducted in the country, many changes have been made to farm structures, yet these changes have not been sufficient to make the farming industry competitive from an economic viewpoint. Over the last 16 years, the average size of Portuguese agricultural companies has risen from 6.7 hectares to 11.4, which has also led to an increase in the importance of the permanent labour force and productivity, improvements being made in the professional skills of the producers. The agricultural landscape is mainly one of grazing land, because farms have turned towards the production of milk and dairy produce and meat, both cattle and sheep.

Over the past 26 years, the surface area given over to growing cereals has dropped by 0.5 million hectares, whereas there has been an increase in the production of grain cereals and industrial crops. It must also be pointed out that the production of oranges doubled in volume between 1986 and 2006. Some products, such as pears, cherries and certain types of nuts have excellent potential in the near future, as a result of the improvements made to the farming systems and the new plantations of fruit trees that have been planted recently. Typical Mediterranean products such as wine and olive oil are not yet socially and economically important to Portuguese agriculture. The Rural Development Programme 2007-2013 contains plans for major investments in growing these crops.

Pork and milk production doubled between 1980 and 2006. The size of the cattle farms tripled, but the number of animals per hectare has remained the same. The average number of animals per farm is 17.2. The region of Alentejo is top of the ranking for this type of activity, because the rearing of calves and bullocks has increased as a result of the incentives for meat production envisaged by the Common Agricultural Policy (CAP). Furthermore, the concentration of pigs on large farms and the use of more advanced technologies, has led to an increase in the production of pork. The same has happened with milk production.

Since 1991, the contribution made by agro-forestry to the Portuguese economy has been negative, with an increase of the deficit in the commercial agricultural-food balance. Portugal is clearly an importer of these types of products. The internal production has been unable to keep pace with the great demand, and this has particularly been the case with olive oil, cereals, fruit and pork. Wine is exported, and so are products that are by-products of wood, such as cork, timber, paper, furniture and paper pulp.

In **Sweden**, since 1994, the use of the land has changed significantly, due to the current systems of prices and subsidies: the production of cereal and sugar increased 10 % approximately, while the production of oily decreased 60 %. The agrarian Swedish production has increased from 1995, the year in which the country joined the EU.

The profitability of the agricultural activity changes from year to year and according to the production but, in a global way, it has decreased during the last five years. As in the whole Europe, the structural changes and the increase in the use of pesticides and chemical fertilizers has produced negative effects in the environment. The leaks of nitrogen, the depletion of the soils and the loss of biotypes and species of plants and animals are some of the recognized pernicious effects that have been produced. The aims and national measures taken for the environmental improvement were already set up in the 80s. When Sweden began to be a part of the EU, in 1995, the Parliament introduced a new program focusing on the preservation of landscapes and culturally valuable environments, which included measures of support to the organic farming.

The data concerning agriculture in **Italy** indicate that the surface area given over to this activity is gradually decreasing in the country. Between 1991 and 2001, the Utilised Agricultural Area (UAA) per inhabitant fell from 0.3 to 0.26 hectares, which means a drop of 11.1%, amounting to a total of 13.2 million hectares. There are 2,594,825 farms (including crops livestock and forestry farms). The decrease in the number of farms has been

particularly sharp in North-West Italy (-39.5%) and in the North-East (-20.5%) and much less marked in the Centre (-9.3%) and in the South (-7.3%).

The average size of farms has increased in the North, whereas it has remained unchanged in the Centre and has dropped in the South and on the two islands (Sicily and Sardinia). The downward trend in the number of farms and the Utilised Agricultural Area (UAA) has particularly affected the small ones, which account for 44.9% of all farms. In 2002, the contribution made by agriculture to the total collection of VAT was 2.6%, there being a decrease of 0.3% between 1992 and 2002.

The operational framework of the agricultural sector in the country is basically composed of small and medium-sized companies. These small and medium-sized companies are grouped together on the basis of specialisation to supply local or traditional products, often with a Designation of Origin, which enables them to position themselves on the market and compete with the major distribution groups. So, there are certain products with these characteristics:

- With Designation of Origin Protected (DOP).
- With Designation of Origin Controlled (DOC).
- With Designation of Origin Guaranteed and Controlled (DOCG).
- With Typical Geographical Designation (IGT).
- With Protected Geographical Designation (IGP).
- With Traditional Speciality Guaranteed (STG).
- Products that bear the label of the producer and products under large-scale distribution (LOD).
- Products that the consumer can recognise regardless of their label or the quality guarantee system.

Italy produces 21% of the total amount of the products in the European Union bearing the Designation of Origin Protected (DOP) label and the Protected Geographical Designation (IGP) label. These products are vegetables (30,8%), pure virgin olive oil (almost 24%) and cheese (20% approximately). The largest number of products of renowned quality comes from Northern Italy, which is where the highest certified and billed production level is to be found.

In **Hungary**, agriculture is one of the most crucial sectors in the country's economy. The unique natural factors, the topography of the land, climatic factors and the extremely fertile soil enable farmers to obtain outstanding results, where both quality and quantity are concerned. There are also other factors that contribute to the high quality of Hungarian agriculture and its products:

- A very professional labour force.
- The populations' very positive attitude towards its agriculture.
- Advanced education and development.
- An institutional system for bringing Government responsibilities into action.

All of these factors have caused Hungarian agriculture to be traditionally aimed at exporting, and its products can be found in all the countries in the world. At present, the agricultural business participation is increasing at a greater rate than the production of first order goods. The country covers a surface area of 9.3 million hectares, of which, in 2006, 7,689,000 were given over to agriculture, woodland, reed beds and ponds. The surface area that is specifically taken up by agriculture was 5,817,000 hectares. 78% of this land was given over to crops and 17% to pasture. Kitchen gardens and allotments, orchards and vineyards accounted for 5% of all the arable farmland.

The importance of growing different plants has increased considerably over the past decade. According to the Agricultural Structure Register of 2005, nearly $\frac{3}{4}$ of the farms grow crops. 47% of private farms are given over exclusively to crop growing, whereas hardly 20% are commercially associated with rearing animals while 25% combine the two activities. 26% of farms rear animals, especially cattle and pigs.

The agricultural policy is conducive to the setting up of cooperatives, which has led to an increase in this type of company. Special importance is attached to those that have been formed to fulfil both functions: production and commercial activities. The subsidies are granted via these organisations under the regulation of the European market where fruit and vegetable produce are concerned. At the beginning of 2005, 100 cooperatives of this type had been established, but at present there are only 65, because some of them have merged. In 2006, the cooperatives had a total income of 28 billion HUF (Hungarian official currency) and there were 21,000 producers.

State forestry covers 1,054,000 hectares and is run by 19 companies and three military companies. Furthermore, there are 300,000 hectares of privately-owned woodland, which is split into separate plots and run by 27,000 people.

The data for the number of farms in Hungary are as follows:

- 51.3% of them, 363,000, produce only to supply themselves.
- 234,000, 33.1%, sell their surplus.
- 15.5%, 109,000, produce mainly for domestic consumption.
- Approximately 707,000 farms, 0.1% provide agricultural services.

The gross accrued assets that were used directly or indirectly in agricultural activities in 2006 amounted to 174.9 billion HUF. Agriculture accounts for 4.2% of the national economy total investment. There was a slight increase in the number of tractors (6%), and the new purchases are larger than the previous ones.

The proportion of investments in structures exceeded 30% of the gross accrued assets. A considerable amount was allocated to increasing storage capacity and, in this category, priority was given to refrigeration for houses, greenhouses and fruit and vegetable warehouses, barns, forage mixers and driers. The investment in agriculture is distributed in the following way: 43% for machinery, 30% for structures and the remaining 27% for others.

In 2006, the Ministry of Agriculture began to develop a new advisory system, in keeping with the contents of EU Resolution 1782/2003. Groups of specialists were established to change the current system and to prepare a new strategy. As a result, area advice centres were set up: regional advice centres, special advice centres and centres that are dependent on the Ministry and the other institutions involved.

A modern institutional system helps the Government to perform its role. The payment obligations depend upon an accredited budgeting body, the Agricultural and Rural Development Office. The Special Agricultural Office was founded on 1st January 2007, as a result of a merger between institutions and individual authorities. It took on the task initiated by its predecessors: all the aspects involved in animal hygiene, food safety, the machinery the land, environmental protection, the analysis of wine quality, the keeping of records and the unequivocal identification system (ENAR). Special consideration must be given to the new rural management framework, which operates under the recently established Special Agriculture Office. This new system plays a vital role in provide farmers with information about the terms and conditions of adhesion to the European Union.

Agricultural production exceeded 1,600 billion HUF in 2006, one of the highest figures in the last 15 years. Over the last 3 years, the changes have been determined by the cereal yields,

which decreased, although they are still higher than the average. The gross income proceeding from the crops increased in 13.2 % in 2005. The gross income of the livestock decreased in 2006 in 2.9 %.

The data serve to indicate that there have not been any significant changes in the crop structure in the country. It is cereals that are predominantly sown: wheat, barley, triticale, oats, rye and maize. In the past decade, poor climatic conditions and their aftermath have had a negative effect on Hungarian agriculture: droughts, floods, hail and frost cause major crop losses. In 2006, 14.4 million tonnes of cereals were sown over a surface area of 2.8 million hectares. Ear crops accounted for 6.2 million tonnes, of which wheat production amounted to 4.4 million, 1.1 million tonnes were barley, 448,000 tonnes were triticale, 156,000 tonnes were oats, 95,000 tonnes were barley and 8.3 million tonnes were maize.

The total surface area given over to grapes in 2006 was 84,000 hectares, and the amount harvested came to 550,000 tonnes. Wine production stood at 3,1 million hectolitres, the quality of the grapes and the wine being extremely good.

As far as livestock was concerned, in the years following the political and economic changes led to modifications in the animal-rearing sector. This was accounted for by the changes in the ownership structure and, particularly, the changes in market conditions and competitiveness. The decrease in the number of animals continued, and the only increases affected geese and pigs. The number of cattle and pigs fed on private farms (37%) continued to decrease, and these farms only keep half the hens and 90% of sheep. The number of pigs at the end of 2006 was 4 million. The meat processing plants had to import the animals they required for production in view of the low number of pigs, so the importing of live pigs increased after Hungary joined the EU.

The total surface area given over to agriculture in **Bulgaria** is 5.3 million hectares, which amounts to 48% of the country's total surface area and reforested land covers 3.7 million hectares (34%). Agriculture and forestry make a major contribution to the Gross Domestic Product (GDP), exports and employment in the country. Agriculture is a much more important sector than the average for the countries in the European Union (11% of the Gross Added Value (GAV)), but productivity is very low (-43% on a national level and 12% with respect to the Europe of the 25) according to data for 2004.

Bulgaria is split into six major regions, 28 administrative regions and 264 boroughs. According to the Organisation for Economic Co-operation and Development (OECD) there are 20 predominantly rural regions in the country, 7 intermediate regions and one mainly urban region (the capital, Sofia). The rural regions and predominantly rural regions cover 98.8% of the territory and contain 84.3% of the population. The very rural areas account for 81% of the territory and 42% of the population. They are characterised by subsistence and semi-subsistence farms (small farms covering approximately 4.4 hectares), highly-dependent upon agriculture, a high unemployment rate (19%), an ageing population and emigration to urban areas, poor access to basic services (roads, sewerage, etc.) and a high potential for development.

Agriculture was subjected to major restructuring in the 1990s, with land reforms that led to 4 million new owners emerging. An industry that was formerly based upon enormous agro-industrial complexes has moved on to becoming a sector with individual ownership, cooperatives and private companies. There are major differences between the holdings managed by individual owners and those run by other bodies (cooperatives, limited liability companies, businessmen, corporations, etc.). In 2003, there were 665,548 farms, of which 75% covered less than one hectare (with 7% of Utilised Agricultural Area (UAA)), whereas 0.8% managed more than 50 hectares (78% UAA).

The fact that there are a large number of smallholdings can be put down to the following factors:

- Many of them provide extra income for retired persons or those who work in other sectors or activities. Farming in rural areas is a forms part of Bulgarian cultural. In many cases the farms produce large amounts of the food that is consumed.
- Some of the smallholdings are run by people who have no other employment opportunities. Almost one fifth of the people involved in working on the land considered themselves to be unemployed. The smallholdings help to reduce the unemployment statistics.
- Agriculture has come up against major barriers when it comes to being able to grow. Farmers have not had access to credit and ongoing training, and most of the owners embarked on farming with limited resources and knowledge. It is expected that in the current situation, an increase in employment opportunities and an increase in income in other sectors will bring about a reduction in the number of smallholdings in Bulgaria.

Progress in farming development is now making itself apparent. The latest Agricultural Structure Survey reveals that in the period between 2003 and 2005 the number of farms fell by 130,000, of which 57,000 ceased to be involved in agriculture, 10,000 temporarily stopped working as such and 64,000 no longer operated at a size sufficiently extensive to be regarded as a holding². Between 2005 and 2007, a process of integration was observed whereby small plots of land merged with bigger ones to form large holdings. These organisations group together more than 100,000 hectares.

The profitability of Bulgarian agriculture is exposed to several changes: the high prices of the main forage crops, competition with other Baltic countries and the EU, the low level of training of the farmers, a lack of knowledge where marketing and other activities is concerned, land reform, the limited size of the plots of land, the high quality standards set by the EU, etc.

Cereals, orchards, vineyards, oil-producing crops, roses and other essential crops are among the most profitable. Rearing lambs and sheep, beekeeping, poultry and fish farms are still profitable businesses. A lack of investment in vineyards, orchards and fish farms increases the profits to be made from these products. In recent years, a negative process has been observed affecting all agricultural conditions, due to the harsh climate and mismanagement by farmers and the authorities. All of this has a negative effect especially on greens, potatoes, rearing cattle, goats, buffalos and pigs, which are among the most profitable activities in Bulgaria.

A new type of farmer emerged after the reforms of the 1990s: focused on production aimed at the market, using new technologies and adopting a positive attitude to wards the environment. According to the data yielded by the Bulgarian Agricultural Structure Survey (2003 to 2005) farmers can be classified into several groups:

- Individual businessmen, who invest in training, in education and qualifications and who apply the new technologies to agricultural activities.
- Companies who have the same characteristics as the individual businessmen.
- Private individuals of whom very few aim their activities at purely economic aspects, in view of the fact that most of them have low education levels; they do not have economic capacity and lack motivation.

² A holding is considered to be an independent unit that produces agricultural products and that has at least one UAA covering 0.5 hectares.

- Cooperatives and associations that apply the new technologies directly to the activities concerned.

After the political change in Bulgaria, the traditional commercial channels for farm products were lost, and now the farmers have to cope with the free market: new products, cheaper products and with high levels of quality. The subsidy levels for agricultural activities in the neighbouring Baltic countries, which are sometimes higher than they are for Bulgaria, amount to a major threat to the sector.

The governmental structures are not prepared for the rapid changes that are taking place in the economic and environmental areas: the free-market conditions, the emergence of new diseases and pests, sudden changes in the climatic conditions, etc. All of this means that Bulgarian farm produce is not very competitive, and this situation affects the small farms more than the large ones. The negative pressure that is exerted by the major traders over farmers with small farms is an undeniable fact. The changes that farmers have to face up to are as follows:

- Free-market mechanisms those are difficult to apply owing to the communist legacy.
- A large number of small plots, covering less than one hectare.
- A low level of acceptance for the new technologies.
- Political and commercial corruption at all levels.

According to the National Land Register Agency, **Rumania** has been, and is, an agricultural country owing to the fact that more than 60% of its surface area is farmland. The amount of land given over to agriculture has not undergone many changes with the passage of time, except where tilled land, forestry land and hay are concerned, which decreased in the socialist period. Towards the end of 2005, 14,741 million hectares were farmland: 9,420 million hectares were tilled land, 4,879 million were given over to pasture and grazing, a further 0,224 million to vineyards and 0,218 million to tree plantations. There are also 6,743 million hectares of woodland.

The crops that are most important to the Rumanian economy are grain cereals (61 to 81% of the arable surface area, with a total of 5,865.7 thousand hectares in 2005), especially winter wheat and maize, as well as forage (6 to 13%, with 820.4 thousand hectares in 2005), especially alfalfa and clover. At the present time, only five Crop Types are important: grain cereals, oleaginous species (1,205.5 thousand hectares in 2005), especially sunflower, root crops, especially potatoes, greens (266.7 thousand hectares in 2005) and forage.

The data concerning the use of natural and chemical fertilisers in 2005, indicate that in the year concerned 16,316 thousand tonnes of natural fertilisers were used, plus 461 thousand tonnes of chemical fertilisers. These amounts were much higher in 1989, during the socialist period. Where irrigated land is concerned, there 45,7 thousand hectares, compared to 3,168.7 thousand in 1989.

As regards the animal farming, the animal species that are most important to the country's economy are cattle, pigs, sheep, poultry and bees. As is the case with crops, the political system has had an effect on the increase or decrease in animal rearing: the greatest growth took place in the socialist era, whereas the greatest decreases occurred during the transition to democracy. The case of pigs and poultry has been particularly significant. In 2005, there were 2,862 thousand head of cattle in the country, 6,622 thousand pigs, 7,611 thousand sheep, 834 thousand horses, 86,552 thousand poultry and 888 thousand beehives³.

By way of a summary, it can be stated that the agricultural operation profile is one of mixed farming (with agricultural activity and livestock on the same farm), followed by farms that are

³ Source: The Rumanian Statistics Register (2006).

given over exclusively to agriculture or livestock. Individual farmings are the most numerous, being followed by the small ones (around 2.1 hectares), public operating units, commercial companies with private capital and very large agricultural associations (from 376 to 441 hectares).

In **Spain**, the data yielded by the Farming Structure Survey conducted by the National Institute of Statistics (INE) for the year 2005 indicate that there were a total of 1,079,413 farms, which covered a surface area of 33,107,023 hectares. Of these, 258,485 farms were in the Autonomous Region of Andalucía⁴ and 8.896 in the Autonomous Region Madrid (the Region with the most and the Region with the least farms). However, by surface area covered, the largest was the Autonomous Region of Castilla y León, with 6,839,210 hectares, and the smallest was the Canary Isles, with 112,323 hectares.

Another important piece of information for becoming familiar with the agricultural situation in Spain is the relationship between the farm profile and the Utilised Agricultural Area (UAA). This is defined as the total surface area of land that is tilled and permanent pastureland. The tilled land includes herbaceous crops, fallow land, family orchards and market gardens, and land with woody crops. The data indicate that in 2005, the number of farms 1,062,809, which covered 33,029,301 hectares and 24,855,129 hectares of UAA. The farm size indicated that most of them ranged from 1 to less than 10 hectares (635,272) followed by those ranging from 10 to less than 50 hectares (237,575). It can be concluded that the farms in Spain are small, those which cover the greatest extensions of UAA being less numerous.

The data for unirrigated and irrigated land reveal that in 2005 there was not much difference between one type and the other. There were 14,117,000 hectares of unirrigated land and 17,844,200 of irrigated land. Where ownership of the different farms was concerned, the data indicate that ownership is predominant, with 24,484,713 hectares, followed by leasehold with 7,570,421 hectares.

The production data indicate that 6.596.000 hectares of grain cereals were produced in 2005, yielding 14,241,000 tonnes of cereals. These production figures include barley, wheat, oats, maize, rye, sorghum, millet and canary grass, amongst others. In that same year, the total wine production was 6,054,334 tonnes, from a surface area of 1,161,411 hectares. The wine sector and its quality are highly recognised not only in Europe but also worldwide.

The data for livestock indicate that the number of cattle in 2006 was (according to the annual statistics published by the Ministry of Agriculture, Food and Fisheries⁵) was 6,184,093, of which 2,774,721 were cows and 942.344 dairy cows. Castilla y León was the Autonomous Region with the highest number of cattle, 1,229,632. As far as milk production was concerned, the largest number of dairy cattle was in Galicia, 349,472 cows.

In 2006, the number of sheep and lambs was 22,451,627 and the number of goats stood at 2,956,729. Pigs are a major factor in the Spanish economy, and the annual production is greater than for any other species, the turnover being approximately 4,000 million Euros per year. This makes Spain the second highest producer in the EU-25. Rearing pigs has traditionally been associated with family economies in the rural environment. The number of pigs in that year amounted to 26,218,706.

It could be said that the livestock profile for Spain is very heterogeneous, and its geographical distribution is extensive depending on the type of livestock that is being reared: if it is cattle (beef or dairy) it is in Galicia; if it is sheep, in Extremadura; if it is pigs, in Catalonia and if it is goats, in Andalusia.

⁴ Spain is a nation that is organised into 17 Autonomous Regions and 2 Autonomous Cities.

⁵ The Ministry of Agriculture, Food and Fisheries (MAPA) is now known as the Ministry of Environment and Rural and Marine Environment (MARM).

The data for livestock activities in the EU can be seen below; the tables contain information about the number of pigs and cattle.

Survey concerning the number of pigs in the EU-25 (December 2007)

Country	Total number of animals
Germany	27,113,000
Spain	26,061,200
Italy	9,273,000
Hungary	3,860,000
Portugal	2,345,000
Sweden	1,727,500
Bulgaria	888,600
Rumania	6,564,900
EU 15*	124,654,100
EU 25*	152,552,500

Source: prepared on the basis of data from MAPA. (Spain)

*Results still provisional (Source: Eurostat).

As can be seen from the table, the number of pigs was 152.552.500. The country with the largest number of pigs was Germany, with 27,113,000 (which amounts to 18% of the total) and Bulgaria had the lowest number, with 888,600 (hardly accounting for 0.5% of the total).

Survey concerning the number of cattle in the EU-25 (December 2007)

Country	Total number of animals	Total cows
Germany	12,707,300	4,828,500
Spain	6,584,980	2,973,800
Italy	6,577,000	2,280,000
Hungary	705,000	323,000
Portugal	1,426,200	722,000
Sweden*	1,516,600	548,500
Bulgaria	611,000	349,900
Rumania	2,819,000	1,603,500
EU 15	69,730,200	27,658,800
EU 25	79,692,700	32,427,600

Source: prepared on the basis of data from MAPA. (Spain)

*Results still provisional (Source: Eurostat).

The total number of cattle was 79,692,700, of which 32.427.600 were cows (41%). The country with the largest number of animals was Germany with 12,707,300 (16%) and 4.828.500 cows (15% of the total). The country with the least cattle was Bulgaria, with 611.000 (only around 0.7%). In relation to the number of cows, the country that had least was Hungary, with 323,000 (0.9%).

2.3 Profile of Farmers

In **Bulgaria**, the number of full-time farm workers in the agriculture sector was 520,529, according to the 2003 Survey. The Agricultural Structure Survey carried out in 2005 showed a considerable drop in the number of people employed in agricultural activities. The total number of people employed full time in that year was 254,000.

One of the main problems affecting the sector is the age of the farmers associated with agriculture. According to the survey, only 5% of the farm owners are less than 35 years old, whereas 66% are at least 55 years old.

According to the Agricultural Survey in 2005, and with respect to the education level of those who run the farms, 94,6% only had practical experience in farming (506,285 people); 4,2% had received secondary education in agriculture (22,861) and only 1,2% had degrees in agriculture (5,467).

The labour force working on the land is fraught with the same problems. In 2003, the young farmers less than 35 years old accounted for 11,6% of the total (156,800) and from 2003 to 2005 the number fell to 55,000 people. The exodus of young people from the farming sector is a serious problem that requires special measures aimed at retaining the work force. Furthermore, most of the people who are associated with farming activities have no training or skills in company management. This means that it is necessary to develop an ongoing training system for farmers, as well as a quality improvement system. At present, the public services to farmers are the responsibility of the National Agriculture Statistics Service (NASS). There are 28 regional councils and analysis laboratories. It offers the producers daily information, advice from specialists and consultation concerning agricultural techniques, land management and management advice.

In **Rumania**, in 2005, 31,9% of the working population worked in the agriculture, forestry and hunting sector. If one analyses the data for recent years, it can be seen that there has been a decrease in the number of farmers and farm workers in the sector. The ages of most of the farm workers ranges from 25 to 34 years (28,8% of them), followed by those whose ages range from 45 to 54 (26,9%) and those between 34 and 45 years (20,9%). The profile of the Romanian farmer is a man between 25 and 54 years of age, with a mixed farm (agriculture and livestock) and an average level of vocational training but no specialisation.

The data for the workers in the agriculture sector in **Italy** indicate that direct management of the farms is predominant, 81,3% of the total farming area covered being run in this way compared to 5% of the companies managed with wage-earning workers. Only 14% of those who run the farms have a university degree and 2% are less than 30 years old.

The question of labour force in the agriculture sector and in the rural zones was discussed at the European Council of Ministers chaired by Italy and held in 2003. It focused on the question of how to attract young people into rural zones and how to create more favourable conditions for women in this environment. The document prepared by the Italian chairman followed the guidelines set out by the Lisbon Summit and its target of reaching 70% of full employment in 2010. It was stated that this target could also be possible in the agricultural sector. It is considered that constant attention must be paid to protecting the environment and animal welfare, to improving the quality of farm products, conserving the landscape in harmony with the principles of biodiversity and cultural heritage.

According to the data from the National Agricultural Economy Institute, in 2005, 60,2% of all the labour force employed in the sector was concentrated in the South of the country (Puglia, Sicily and Campania). Between 2003 and 2005, the number of people employed decreased by 11,8% at a national scale. This drop can be put down to a reduction in family work (-

13.2%) and in temporary work (-10.9%). However, there was an increase in the number of indefinite contracts (46.5%), probably due to improvements in the production methods.

The family work force is important in all the regions, although the importance varies in the different regions (more so in Puglia and Sicily). The work done by the spouse is vital, especially in the South of the country. As far as the non-family labour force is concerned, the North tends more to contract indefinitely (especially in Lombardy, which accounts for 26% of the national total). Temporary work coming from the labour force outside the family is concentrated in the South of the country. The following table shows a breakdown for the family work force.

Family work force in agriculture in Italy (2005)

	Absolute value	Percentage
Farmer	1,699,463	54
Spouse	800,566	26
Other members of the family	449,727	14
Farmer's relatives	177,701	6
Total	3,127,457	100

The profile of farms is of a company composed of only one person followed a long way behind, by agricultural companies. There are very few producers' associations and public companies. The family labour force is very important, carrying out most of the work in the agriculture and livestock sector in Italy.

In **Hungary**, there were 1,448,962 agricultural producers in 2006. Of these, 728,000 had a farm or market garden as a hobby, 706,900 had a private farm and 686,551 had family farms where the members of the family worked full time, part time and as a second activity. The data concerning farm ownership are shown below.

Number of farms in Hungary (2006)

Type of property	Number of producers
Agricultural and market garden activities as a hobby	728,000
Private farms	706,900
Family farms, full time and part time and as a second activity	686,551
Private agricultural farms	20,349
Cooperation	14,062
Limited liability companies	6,565
Companies that are not legal entities (e.g. associations, public utility associations)	4,533
Farming cooperative	1,453
Other companies that are legal entities (for example, Forestry Association)	1,074
Companies with shared capital	329
Total	1,448,962

Other data concerning the labour force are as follows: 7.7% of the employees in the sector have a university qualification; 58.2% finished secondary school or vocational training, and 34.1% finished primary education. In 2006, there were 107,000 people working in companies in the food industry with more than 4 employees. The total number of workers amounted to 3.8% of the total and 15.4% processed food industry.

The number of qualified employees is greater than at the beginning of the 1990s. There are 150 qualifications that can be officially obtained at a state level in the agriculture sector, 2/3 of which can only be obtained after formal training. Education in agriculture is integrated into the vocational training system and meets the sectoral demands. At present, 150 schools offer education in agriculture. These bodies enable the students to acquire professional knowledge in all areas and at all levels. Apart from the Ministry, the authorities in the capital, of the different counties and regions, as well as the churches and trusts all run schools. In 2006, the number of student who applied for a grant fell by 30%, compared to the previous year.

There was a decrease in the total number of employees in the agriculture sector from 234,400 in 2001 to 194,000 in 2005. There is a major difference between the amount of work invested by the agricultural production companies and the farms. The employees in the production companies work 8 hours a day, whereas the time "invested" by farm workers varies greatly. In both cases, the time invested in farm work falls every year. Taking 1,800 hours as the annual work unit, in agriculture in 2006, the equivalent to the number of hours of 512,000 workers were employed. However, there are few workers who work full time in the sector. According to the employment market survey, the number of people employed in 2006 was 3.9 million, of whom 191,000 worked in agriculture, fishing and forestry (4.9% of all the employees). The number of farms that are run exclusively as family concerns, part time or as a second activity was 686,551 in 2006. Family work is very important to Hungarian agriculture.

In **Portugal**, the labour force that works in the agricultural sector is mainly family and 90% of the employment is of this type. The number of farmers over 65 years old has increased by 19%, which amounts to half the labour force. As is the case in other EU countries, agriculture as a first source of employment has lost importance, decreasing from 21% in 1990 to 9.4% in 2004. The relationship between agricultural employment and the GDP has been negative ever since the falls in the GDP have been accompanied by a reduction in the farming work force.

In Portugal, 40% of the population lives in predominantly rural regions. Therefore, the task of maintaining and improving competitiveness in those zones is important, and, in this context, agriculture and the agro-alimentary industry plays a crucial role. The fact that people have moved from the interior of the country to the Atlantic Coast has made this task more difficult and has led to the dangerous process of desertification in rural zones. These days, most of the rural population only work part time in agriculture. Only 18.3% of the farm owners work full time and 40.1% have another activity. This phenomenon affects the whole country.

Although the training and professionalisation level in the sector is evolving positively, it is still insufficient because 1/3 of all farmers have done no type of training and only 1,500 producers (approximately) have any kind of official diploma in agriculture (0.9%). In spite of the increase in farm specialisation, the number of farms without such specialisation amounts to 50% of the total. The experts interviewed point out that the number of young farmers is on the increase and that most of them have good qualifications. Furthermore, they are also aware of the need to invest and run risks, and this is bringing about changes in the Portuguese farming scenario.

There were major and significant differences in employment between regions during the period 1991 to 2001. Agriculture is still important in the Region of Alentejo but the Central and Northern regions recorded the sharpest decreases in the working population employed in this sector. At present, the percentage is almost 2.8% for the North Portugal region.

In **Germany**, technical progress and other economic developments in agriculture are causing the size of farms to increase all the time, while the need for farm workers is on the decrease.

Of the 782,700 members of the owners' families working in the sector in 2005, 203,300 were employed full time and 579,400 part time. The data concerning the number of employees not belonging to the family between 2003 and 2005, and their distribution by types of job can be seen in the following table.

Non-family workers in agriculture in Germany (2003 and 2005)

Year	Temporary workers	Permanent workers	Full time permanent workers	Part time permanent workers
2003	289.200	191,400	130,600	60,700
2005	306.300	187,400	125,100	62,200

An increase in the number of workers who are not family members, especially those who work part time doing seasonal jobs, is linked to the increase in farm size.

Approximately two thirds of those employed in the sector are male. Men are mainly the owners of the farms, only 1 in every 11 farms being run by a woman. Furthermore, most of the women who work on farms do so part time. In 2006, the number of full-time employees and part-time employees in the sector amounted to approximately 1.24 million people. Family members constituted the largest group (61%).

The data concerning the profile of farm workers in **Spain** indicates that such workers are male, between 25 and 49 years old, who work full time on their own farms, who are not unemployed and how are registered in the Special Agricultural Regime with the Social Security⁶.

According to the Working Population Survey, in 2006 the number of workers employed in the sector was 893,000, which amounts to 4.5% of the total. Men accounted for 368,800, 5% of all employed males, and women accounted for 254,200, 3% of the total employed in the country that year. 94% of the men work full time, compared to 82% of the women, who do so under the same conditions. The age of Spanish farm workers ranges from 25 to 49 years of age.

Another interesting fact for finding out the situation of agricultural workers in Spain is the number of unemployed persons in the sector over the last two years for which data are available, 2006 and 2007. The unemployed in the sector thus amounted to 3% of the total (for each period) number of unemployed. This means that there is a certain degree of employment stability in the sector and, furthermore, there are no significant signs of major variations in the number of employees. In January 2008, the Autonomous Region of Andalusia was the one where there was the greatest demand for agricultural and livestock workers, and that is the Region that has the largest number of farms and the greatest surface area of arable land.

⁶ The Special Agricultural Regime of the Social Security is the one with the largest number of farmers and it provides its members with health and social cover.

3. The European Common Agricultural Policy (CAP): current problems and prospects for the future

The Common Agricultural Policy (CAP) has been the most important common policy and one of the essential elements in the EU institutional system. Its aims are established in Article 39 of the Treaty of Rome in 1957 (whereby the European Economic Community was established, forerunner to the current European Union):

- Increasing farming productivity.
- Guaranteeing a fair standard of living for the farming population.
- Stabilising the farming markets.
- Guaranteeing secure supplies.
- Ensuring that consumers are supplied at reasonable prices.

The social context under which the CAP was established was a Western Europe in which the population was affected by the years of the World War II, which had brought farming production to a halt and could not guarantee food supplies to the population. The idea was that the CAP would encourage improvements in production so that European consumers could have available a stable supply of food at reasonable prices, and that the agricultural sector was viable in Europe.

The principles that govern the CAP are: market unity (all the production is managed as one), community preference (for community products as opposed to those from outside the community) and financial solidarity. The sphere of application is the production and commercialisation of farming products and those processed from such products.

As from the 1980s, the CAP achieved its targets and managed to ensure that the EU reached high levels of self-sufficiency where agricultural production was concerned. At that point in time it was necessary to put into operation a series of unpopular measures affecting livestock and agricultural farmers in order to manage and reduce the surplus. Most of the reforms concerning the Common Agricultural Policy took place in the 1990s. Limits were set for certain products in order to reduce the surpluses that had caused so many problems in the previous decade (for example, milk). Environmental questions were stressed, as well as the fact that farmers of all kinds had to take into account the market fluctuations. Production must take into account the priorities of the consumer and crop and livestock farmers would receive direct aid where profits were concerned.

The new CAP, after 2003/2004, is a basic contribution to the Lisbon process, in the sense that it focuses on farmers and their businesses, and places emphasis on market orientation. A “more businesslike” approach will require a change in culture and the way that farmers act on many farms, which will lead to a positive change and an improvement in rural development.

Rural development in all the EU member States can help to enhance competitiveness in agriculture and the agro-alimentary sector. Innovation, together with information and the new technologies (ICTs), have to play a major role in this process.

Two major pillars currently support the CAP:

- Regulation of the agricultural markets. This includes interventions and help for production (milk and dairy produce, for example), intervention (for example, wine), aid for production (for example, rearing goats and tobacco) and customs duties protection (for example, eggs). These types of aid are regulated through the Common

Market Organisations (CMO⁷). They are specific agreements that regulate the production and trading of products in all the EU Member States. At present, there are CMOs for rice, sugar, lamb and goat, pork, beef, cereals, flowers, dried forage fruit and vegetables, processed fruit and vegetables, free range poultry and eggs, flax and hemp, hops, fatty materials (olive oil and oleaginous species), bananas, milk and dairy produce, seeds, tobacco, wine and other productions.

- Rural development. The regulations that govern this area have been considerably reduced. A Rural Development Programme is established that can include any actions of a structural nature, which were formerly co-financed through the European Agricultural Guidance and Guarantee Fund ⁸ (EAGGF). 88.75 billion Euros has been established for the period running from 2007 to 2013.

EC Regulation 1290/2005 issued by the Council, on 21st June 2005, concerning the financing of the Common Agricultural Policy, has established one single new legal framework for financing the expenses of the CAP. With a view to this, it has set up two new funds that are registered in the general budget of the European Communities:

- The European Agriculture Guarantee Fund (EAGF). This fund finances, in joint management with the Member States and the Commission, the restitutions stipulated for the export of agricultural products to third countries, the interventions aimed at regulating the agricultural markets, the direct payments to farmers established in the sphere of the CAP, and training and information measures about the agricultural products, carried out in the countries concerned both within and outside the EU. In a centralised way, it finances:
 - Veterinary participation in the Community with specific measures, veterinary control measures and the products set aside for human and animal consumption, programmes for monitoring and eradicating animal diseases and pests and phytosanitary measures.
 - Promoting agricultural products made directly by the Commission through the mediation of international organisations.
 - The measures taken in compliance with the community regulations, aimed at guaranteeing the conservation, characterisation, collection and use of genetic resources in agriculture.
 - Setting up and running agricultural accounting information systems.
 - Agricultural research systems.
- The European Agricultural Rural development Fund (EARDF). It exclusively finances and jointly runs the rural development programmes carried out in compliance with the Regulations that are proposed by the Commission.

In accordance with the European community regulations, the onus is on the Member States to appoint the Bodies and National Services created to pay, through the EAGF and the FEADER, all the expenses arising from the application of the CAP.

⁷ Their operation depends on the type of product that they regulate, but in many cases, it is common to one and another.

⁸ Since 2007 it has been replaced by the European Agricultural Guarantee Fund (EAGF) and by the European Agricultural Rural Development Fund (EARDF).

Data are furnished below containing the EAGF expenses for the countries taking part in the project in the financial year of 2007 (this period running from 16th October 2006 to 15th October 2007)⁹. The unit used is million Euros and the data are split into the different items that are included in that Fund:

- Restitutions. All the restitutions granted for the exports in the different sectors are grouped together.
- Direct aid. Most of these aids are a result of the reform of the CAP.
- Other aid. This refers to other aid that is not received directly by the farmers (aid to industry, Producers' Organisations, etc.), or that do not correspond to market aid (restructuring and starting up), food aid, promotion and information, etc.
- Intervention and storage expenses. These are the classic expenses involving intervention and storage to keep up the market prices.
- Rural development. As a result of creating the EARDF.
- Other items. Most of the items are for control, health and consumption actions.
- Contributions and restitutions in the community framework. These basically concern recoveries, settlements from earlier financial years and supplementary rates and taxes.

⁹ *FEAGA expenses. Structure by items and by Member States. Financial Year FEAGA 2007.* Spanish Ministry of Agriculture, Food and Fisheries. General Secretariat of Agriculture and Food. Madrid, February 2008.

FEAGA EXPENSES – FINANCIAL YEAR 2007

Item	Bulgaria	Germany	Spain	Italy	Hungary	Portugal	Rumania	Sweden	EC	TOTAL
Restitutions	-	154	38.3	59.2	12.4	86.4	0.9	27.7	38.3	1,440.9
Direct aid	-	5,504.5	4,981.5	3,991.5	476.6	596.5	-	726.4	31,060.7	37,587.9
Other aid	0.2	81.4	627	548.1	26.9	79.7	3.9	13.3	2,051	2,249
Intervention and storage expenses	-	-99.2	232.2	152.8	-47.6	14.6	-	-8.2	539.4	492.4
Rural development	-	-2,8	-5,5	-4	-	-1.8	-	-0.2	-	-29.6
Other items	-	8.2	28	283.3	5.1	31.8	-	12.6	51,2	642.5
Agriculture and rural development	0.2	5,646.1	5,901.5	5,030.9	473.4	729.4	7.8	771.6	33,740,6	42,383.1
TOTAL FEAGA EXPENSES	0.2	5,646.1	5,901.5	5,030.9	473.4	729.4	7.8	771.6	34,026	42,668.5
Contributions and restitutions in the Community framework	-	-386.8	-208.9	-423.9	-37.8	-15.9	-	-28.3	-	-2,447.9
TOTAL FEAGA	0.2	5,259.3	5,692.3	4,607	435.6	713.5	7.8	743.3	34,026	40,220.6

Source: prepared by IFES on the basis of data from the Spanish Ministry of Agriculture, Food and Fisheries. (2008)

As it can be seen in the table, the differences between the countries taking part in this project are observed in all the items presented. Thus, in the section for the restitutions, the country with the highest figure is Germany with 154 million Euros and the country with the lowest figure is Bulgaria, which has no entry for this item. With respect to direct aid, Germany is still the country with the highest expenditure (5,504.5 million Euros, which amounts to 15% of the total), compared to 476.6 million Euros for Hungary (hardly 1% of the total for the whole of the European Union).

The “other aid” item includes the aid not received directly by the farmers, or is not classified with other types of aid (market, food, etc.). Thus, the greatest expenditure is in Spain, with 627 million Euros (28% of the total) compared to Bulgaria, with 200,000 Euros.

The “intervention and storage expenses” section shows considerable differences between the eight countries, between those that have had expenditure and those that have not. Germany, with 99.2 million Euros, stands out among those with a negative expenditure, when compared to the positive expenditure of Spain, with 232.2 million (which amounts to 47% of the total).

As can be seen in the table, all the countries show a negative balance for the “rural development” item. Three of the countries (Bulgaria, Rumania and Hungary) have no entry for this variable.

The “others” variable includes control, health and consumption actions. One country that stands out where this item is concerned, is Italy, with 283.3 million Euros (44% of the total for this entry), when compared to Bulgaria and Rumania, which have no entry. The table also shows the “agriculture and rural development” variable, which shows the joint data for both. Spain stands out, with an expenditure of 5,901.5 million Euros (14% of the total), followed by Germany, with 5,646.1 million (14%). Bulgaria is the country with the lowest expenditure in this entry, with only 200.000 Euros.

In the “contributions and restitutions in the Community framework” item, which refer to recoveries, settlements from previous financial years and supplementary rates and taxes, the highest “recovery” figure is for Italy, with 423.9 million Euros and the lowest figure is for Portugal, with 15.9 million. Bulgaria and Rumania have no figure entered for this item.

The final data that are shown on the table concern the total FEAGA expenditure. Taking into account the overall expenditure, Spain is the country with the highest expenditure, which amounts to 5,692.3 million Euros (14% of the total in the EU), followed by Germany, with 5,259.3 million (13%). The countries with the lowest expenditure are Bulgaria (with only 200,000 Euros, an insignificant percentage in the total amount for Community expenditure) and Rumania, with 7.8 million (hardly 0.01% of the total).

In **Spain**, the European agricultural funds were applied within the framework of the distribution of powers between the Public Administrations (General State Administration and Autonomous Regions). The Spanish system for managing European agricultural funds comprises the following:

- The Spanish Agricultural Guarantee Fund. The functions of this fund include coordinating the system, in a way that enhances a harmonious application of the Community provisions and centralises the information that must be made available to the Commission, as well as representing Spain before the European Bodies that are responsible for financing the CAP.
- 17 bodies pay from the Autonomous Regions. Their functions are the management and payment of the aid that falls within their jurisdiction, contributing with their

experience, making sure that the general standards that apply to the aid adapt better to the specific situations in each one of the Autonomous Regions where they act.

The CAP envisages a special regime for production in certain zones. In Spain, this regime is applied to the Canary Isles. With respect to the European Common Agricultural Policy, Spanish agricultural farmers and livestock farmers are very critical. They consider that the EU has joined the dictates of the markets, of the consumers, without taking into account the needs and interests of those who are directly responsible for tilling the land and rearing the animals. They consider that an agricultural policy should be drawn up that is more directly related to production instead of one that is based more on subsidies, which cannot be sustained in the long term. According to those involved, this policy is weakening the sector and preventing the farms from being enlarged and improved. This problem is even more serious in the case of organic farming.

When **Portugal** joined the CAP, it did so adopting a new system. Two periods were established for the products that were likely to come up against external competition (85% of all the production in 1986):

- In the period between 1986 and 1990, the country did not take advantage of the *EAGGF - Guarantee Funds*, but it was not under the market price policy.
- In the second period, from 1991 to 1995, Portugal took on the CAP rules in their entirety and opened up the market to European competition. This clearly meant a lowering of the incomes of the crop and livestock farmers, bringing about a reduction of 23.5% in the incomes of the farm owners.

In July 1997, the European Commission presented the document "Agenda 2000". This document contained the reform of the CAP and other common policies, opened the door to other countries joining from Central and Eastern Europe, and established the foundations for adopting the single currency (the Euro). The measures that were implemented affected cattle, cereals and perishable products. The Agenda also included one single regulation plan for rural development and other horizontal regulations for the joint administration of direct aid to the producers.

In July 2002, the Commission presented the third reform of the CAP, based upon horizontal and vertical measures: the reduction in the intervention prices for cereals and the increase in aid for extensive production of cattle; separating the owner – production aid and implementing aid for individual farms; the "cross complement" system, and an increase in support for the Rural Development Programme.

Portuguese experts indicate that this reform has both negative and positive consequences for the country: the desertification of part of the land, an increase in productivity in the milk and dairy sector, an increase in the total number of extensive cattle farms, an increase in irrigation and the intensive production of vegetables, and a major drop in the production of cereals in unirrigated farms.

In overall terms, it is considered that the aid funds for Portugal are decreasing, partly as a result of the restrictive and unfavourable structure of the farms. The availability of sufficient European aid for the country within the Rural Development Programme and Measures to improve the environment have been essential for increasing organic farming production in recent years. With a view to encouraging the development of this type of production, the experts believe that two approaches should be made: one approach aimed at the producers, helping them to construct a system for improving and concentrating production, and training that enables them to turn their conventional farms into organic farms. The other approach should be aimed at the consumers, giving them more information about the high value of organic products for the health and consumption in general.

The critical points for the future of agriculture in Portugal can be summed up as follows:

- Relaunching and speeding up the structural adjustment. At present, the agricultural structures do not allow for a suitable use of the investments, in spite of the fact that the country is saving on investments at a faster rate than the rest of the countries in the European Union. This makes it more difficult to achieve profitability in the farming sector.
- Supporting the development of sustainable farming of high quality that is aimed at the market. An increase in the value of Portuguese products would be possible as a result of a greater diversification and investments, in order to improve quality and the marketing methods.
- Improving the sustainability and competitiveness in the rural areas. This could be achieved through a more flexible and diversified labour market, which facilitates the creation of employment and a better use of labour surplus on farms.

Hungary has been a member of the EU since 1st May 2004. The rural zones and their role in agriculture are of great importance to the country. The Hungarian agro-economic system is well integrated into the CAP and the single market and access to resources for rural development have had a positive effect on the country's inhabitants where their attitude to belonging to the EU is concerned. Hungary has taken part in the debates conducted for subsequent agricultural development and has also participated in drawing up the new regulations proposed on a European level.

The main guidelines that affect Hungary concern the so-called simplified Single Area Payment Scheme (SAPS). The support for agriculture is associated with the production of some of the products (cereals, meat, milk, etc.), with a contribution. This system is inflexible, sometimes it is the only reason for farms continuing to be worked, and it is not related to the market demand.

The new SPS system will be implemented in Hungary in 2009. This system encourages the production of goods on the basis of the market demand and does not require the producers to not sell their products to be entitled to aid. The Rural Development Programme in Hungary takes into account market regulation and the rural development objectives of the CAP, its corrections to the proportions and the system by targets. The aim of the 2004 CAP reform was to establish a system that is independent of the production system and that makes it possible to increase the population retention capacity in the rural zones and strengthens those zones. The Hungarian programme envisages modernisation of farming production, the conditions in the food industry (especially food quality) and mitigating technical and technological drawbacks.

In **Italy**, the different reforms to which the CAP has been subjected have affected the country, its farming production and its crop and livestock farmers in a different way. In this sense, the changes introduced by Agenda 2000 led to a total surface area of 4.4 million hectares where crops were grown applying for aid of these, 81% were given over to cereals, 12% were planted with seeds for oil and 5% was a reserved area.

At the beginning of 2005, the reform applied to olive oil, tobacco, cotton, hops and sugar, the direct aid being paid to these sectors under the Single Payment System. Fischer's reform¹⁰ made it possible for farmers to opt for Article 69 of Regulation 1782/2003, which meant

¹⁰ EC Regulation n° 1782/2003 issued by the Council, whereby common provisions are established that apply to the aid systems within the framework of the Common Agricultural Policy, and certain aid systems are implemented for the farmers.

making a deduction from the limits for each sector, pay out supplementary payments in order to give benefits to those producers who, on the basis of the allowable conditions established on a national level, undertook to improve the quality of production, market and the environment. Italy chose this option for the crop, cattle, goats and sugar sectors.

The CAP began to be implemented in **Bulgaria** in 2001, with the SAPARD programme. This implementation, together with the changes to the Bulgarian political system that took place after 1989 (for example, freedom of movement for people and the labour force, free supply and demand) were crucial in establishing the opening up of the different trading activities in all the economic sectors.

In spite of this, agriculture is still the weakest and most conservative sector. The new European reality could overcome most of the farmers' problems. The CAP, and especially Pillar II, mainly supports the large farms but not the small-scale peasant farms and their rural communities. This leads to a loss of the most traditional local activities, which are not properly replaced by the new technologies, in view of the fact that most of the farmers are not trained for this and do not have any qualifications whatsoever.

The CAP is developed by the oldest EU Member States and most Bulgarian farmers have to manage with the highest and strictest quality standards. A lack of knowledge and skills in the area of marketing is the great challenge that the country's farmers have to face up to. Before purchasing new machinery, they have to acquire the knowledge that is needed to suitably manage their land and their products.

In **Germany**, the effects of the CAP can be seen by studying the different key measures adopted by the new community agricultural policy. Thus, after the different decisions were taken by the Agriculture Council of Ministers in June 2003, a decision was taken to implement, as from 1st January 2005, a complete decoupling between payments and production (which was what was being done up until that time), except for the production of tobacco and hops. The effects that were expected were that farmers would make their production conditions more flexible and aim their production at the market; no incentives would be given to the production of surplus and the farming subsidies that distorted the market would be dispensed with. This reform has served to strengthen the Federal Government's negotiating position in the world market.

Another measure that was implemented as from 2005 was to introduce a hybrid financing model. This means that the amount paid to the farmers will be determined on the basis not only of payments received in the past (standard model) but also on the size of the farm (regional model of single payment per hectare of agricultural land farmed). From 2010 to 2013, there will be a gradual transition to the pure regional model, and as from 2013 there will be a regional model with an incentive on the basis of the acres of surface area covered by the farm. The effects that these measures are expected to cause are follows: all that is associated with the support scheme will become more balanced and the permanent pastureland will be better: extensive production and the use of sustainable environmentally-friendly methods will be given preferential treatment; the gradual transition to the regional model will give farmers sufficient time to adapt; the support for the new payment system will be increased within and outside the agricultural sector and, the administrative burden will decrease in the long term.

The EU Member States do not have the possibility, on a national scale, of modifying the terms and conditions that relate direct payment with the requirements to comply with the standards that have been set, and which are already contained in the 19 European Regulations and Directives that exist (concerning environmental protection, food safety and in animal welfare and health). It is expected that these obligations will "bring about" an improvement in quality, which will be more important than the quantity of products prepared in the different farms. The EU Member States are required to take precautions and measures

to keep the land given over to agriculture in the best possible farming and environmental conditions possible.

Another one of the agreements reached by the Agriculture Council of Ministers in June 2003 was that the EU Member States would be required to cut back the direct payments as from 2005, in favour of measures aimed at developing rural areas. In Germany, the *Laender* would be left to decide about the allocation of resources within the area of preparing their plans for rural development as from 2006. The effects of this measure will be to strengthen the rural development policy and the availability of funds for those measures that are aimed at improving the environment and the farming structure in the country.

4. Organic Agriculture and Livestock

4.1 General framework

Organic farming can be defined as the list of farming techniques that exclude the use, in farming and livestock, of artificial chemical products such as fertilisers, pesticides, antibiotics, etc., with a view to conserving the environment, preserving and increasing soil fertility and providing food with all its natural properties.

Organic farming goes back a long way, in fact it dates back to the end of the 19th Century. The principle that guides the way it works revolves around the management of farming activity in harmony with nature. Farming (both crops and livestock) is perceived as an organism that encapsulates mankind, flora, fauna and the soil. The objectives of organic activity are aimed at:

- Achieving, if possible, a nutrition cycle on the farm itself. This enables the farm itself to establish its own food supply and produce the nutrients that it requires.
- Conserving and enhancing soil fertility.
- Keeping the animals in the conditions that are most suitable for their welfare.

With a view to achieving this, organic farming focuses on the following measures:

- Not using chemical products to protect the plants, growing few species in suitable rotary formations, using manual means such as hoes and burning stubble, in order to control weeds.
- Not using fertilisers, applying organic material as fertiliser, such as manure or compost.
- Conserving soil fertility through the intensive management of humus.
- Not applying products for chemically enhanced growth and not using hormones.
- Limiting storage to the average production of the land.
- Feeding the animals with products that have been prepared on the farm itself (whenever this is possible) and with only a few purchased products.

Organic farming fulfils a twofold social role: it responds to the demands of the new organic consumer and helps the planet to evolve towards stability. One important aspect is integration between livestock and organic farming. Such integration will enable those

concerned to make better use of the resources by creating a kind of symbiosis between the two productions.

The protection and conservation of natural resources is highly successful, while at the same time having positive effects on the environment: soil conservation, water conservation, protecting the different species and making an outstanding contribution to animal welfare.

The emergence and development of organic farming in different countries has taken place at different times. Thus, in **Italy** over the last 15 years, there has been a sharp growth in companies and surface area given over to organic farming. This increase can be put down to several factors: the development of local policies taking into account ecologically sustainable criteria, a special system of incentives and aid for the producers who opt for this method, defining specific regulations concerning the production method for organic farming, increasing consumer demand for healthy products and the “natural trend” in Mediterranean countries to adopt organic production techniques. The National Action Plan for developing organic farming has been allocated 30 million Euros for financing between 2007 and 2009 and the new scheme for the development of organic farming (approved by the Council of Ministers in April 2007) introduces a series of instruments to encourage its development and competitiveness: establishing “organic districts” on a regional level, agreements within the sector, increasing the use of organic food in hospitals, colleges and infant schools, and strengthening the inspection systems, allocating powers to the different administrative regions and the autonomous regions. The system for controlling and certifying organic production will involve a variety of institutions, both publics and private.

In **Portugal**, the development of organic farming began later than in other European countries. In 1985, when the first national organic farming association, AGROBIO, was formed, there was only one operator and 50 hectares under organic production. These days, the situation is completely different and Portugal is one of the ten countries with the greatest area of organic farming under production in Europe (with 269,374 hectares, which amounts to 7% of the total area of farmland). AGROBIO was the beginning of consultancy and advisory work, training in agriculture and controlling and certifying organic products. The factors that have led to the development of these activities in Portugal have been, above all, the financial support from the EU and an increase in the prices of the products on the market. Furthermore, as it is a Mediterranean country, there are products whose traditional method of cultivation was already similar to an organic approach, which meant that it was easier to tackle the process of conversion (for example, the olive groves in the North and Central Regions of the country). In spite of the increase in production, the supply of organically-produced products has not been able to keep pace with the demand from consumers, which is on the increase for two reasons: the fact that Portuguese purchasing power has increased, and the appeal of organic products. An increase in the number of farmers who are accredited as being organic farmers has been particularly high in the regions of Tras-os-Montes, Beira Interior and Alentejo, where extensive farming systems are predominant, which makes it easier for those interested to change over to organic farming.

In **Germany**, mad cow disease and the doubts that arose with respect to food safety and the quality of consumption products led to a debate about farming production policy and the way foodstuffs were prepared. Organic products, those produced under the conditions that are best suited to the species concerned and autochthonous products, all play a vital role in the German farming policy. Consumer demands are also taken into account to a great extent. In 2000, the Federal Government stated that its target was to turn 20% of the German farming area into organic farmland by 2010. Different initiatives have to be taken by those who are directly or indirectly involved in the economy if the trade in organic products is to be developed to a maximum, and this particularly applies to such aspects as marketing. The development of organic farming depends on those consumers who are prepared to pay higher prices for products that have been prepared organically and comply with the required quality and environmental standards. The total sales figures for organic products rose from

1.2% in 1997 to 3.6% in 2006. As far as the labelling of organic products is concerned, there are a great number of labels that indicated that the product concerned is organic. The most important and significant label is the one arising from European Council Regulation nº 2092/91, completed by nº 1804/1999 concerning animal production. Other types of labels and logos have emerged on a regional and local level, whereas others make reference to certain methods and production environments, and there are even logos that have been prepared by the different producers' associations (Demeter, Bioland, ANOG, Naturland, ECOVIN, etc.).

Organic farming began in **Spain** towards the end of the 1980s. It made rapid progress in the early years, but recently such progress has been curtailed. In 1989, approval was given to the Regulation concerning the Generic Term *Agricultura Ecológica* (Organic Farming), which was the starting point with respect to regulation and control. The body responsible for controlling and supervising organic production throughout the whole country is the Organic Farming Regulating Council. The certification for organic farming production is mainly carried out through the territorial Organic Farming Councils or Committees, which are bodies that are dependent upon the Regional Ministries or Departments in the different Autonomous Regions. In three of these Autonomous Regions, private bodies have also been authorised to certify organic production: Andalusia, Castilla-La Mancha and Aragón. To help consumers to be able to distinguish the products that come from organic farms, apart from their own brand name, they also bear a label on the front or back containing a number and a specific logo with the name and/or code of the controlling authority or body, together with the words *Agricultura Ecológica* "Organic Farming". Spain is a country that has excellent conditions for developing this type of agriculture, because of its climate and the extensive production systems that are applied to a large number of crops. One of the characteristics of this type of activity is its diversity, and it is present in all the Autonomous Regions to a greater or lesser extent. As far as animal production is concerned, the conservation of a genetic heritage in certain autochthonous breeds, adapted to the environment in which they are reared, is conducive to such breeds being reared in the intensive system.

The European Common Agricultural Policy (CAP) has had a considerable effect on the development of organic farming in **Hungary**. The activity began to be developed in the country in the 1980s. Since the EU regulations concerning the activity came into force in 1992, tens of thousands of farms have turned to organic production as a result of greater consumer awareness and an upsurge in the demand for organic products. Although the surface area given over to organic farming has decreased since 2004, the number of companies involved in this type of production is on the increase. In 1995, only 100 companies produced organic products on 8,000 hectares, whereas in 2006, the number of companies was 1,974 on 123,000 hectares. The two main reasons for Hungarian farmers changing over from conventional farming to organic farming are as follows:

- Economic reasons. Products that bear organic certificates can be sold at a better price.
- Ethical reasons. Producers are aware of the importance of developing their activity adopting environmental criteria and protecting the environment.

There are several organic farming organisations in the country. The pioneer was *Boikultúra Klub*, in 1983, the first one of its kind in Central Europe and Eastern Europe. Its members were mainly people who were either concerned about the environment and healthy methods for farming production or, simply people who wanted to change their traditional way of life. They were interested in production methods that did not use chemical products, or those that were hazardous or those that had aggressive effects on the soil and the environment. In 1987, it acquired full membership of the IFOAM (International Federation of Organic Agriculture Movements). Another outstanding organisation that represents the interests of farmers and provides information of a professional nature and promotes organic activity is

the Hungarian Association of Organic Farmers (MÖSZ). In 2004, the Hungarian Organic Farming Association (MÖGERT) was formed, some of its objectives being to bring together all those who are interested and involved in this activity, carrying out research work, organising training courses, preparing research projects in collaboration with other countries and setting up a network of cooperation between different national and foreign organisations.

It has been necessary to restructure the support policy and the systems for encouraging organic farming activities. All these measures have been brought together in the New Hungarian Rural Development Programme that was presented to the EU in 2007. Since 1996, *Biokontroll Hungary* has been recognised as the body that inspects and accredits organic activity in the country. In 2002, the Ministry of Agriculture and Rural Development gave its approval to establishing the *Hungary Eco Guarantee* body, and empowered it to inspect and accredit organic activities. Furthermore, the *Hungarian Collective Agricultural Marketing Centre* helps to promote organic products through marketing campaigns, by organising events and participating in international exhibitions and markets.

In **Rumania**, organic farming was officially recognised in 2000, and ever since then there has been an upward trend both where crops and livestock farming are concerned. Controlling and certifying are carried out by two different inspection and certification bodies. The permits for these inspections are granted by the Ministry of Agriculture, Forestry and Rural Development and are based upon independence, impartiality and competence criteria. Before the Ministry gives its approval to authorisation for one of these bodies, accreditation has to be given in compliance with EN ISO 45011:1998, established by the Rumanian Accreditation Association. The products have to be labelled before they can be regarded as organic, and they have to fulfil the following requirements: the name of the organic production, the logo, the name and the certification and inspection code of the agency that has carried out the control and, since 2006, the logo "ae". This logo guarantees that the product comes from an organic farm and has been certified by a control body, which means that the consumer can easily and quickly identify it. Since the country joined the EU, organic farming has many opportunities to develop and diversify, which will lead to a considerable growth in activity.

Although some research indicates that organic farming in **Bulgaria** dates back to the 1960s, the activities that can clearly be regarded as organic began towards the end of the 1990s. Transforming traditional production into organic production is faced with certain challenges:

- Most farmers get little in return for their activity, which means they are unmotivated.
- They do not have information about the changes in the political and environmental areas in which farming production must compete.
- The market for organic products has only been established recently and its distribution channels are relatively variables.

In spite of all these problems and challenges, there is a positive trend towards improvement. The conventional farmers who have become organic farmers have made this change for economic reasons: the high prices of some services and products that are needed for traditional production (veterinary services, pesticides and herbicides, machinery, etc) and for ethical reasons: preservation and conservation of the environment. Financial support coming from the EU has encouraged many farmers to turn their farms into organic farms so that they can receive the subsidies, even though they are not completely convinced about the benefits of this type of production.

In Sweden, organic farming has had a strong and constant growth. In 1999, almost 10% of 2,8 million cultivable hectares were certified as organic or were cultivated under the label of organic production following the European regulation EC 2078/92. This supposes that the national aim of 10 % of organic farming in the year 2000 will have been fulfilled. In 1998, 4,6 % or 130.000 hectares were certified by KRAV, the private control body. In 1999 the number

of farmers registered in this organisation increased in a notable way. Those that are not certified as organic farmers cannot sell their products on the market as organic ones.

The major increase in the organic activity was produced after the incorporation of Sweden in the EU: from 50.000 to 300.000 hectares in 5 years. The average size of an organic farm is 56 hectares opposite to 33 hectares of a conventional farm. The organic farming cannot anymore be considered to be a production of small size for a few rich consumers worried for acquiring healthy products. The activity is not anymore considered to be exclusive of a group of hippies that devote themselves to the organic culture for own consumption, but the farmer who produces under this modality, is considered to be an expert whose aims are put on the market and is prepared to face the new demands of the food production, taking care of the environment and the demanded criteria of quality.

Before the 80s, there was a certain number of organic organisations that were working independently and with different concepts about what this activity had to be. At the beginning of the decade, a forum of cooperation was organized, with a common basis between these organisations. The need to work with the farmers interested in proposing policies of market and marketing led to the creation of the National Association of Alternative Farmers, in February, 1985. This organization changed its name in 1994, into Association of Ecological Farmers.

The first and more urgent task of the Association of Ecological Farmers was the creation of a certification system based on a common concept for 'organic farming'. KRAV was founded with a goal: to join up the different philosophies and practices under one only standardization and certification system, with a high degree of transparency and opening, to facilitate the participation of any organisation interested in the development of this activity.

The factors that have helped to the development of the Swedish organic farming have been basically the following:

- An agricultural favorable policy that contains supporting programs for the economic situation during and after the conversion from conventional farming to organic farming.
- A well organized sector with a common analysis of the different problems, and bearing in mind the common aims in the different areas of certification, marketing, market, information to the consumer, etc.
- The awareness and confidence of the consumers. A single certification system and a single organic label recognized by all those implied in the activity have been determinant factors to obtain the confidence of the consumers and the acceptance of the different organic products on the Swedish market.
- The commitment from the large food chains by including organic products in their offer. Apart from local initiatives of distribution, the large food chains of the country incorporate market strategies specifically for the trading of organic products being possible to find at least one product of this type in any shop or supermarket.
- The good relations among the conventional and the organic production organisations has always been a priority aim for the ecological Swedish movement. This allows offering the maximum support and advice to the conventional farmers interested turning their farms into organic.
- The access to the advice and the necessary knowledge is an important factor that the farmers bear in mind when they decide to transform their conventional farms into

organic in a definitive way. Organic farming is considered a more difficult production and farmers are afraid not to be capable of handling it.

4.2 Economic aspects of production

The economic aspects of organic crop and livestock production in the countries that are taking part in this project show a wide variety of data. The most important information is presented below.

In **Rumania**, the support that the government has given to organic farming has been insignificant and inconsistent. In spite of this, the area of land given over to organic farming increased from 17,438 hectares in 2000 to 180,000 in 2007, and although there was a decrease in the surface area where grain cereals were grown, there has been an increase in oleaginous species, pasture and hay, vegetables and fruit trees farmed organically. The data for the species where organic methods were highest in 2006 were as follows: pastureland and hay (51,200 hectares), oleaginous species (23.872), grain cereals (16,310), vegetables (720) and fruit trees (292).

The data for 2006 where livestock is concerned indicates that rearing dairy cattle organically reached 9,900 head, rearing sheep and goats reached 86,180 head, whereas 4,300 hens were organically reared.

Organic production and the organic market for farm produce are growing steadily. Production is aimed not only at the domestic market but also at the export market, and it is highly diversified. The only products that are not yet exported are vegetables (both fresh and processed) and fruit. Honey and cheese are among the products that are sold in largest quantities. An increase in domestic consumption is expected, because the large chains of national supermarkets now feature organic produce on their shelves.

The surface area given over to organic products in **Bulgaria** now covers 9,370.88 hectares. The data concerning the distribution of crops and their surface areas can be seen in the next table. The values are given in hectares.

Organic crop distribution in Bulgaria

Crop	Under conversion	Certified area	Total
Fruit	646,89	2.918,59	3.565,48
Crops for industrial use	-	1.285	1.285
Cereals	551,23	811,68	1.362,91
Essential and medicinal oils	711,89	716,21	1.428,10
Forage	470,06	444,24	914,3
Vegetables	175,38	218,55	393,93
Greenhouse	-	58,90	58,90
Potatoes, beetroot and grass	13,2	43,53	56,73
Vines	297,85	0,68	298,53
Total area given over to crops	4.634,64	249.845,17	254.479,81

Source: Ministry of Agriculture and Food (MAF). (2007)

The most extensive areas of arable land certified as organic are given over to fruit, followed by the areas given over to growing raw materials or commodities for industry. If the total is taken into account (certified area and areas in the process of conversion), the zones where organic fruit are grown are still the most extensive. It must be pointed out that vines that are in the process of transition from being grown in the traditional way to being organically grown cover approximately 298 hectares, but only 1 hectare is currently certified as organic.

The distribution for the size of organic farms in the country, on the basis of the crop type and, according to the data furnished by the Executive Agency SAPARD (2007), can be seen in the following table.

Size of the farms by crop type

	Crop Type						Total farms
	Medicinal plants and essential oils		Fruit, grapes and vegetables		Forage		
Working surface area (UAA ¹¹)	Farms	% total area	Farms	% total area	Farms	% total area	
< 1 ha	-	-	-	-	-	-	-
1 - 5 ha	6	3.1	14	4.2	1	1	21
5 - 50 ha	21	74.5	53	95.8	8	28.7	82
> 50 ha	2	22.4	-	-	5	70.3	7
Total	29	100	67	100	14	100	110

¹¹ UAA are the initials in English for Utilised Agricultural Area.

As it is possible to observe, most of the farms dedicated to these crops (medicinal plants and essential oils; fruits, vegetables and grapes; and forage) have a size of between 5 and 50 hectares of UAA. There are no farms of less than 1 hectare. The highest percentage of area is given over to fruit, vegetables and grapes, whereas the smallest percentage is given over to forage.

90% of organic production is exported, mainly raw materials and unprocessed products. Most of the organic products that are imported are processed and come from the countries that purchased the raw materials in Bulgaria. This is the case with Germany, the Netherlands, etc. The main organic products for export are grass, essential oils (rose and lavender), fruit (berries, cherries and peaches), honey, tea, spices, nuts, marmalade / jam and vegetables. The main organic products to be consumed on the domestic market are yoghurt, milk, etc. .

With respect to livestock, it must be pointed out (even though it falls beyond the scope of this project) that there are a large number of beehives with organic production yields 35,747, which produce 998.25 tonnes of honey (data for 2007). However, organically-farmed livestock is not very developed in the country. There are no organic buffalo, pigs or poultry farms in the country.

It can be observed that there is a great potential for trading with autochthonous products, obtained mainly from sheep's and cow's milk. The health regulations affecting the processing industry make it necessary to export most of the products and the raw materials fresh, which means smaller profits. This means that trade with Bulgarian organic products is still at the initial stage. There are a total of 436 producers, processors and traders (data for 2007).

According to the data for 2004, the surface area that is organically farmed in **Hungary** is as follows (the percentages shown are for the total organic surface area).

Organic Crops

Crop Type	% of organic surface
Pasture and grass	48.94
Cereals	24.58
Crops for industrial use	10.29
Plants for forage	9.70
Fallow	1.65
Fresh vegetables, melons and strawberries	1.27
Proteaginous plants	1.22
Permanent crops	1.04
Seed growing	0.84
Vines	0.39
Potatoes	0.06
Forage	0.02

Source: *Bilkontroll Hungaria Kht Annual reports (2004)*

Most of the organic farming surface area is given over to pasture and grass (nearly 50% of the total), followed by the land where cereals are grown (24.5%). By contrast, the smallest surface area is for growing forage (a percentage that is negligible). Cereal production has been on the decrease in recent years but vines are on the increase.

As far as livestock production is concerned, the distribution for the number of animals reared organically can be seen below:

Number of animals under organic production

Animal production	Number of animals
Cattle	11,453
Sheep	1,677
Pigs	656
Horses	387
Buffalo	345
Goats	284
Poultry	108
Donkey	21
Total	14,931

Source: Mogert-AHOF (Hungary) (2006)

The most outstanding characteristics of livestock production in recent years concern the drop in the number of pigs reared organically and the rise in the number of cattle reared in this way. The number of heads of Hungarian grey cattle (autochthonous species) reared organically has increased considerably thanks to the government programme aimed at recovering this species. At present, there are 5,000 cows that are reared in a traditional way grazing on extensively farmed grassland.

The data concerning the activities of the different companies that are directly or indirectly involved in organic crop-growing and livestock rearing show that there are a total of 1,962, of which 1,419 are producers (such activities as beekeeping and collecting edible wild plants are included), 180 are processors and 60 are subcontracted.

In **Spain**, the information concerning organic production in agriculture reveals that the surface area given over to growing crops increased by 61,933 hectares between 2006 and 2007, going from 926,391 hectares to 988,324 hectares. When this is broken down into Autonomous Regions¹², it can be observed that the largest surface area given over to organic farming is in Andalusia (with 582,745 hectares in 2007), followed by Aragon (70,229). The Basque Country only has 1,062 hectares, and is the region with the lowest surface area under organic farming.

The data for the surface areas, in hectares, for the different crops in 2006 and 2007 can be seen below in the following table.

Organic Crops

Year	Crop Type							
	Cereals, pulses and others	Vegetables and root crops	Citric fruits and fruit in general	Olives	Grapes	Nuts and subtropical fruits	Grass, pasture and forage	Others
2006	113,302	5,038	6,049	93,431	16,831	45,375	378,819	267,545
2007	120,596	7,044	7,576	94,250	17,188	50,046	429,132	262,484

Source: elaboration IFES on the basis of data from MAPA

¹² For administrative purposes, Spain is divided into 17 Autonomous Regions and 2 autonomous cities (Ceuta and Melilla).

As it can be seen from the table, by crops, the category “others”, which includes the production of aromatic and medicinal plants, woodland and picking wild plants, fallow and green fertiliser, and seeds and nurseries, is the surface area that is most given over to production (267.545 hectares in 2006 and 262,484 in 2007). It is also the only category where there is a drop in the number of organic hectares in the two years being compared. The data for the rest of the crops indicate that cereals and pulses cover 113,302 hectares (2006) and 120,596 (2007) and that vegetables and root crops are the ones that cover the least organic surface area, with 5,038 hectares (2006) and 7,044 (2007).

There are a wide variety of types of livestock farming, different species of animals being reared in them. If a comparison is made between the data for 2006 and 2007, it can be seen that there is an increase in the number of organic farms: from 2.428 to 3.053. The Autonomous Regions with the greatest number of farms are Andalusia and Catalonia, and those with the least number of farms are the Regions of Murcia and Aragon.

As far as the number of heads of livestock on the farms is concerned, the information for 2006 and 2007 can be seen below.

Organically reared animals

Year	Number of heads of livestock / beehives						
	Cattle	Sheep	Goats	Pigs	Poultry	Bees	Others
2006	81,471	212,190	26,107	13,549	110,898	43,068	1,939
2007	85,598	217,755	29,416	15,462	95,137	45,390	3,310

Source: elaboration IFES on the basis of data from MAPA

As it can be seen in the table, the highest number is for rearing sheep (212,190 in 2006 and 217,755 in 2007), followed by cattle (with 81,471 in 2006 and 85,598 in 2007). There has been an increase in the number of animals in the farms for both types of activity. By contrast, there is a decrease in production for poultry: 110,898 animals in 2006 when compared to 95,137 in 2007, together with beekeeping. By Autonomous Regions, it is Andalusia which has the greatest number of sheep and cattle.

In **Germany** more than 5.3% of all the area given over to crop growing is organic. The comparative data for the years 2006 and 2007 are shown below.

Comparative data for organic and conventional farming

Year	Total farming area		Organic production data (according to the EU) ¹³			Organic production data (according to the BÖWL) ¹⁴		
	Area	Farms	Area (ha)	% area	Farms	Area (ha)	% area	Farms
2006	16,951,000	380,000	825,539	4.9	17,557	562,792	3.32	9,645
2007	16,935,400	370,800	873,010	5.3	18,046	589,863	3.48	9,905

Source: Ecology and Agriculture Trust (SÖL, in its German initials), National Agriculture and Food Institute, ZMP, Federal Statistics Office, BÖLW

¹³ According to EU Regulation 2092/91 and the AGÖL guide (German Federation of Organic Crop Associations).

¹⁴ According to data from the German Federation of Organic Food Trade (BÖLW, in its German initials).

According to this table, the total surface area in the country covered by farmland is 16,935,400 (2007), there being 370,800 farms. According to data published by the German Federation of Organic Crop Associations (AGÖL, in its German initials), the total number of hectares in 2007, was 873,010, (5.3% of the total), and 18,046 farms. Another source of information is the German Federation of Organic Food Trade (BÖLW, in its German initials), which states that in that same year there was a surface area of 589,863 (3.48% of the total area) and 9,905 farms.

The data indicate that between 2006 and 2007, not only has there been an increase in the surface area given over to organic farming but also an increase in the number of farms that specialise in this activity.

The most usual crops are pastureland and grass, arable land, market gardening and special crops. The surface area given over to arable land has decreased slightly whereas the area given over to pastureland and grass has increased. The "succession of fruits" phenomenon also occurs, that is to say, different types are grown in alternating fashion in the same field, which helps to keep the soil fertile and prevents plant diseases from spreading.

Growing grass enables the animals to consume large amounts of fibre, especially cows that are rearing young. Furthermore, keeping pigs under organic rearing conditions involves a lot of expenditure: the high price of grain for feeding them brings about increased costs affecting the process of transformation from conventional farming to organic farming. This accounts for the fact that the number of pig farms in Germany is so low.

All types of company are involved, businesses with additional income, corporations, cooperatives covering a surface area of more than 1,000 hectares, etc. However, it is the medium-sized farms that are predominant, i.e. those covering less than 100 hectares, and these are also the main source of income. Even so, there are huge regional differences: in the south of the country the companies have much smaller areas.

A comparative study conducted in 2007 between conventional agriculture and organic farming revealed the following structural conditions and economic yield:

- The organic companies have 30% more workers, because they employ more salaried workers, although the number of unpaid workers (because the work force includes family members) is the same.
- The organic farms have smaller wheat and potato harvests and yield 12% less milk than conventional farms.
- Organic farms earn more than twice as much for the price of cereal and potato products and 19% more where the price of milk is concerned.
- Organic farms spend much less on fertiliser and pesticides, 10% less than conventional farms.
- Organic farms receive 39% more in subsidies, especially because of their participation in agricultural / environmental projects.
- The expenses for people who work on organic farms are four times as great as the expenses for workers on conventional farms.
- The average size of livestock farms is not half as big as the size of conventional farms.

In **Portugal**, the number of organic producers has increased considerably. In 5 years, the number of farmers rose from 763 in 2000 to 1,577 in 2005. The most common products are potatoes, nuts, fresh vegetables, medicinal plants, fruit, meat, olive oil and wine. The organic products that are imported from other EU countries are eggs, sweets, marmalade / jam, sausage, certain cereals, cosmetic products, dairy produce, pâtés, fruit juices and preserves / tinned foods. Coffee is imported from countries that are not members of the European Union.

With regard to livestock production, the number of farmers has increased sharply, rising from 141 in 2000, to 586 in 2005.

The main organic product that is prepared is olive oil, which can be found in the large supermarkets and is exported to other countries. The second is wine. The Wine and Vine Institute does not consider it to be 100% organic wine, because potassium metasilphate is used in the process. As a result, the label indicates that it is wine produced with grapes of organic origins.

The information concerning livestock can be seen in the following table (percentage of animals).

Organic livestock production (2005)

	Type of farm						
	Apiculture	Poultry farming	Cattle	Goats	Horses	Sheep	Pigs
% animals	0.25	0.57	18.98	26.02	2.10	0.07	52.3

The most important kind of production is pig rearing (52.3%), followed by the rearing of goats (26.02%) and cattle (18.98%). Rearing sheep organically takes place on a much less frequent basis.

One of the main deficiencies that affect organic farming is a lack of commercialisation channels, all the more so when this involves aspects associated with marketing. The lack of mechanisms that make it possible for producers to get in touch with consumers is one of the major deficiencies that must be dealt with to allow farming to be widely developed in the country.

An analysis of Weaknesses, Threats, Strengths and Opportunities enables one to get a more complete overview of organic farming in Portugal¹⁵.

Italy is the country with the largest surface area given over to organic farming anywhere in the EU¹⁶: 1.1 million hectares, 17% of the total for the EU25. The average size of the farms, considering them to be farms if they have a Utilised Agricultural Area (UAA) of more than one hectare, is 23.8 hectares per farm and the surface share that is currently in the conversion period in the entire organic area is 31.6%.

According to data from the country's SINAB (National Organic Farming Information System), implemented by the Ministry of Agricultural and Forestry Policy and by the regional authorities, in 2007 there were 1,728,532 farms. 51,065 of those farms are organic, which amounts to 2.95% of the total.

The main crops are forage, cereals, as well as pastureland and grass, which account for 73% of the total. The increase in the surface area affects only crops for industrial use (62.1%

¹⁵ This analysis is shown in detail in the Appendices.

¹⁶ Data from EUROSTAT (2007).

more), cereals (35.3% more) and olive trees (20.2% more). Organic farms are mainly concentrated in the South of the country and on the islands, whereas those that specialise in processing and imports are mainly in the North.

As far as organic livestock is concerned, although poultry farming decreased by 29.5% as a result of the threat of bird flu, there was an increase in pig rearing (18.2%), goat rearing and sheep rearing (48.2%) and cattle rearing (3.5%).

In **Sweden**, the counties are grouped in the four main regions of the country: the East, around Stockholm; the South and South-east; the West, and the regions of the North. In the last years, the major increase in the organic production has taken place in the Western areas. In the region of Stockholm, the increase of organic production has been kept in a stable way from the beginning. In spite of occupying a smaller surface, this region has comparatively, the highest level of growth in organic farming. A reason for this growth is that the conversion is easier in an area where the meadows occupy a great part of the agricultural surface and the use of chemical products is even lower than in conventional farming.

In Sweden, the production of the organic surface is distributed as follows: 50 % of organic land, including green manure and fallow; 30 % for grain and 1,3 % of vegetables. The production of cereal and seeds for oil are higher in those areas of the country with better soils of clay: in the West and the East region, around Stockholm. Other organic productions of the country are potatoes and sugar beet. The producción of fruits and berries is still insignificant.

4.3 Workers profile

There is hardly any information available in **Portugal** about the profile of organic farmers. According to the experts interviewed for this project, they are younger than the conventional farmers (30 to 55 years), they have a higher level of education (most of them are agricultural engineers or economists), a greater potential for access to information and are more focused on the market and have a greater awareness in matters concerning sustainability and the environment.

With respect to the workers' knowledge in matters concerning ecology, nearly 70% have done introductory courses in agricultural ecology. The main reasons that have prompted them to turn to organic farming are their concerns over the environment and the need to live healthier lives.

Conversion from traditional farming to organic farming is associated with the measures taken by the European Union in matters concerning agriculture and the environment. Some farmers point out that they have carried out the conversion in search of a better quality of life and with a view to producing food that is of much better quality.

The organic farming scene in **Italy** and in other countries indicates that the role of the activity is becoming more diverse. In many cases, it has made it possible to stem the tide where abandoning rural zones where subsistence farming is practiced. The offer for tourism has increased and different activities have been included within an ecological environment. There are around 400 organic farms in Italy that offer a variety of possibilities, which range from offering organic meals to a week's stay that includes activities such as craft workshops, participating in the work at the farm, etc. The AIAB, the largest certifying body in the country, is implementing the eco-tourism standards that require farms to comply with a series of environmental and ecological rules.

A typical profile of the Italian organic farmer is as follows: 66.6% are less than 45 years old, 20.3% are women, and 70% are satisfied with their professional activity. The greatest difficulties that they come across are bureaucratic, confusion where compulsory legislation is concerned, commercial problems when it comes to being able to compete in other countries and a lack of accurate information where the consumer is concerned. The work is merely a family concern and the average size of the farms is 21 hectares.

In **Germany** the information about the profile of organic farmers is insufficient. All that is available are statistical data that include agriculture as a whole and that includes the number of workers involved in organic farming. According to the experts interviewed for this project, in 2003 there were 50,200 workers involved in the work carried out on organic farms. The number of family members involved in organic farming was almost 50%, owing to the high proportion of such farms in the former German Democratic Republic (East Germany). Foreign seasonal workers also play a major role in the labour force, coming mainly from Central and Eastern Europe.

The average size of a family farm is 150 hectares, and the farm is the main source of income for the family. The average number of employees on the farm is 2.3, of who 1.4 are family workers (according to data from the Agriculture Report in 2003). There are no great differences between men and women, or in the different age brackets. The men are normally responsible for production; women carry out the marketing activities in the shops, in the weekly markets, etc.

Normally, the skilled workers who are trained in farming work in the business that is managed by an expert. However, where organic farming is concerned, there are many agricultural engineers who have taken over the family business and have transformed it. They usually have university degrees of the company management type. However, "ecological business" training is on the increase, and workers who have specialised in their studies are being employed in greater numbers. It can be stated, as a general rule, that the larger the company is, the more highly qualified its workers are (the bigger the size, the higher the qualification).

The traditional family business is still a characteristic of organic farming. The proportion of family labour force was more than 50% in 2003. The structural differences between organic activity in the old and the new Laender are clearer when one talks of full-time employees: 23% are employed full time in the old Laender (former German Federal Republic) and 45% in the new Laender (former German Democratic Republic).

It can be concluded that with the full-time labour force, and the unpaid or partially paid workers, family farms still form the basis of the majority of the small and medium-sized businesses that specialise in organic farming.

The changes that are taking place in the way the products are traded are more important for the development of the labour market in organic farming. An increase in demand leads to a greater need for work force than is the case for conventional agriculture, which means that employment is proportionally higher where organic farming is concerned.

In **Spain** the profile for organic agriculture and livestock workers does not differ greatly from the profile of those involved in the conventional activity. Conventional crop-growing farmers or livestock farmers are prompted to turn to organic farming if they are convinced that the latter is a healthier and more environmentally-friendly activity and that the quality of the products that are produced is much higher.

Neither does the flowchart for organic farms differ greatly from the conventional farm flowchart. They are family concerns, where the work is shared out among the family members, who become experts in a wide variety of activities. The conversion process does

not change the functions that are performed by the workers; it is only the procedures that change.

The organic philosophy pervades all the activities that are associated with the different productions and includes a wide variety of aspects in the lives of crop and livestock farmers. Their concern for the environment and food safety becomes a priority, not only on the farm but also with respect to preparing the products.

In relation to the training and education levels of the workers, the experts who were interviewed stated that those are generally higher in organic farming in general than in conventional farming. The need to know the different methods of production and a permanent need to attend refresher courses brings about an interest in ongoing training and to play an active part in training actions. The offer is extensive, and the same applies to the possibilities for being able to participate in the different training courses.

There is no information about the profiles of organic crop and livestock farmers in **Bulgaria**. The estimates based on the SAPARD programme about organic farming (data from 2007) reveal that most of the farms are run by individual businessmen or by small firms. There are only 2 cooperatives and 1 civil association managing farms of this type. The financial support coming from the European Union funds is often decisive when it comes to enabling traditional farms to be transformed into organic farms. Foreign investment in some farms, especially the large ones, is also significant. Some owners have a high level of education but do not have much knowledge about organic farming or company management. Before actions that are suitable for the sector can be devised, it is necessary to establish what the specific training requirements are for farmers.

The information provided by the Ministry of Agriculture and Rural Development in **Romania** shows that there were 3,156 operators registered as organic in 2007. 1,961 of them reared livestock, 719 were beekeepers, 278 grew crops, vegetables and fruit; 80 were traders and 67 were processors.

The profile for organic farmers in the country is a 35- to 54-year old male, with an average level of vocational training but without specialisation, who runs a mixed farm: agriculture and livestock on the same farm; agriculture and livestock plus processing products, and agriculture and livestock, with the sale of products and organic foodstuffs.

Age is a disadvantage in **Hungary** where farmers are concerned, because on analysing the sector it can be observed that 57% of the workers are over 40. In organic farming the situation is a bit better: 53% are between 35 and 40 years old and 47% are over 40. With respect to their education levels, the data reveal that 7.7% of farm workers have been through higher education, 58.2% have completed secondary education and 34.1% have completed primary education.

The qualifications obtained by the workers in this sector have improved considerably over the last decade. In 2006, 107,000 people were employed in companies in the sector with more than 4 employees. The total number of workers amounted to 3.8% of the total work force employed in the country.

Family labour force is of great importance in organic farming, and is much more numerous than in conventional farming.

4.4 Importance of the 5 productions: cattle for meat, cattle for milk, cereals, vineyards and wine, and pork

Dairy cattle and cereal production are important in **Romania**. According to the information provided by the National Organic Farming Federation, beef cattle, vines and wine and pork production are also of significance in the country.

The data concerning the organic production of cereals in **Spain** includes growing grain cereals, pulses and other crop types. In 2007, the surface area given over to these types of crops came to 120,596 hectares, which amounts to 12% of all the organic surface area. It must be pointed out that the surface area given over to cereals did not undergo any changes between 2006 and 2007.

The importance of growing vines organically is closely associated with wine production. Spain is a major producer and exporter, having been awarded major prizes for high-quality wine in different international fairs (for example, 26 medals in the International Wine Competition held during the BioFach Fair in 2007). The total surface area given over to organically grown vines in that year was 17,188 hectares.

The data for 2006 with respect to beef cattle, dairy cattle and pigs, showed that there were 76,729 cows being reared organically, of which 2,371 were for milk production. In 2007, 15,462 pigs were being reared organically. This type of production is very important because of its relationship with the processed product food industry, for which the demand is forever increasing.

The production of beef cattle in **Bulgaria** is affected by the high prices that the forage harvests have reached over the last few years. A drop in the number of animals in the farms and the low level of trading limit the potential for this type of production in both organic farming and conventional farming. Up to the present time, there are no farms that are given over exclusively to this type of production. The organic beef that is consumed in Bulgaria comes from Greece.

Dairy cattle production is fraught with the same problems as beef production. There are two farms that rear cows and supply two companies that specialise in yoghurt and cheese production. The domestic market is supplied with the national production of these products, and it is possible to export milk obtained from cows and ewes.

Free-range rearing of pigs is prohibited by Law, but traditional rearing still goes on in some parts of the country. The challenges faced by this type of production have to do with the high price of the forage, the healthy condition of the animals and the requirements to maintain European standards where meat quality is concerned. Organic pig production will only be possible if the Law is changed.

The total area given over to growing cereals is 1,362.9 hectares, which is not sufficient to supply all the bakeries in the country or demand from abroad. Grape and wine production accounts for a major part of all agriculture production. The total number of vines grown organically is 298.5 hectares, all of these being new plantations, although by 2007, no wine had yet been put on sale on the Bulgarian market bearing an "organic" label.

In **Germany**, the percentage of organic beef production is about 4%, and it is estimated that approximately 47,500 tonnes of such meat was produced in 2005 and 2006. There was a surplus production of organic beef in the country for a long time, which led to the activity being abandoned on many farms or to a return to conventional production methods; such decisions were backed up by the EU agricultural reform policy. In recent years, a considerable amount of beef produced organically has been sold at conventional production

prices, which has led to a constant cutting back in production. Striking a balance between supply and demand will enable producers to recover their prices and, should demand increase; it would be possible to meet it immediately, because there is sufficient margin to make this feasible.

During the course of 2005 and 2006, the demand for beef increased sharply, albeit with differences between the different regions: in some regions there were not enough animals available, in others the animals were commercialised as being reared conventionally. Such situations no longer occur. According to the sellers, the sales to distributors from France and Italy have decreased, which leaves a margin to increase production. However, no increase is expected in the number of farms given over to rearing beef in the near future.

Domestic demand has been growing steadily, by between 5 and 10% per year. According to the data released by the Consumption Research Institute (GfK, in its German initials), the share of sales of fresh meat from organically reared animals is approximately 3%. Almost 6% of all households purchase retail fresh meat products.

Rearing dairy cattle organically has increased in recent years. Prices have gone up and demand has increased, whereas the supply has been limited. A special role is played by rearing dairy calves organically. They account for the highest share of all livestock production (17%), in view of the requirements that make it necessary for them to be reared organically. This emphasises the trend that has come to the fore in recent years towards achieving a closed production cycle, which includes rearing with mothers and offspring that are 100% organic.

The German market is the largest in Europe for organic milk. Deliveries of this type of product to the dairies have increased in recent years, and in 2006 460,000 tonnes were delivered (according to estimates from the Agromilagro Research Institute). Nearly 2.4% of all dairy cows are kept under organic production conditions but, as such cows give less milk, the total share when compared to the total quantity of milk produced in the country stands at only 1.4%. The different food crises in 2000 and 2001 (caused especially by mad cows' disease), have led to a gradual increase in the demand for this type of milk.

The market situation would appear to have changed after the difficulties experienced over the past few years. These days, all the retail food chains offer organic dairy produce in their establishments, which enhances the demand. In the first 4-monthly period of 2007, sales increased by 40% compared to the same period the year before. Demand is expected to increase slowly but steadily.

22% of the total surface area farmed organically is given over to the production of cereals, in view of the fact that this production is important for organic farms. In Germany, the percentage of arable land for cereal was 3%, which amounts to 179,000 hectares (2006). Rye and oats accounted for 9 and 10% respectively, out of all the organic cereals grown, well above the share for the rest of the varieties.

The amount of organically grown barley earmarked for consumption is not significant. However, special attention must be paid to barley that is used to produce beer, because the quantities have been growing steadily for a long time and there have been no major fluctuations in the prices

The surface area given over to organically grown spelt was 17,000 hectares in 2006, which amounts to 54% of the total surface area for this cereal, and 10% of the entire surface area set aside for cereals. This type of crop is important in organic farming.

Rye occupies an important place in cereal production, with a 27% share of the total amount of cereals farmed organically, and 49,000 hectares (10% of all the area given over to cereal growing).

Wheat is one of the most outstanding crops, covering a total surface area of 45,000 hectares, which amounts to 1.5% of the total (25% of the total grown organically). This type of cereal forms a basic part of human nutrition and constitutes the basic raw material that is used to prepare many products that are for human consumption. However, it is worthy of note that in organic farming, the surface area given over to summer wheat (12% of the total) is much greater than the surface area given over to the same crop in conventional farming. This is partly accounted for by the fact that less time is required for the production of summer wheat, which facilitates the growing of other types of plants in between.

Organically grown oats cover 19,000 hectares, and this crop has undergone slight fluctuations in recent years.

There has been a great increase in organically produced forage, which now accounts for 6% of the total, 122,000 hectares. This increase has brought about a rise in the demand prices in recent years.

As far as growing vines and producing organic wine is concerned, the quality of the product is of paramount importance. The vine growers, aware of the fact that they are foregoing maximum production, admit the application of a regulatory ecosystem that enables them to prepare the wine without resorting to chemical pesticides and soluble nitrogen fertilisers. Organic viticulture involves a lot more work than traditional viticulture, which makes the end product more expensive.

There are organic producers in nearly all the 13 German vine growing and wine producing regions. There are many such producers in Baden and Rhine-Hessen and the association that defends their interests is ECO VIN. The surface area that is given over to growing vines in compliance with organic procedures is 2,700 hectares, 2.7% of the total surface area taken up by this crop (103,000 hectares).

In 2006, 15,000 tonnes of organic pork were produced in Germany, which amounts to 0.36% of the total. In recent years, the production has been cut back owing to the lack of potential for the sale of meat at organic prices, and as a result it has been sold at conventional meat production prices. Demand has not yet reached the proportions for traditional pork.

In **Italy**, catch crops, and especially cereals, are very important for rural development, through gastronomy and tourism. The production of this type amounts to 35.3%. In 2005, there were a total of 258,848 hectares of organically grown cereals, which included not only the farms that were fully incorporated into this activity but also those that were undergoing the process of conversion.

Organic vine growing and wine producing are very important to the country. Organically grown vines cover an Utilised Agricultural Area (UAA) of 30,000 hectares. A limited knowledge about organic viticulture is a barrier to expansion: many conventional producers only have a minimum amount of information about the different organic techniques. Most organic viticulturists are also wine producers and prepare their own wines.

Pork production is liable to become organic through a transformation to open rearing, especially in zones that have been abandoned. The product has to be defined with an organic label, so that it can be traceable. The conservation of animal diversity is becoming increasingly important in view of the ability of autochthonous species to survive and even thrive in the least favourable areas. In recent years, pork production has been on the increase.

The beef rearing sector is to be found throughout Italy. The number of cattle reared in organic conditions in 2005 was 222,516, according to data provided by the SINAB.

The data for the situation in the different activities that are the subject of this project in **Hungary** indicate that the number of pigs reared in organic conditions has decreased: in 2004 there were 703.5 and in 2006 there were 655.8. As far as cattle are concerned, there was an increase in the number of head in organic farms, going from 8,419 to 11,453. Particular importance must be attached to the number of animals belonging to the autochthonous grey breed. The number of these animals has increased in view of the programme aimed at conserving this species and breeding and rearing these cattle in the different national parks in the country. There are now approximately 5,000 of these animals and most of them can be found on farms that carry on using the traditional extensive grazing system.

The information concerning cereal production reveals that there has been a reduction in the amount produced: in 2004, 25,983 tonnes; in 2006, 21,660 tonnes. By contrast, organic vine growing has increase in recent years: in 2004, 579 hectares of vines were grown under organic conditions; in 2006, 593 hectares of vines were grown under organic conditions.

In **Portugal**, the production of organic cereals and organic vines is only slight at present. However, the importance lies in the surface area that is currently being transformed, and this is increasing steadily.

With respect to organic livestock production, the data indicate that in 2005, 52.03% of the production was pig and 18.98% cattle. The number of dairy cows certified as organic is still small. Most of the organic dairy products consumed in Portugal are imported. However, the trend is towards gradually increasing the number of dairy cows given over to the production of organic milk.

In **Sweden**, the production of organic cereal involved in 1998 3 % of the whole surface and 2 % of the whole area dedicated to this type of production. 66 % of the production is addressed to feeding the animals in the farm where it is produced. The organic cereal market is unregulated, which has produced fluctuations of the premiums depending on the surpluses or shortages. The main organisation of marketing for the organic cereal, EcoTrade AB, has been working for lot of time to be able to hire farmers who could provide material of sufficient quality.

The production of ecological meat and its marketing have turned out to be complicated. The production of organic pork involves only 0,2 % of the whole. A shortage of pork inhibits the production of elaborated meat products, which in turn impedes a wide marketing of the meat. The majority of the animals are sacrificed in the slaughter houses by the cooperative Swedish Quality Goals (SQM). The slow development of a great structural change is motivating that diverse processors on a small scale have started private slaughter houses in their own industries.

4.5 The organic farming consultant

The role played by the organic farming consultant in **Hungary** is very important. Anybody who wants to be a consultant or advisor in these matters has to be registered as such in the Ministry of Agriculture, and it is essential to have been issued with a certificate from that Ministry before the holder can carry out his or her functions.

There are 28 to 30 consultants, 90% of which have university degrees and professional qualifications in conventional and organic farming. Their role is becoming increasingly

prominent and they have a positive relationship with the farmers. The producers get in touch with them because they need their help and advice to be able to obtain the maximum profit from their farms, in view of the fact that they have no experience in this field and, in some cases, they lack the required knowledge. An improvement in financial terms and conditions, with respect to support and subsidies, would make the consultants' work easier. The same would happen with the generalised implementation and use of the ICTs.

In **Rumania**, one important condition for developing organic farming is putting into operation actions for training and promoting the activity in order to train both producers and consumers, and to make them aware of the importance of consuming organic products (not only from a health perspective but also from a quality viewpoint). These actions are carried out by state and private organisations.

The legislation that is currently in force in **Bulgaria** delegates the control and certification of organic production to different bodies (traders and non profit-making organisations) after obtaining authorisation from the Bulgarian Executive Agency for Accreditation and once approval has been given by the Minister of Agriculture and Forestry.

The Bulgarian legislation affecting organic farming is based on two by-laws:

- By-law number 22, dated 4th July 2001 concerning the organic production of plants, agricultural products and foodstuffs of vegetable origin and with instructions on them that make reference to those origins (appearing the Boletín Estatal 68/3.8.2001 (Official State Gazette), amended in 2006).
- By-law number 35, dated 30th August 2001 concerning organic livestock production, livestock products and food products of animal origins (appearing in the Boletín Estatal 80/18.9.2001, (Official State Gazette), amended in 2006).

Furthermore, the institutions and organisations in the country that are involved in organic production “can be split” into those that are completely associated and those that are partly associated.

- Completely associated. The Ministry of Agriculture and Food (MAF) and, especially, the Agricultural – Environmental Department; the Non-Governmental Organisations (NGOs); consultants and private advisors and the farmers' associations.
- Partly associated. The Ministry of the Environment and Water (MEW); the National Vegetation Protection Service (NPPS); the Executive Agency for the Selection and Reproduction of Livestock (EASRL); the National Agricultural Advisory Service (NAAS); the National Veterinary Service (NVS) and the National Agricultural Sciences Centre (NCAS).

The Ministry of Agriculture and Forestry (MAF) is the institution that is responsible for developing and implementing the plans for supporting agriculture. Reference must be made to the Rural Development Administration Board, with its two units (“Agricultural - Environmental” and “Rural Development and Investments”) and the State Agriculture Trust” (SFA), with its two divisions (the SAPARD Agency and the National Support Plans).

Controlling and certifying organic production in the country is the responsibility of the National Committee for organic farming, under the supervision of the Minister of Agriculture and Food; the Secretariat of the Commission and the Auditing Expert Group. The MAF is the authority with powers to implement the polity in the area of organic farming.

At present, there are currently 7 bodies in Bulgaria that are accredited to control organic farming, not only international bodies but also their representatives. Most of them have only a few clients and very little experience.

The increase in organic farming trading and production demands more specialists. There are very few organisations that are directly associated with organic agricultural activities. Agricultural engineers, vets, researchers, university lecturers, economists and technicians work in them, and they are all sufficiently well qualified in their own fields but incompetent when it comes to matters that concern organic farming management. The main tasks of these consultants are as follows:

- Promoting and encouraging ideas that are associated with organic farming.
- Providing farmers with information that is associated with the law in matters concerning organic farming.
- Monitoring the carrying out of organic activities at all stages in the production chain.
- Putting the farmers into contact with the producers and the consumers.

The few organisations that specialise in consultancy in matters concerning organic farming have to face major obstructions:

- The market is hardly developed and changes affecting government institutions are slow.
- Creating an official register of organic farming consultants.
- Farmers do not understand the need for there to be a consultant and do not understand the role that is played by this figure.
- A lack of coordination with other bodies and institutions associated with organic farming (universities, government authorities, etc.).
- Those who are involved in providing farmers with advice are inexperienced and do not have qualifications.
- The ideas and methods that are inherent to organic farming are not properly understood.

In **Portugal**, the Ministry of Agriculture is responsible for supervising organic production. As a result of European Council Regulation 2092/91, which urged that an independent body should carry out the inspections, two organisations were created with a view to carrying out these tasks: ECOCERT (Peniche) and SATIVA (Lisbon). In 2003, CERTIPLANET (Peniche) was set up as the certifying body. At present, there are 7 bodies that operate around the whole country. Agricert (Elvas), CertiAlentejo (Evora), Codimaco (Cadaval) and Tradiçao e Qualidades (Mirandela) are added to the ones that have already been mentioned.

One of the threats to the development of organic farming is the lack of technical support received by the farmers. The few specialist advisers that are available cannot cover the entire country and respond in time to the requirements of the farmers. That is why several regional associations have attempted to contract advisers on a permanent basis, in order to help their associated with the different tasks that have to be performed on their farms.

The typical profile of the consultant is a worker with a high level of education and a great deal of experience in carrying out his functions. One of the difficulties that they come up against has to do with the fact there is very little research work done into organic farming in the country. According to the experts who were interviewed for this project, what is needed is more research work and greater investment so that new production techniques can be developed for this activity.

These experts have defined the functions of the consultants:

- To help producers to run the farms, planning the tasks that have to be performed and training them for these tasks, giving them the technical advice that they need.
- To guarantee that there is compliance with the certification standards and to provide consumers with the information that they require to increase their trust in organic products.

There is no specific public body in **Italy** to give advice in matters concerning organic farming. Some regional authorities offer advice to the farmers in their district and this activity is subsidised by the regional governments. Others authorities offer this service in accordance with the regional farming associations, this activity being co-financed by the authorities and the farmers.

There are private advisory services and these are provided by farmers' associations. The most important one is the Italian Organic Farming Association (A.I.A.B., in its Italian initials), which has developed the National Register of Organic Farming Techniques. A series of procedures have to be followed and several requirements have to be fulfilled in order to gain access to this register, and these include a specific training plan (EDUBIO).

The number of advisors in organic matters that would be necessary in the country has been estimated at approximately 1,000 (one technician or expert for every 65 farms). In general terms, the role of the advisor is to provide farmers with qualified advice, when such farmers specialise in the production of vegetables, rearing animals and the different farming processes. This professional will have to set as his target, changing the organic method and ensuring that it complies with the technical and legal regulations on a domestic, EU and international level.

The organic farming consultant can become an important rural figure in the area of rural development and eco-sustainability. This figure will have specific powers associated with administration and management, the commercialisation of the products and the different tasks that are directly involved in production. The consultant will give specialist advice to farmers, not only with respect to the current processes but also those that are more directly related to the conversion process. The figure of the organic farming advisor and consultant plays a major role in rural development conserving a sustainable environment.

There are a wide variety of organisations that offer organic farming advice in **Germany**. However, there is no common professional profile and neither have standards been established for evaluating the work done. All of this means that the consultancy service is very heterogeneous and carried out by a great variety of professionals.

With a view to improving this state of affairs, in 2002, the Ecology and Agriculture Trust (SÖL, in its German initials) established a training plan for consultants that went beyond what was known up until that point in time. This initiative has been backed by the Federal Ministry of Food, Agriculture, Nutrition and Consumer Protection (BMELV, in its German initials) within the framework of the promotion programme "Organic Farming" 2001.

The supplementary training that SÖL offers consultants is aimed at achieving the following:

- Improving the quality of the advisory services.
- Establishing ongoing cooperation between the different institutions.
- Implementing a national network of all the main persons involved in the consultancy services.
- Improving the quality and the methodology of the supplementary training for the advisors.
- To prevent overlap the work that is performed by the consultants and to unify criteria.
- To cater for the training needs that the organic farming consultants might have.

The role of the consultant in **Spain** is to certify that the activity is being carried out in accordance with the requirements imposed by the legislation. The process of certifying the activity and controlling the activity helps to keep up the quality criteria and the desired production standards.

The control and certification activities fall within the scope of the Regional Ministries or Departments of Agriculture in the Autonomous Regions, and they are carried out by territorial Organic Farming Councils or Committees. They can also be private bodies that have been given authorisation to do so.

The control and certification activities include supervising "*in situ*", all the processes, procedures and machinery. It is necessary to fill in all the forms and documentation concerned, as is established in the legislation. The consultants cannot perform direct advisory functions concerning the farm or production (they cannot tell the organic crop or livestock farmer what he must or must not do).

The consultant does not have a specific profile. He/she must have knowledge about agriculture and livestock, but he/she does not necessarily have to have been trained in organic / ecological question, except when these concern the mechanisms that are needed to comply with the certification controls. In some cases this causes problems, because there is a clash between the conventional and organic mentalities. The experts who were interviewed for this project are of the opinion that an exclusively organic training would be necessary to enable the consultants and advisors to gain a holistic understanding of what a farm of this type would be like.

In **Sweden**, there is neither a national certification body, nor a specific legislation that defines the organic activity. KRAV is one of two private bodies that are recognized by the governmental authorities to carry out the inspection and certification¹⁷. Its criteria include standards for the animal breeding, treatment, textiles, retail, supply and import. They are based on, and are the equivalent to IFOAM's standards on the organic farming, and are fully recognized by the State. In 1999 KRAV certified 3.350 farmers, 600 establishments, 600 processors, companies of import and exportation, 200 restaurants and 17 textile producers. In this year there were about 3.000 products certified as KRAV. This body takes part actively in the development of IFOAM's standards and tries to influence the European legislation regarding organic production.

The attitude of the Swedish consumers towards the organic labelling and the trade of this kind of products are highly backed up by the KRAV label. There is no interest in having a EU logo. The ecological Swedish movement has been very critical with the European regulation. They consider problematic the fact that the EU regulation does not have clear aims which are clearly addressed to the development of the agricultural production and the market. The Swedish opinion is that the control and certification systems must provide with those possibilities that promote development from the point of view of the different planned aims in the organic farming.

The main consultancy service for organic farmers is organised and carried out by the Agricultural Divisions of the County Administrative Boards and the Rural Economy and Agriculture Societies. For a long time there has been a close and good cooperation regarding education, training and exchange of experiences among the organisations of organic farmers and advisers. The policy of the organisations of organic farmers has been focused on the improvement of the quality of the advisory service and the possibility of extending this advice to other institutions.

¹⁷ Svenska Demeterförbundet is another one.

5. Training

5.1 Training in agriculture and livestock

The National Agency for Agricultural Consulting (A.N.C.A. in English) is the institution that is responsible for training in agriculture in **Romania**. 32,822 took part in the 989 courses organised in 2007. The ANCA includes different subject matter in its ongoing training course:

- Qualification Courses for producers. These include, amongst other, modules for managing, marketing, accounting and economics management elements, European and domestic legislation, organic farming, associations, etc.
- Training Courses for producers. These include, amongst other things, modules for programs for accessing government and European Community funds, the annual farming profit, the milk share, the European CAP, the marketing for the farm products, the code of good farming practice, organic farming, the European Union requirements where food safety is concerned, etc.
- Courses for improving the training for the farming consultants. The Training and Information Centre (CPI) - UASVM in Bucharest began training farming consultants with the project "Modernisation Agricultural Knowledge & Information Systems" (MAKIS, in its English initials). So far, three courses of this type have been given in the South of the country, 60 consultants having taken part.

In **Spain**, the education and training system is organised into two major subsystems:

- Initial training system. This includes the initial training. In agriculture, the qualifications associated with the professional family of agriculture and livestock are of medium and upper level. Each one of them has a series of modules, lasting a certain number of hours, concerning a variety of subject matter that the student must complete in order to receive his or her qualification. Thus, "farms" is one of the medium level qualifications, containing such modules as quality and ongoing improvement (40 hours), farming facilities and installations (100 hours), farming mechanisation (205 hours), intensive farming production (365 hours), etc. Among the upper level qualifications there is "Management and Organisation of Agricultural Companies" containing such modules as quality and ongoing improvement (40 hours), management and organisation of plant production (220 hours), organisation and management of a farming company (105 hours), and so on.

The university courses offered in Spain that are most frequently associated with agriculture and livestock are as follows: agricultural engineer, technical agricultural engineer, forestry engineer, technical forestry engineer and veterinary surgeon. They are 3- to 6-year courses, and each further education centre can set its own education cycles independently.

- Unruled training system. This includes occupational training (for workers who are unemployed) and ongoing training (for workers who are employed) both of which constitute the new Vocational training System for Employment. Occupational training includes professionalism certificates and there are six of these in farming professional group: fruit grower (620 hours), horticulturist (550 hours), gardener (530 hours), forestry worker (340 hours), tractor driver (700 hours) and pig farmer (500 hours).

Ongoing vocational training includes training actions that are aimed at giving employed workers qualifications and/or requalification. The bodies that organise and give these are private, and are financed by the Tripartite Employment Trust (FTFE in

its Spanish initials), formed by the public administrations with powers in matters concerning training and employment, the Trade Unions and the most representative companies in the country. The actions that are proposed for agriculture and livestock include the following: farm management, dairy cattle farm management, beef cattle feeding, organic farming, organic farming and integrated production, etc.

In **Germany**, there are different training levels in the farming sector depending on the education level. One option is vocational training. The farmer's learning cycle lasts 3 years and falls within the dual system, which means that the training takes place both at the company and at the training centre. The colleges that offer this type of training have to be recognised and certified by the Ministry of Education to be able to give this training.

The initial training course is given both by the college and by the company. The businessmen and the workers are represented by committees that are structured into different levels and they take part in the planning of the training, drawing up the contents, setting the duration and organising the courses. The training that takes place within the dual system is awarded with a diploma when completed.

The professional, occupational and requalification training courses are offered by the public authorities and private institutions. The course syllabus, its duration and the way the course is organised are coordinated on a federal or regional level. They last between 3 months and 3 years. The "occupational adaptation" of the courses involves information encounters, training actions within the company and seminars, which can go on for several days or even several weeks. This type of training involves obtaining a certificate to show that the student has put the course to good use.

The national education policy for agriculture in **Italy** is the responsibility of the Ministry of Education, which manages it in coordination with the policies of the different production centres. Act 845/78 establishes that the Republic must promote vocational training in a way that complies with the principles of the Constitution, with a view to enabling workers to exercise their right to freely choose their jobs and to increase their professional education. The Regions have their own laws to govern the management, planning and financing of training activities in the farming and environment sector.

Training in the agriculture and livestock sector is given in three types of institutions that are responsible for preparing the students at basic, intermediate and upper level:

- Professional Agriculture Institutes. Their action is complicated because preparation for entry into university is different from preparation to join the labour market. Students are not very well prepared to start their university studies but very well prepared to become workers.
- Technical Agriculture Institutes. These have a long tradition in Italy.
- University Agriculture Faculties. The highest levels in agricultural education can only be achieved at university level. The requirements are having gone through 5 years at primary level, followed by 3 years at secondary level and 5 years at the highest level.

Qualifying in Agricultural Sciences is based upon having studied in sciences. After having passed an exam at state level, the graduate is qualified to work in any activity that is associated with farming production. There are no restrictions where registering at university is concerned: every student that has received a diploma at the highest level can go to any university faculty.

Vocational training at a local level is the responsibility of the public authorities, the so-called *Regioni*. Many training activities have been developed in the different regions where

agriculture is concerned, special importance being attached to those that are associated with eco-sustainability in rural environments and organic farming. Vocational training provides the skills that are required to be a professional. The aim is to promote the development of the personality and a sense of responsibility in the different operators, which also forms the basis for getting on in the professional world and getting a greater awareness and further knowledge with regard to technical, economic, social and ecological aspects that are associated with agricultural activity.

Anyone who wishes to gain access to vocational training in the farming sector can choose between any of the following three channels:

- Send their application to the bodies that are accredited on a regional level, which run the courses in question that are recognised by the regions.
- Enrol on a course (for which a fee has to be paid) promoted by the companies, associations, training bodies, etc.
- Begin their apprenticeship in a company.

In **Portugal**, a large number of courses can be found for the farming sector, and this applies to all educational levels. There are courses in fruit growing (504 hours), fruit and vegetable growing (3,100 hours), farming production specialist (3,100 hours), gardening and green zones technician (3,100 hours), agriculture engineer (3 years), farming engineer (3 years), Masters in agricultural engineering (2 years), etc.

Since it commenced its activities, AGROBIO has offered training and is still organising courses for advisors and farmers. It also organises lectures with the participation of Portuguese and foreign experts. Other organisations offer courses of different levels and durations, but none of these are of the *e-learning* type.

The experts who were interviewed for the project are of the opinion that more practical training is required, especially in certain subjects such as logistics, distribution, management and marketing. The training must be free of charge, organised into small groups and repeated in time. One of the greatest problems that prevent farmers from taking part in training activities is the programme to be developed. The experts state that the courses are given in working hours, which prevents those who are interested from attending. Furthermore, it is necessary to pay to attend many of them, and this is a major barrier when it comes to training.

Some of the courses that are given in matters concerning organic farming during 2008 were as follows: certification and control in organic production, biological agriculture and advanced training in organic farming.

In **Bulgaria**, training in conventional farming is given at the Agriculture Faculty in Plovdiv, in the Forestry Faculty, in the University College of Agriculture in Plovdiv and in some vocational training centres. The Agriculture Faculty has the most suitable facilities at a technical level, where machinery, highly-qualified staff, etc. are concerned.

In **Hungary**, there are 150 qualifications that are endorsed at a state level in the agriculture industry, 2/3 of which can only be obtained through the education system, when greater and more complex levels of knowledge (for example, technical) are required. Education in agriculture is an essential part of the vocational training system and completely meets the requirements of the sector.

150 colleges currently offer education in agriculture. These learning institutions enable students to obtain the professional knowledge that they require in all the specialities and at all training levels. The body that is responsible for developing the training programme is the Professional Advisory Training Service dependent upon the Ministry of Agriculture and Rural

Development. Apart from the Ministry, the authorities in the capital, the counties, the regions and even, the churches and the trusts, run many schools. These centres have established extensive relations abroad. They carry out such functions as giving advice in matters concerning agriculture and they also operate as logistics centres.

Farmers have numerous difficulties when it comes to taking part in training activities. The biggest problem is time, because the workers in the sector are very busy with their farming activities during the picking and harvesting season, and livestock keep them occupied all the year round. They do not have very much time to attend training courses. Another difficulty that prevents them from taking part in training courses is that their farms are generally a long way away from the places where the courses are being given.

5.2 Specific training in organic agriculture and livestock

An increase in the number of organic farming producers in **Bulgaria** means that it is necessary to have more specialist consultants available. The task of spreading ideas and knowledge about this activity is carried out by Agrolink, Bioselena and Ecofarm. The University College of Agriculture in Plodiv provides the specialist training in organic farming. Agrolink and Bioselena have organised a large number of vocational training courses for farmers, farming experts and state authorities.

It is difficult to know what skills are learnt by the students who have graduated in agriculture and who have taken part in the courses. The activities associated with the development of organic farming in the country are still at their early stages, so the Ministry of Education and Science (MES) has not studied these aspects in depth in order to find out the scope of the training that is being given.

The biggest difficulties that are faced when it comes to taking part in the training activities for the farmers are as follows: a lack of time, especially at harvest time, a lack of computing skills to be able to take part in *on-line* courses, the fact that very few courses are available in the e-learning mode, a lack of motivation to take part in training activities and a lack of understanding with respect to what organic farming really is.

The fact that the workers have a lack of training can be overcome partly with the help of the advisory bodies and consultancies and partly by increasing their motivation. The consultants must provide the knowledge and the skills in matters concerning organic farming methods, controlling and certifying processes and documents, establishing the distribution channels, operation management, new technologies and ICT applications.

In **Sweden**, many courses are offered to the farmers, within the regional plans. They may include courses for beginners who have their farms in conversion as well as advanced courses focused on more specific topics and subjects. The regional advisers are partly responsible for these courses. The organic farmers themselves can organise training actions. The groups of experiences are a usual complement to allow the farmers to acquire more knowledge, in many cases also with the participation of the advisers. From the beginning of the 80s, the Swedish University of Agricultural Sciences has offered several courses on organic farming. In the last years, the Center of Sustainable Agriculture has given a course to farmers, advisers and all those persons interested in the subject.

The upper secondary school program "Natural Resource Use" offers a three-year curriculum for the students of agriculture, horticulture, animal husbandry and forestry. The organic farming is a part of the school plans of different levels and, even, several schools have turned into ecological in its entirety.

The majority of the ecological organisations, even those which devote themselves to advising and certification, elaborate regular periodicals and bulletins including the last information regarding their areas of performance. These publications contribute to a great extent to the development of competences and the improvement of the organic practices.

From the beginning of the 80s, research projects have been developed in organic farming in Sweden. One of the principal organisations dedicated to research is the Swedish University of Agriculture Sciences (SLU). In 1989, this University got the first chair of organic farming and, today, the majority of the programs and projects regarding this activity are coordinated by the Center for Sustainable Agriculture (CUL). This organisation was founded in 1997, in order to establish a central point for researchers and institutions interested in investigation, development, education, training and information about the organic farming. Another of its aims is to promote and facilitate the methods for interdisciplinary research and cooperation among different actors for the definition of common aims for investigation and activities of development. In the CUL farmers, advisors, consumers, researchers and funders are represented. In 1999, the CUL developed a research programme on organic farming. In it, several aims and a platform for the ecological and sustainable farming are included, set in 9 specific areas: food quality, farming participatory research, integrated production on agriculture and cattle farming, analysis of the systems for sustainable production, horticulture, domestic animals, soil, technology and economy.

In **Rumania**, vocational training in organic farming is an activity that is currently being developed by the following organisations: BIOTERRA, ARAD and the National Organic Farming Association, which currently organise at least one course aimed at organic farmers. These organisations also take part as associates in the government training courses that are arranged by the Ministry of Agriculture, the Ministry of Economy and Trade, and other non-governmental organisations.

In **Hungary**, the Organic Farming and Sustainable Production Systems Department at Corvinus University in Budapest has put into operation a training programme of the *e-learning* type. This programme enables students to become qualified as organic farming advisers and growers. It is possible to obtain such qualifications through adult education programmes via Work Centres and then training at Corvinus University.

Higher education levels are particularly important when it comes to training farming specialists. In 2006, the number of students who applied for state grants fell by 30% when compared to 2005. There will be places for only 1,900 students in basic vocational training, which amounts to less than 3.5% of the student being educated at a higher education level. The institutions that are most prestigious at a higher education level are the Organic Farming Department at Szent István de Gödöllo University and the Organic Farming and Sustainable Production Systems Department at Corvinus University in Budapest. The latter department also develops a post-secondary education programme in organic farming.

In **Portugal** there are no training courses for organic farmers in the *e-learning* modality. There are a great variety of courses of different lengths, ranging from training activities programmed for one day ("Control and Certification in Organic Production", held in Oporto in April this year), to 2-year academic courses (Masters in Organic Farming, given by the Agricultural Faculty at the Polytechnic University of Viana do Castelo), as well as 3-year courses (Degree in Organic Farming given by the Agricultural Faculty at the Polytechnic University of Coimbra).

Formal education in organic farming began at the Agriculture Technical Colleges and at the Technical Schools (students from 14 and 18 years of age) in **Italy** at the beginning of the 1990s. At a university level, considerable resistance was put up against training in organic farming, and it has only been recently that some faculties have begun be aware of and wake up to the demands and the needs of the new generations where this subject is concerned.

The Ministry of Agriculture has officially set in motion the National Organic Farming College (in Spoleto-Perugia) and has organised some short courses (1 or 2 weeks). These courses are aimed at civil servants and farmers' unions, and their aim is to provide these workers with both technical and administrative knowledge in this subject.

Since the late 80s, short organic farming courses have been held in different regions throughout the country, most of which have been organised by ONGs or organisations with similar interests. These courses focus on the basic principles of organic farming and rarely include specific contents regarding farming practices. Since 1990, the opportunities for training have been structured, and in some regions compulsory short courses were implemented for farmers who wished to be entitled to subsidies for a transition period between conventional farming and organic farming. The contents of these courses concern farming production, and very little reference is made to such aspects as animal rearing, marketing and certification.

The Italian Organic Farming Association (A.I.A.B., in its Italian initials) promotes vocational training through the EDUBIO programme. It is aimed at those technicians who are interested in enrolling in the Association's National Register and it promotes cooperation with bodies that are associated with training at all levels, with the companies in the sector and with associations that are in some way involved in the activity. New teaching material and educational training models are used in this programme, which are based upon the results of the different European programmes. One priority aim of the entire programme is to promote training activity among all the members of the group that is to benefit from it.

The programme promotes courses in the *e-learning* modality, using state-of-the-art technologies. The training activities that are proposed are as follows: training for producers, training for consumers, training for technicians, direct training for distributors, training for nutrition experts and doctors, training for civil servants and training for restaurant and canteen workers.

In **Spain**, the training level for organic crop farmers and livestock farmers is high. The experts who were interviewed for this project have confirmed the importance of training to develop this activity. The current training offer is sufficient and all the workers in the sector can gain access to training activities that will enable them to obtain learn and/or to improve their knowledge.

One of the aims of the Comprehensive Action Plan to Enhance Organic Farming (2007 – 2010) is to encourage training. One aspect that is featured in this Plan, concerns the challenges inherent to involving all those who are liable to be trained in organic farming. To achieve this, training will be encouraged in the sector by channelling the actions that are financed through the grants that are already available.

The training activities that are given under these premises have basically been focused on fulfilling certain objectives:

- Updating the knowledge of those attending. This type of action is aimed at two groups: farmers who wish to convert their conventional farms into organic farms, and those who wish to take up a career in agriculture.
- Bringing young people into agriculture. Aimed at the possibility of getting people in younger age groups to take up farming, specifically organic farming, so that they can carry out their activities with greater and better guarantees.

- Training the trainers. The need to train the trainers in all the subject matter that they need to be able to carry out their teaching functions with all the guarantees and help possible.
- Specialising in higher levels. The suitable management of organic companies and farms requires highly-qualified professionals in order to guarantee that they can fulfil their professional activities better.

There is no specific training plan for organic agriculture and livestock within the formal education system (dependent upon the Ministry of Education). It is the Autonomous Regions that are responsible for planning training activities aimed at this group, as part of the programmes for encouraging and developing the different activities.

One clear example is the different activities carried out in the Autonomous Region of Andalucía. The autonomous public authorities, different organisations on a regional level and sectoral associations (not only producers but also distributors and workers), and bodies that are associated with training have put forward different education initiatives:

- Education programme developed by the Andalusian Organic Farming Centre (CAAE, in its Spanish initials), which includes giving courses and publishing informative backup material.
- Courses, seminars and encounters for technicians and professionals at different Andalusian Universities (the International University of Andalusia, the University of Cordoba and the University of Seville).
- Training and informative activities developed by Andalusian consumer organisations and organic producer organisations. Such activities include debates, seminars, forums, lectures, etc.

In **Germany**, organic farming material has been included within the training framework of professional colleges. The Bio-dynamic training offered by the companies is still special, and enables the students learn what is recognised exclusively in bio-dynamic companies. This training offers three subjects (Agriculture, Gardening and Farm Administration). Students have to have a minimum age of 18 years and the complete training course lasts for 4 years.

A variety of supplementary courses are available, which serve to bring together different organic subjects; these go far beyond aspects that are strictly of a practical nature. Not only apprentices but also anyone else who happens to be interested in the subject may attend these courses.

Anybody who is interested in putting into practice what he or she has learnt on the courses has a variety of opportunities to do so: the possibility of doing practicals in a company, the *basic farming year*, the *study year and the work year* and seminars for young people. Some of the people who show greatest interest in organic activity come from urban zones, and so it is advisable for them to have a period of practical activity that enables them to get a greater in-depth working knowledge where the activity in question is concerned. It is an essential requirement to be between 18 and 26 years of age in order to be able to do the training course that is referred to as basic farming Year. Applicants can apply for a grant to pay the registration fees, which include accommodation expenses and maintenance. The course lasts for one year.

Before a person can start up an organic farm or a business that is associated with organic agriculture and livestock, the farmers and gardeners must be given extensive training and obtain special qualifications. The following qualifications can be obtained: "Masters in Agriculture", "State-Qualified Farmer", and "State-Qualified Technician".

Before obtaining the qualification “State-Qualified Farming Specialist” it is necessary for the student to spend one year in a technical college, receiving an organic training. The requirements are graded in secondary education in a branch that is associated with agriculture, followed by at least one year of practical experience.

Before being able to take a 2-year training course at an organic farming technical centre, it is first necessary to have completed vocational training in farming and at least one year of practicals. The diploma “State-Qualified Farmer” is awarded, which enables the person to work as an instructor in that subject.

To be able to be trained in gardening at a technical centre, it is necessary to have completed vocational training in agriculture and to have had at least one year’s experience in gardening. To obtain the diploma “State-Qualified Gardener” in the organic farming area also enables the person to work as an instructor in that subject. The course lasts for one year.

Two years of training in organic farming plus at least one year’s experience in this area have to be completed, together with possession of the qualification graduate in secondary vocational training in one of the subjects associated with agriculture, are required before a person can obtain the qualification “State-Qualified Technician”.

It is expected to be able to develop other courses that improve workers’ knowledge in the area of organic farming. Many associations have established their own advisory systems with respect to crop growing and processing the products. If the aim is to set up one’s own business that can be defined as organic and can use a particular commercial brand name, the associations in the field of organic farming require the person to be in possession of a certificate in the subject or an equivalent qualification. Thanks to the Federal Organic Farming Programme, which was put into operation by the Federal Ministry of Consumer Protection, Nutrition and Agriculture, the offers will be increased considerably in the not-too-distant future.

Higher study or university study courses (Agricultural / Farming Sciences, Gardening or Horticultural Sciences) can be taken at universities, technical colleges and polytechnic universities. The contents of the syllabuses are basically the same, the only difference being how long (number of years) the courses are.

5.3 General panorama for e-learning in the country

E-learning is a new way of remote or distance education and training, which has emerged as a result of the new technologies. These new technologies include the tools themselves (computer, mobile phone, electronic agendas, etc.) as well as the vehicle that is best known and most frequently used at present: Internet.

E-learning bases its development on making use of the ease with which the training material and the communication tools can be distributed to create a convenient, comfortable and simple training environment. The user has access to interactive courses that are planned specifically for this type of training and backed up and supported by methods of communication that allow for collaboration and make it possible for the different students to exchange ideas, impressions, experiences and opinions with each other. The entire process is guided by a tutor (expert) who monitors the participants’ progress and solves their problems, motivates them, and encourages them to carry on with the course, etc.

E-learning is considered to be type of “*just in time*” learning: the user learns when and where he or she needs to. It is not necessary to be equipped with the communal physical means and the students do not need to move anywhere. The advantages that are offered by Internet

are used to make the most of the resources and time. This makes learning very effective and ensures that the user is the centre of the entire process. The contents are structured into short blocks of information, which are referred to as “knowledge pills”, which substantially improve the retention rates of what is learnt.

In **Spain**, *e-learning* began in 1999. It is the medium-sized and large companies that use this type of training most extensively, and the percentage of small companies using it being very low. The cost is lower than for training where the student has to be present, and user satisfaction is high.

The experts state that the reasons for delay in implementing *e-learning* in the country are as follows:

- Technological. ICTs have made little inroads in certain fields; small companies have invested little in this type of technology, and only slight development of information and knowledge society.
- Cultural. Self-training as a culture is not very widespread. Many users still think that training requires an element of social interaction and workers, in some cases, are not very skilled in the use of ICTs.
- Political. These include a lack of effective resources for finally boosting the information society, a lack of monitoring where the quality of the suppliers is concerned and a lack of official certificates that guarantee good quality services.

It is necessary for all those involved to make an effort to implement and develop *e-learning* so that it can achieve its full potential. This effort must endeavour to increase the communication infrastructures, to improve workers’ training and information in matters concerning ICTs, and the same applies to citizens in general, and training content must be developed that is adapted to the different groups at which it is aimed.

Different programs have been developed at the Ministry of Education and Science with a view to implementing the new technologies and *electronic learning*: Atenea Programs, Mercury Programs (have made it possible for all the centres that teach adults to offer courses that involve learning information technology) and the Aulas Mentor Project.

In **Rumania**, the use of *e-learning* methodology is commonplace in many universities, but this is not the case in the universities where agricultural training is given.

The modern ICTs were introduced in **Bulgaria** in the early 90s. Now that the barriers affecting access to Internet have been overcome, using the web is becoming normal practice for Bulgarians. This has led to the emergence of a new social culture defined by its high level of interest and involvement in the new ICTs and all their associated aspects.

Although the number of personal computers increased by 2% in the country between 2007 and 2006, the percentage of persons that use the Internet is still low (only 20% of the total). Information with respect to the use of new technologies in the Bulgarian education system is very fragmented and often impossible to find. Most of the universities and faculties in the country are equipped with sufficient new technology resources, but there is a lack of investment in hardware and the potential for connecting.

Several institutions are committed to the use of ICTs:

- The Ministry of Public Administrations and Administrative Reform (MPAAR).
- The Development and Cooperation Information System (DCIS).

- The State Agency for Information, Technology and Communications (SAITC). This is the body that is responsible for the government ICT support policies. It was established in 2005 and has carried out several projects that were developed with a view to improving the way that new technologies are used, with the support of the Government and the United Nations Development Programme.
- Coordination Centre for Information, Communication and Management of Technologies (CCICMT). It was established in 2002 as part of the E-government project.
- The Information Society Coordination Council (one of the Government's advisory bodies).

The first on-line university courses appeared in 1990, which meant that Internet had been introduced into the country's education system. The courses are a result of academics participating in a variety of European projects. The main problems involved in implementing *e-learning* were the high prices of the training and education environments in this modality and a lack of communications for carrying out that training. Thus, a large number of lecturers and students began to design the different elements that were needed to be able to develop on-line training more extensively. At present, 70% of Bulgarian universities use *e-learning* environments, but not all of these use them to give training in this modality. Most of them have restricted the number of specialists in ICTs, computers, hardware and software.

In spite of these deficiencies, there are some examples of well-organised courses in the e-learning modality, and the trend will be towards gradually increasing that number:

- *E-learning* centre for open-university type distance education at the University for the World and National Economy, Sofia.
- *E-learning* centre at the University of Forestry, Sofia.
- *E-learning* centre at the University of South-west "Neofit Rilski", Blagoevgrad.
- *E-learning* centre for distance training at the Polytechnic University of Sofia, Plovdiv Campus.
- Other centres whose training is associated with the different theoretical disciplines, visual arts and economic sciences.

After an initial pioneering phase, the Moratti-Stanca Decree Law concerning On-Line Universities (2003) became the first piece of legislation in **Italy** that regulated the initiatives that the different universities had developed along individual lines. This Decree Law establishes the accreditation standards and the different procedures to be followed for distance (remote) courses given at a state level, at private university level and at academic institution level that are empowered to award qualifications.

One of the factors that the Decree Law recognises as a requirement for accrediting these institutions is that the training platform must adapt to the SCORM standard. The first on-line graduates in Italy received their qualifications in 2003, at the Polytechnic University of Milan. One of the important new features of this Decree Law is that not only the universities but also different institutions, both public and private, which comply with the official accreditation standards and the procedures that are established can award qualifications that receive academic recognition.

In spite of the fact that there people both in favour of and against it, this Decree Law has made it possible to notably activate the *e-learning* panorama in recent years. A series of events are developed that amount to a showcase to show the latest theoretical and practical developments in this learning modality.

- TED Genoa. Its main aim is to promote a profound reflection on the state of the ICTs.

- Sie-I Annual Meeting. This is an event that takes place on a yearly basis; it is organised by the Italian *e-learning* Society.
- Exposition Ferrara on *e-learning*. This showcase is aimed at business and training professionals, as well as the different on-line international academic organisations.
- HANDImatica. This is held in Bologna every two years and attracts thousands of people from all over the country. Its motto is: "Accessibility as an Indicator of Civilisation".
- Macerata Annual Meeting. This is organised by the CELFI (Centre for integrated training and *e-learning*), which is a unit at the University of Macerata aimed at supporting the methodological and technical development of telecommunications and multimedia training and teaching processes.
- Forum of Training Somedia. Every year, this company organises an encounter in which managers, human resources managers, trainers and national and international experts study the latest questions concerning training within the company and the management of human resources.
- SMAU-Milan. An International Information Technology and Communications Exhibition. It is an important benchmark in the ICT industry and reserved exclusively for professionals from the sector.

The trend for *e-learning* is positive in Italy. The data for 2006 indicates that the expenditure in this training modality increased by 12.7% when compared to the data for 2005. It was the companies who invested most in *e-learning*.

In recent years, the use of computers and Internet has become increasingly commonplace in the education system in **Germany**. This has been the case not only in compulsory education but also in vocational training and at higher education and university levels. The modernisation of the entire education system is of vital importance where bringing about complete reform in the whole country is concerned. The use of computers and Internet are considered to be suitable tools for developing and implementing the new teaching methods that respond to the changes in the information society and promote learning that is independent and specific for each individual student.

In the field of professional training, the new ICTs are recognised as being a tool for improving worker employability and for being able to provide education programmes that are tailor-made for the requirements. This enables both businessmen and workers to combine work and training in an easier way. In view of these advantages, the German Government supports the development of these new ways of learning.

Where urban and rural zones are concerned, there is a difference in the way that the Internet is used in Germany. In 2005, more than 50% of the country's inhabitants used the Internet or intended to use it in the future. In keeping with the German Government's different policies, priority is being given to promoting learning that is based upon the ICTs and the new multimedia resources. A study undertaken in 2006, which involved 115 experts and in which 6,347 consumers were interviewed, showed that the Internet is undoubtedly considered to be an important teaching and learning resource. 55% of the experts from the government agencies that took part in the study stated that the inclusion of computers and the Internet in training and learning will be one of the major challenges facing the German education system. Nearly 10% of the experts in *e-learning* consider that the use of applications in this training modality will be very effective even at a primary education level. As the education level gets higher, the importance attributed to these types of application also increases.

E-learning is considered to be of maximum importance in the area of ongoing training and studies at university level. 74% of the experts who took part in this study consider that the effectiveness of using this new type of training at an ongoing professional training level is high or very high where learning is concerned, and 65% give a positive rating to this effectiveness at a university studies level.

According to the experts, the development level for *e-learning* in Germany could be described as average when compared to other European countries. The situation is much better than in Italy or in Spain, but worse than in Great Britain or France and considerably worse than in Sweden. With respect to the type of Internet user, in the segments of the population where the education levels are low, this tool is used very little. Even in the event of an increase in the number of users, the new users would tend to be among those with average or high training levels.

The general situation concerning the use of *e-learning* in training reveals that there is a major gap between the demand for using this type of training and the real situation. The use of computers and the web in schools and in vocational training has to be expanded and the Internet broadband market has to be used on a large scale to make sure that a digital division does not occur in the country. Furthermore, it must not be forgotten that education and training are vital factors when it comes to developing a competitive market on a global level.

5.4 E-learning experiences in the farming sector and, specifically, in organic farming

In **Italy**, a series of *e-learning* experiences have been developed in the agriculture sector. Some of them are listed below:

- **ECOLÓGICA**. This is an *e-learning* platform that is connected up to the Italian Biocert Knowledge Centre (European project HU/05/B/F/PP-170018).
- Platform of *e-learning* **ENEA**. This was launched in 1996 and aimed at requalifying workers. After the success of the experience, the aim is to promote sustainable development through the diffusion of scientific culture and technological transfer to any group, not only to workers. There are currently more than 12,000 users and the number of courses will be doubled this year.
- “Alessandro Bartola’s Association” *e-learning* platform. This includes a great variety of courses and information about agriculture and the rural environment. The contents are aimed at technicians, businessmen, public or private administrators, researchers, consultants, etc.
- **CIHEAM-IAMB Training Platform**. The model proposed on this platform is based upon the use of *e-learning* and the collaboration learning method. There are 6 courses being given on different subject matter: quality management for organic products, marketing for olive oil, agricultural policies, marketing for organic products, etc.
- **BIOAGROINFORM**. This is an *e-learning* platform developed by Biocert, ENEA, AIAB, and co-financed by the European Union.

There are very few opportunities for training in conventional and organic agriculture through *e-learning* in **Bulgaria**. There are only two examples of on-line courses for farmers:

- **Agroplan project (2004 to 2005)**. Financed by the Leonardo programme, a course has been devised to help to improve professional training in farming management,

planning production, entrepreneurship and innovation, and support in the use of the new ICTs and transnational cooperation.

- EcoJob-AP (2006 to 2008) Project. This provides a framework of transition criteria in organic farming through innovation in professional training. The sectors that the project is aimed at are the education sector (qualification as an organic expert) and agricultural (qualification as an organic farmer). The specific aims of the project are as follows: spreading knowledge where organic farming is concerned the requirements of the EU in matters concerning organic, food safety and training farmers and experts in organic farming.

There have been no experiences in **Rumania** with respect to the use of *e-learning* either in conventional agriculture or in organic farming.

In **Hungary** there is only one training programme that uses the *e-learning* methodology, and this has been developed by the Organic Farming and Sustainable Development Department at Corvinus University in Budapest; it is called “Ecológica”. It is a training programme via *e-learning* aimed at advisors in this subject. There are 14 modules, in which farmers and advisors can participate. It is available in 6 languages, apart from English.

The experts who were interviewed for this project in **Portugal** all agreed that there are no types of course in the *e-learning* modality for organic farmers and/or organic livestock farmers.

The same applies to **Spain**, where there is no official line of action aimed at developing a specific training plan under the *e-learning* modality with organic crop farmers and livestock farmers in mind. There have been some experiences at this level in some of the Autonomous Regions, which are responsible for drawing up and giving the different training plans, but these have always been independent and have not formed part of any training specifically devised for this group.

These days, agriculture is faced with the major challenge for developing a link between protecting the consumer, animal welfare, economic and organic quality and sustainability where production is concerned. This challenge means that the efforts that are made in the field of training must have as their main aim, to bring about an increase in human assets in matters concerning research, consultancy and practice. In **Germany**, the use of *e-learning* in farming is an innovative approach but its use is not widespread in professional training.

Some organisations in the country have directed innovative projects, such as for example, the Instituto Equalita. They have developed a website for training and qualification on a European level for subsequent training in trading with organic food products within the context of the “Eco Qualify” Project, as part of the EU Leonardo da Vinci Programme. A transnational course under the *e-learning* modality has been developed as part of the work to be done with respect to retail trading of organic foodstuffs. The owners and employees of the shops can use this course to learn from their own workplaces or from their homes. The learning units include texts, tasks and exercises that are associated with the following: a Weaknesses, Threats, Strengths and Opportunities (SWOT) analysis of a company, assortment of products, inventory and calculation of the prices in a shop, the principles of organic farming, the principles involved in preparing organic products, etc.

APPENDICES

SWOT ANALYSIS OF THE SITUATION AFFECTING ORGANIC FARMING IN PORTUGAL

<p style="text-align: center;">STRENGTHS</p> <ul style="list-style-type: none">• The country has good agricultural and ecological conditions.• There is a great variety of flora and fauna.• Conversion to organic activity is not difficult for certain crops that have traditionally been grown extensively.• Many farmers' associations have been established in the last 5 to 10 years.• The organic farmers are younger and have higher levels of education.	<p style="text-align: center;">WEAKNESSES</p> <ul style="list-style-type: none">• A lack of research and experimentation.• A lack of well-trained professionals in matters concerning organic farming (technicians, trainers, farmers, etc.).• The product distribution chain is not well organised and there is no network for distributing products on a retail basis• Consumers find it difficult to recognise organic products.• Work on the farms is decreasing in certain regions where organic farming is more developed.
<p style="text-align: center;">OPPORTUNITIES</p> <ul style="list-style-type: none">• The demand for organic products exceeds the supply.• Environmental questions are being regarded as important by many consumers and farmers.• A growing number of people find organic farming an alternative to conventional farming.• There is a growing demand for organic products.• The scandals that are associated with traditional food are becoming increasingly frequent.• Political support for alternative farming is on the increase.• Organic farming can make a contribution towards renewing the socioeconomic fabric in certain zones that are economically deprived.• Organic shops are opening up, especially in urban areas.	<p style="text-align: center;">THREATS</p> <ul style="list-style-type: none">• Most of the structures inherent to the Ministry of Agriculture (on both a state and regional level) lack the specialist personnel and public services that are associated with organic farming.• The price level for organic products is rather high when compared to the products that come from conventional farming.• The contamination of the soil caused by genetically engineered products and chemical products.• Some operators are motivated by subsidies and are not interested in playing an active role in the sector.

