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NEEDS ASSESSMENT REPORT

ENHANCING SOCIAL INCLUSION OF YOUTH THROUGH EMPLOYMENT IN AGRIFOOD SECTOR

PROJECT
AGRIFOOD

Project Number:
2019-3-TR01-KA205-079155

2020



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Centro
Tecnológico
Nacional de la
Conserva y
Alimentación

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CONTENTS

FIGURES and TABLES	5
ABBREVIATIONS	6
INTRODUCTION	7
1. General Information About Agri-Food Industry	8
1.1. Agri-Food Production and Trade in the World	9
1.2. Agri-Food Production and Trade in Spain	15
1.3. Agri-Food Production and Trade in Estonia	18
1.4. Agri-Food Production and Trade in Turkey	21
2. Employment Status of Young Population in Agri-Food Sector	25
2.1. Employment Status of Young Population in Agri-Food Sector in the World	25
2.2. Employment Status of Young Population in Agri-Food Sector in Spain	29
2.3. Employment Status of Young Population in Agri-Food Sector in Estonia	31
2.4. Young Population Employment Situation in the Agri-Food Sector in Turkey	32
3. Problems Faced by Youth in Agri-Food Sector	36
3.1. Results of the Survey Conducted Within the Scope of the Research	37
4. Description of Social Exclusion	40
5. Description and Objectives of the Project	42
6. General Evaluation and Conclusion	42
ANNEX	46
REFERENCES	52

FIGURES and TABLES

Figure 1. Spanish Agri-Food Exports/Imports in 2012-2015	16
Figure 2. Trade Balance of Agri-Food Sector in Spain in 2012-2015	16
Figure 3. Exports of Agricultural Products and Foodstuffs, incl. exports, imports and balance of goods of Estonian origin in 2015-2019 (million euros)	18
Figure 4. Total Agricultural Production Distribution in Estonia in 2018	19
Figure 5. World Employment Rate By Field of Activity	25
Figure 6. 2000-2019 World Employment Rate in Agriculture	26
Figure 7. Agricultural Employment Rates in European Union Member States in 2019	27
Figure 8. Farm Manager Rates in EU Countries by Age and Gender Factors	28
Figure 9. Number and Age Distribution of Employed in Agriculture, Forestry and Fisheries in Estonia, 2014-2018	31
Figure 10. The Employment Rate of Youth in Turkey According to the Field of activity (15-29 age group)	33
Figure 11. Pie Chart of Percentage of Total Persons According to Their Digital/Online Learning Preferences	38
Figure 12. Pie Chart of Percentage of Total Persons According to Whether They Have Information about Agricultural Entrepreneurship Opportunities and Government Support for Entrepreneurs	39
Table 1. Top Ten Partner Countries to Which Turkey Export Food Products	22
Table 2. The Percentage of Main Segments in the Food Processing Industry in Turkey	23
Table 3. Southern African Democratic Community Youth Employment in Agriculture	26
Table 4. Employment Data In The Agricultural Sector Between 2017-2019	32
Table 5. The Number of People Employed in Agriculture Sector Between The Ages of 15-29 Years	33

ABBREVIATIONS

ASAJA: The Agrarian Association of Young Farmers

CAGR: Compound Annual Growth Rate

CAP: Common Agricultural Policy

EU: European Union

EUROSTAT: European Statistics

FAO: United Nations Food and Agriculture Organization

GAP: Good Agriculture Practices

GDP: Gross Domestic Product

GVA: Gross Value Added

ILO: International Labour Organization

ILOSTAT: International Labour Organization Statistics

IPARD: The Instrument for Pre-accession Assistance for Rural Development

NEET: Youth Not in Employment, Education or Training

OECD: Organisation for Economic Co-operation and Development

SADC: South African Development Community

TURKSTAT: Turkish Statistical Institute

INTRODUCTION

The EU Strategic Partnership project titled “Enhancing Social Inclusion of Youth Through Employment in the Agri-Food Sector [AGRI-FOOD]”, supported by the European Commission under the Erasmus+ Program, is coordinated by Bursa Metropolitan Municipality (TARIM A.Ş.) and is carried out with the project stakeholders from two countries. Project stakeholders are Central Research Institute of Food and Feed Control (CRIFFC) and General Directorate of Agriculture and Research Policies (GDAR) from Turkey, the National Food and Canning Technology Center (CTC) from Spain and the Food and Fermentation Technologies Center (TFTAK) from Estonia.

In addition to meeting the nutritional needs of the growing population, the agri-food sector has a key importance due to its contribution to employment, foreign trade, industry and national income. However, farmers in European countries move away from agricultural activities due to social and economic reasons and migrate from the village to the city. For this reason, the sharing of the youth in agriculture has been decreasing day by day.

With this project, it is aimed to contribute to the development of the socialization process of the disadvantaged young people, to encourage the youth to be brought into the agricultural labor market and to enhance their skills and competencies in order to prevent young people from migrating to metropolitan cities. In line with these purposes, training materials will be prepared in these areas in order to provide training to the target audience concerning the use of technology in agriculture, good agricultural practices, food safety and processing technologies, agri-food marketing, value-added food product production, export procedures, development of entrepreneurial and language skills. In this way, it aims to make agricultural activities more attractive for young people and contribute to their employment opportunities and ensure agricultural sustainability.

This report is an important resource for the definition of the agri-food sector, the current situation of the sector and the problems young people face in this sector. The report, which was prepared in an innovative and easy-to-understand manner, aims to enhance the knowledge level of the target group about agricultural food sector, to detect challenges faced by youth in the sector as well as to offer potential solutions for eliminating these obstacles to improve their employment chances and thus increasing their social participation.



1. General Information About Agri-Food Industry

Agro- and agri- prefixes that usually refer to agriculture. Agri-food is a type of food that is agriculturally produced (as opposed to through hunting, fishing, gathering, and so on). Cereals, industrial crops, medical plants and processed food products (bakery and pastry products, frozen/canned fruit and vegetables, sugar, tea and oils etc.) are one of the agri-food products (Tănasă et al., 2016). Today, the agri-food industry is located in the centre of a very crucial economic complex that we call the “food system”, its purpose is to feed populations. The agri-food industry came into view relatively recently during the Industrial Revolution of the 19th century. As happened in other sectors, the industrialization of food processing initiated through technical innovations like the sugar beet extraction process, the heat sterilization method for canning and chocolate making process (Rastoin, 2012).

An integrated complex production chain ranging from fresh agricultural products to the processed foods forms the agri-food industry. This industry is regarded as one of the biggest sectors in the world with important support to the economic and social advancement of nations. Agriculture companies, food manufacturers, producers, retailers and food policy-makers are large employers of this sector. Also, the agri-food sector is linked to global significant challenges such as land and water use, climate change, health and well-being (CTCN, 2020).

1.1. Agri-Food Production and Trade in the World

It is commonly thought that global food supply is now enough to feed people in the world but that food production should be increased significantly in the next decades since up to 2050 global population will increase to nearly 10 billion people (FAO, 2009; Kirova et al., 2019). Nonetheless, the difficulty of producing adequate food for the rising world population cannot be dealt with rises in production as a limit exists related to the potential for efficiency gains. Also, many of these may create significant environmental problems (Berners-Lee et al., 2018). Hence, so as to meet future food demand, yields should be enhanced with innovation and new technologies such as precision farming and genetics (Anonymous, 2016).



Although food is a very important product economically, a finite number of nations show success at food manufacturing. A lot of land is needed for the cultivation of most agricultural commodities. Really, the world's 4 leading food-manufacturing countries take place on the top in terms of geographic size. The world's biggest food exporter is the United States, which is a superpower in food markets. China always outproduces the U.S. and India produces more food than the U.S. in some years; on the other hand, China and India consume more food than their own products. It is understandable as the world's largest populations live in China and India. The U.S., China, and India each produce more food than the entire European Union (EU). Brazil is in 4th place and its food industry has intensely concentrated on sugarcane, soybeans and beef (Ross, 2019).

Agriculture and Food Industry by Product Type:

- Beverages
- Milk and Dairy Products
- Meat, Poultry and Fish Products
- Pasta, Biscuit and Bread
- Cocoa, Chocolate and Sugar
- Processed Fruits & Vegetables
- Spices
- Cereals and Pulses
- Vegetable oils and Fats
- Others

Alcoholic (beer, wine and spirits) and non-alcoholic beverages (juice, bottled water, coffee and tea, dairy drinks and other) form the global beverage market. Until 2021, the global beverage industry is anticipated to arrive an estimated \$1.9 trillion with growing at a compound annual growth rate (CAGR) of 3.0% from 2016 to 2021. Growing urbanization and disposable income are main drivers for the growth of this market. Anheuser-Busch InBev NV, Coca-Cola, PepsiCo and Heineken Holding NV are the main firms in beverage sector (Research and Markets, 2017). Nearly 682.52 billion liters non-alcoholic beverages consumed annually in 2016 in the world and it will reach 803.02 billion liters by 2021 (Bedford, 2020). In 2018, the global non-alcoholic drink market value was USD 1.1 trillion. The popularity of non-alcoholic beverages is increasing in Asia Pacific, due to an increasing consumption of tea and coffee. Non-alcoholic beverages is consumed the most in Asia Pacific, North America and Europe, respectively and an increasing consumer shift towards non-alcoholic beverages and a growing popularity of specialty tea are main reasons (Market Report, 2017; Market Research Report, 2019).

In 2019/2020, global cereal markets are supposed to maintain well supplied, easily meeting the growth in consumption. FAO estimated that 2719 million tonnes cereal is produced in the world in 2019, about 62 million tonnes (2.3 percent) higher in production compared to 2018. The global coarse grains production has been increased to 1444 million tonnes. In West Africa and Ukraine, yields became higher than previously projected. In 2019, the wheat production has remained almost unchanged at 763 million tonnes. Rice production in the world remained nearly stable at 512 million tonnes in 2019 (FAO, 2020).



Pulses are an indispensable part of the human diet for centuries, but their nutritional value is not commonly known and the consumption level of pulses remains low. Many different types of pulses are cultivated in the world and the major ones are bean, chickpea, dry pea, lentil, cowpea, mung bean and urd bean in terms of global production and consumption quantities. In the triennium ending 2014, the annual global production of pulses was nearly 77 million tonnes. Even though pulses are produced in every part of the world, South Asia and sub-Saharan Africa together are responsible for about half of global production (Rawal and Navarro, 2019).

The bread and bakery product market in the world exhibited moderate, however retainable growth, rising from 122.000 to 129.000 tonnes in 2007-2016. It is estimated that market performance will maintain its present trend, with a CAGR of +0.5% from 2017 to 2025. It is going to lead the market volume to 135M tonnes by 2025. Bread and bakery production is a very common activity in every countries. U.S. (13.9 million tonnes), China (9.2 million tonnes), Russia (8.8 million tonnes), Germany (5.8 million tonnes), the UK (5.7 million tonnes) and Egypt (4.6 million tonnes) are the leader countries in terms of volume of bread and bakery products. In total, 37% of the global output is supplied by these countries. The U.S. (14.7 million tonnes), China (9.3 million tonnes), Russia (8.7 million tonnes), the UK (6.2 million tonnes), Germany (5.2 million tonnes), Egypt (4.6 million tonnes) and Italy (3.9 million tonnes) are the countries with the highest consumption, all of them constitute 41% of global consumption in 2016 (Anonymous, 2018a). Global production of bread was 125 million tonnes/year in 2011 (UNO, 2017).



It is estimated that pasta had firstly been used in China and pasta comes after bread in terms of wheat usage. In the world, both the consumption and the demand for pasta is increasing seriously. The main reasons of this rise are specialities of pasta like high nutritious value, easy to prepare, its cheap price and long shelf-life. The pasta production was 9.3 million tons in 2001, 10 million 446 thousand tons in 2003 and 13.5 million tons in 2013, which is the most significant pointer of the demand increase in pasta worldwide

(BBM, 2020). Italy (3326750 m/t), United States (2000000 m/t), Brazil (1.191.847 m/t), Russia (1.083.000 m/t) and Turkey (1.000.000 m/t) are the top 5 countries that produce the most pasta. In total, in 2018, worldwide pasta exports by country was US\$9.6 billion, all pasta shippers obtained %2.2 increase over the 5 year period starting in 2014. From 2017-2018, the value of exported pasta increased 1.4%. South Korea (up 73.6%), Japan (up 55.5%), Netherlands (up 31.8%) and Austria (up 27.8%) are among main pasta exporters (Workman, 2020).

In 2018, milk production in the world was 843 million tonnes with a rise of 2.2% from 2017, owing to production growth in India, Turkey, the EU, Pakistan, the United States of America and Argentina. Higher herd numbers, improvements in milk collection (India and Pakistan), higher efficiency in production systems (Turkey) and enhanced yield (the EU and the United States of America) led to this increase. Among the main dairy products, skim milk powder served the highest export improvement (+8.6%), pursued by butter (+7.5%), whole milk powder (+1.7%) and cheese (+0.8%) in 2018 (FAO, 2019a).



In the coming five years, global fresh and processed fruit and vegetable production is projected to proceed its rise, though at a considerably higher rate. Growth will result from China and India exceeding average production (Anonymous, 2020a). In 2018, processed fruits and vegetables market size was above USD 245 billion globally with CAGR over 6.5% up to 2025. 35% of processed fruits and vegetables market came from processed fruits in 2018. Due to the increased demand for juices and exotic fruits, imports & exports for apples, bananas, and citrus fruits rose. The industry share will be improved by means of positive outlook for fruit jams and marmalades.

Health benefits like decreased risk of chronic diseases, immunity bolstering, and skeletal development will support the growth of market. Until 2025, fresh produce segment is expected to exceed 200 million tons. The popularity of natural and organic products is increasing, which generates new chances for the producers (Ahuja and Rawat, 2019).

In 2018, the pickles market reached USD 11.10 billion globally and until 2026 it is estimated to attain a value of USD 14.62 billion. By type, the market is segmented into fruit, vegetable, meat and others. In America, cucumbers, peppers, and sauerkraut are the most common fermented products purchased by firms and consumers. North America is the leader in the pickle products market, due to its increased consumption of olives and cucumber pickles. The popularity of vegetable pickles is increasing among the global population. Thus, many companies are coming into view with an improved product portfolio (Mordor Intelligence, 2019).

In 2018, the spices and seasonings market in the world valued at USD 15.93 billion and by 2026 it is expected to arrive USD 22.87 billion. FAO stated that in the world 1.15 million tons of spices were manufactured in 1993, nonetheless nearly 2.10 million tons were produced in 2012. 94.2% of global spices is coming from Asia. India (1.01 million tons), Bangladesh (78.783 tons), China (68.605 tons) and Turkey (59.056 tons) are main spice producers (Anonymous, 2020b).



In the 2019/2020 crop year, more than 200 million metric tons of vegetable oil is produced worldwide. In terms of volume of production, vegetable oil, palm oil had the highest volume, at 75.7 million metric tons during these time period (Shahbandeh, 2020). Demand for edible vegetable oils has increased in the Americas, Asia & Oceania and Europe regions. A limited number players dominate vegetable oil exports (41% of global vegetable oil production). Indonesia and Malaysia are responsible for almost two-thirds of total vegetable oil exports (OECF/FAO, 2018).

The processed meat market value is forecast to increase from 714 billion U.S. dollars to 1.5 trillion dollars during the period of 2016-2022. 38% share of the global market is coming from poultry, which makes it the most popular kind of processed meat. Red meat (pork and beef) accounts for a 33% share. Nevertheless, seafood which is seen healthier than other meats obtained a higher CAGR than both red meat and poultry. In 2017, the highest revenue is taken from meat products and sausages in the United States, almost twice as much as the second largest meat market in the world, China. The production of meat must be increased since the demand for meat soars globally. 140 million metric tons of meat, which correspond to most of the world’s meat, is produced in Asia in 2016. Pork and poultry are the most widely produced types of meat; on the other hand, sheep is produced the least. The United States is obtaining the highest revenue from meat sales and it is also a main producer and exporter of meat (especially beef). In 2017, the trade value of the U.S. beef industry was 6.2 billion U.S. dollars. Also, Brazil is a main exporter of meat (especially chickens and beef) (Shahbandeh, 2019).



Primarily owing to the 5-million ton decrease in India, global sugar production for 2019/20 is 174 million. Major producers are Brazil and India. Consumption is expected to rise in India. Exports are projected to be stable while global stocks are expected down 5 million tons to 50 million owing to lower stocks in China, India, and Pakistan. 17.9 million will be produced in the EU with 119,000 tons rise. The consumption is expected to be higher than production so the EU will import about half a million tons. 1.0 million tons stocks are expected (USDA, 2019).

1.9 million tonnes of honey was produced in 2018, China accounted for 24% of the world total. Turkey, Iran, Ukraine, United States, India, and Russia are other important producers (FAO, 2019b).

The United States, Germany, Switzerland, and Belgium are main 4 countries responsible for the production of chocolate. It is detected that the U.S. is charge of 30% of total world chocolate production while Western Europe is responsible for almost 35%. The major chocolate producers are not main cocoa producers (Maverick, 2019).



1.2. Agri-Food Production and Trade in Spain

Agri-food is the summation of the Agriculture, Livestock, Forestry and Fisheries and Food Industry (Food, Beverages and Tobacco). The agri-food industry is highlight of the Spanish economy, not only for their contribution gross value added (GVA) (5.3% in 2013) and national employment (6.4%). The significance of agribusiness in the Spanish economy is higher than the sector has in the EU-28 or in the euro area (3.8% and 3.7% of gross domestic product (GDP), respectively), and their contribution community agri-food production (11.8% in 2012). It ´s the level of the great European giants (Germany 11.8% and Italy 12.6%) and just below the contribution of France 16.2%. Spain emerges as one of the main exporting countries of the world. Spain is the 2nd biggest exporter of fruits, the 3rd exporter of legumes and vegetables, the 5th exporter of fats and oils, 6th exporter meat and 7th of beverage (Grande et al., 2015).

A Report from the Spanish Agriculture, Food and Environment Ministry 2016 highlights the following points:

*The Spanish agri-food industry is responsible for 9% of the national Spanish economy and generates 2.4 million jobs. Agri-food exports have grown continuously over the years 2011 to 2015. In 2011, agri-food exports accounted for 15.4% of foreign trade, reaching 17% in 2015. The agri-food industry is the second most important Spanish export industry, behind capital good and ahead of the automotive industry. Food and the automotive industry are the two sectors which contributed most to the growth of Spanish exports in 2015.

*In 2015, Spanish agri-food exports reached €44.065 billion, a rise of 7.5% with respect to 2014 (over 22% in respect of 2011) (Figure 1). As for the array of products of the Food and Beverage Industry (which includes the processed agricultural produce and processed fisheries sectors), exports for 2015 reached a value of 25.472 billion Euros, a 6% rise on the 2014 figure. The value of the trade balance of the agri-food sector amounts to approximately €10 billion, a 4% increase on 2014 (Figure 2).

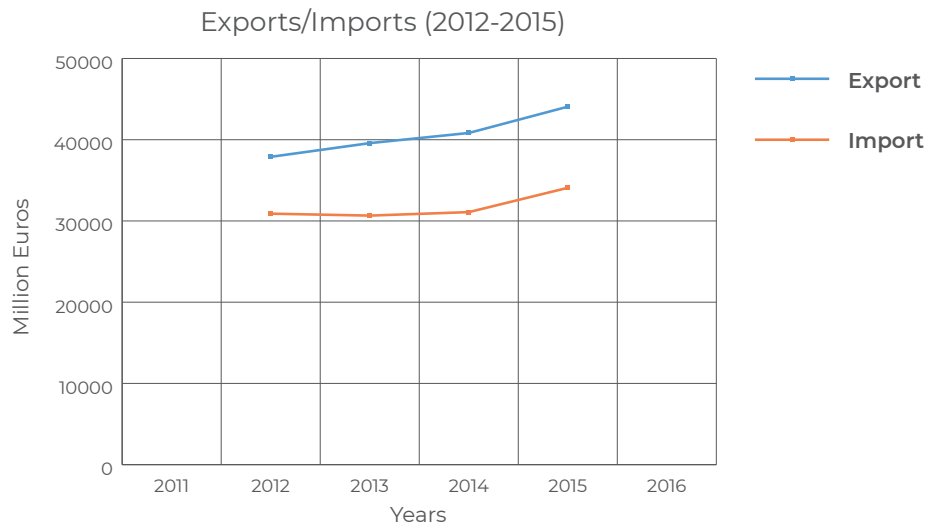


Figure 1. Spanish Agri-Food Exports/Imports in 2012-2015

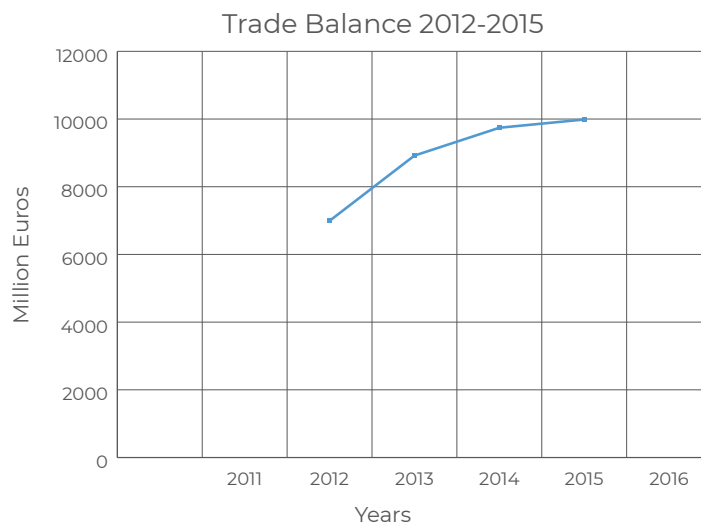


Figure 2. Trade Balance of Agri-Food Sector in Spain in 2012-2015

Regarding some agricultural subsectors:

In the world, Spain comes first in terms of production and exportation of olive oil. Over 50% of Spanish olive oil production is exported to 166 destinations around the world. Around one million tonnes of olive oil are exported annually, valued at 2.5 billion euros. Spain is the world's number one vineyard, in terms of area. Spanish wines are export leaders worldwide. In 2015, over 24 million hectolitres were exported, valued at 2.637 billion euros. Spanish wine is exported to 200 destinations around the world.

Among the meat industries in Spain, pig meat stands out, Spain being the number two pig meat producer in the EU and number four in the world. Spain is also the second largest exporter of pig meat in the EU, having exported over 1.7 million tonnes valued at almost 4 billion euros. Spanish pig meat products are exported to 134 destinations in the world. Spain is the 4th largest beef producer in the EU and 2015 has seen exports rise almost 25% on the 2014 figure. In the EU, Spain also is the 2nd biggest producer of sheep meat. In the past five years, exports in this sector have seen a rise of around 30%

Globally, Spain is one of the largest exporters of fruit and vegetables. In 2015, over 7.6 million tonnes of fruit were exported, at a value of 7 billion Euros, with citrus fruits accounting for 3.8 million tonnes. Vegetables exported in 2015 reached 5 million tonnes, valued at more than 5 billion euros

According to the Spanish Institute of Exterior Commerce ICEX in 2018 exports maintained their upward trend, exceeding 50 billion euros. Compared with 2017, 0.6% growth was obtained and this data was stated in the Annual Foreign Trade Report for 2018, published by the Spanish Agriculture, Fisheries and Food Ministry.

By means of this performance, Spain becomes the fourth-leading exporter in all the EU, following the Netherlands, Germany and France.

It should be underlined that in Spain 17.7% of total exports is coming from agri-food exports and the exports of this industry rose by 97.3% between 2009 and 2018.

The EU is the main receiver of agri-food and fish products, corresponding to 73% of the total. The export value was 36.901 billion euros in 2018. In the EU, 22.3% of exports is going to France, which is the main destination. Germany and Italy comes after France. The major markets for Spanish products are the US, China, Japan, Switzerland and Morocco outside European countries.

In Asia, Spanish products are highly popular, 22% of the total is sent to 4 countries' market; namely China, Japan, South Korea and Hong Kong.

Furthermore, the Spanish authorities have been laboring to get authorization for the exportation of animal products to various countries. Eventually, Spanish producers are exporting to 90 new markets and almost 48 agreements are currently pending. In 2018, new authorizations were admitted in Vietnam, China, Thailand, Argentina, Brazil and Colombia.

1.3. Agri-Food Production and Trade in Estonia

Agriculture, forestry and fisheries, the primary sector, contributes 3-4% to the value added created in Estonia. The value added generated by agriculture, forestry and fishing was € 572 million in 2018. Agriculture, fisheries and food production provide around 5% of the value added created in Estonia and around 6% of the employed work there. About 3% of the employed work in the food industry and the sector provides 2% of the value added created in Estonia. In 2018, food industry enterprises produced a total of 1.6 billion euros of output, of which one third (around 530 million euros) was exported (Ministry of Rural Affairs, 2019).

The agricultural industry output together with product subsidies in 2018 was 856 million euros. 40% of the output value was the value of the total production of plant products, around 49% was the total production of livestock products and 11% were inseparable ancillary activities and agricultural services. The largest share in the value of total production was in the production of milk (28%) and cereals (18%) (Ministry of Rural Affairs, 2019).

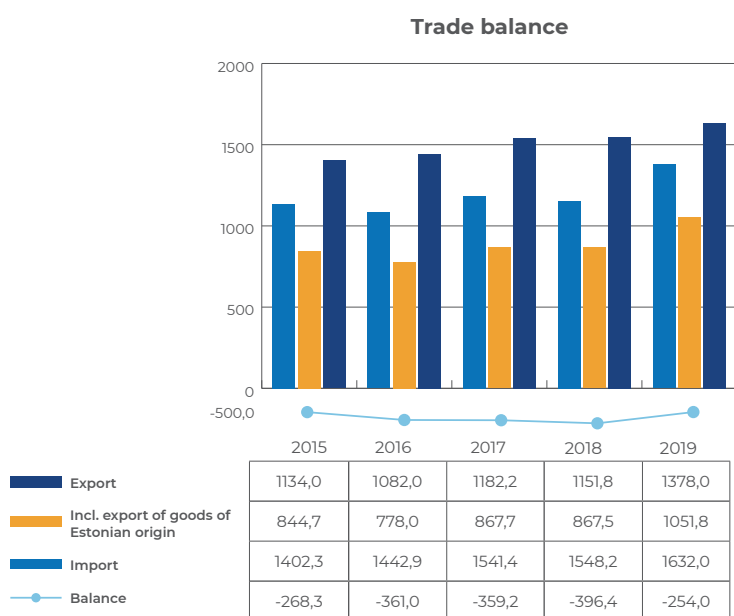


Figure 3. Exports of Agricultural Products and Foodstuffs, incl. exports, imports and balance of goods of Estonian origin in 2015-2019 (million euros) (Statistics Estonia)

According to Figure 3, in 2019, agricultural products and foodstuffs were exported from Estonia in the value of 1.38 billion euros and imported to Estonia for 1.63 billion euros. The share of Estonian goods accounted for 76% of total exports. Exports of agricultural products and foodstuffs produced or processed in Estonia in 2019 were estimated at 1.1 billion euros. Cereals (20%) and milk and milk products (19%) were the largest contribution to exports. More than half (52%) of exported grain was exported to Saudi Arabia. Most milk and milk products were exported to Lithuania (26%), Latvia (24%) and Finland (17%). The share of fish products in exports was 11% and they were mostly exported to Iceland (15%), Finland (14%), Denmark (11%) and Ukraine (10%). The most important trade partners in 2019 were the Finland, Latvia and Lithuania, to which almost half (45%) of Estonian agricultural products and foodstuffs were exported. Saudi Arabia also had a significant share (10%), Estonian grain was transported there for animal feed (Ministry of Rural Affairs, 2020).

In 2019, agricultural products and foodstuffs were imported for 1.63 billion euros. Most agricultural products and foodstuffs were imported to Estonia from Latvia, Lithuania and Finland. Most bread and bakery products were imported from Latvia, totaling 17.1 million euros. Lithuania imported the most products used as animal feed totaling 13.2 million euros and Finland imported alcohol (14.3 million euros) and coffee (12.7 million euros) (Ministry of Rural Affairs, 2020). According to Figure 4, dairy production (28%) has the largest percent in the total production value, followed by cereal production (18%), services (11%) and pig production (8%) in Estonia (Ministry of Rural Affairs, 2019).

Agricultural Production

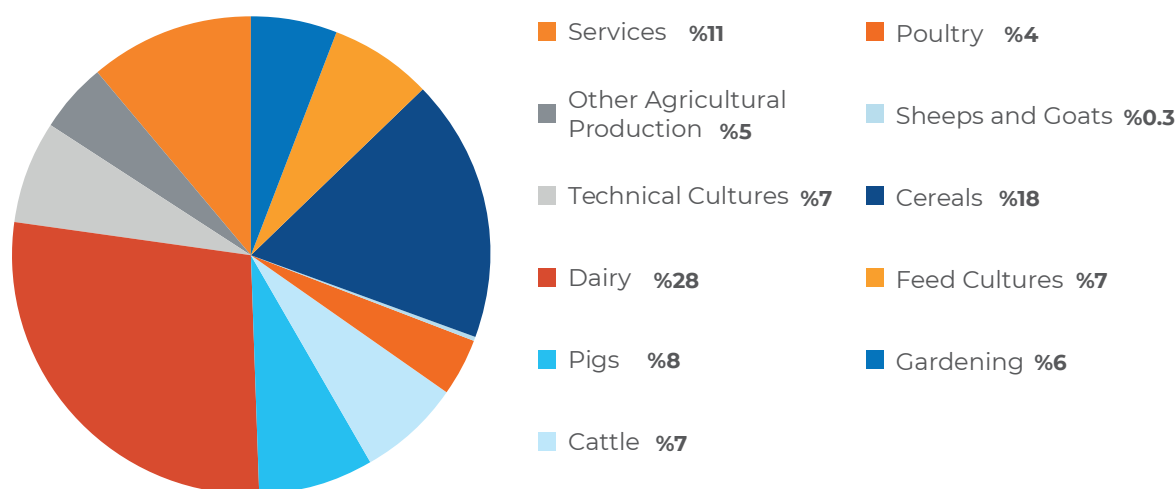


Figure 4. Total Agricultural Production Distribution in Estonia in 2018 (Statistics Estonia)

Plant Growing

The total grain harvest in 2018 was 920900 tonnes. Wheat accounted for 49%, barley for 38%, oats for 9% and rye for 3% of the total cereal yield. The total yield of fruit and berries was 7201 tonnes, of which the apple and pear harvest accounted for 51% and the strawberry harvest for 26%. The total vegetable production was 63814 tonnes. Total open field vegetable harvest in 2018 was 55 558 tonnes. A total of 3227 hectares of open-field vegetables were grown. Cabbage accounted for 20%, carrots for 15%, green peas for 14%, beets for 9% and other vegetables for 23% of the total open field vegetable area. The total yield of closed-field vegetables was 8256 tonnes, of which 63% was cucumber, 36% was tomato (Ministry of Rural Affairs, 2019).

Milk Production

In 2018, 807 500 tonnes of milk was produced in Estonia. The value of the total production of dairy products was 375.2 million euros (Ministry of Rural Affairs, 2019).

Meat Production

112993 tonnes of animals and birds were slaughtered or sold to meat processing enterprises. The share of pork was 53%, the share of poultry meat was 25%, the share of beef was 20% and the share of sheepmeat and goatmeat was 1.5% of total meat production (Ministry of Rural Affairs, 2019).

Fisheries

Fishing is broadly divided into trawling, coastal, inland fishing and long-distance fishing in the Baltic Sea. A total of 87246 tonnes of fish was caught in 2018. Long distance fishing: the main catches are shrimp, cod, redfish and Greenland halibut, the total catch of which was 17000 tonnes, which is almost 16% of Estonia's commercial fishing. The approximate value of long-distance catches in 2018 was about 57 million euros. Trawling in the Baltic Sea: fishing in the Baltic Sea is divided into offshore fishing and coastal fishing. The target species for offshore fishing are sprat, herring and cod. The approximate value of trawl catches in 2018 was about 10 million euros. Baltic coastal fishing: the most economically important fish are herring, perch, squid, flounder and pikeperch. The approximate value of coastal fishing catch in 2018 was about 6 million euros (Ministry of Rural Affairs, 2019).

Organic Farming

The organic farming sector is growing rapidly in Estonia. In 2018, there were 210033 hectares of organic agricultural land in Estonia, which is approximately 21% of all Estonian agricultural land (Ministry of Rural Affairs, 2019).

Land Use

In 2018, 1.05 million hectares of arable land, 0.24 million hectares of natural grassland and 2.28 million hectares of forest land were registered in the land cadastre. In the past five years the cultivated area has increased by more than 15000 hectares, while the area of natural grassland has been reduced by 47000 hectares (Ministry of Rural Affairs, 2019).

Food Industry

In Estonia, more than 700 companies operate in the field of food industry. The largest number are micro-enterprises with less than 10 employees, which make up almost 70% of the total number of enterprises. The share of the food industry in the exports of the processing industry was 8%. In 2018, the output of the food industry accounted for 15% of the total output of the manufacturing industry. The beverage, dairy and meat industries make the largest contribution to the creation of added value in the food industry. Dairy (24%) and meat (19%) constitute the biggest percent in the Estonian food industry's production. An average of 14584 people were employed in the food industry. The most labor-intensive activities in the food industry are the meat and bakery industry in 2018 (Ministry of Rural Affairs, 2019).

1.4. Agri-Food Production and Trade in Turkey

In Turkey, the agri-food sector plays an important role in the country's economic system (Regazzi et al., 2003). Turkey, which is a bridge between Europe and Asia, has almost 80 million population. Food production is a crucial part of Turkey's economy, proximate 20% of its GDP comes from the food and drink sector. The value of food and drink production industry is nearly \$141 billion. Agriculture is a keystone of Turkey's economy, and its production volume makes it the Middle East's biggest producer of fruits, nuts, and vegetables. Globally, the 7th biggest agricultural producer is Turkey and the government has put the aim of significantly rising its food output by 2023 (Anonymous, 2018b).

With the help of the climatic and ecological advantages it have, Turkey dominates world trade in a lot of traditional agricultural products (IGEME, 2009). In terms of production and exportation of 4 agricultural products, Turkey becomes a world leader. Turkey takes the lead in production and processing of hazelnuts, apricots, figs and cherries in the world. 67% of the hazelnut production, 27% of fig, 26% of the cherry production and 23% of apricot production are performed by Turkey worldwide and it is the largest producer of these products. In Turkey, 500 thousand to 750 thousand tones hazelnut is produced annually. It accounts for 67% of world hazelnut production. \$1.4 billion of hazelnuts and hazelnuts products were exported between 2018 and 2019. Also, 27% of world fig production was done by Turkey which means 306 thousand tons and 286 million dollars comes from dried and fresh fig production.

627 thousand tons of cherry was produced in Turkey (meaning 26% of the world cherry production) and this means 162 million dollars was obtained. In Turkey, 750-950 thousand tones apricot are produced and 294 million dollars were earned by means of exports. In 2018, only 2.17 billion dollars was obtained from the hazelnut, cherry, fig and apricot exportation (Turkey Ministry of Agriculture and Forestry, 2019).

Turkey is close to Europe, the Middle East and North Africa, Central Asia, which ensures an easy access to big markets. If we consider Turkey’s foreign trade partners, it is obvious that OECD countries take the largest share. Among these countries, EU countries (e.g. Germany) form the major place of arrival where Turkish export products are sent. Nearly 48% of Turkish origin products exported to the EU in 2008. Member States of the Organisation of the Islamic Conference (OIC) serve also significant potential for outputs originating from Turkey (taking a 25% share in 2008). USA is responsible for 3.25% share in Turkey’s exports (IGEME, 2009). In 2018, the top partner countries to which Turkey Exports Food Products include Iraq, Germany, United States, Syrian Arab Republic and Saudi Arabia (Table 1).

Table 1. Top Ten Partner Countries to Which Turkey Export Food Products (WITS, 2018)

Country	Export (US\$ Thousand)
Iraq	995,467.61
Germany	658,439.74
United States	555,643.27
Syrian Arab Republic	288,725.73
Saudi Arabia	277,342.84
Netherlands	221,400.85
United Kingdom	216,658.11
Israel	190,886.01
Belgium	181,068.31
Iran, Islamic Rep.	175,257.88

Though an economic crisis impacts business in all sectors in the world, the food sector in Turkey is growing from 2018. Globally, Turkey has the 17th largest economy with 3.6% GDP. According to TurkStat, 47.617 food manufacturing and 595 beverage manufacturing enterprises operates in Turkey in 2017.

There is a modern and developed food processing industry in Turkey, its products are enough for satisfying the domestic population and exporting, which generates 16% of all processing activities. 611 foreign investments in food and beverage production actively worked in 2018: among them 101 from German, 44 from Dutch, 33 from French, 31 from the United States, 30 from Italy, 26 from Russia, 26 from Iran and 25 Swiss (Erdogan, 2019). The percent of main sectors in the food processing industry in Turkey for 2017 is given in Table 2.

Table 2. The Percentage of Main Segments in the Food Processing Industry in Turkey

Segments	%
Processed Fruits and Vegetables	17.9
Bread and Bakery Products	11.9
Meat Products	11.8
Dairy Products	11.0
Flour, Starches and Starch Products	10.2
Vegetable Oils and Fats	9.8
Cocoa, Chocolate and Sugar Confectionery	5.8
Beverages	5.1
Animal Feeds	5.0
Sugar	3.9
Tea and Coffee	3.4
Other Food Products	2.9

Processed Fruits and Vegetables

The most common products under this segment are dried fruits, nuts, tomato paste, canned fruits and vegetables, frozen fruits and vegetables, dehydrated vegetables and fruit juice. These products bring the majority of Turkey's total export revenues (Erdogan, 2019).

Although Turkey is a main producer of dried nuts and fruits, some products still imported by Turkey. Almonds and walnuts are classic confectionery items found in Turkey. In 2015, the USA sent \$300 million worth of tree nuts to the Turkish market (ITEFood & Drink, 2017).

Even though Aegean and Mediterranean are important commercial production area for tomato, this product has annually been produced in Turkey with 11-12 million tons. Also, Turkey is a significant producer as much as China, India and USA globally (Aksoy & Kaymak, 2016).

Turkey obtained \$603.6 million from tomato product exports in 2018. Fresh tomato export is the top one with revenues of \$292 million, followed by tomato paste with \$164 million, dried tomato with \$88 million, frozen tomatoes with \$39.4 million and tomato sauces with \$16.3 million (Anonymous, 2019a).

Vegetable Oils

Concerning the quantity and quality of its vegetable oil production, Turkey plays a key role in the vegetable oil industry. Even though different types of vegetable oils are manufactured in Turkey, sunflower oil and corn oil are main export products in the sector. Due to its positive effects on taste and texture for the meals, Turkish olive oil is suggested to all world cuisine. Since the amount of olive production can change year by year, production and export quantities of olive oil are directly linked to the olive production trend (IGEME, 2009).

Sugar and Chocolate Products

Turkey is a significant sugar producer and exporter. Confectionery products such as chewing gums, chocolate and chocolate products have recently gained popularity in the Turkish export commodities. Moreover, traditional products like halva and Turkish delight started to be introduced to international markets (IGEME, 2009).

Fishery Products

Compared to past year, fishery production rose by 7.2% in 2017 (630 thousand 820 tonnes). Sea fish (42.8%), other sea products (8.3%), inland water products (5.1%) and aquaculture products (43.8%) formed total fishery production (TUIK, 2018).

Milk and Dairy Products

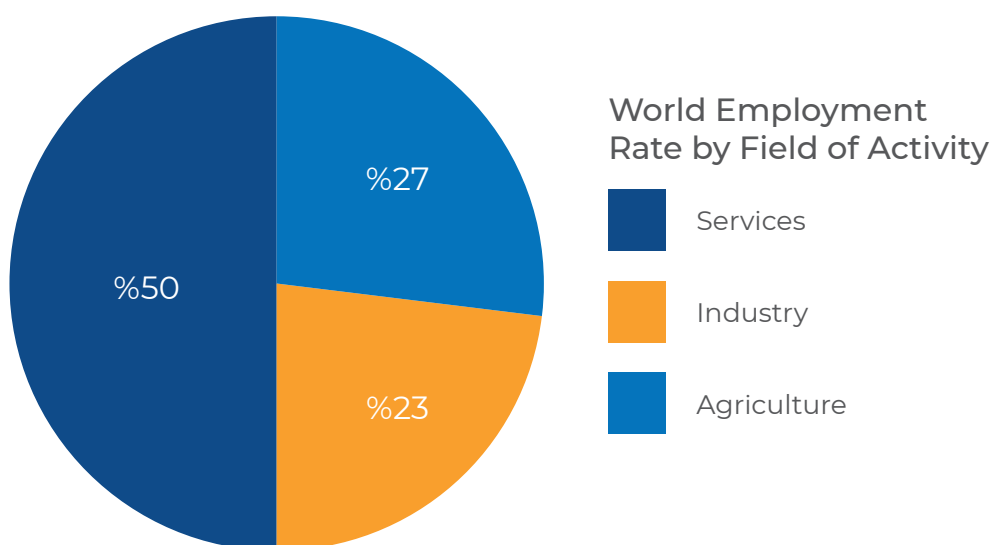
In Europe, Turkey is the 3rd biggest milk producer with its 22 million tons of production and 8th biggest milk producer in the world. Total milk production volume has shown an important development compared to the previous years. For Turkish population, cheese is an inevitable dairy product in the breakfast. Concerning both domestic market and foreign trade, cheese is one of the major dairy products. In Turkey, yogurt has the 2nd biggest production quantity after liquid milk. Ayran and yogurt, which are traditional dairy products, are commonly consumed in Turkey (Anonymous, 2019b).

2. Employment Status of Young Population in Agri-Food Sector

2.1. Employment Status of Young Population in Agri-Food Sector in the World

The agricultural food sector, which is the sector of both today and the future, has a strategic importance because it has a significant employment potential and is a source of income for the rural areas. A quarter of the 7.8 billion world population is employed in the agricultural sector. Meanwhile, the daily production value of the agricultural sector has reached 7 billion dollars. With the increase in industrialization worldwide, new employment opportunities are emerging in this sector. For this reason, the urban population is increasing day by day and the workforce is turning to these areas. When looking at the total employment rates by working areas, 50% of the total workforce is employed in the service sector, 26.85% in the agricultural sector and 23% in the industrial sector. Looking at these rates, it is seen that agricultural employment has an important place.

Figure 5. World Employment Rate% By Field of Activity (ILOSTAT database, 2020)



However, the agri-food sector faces many problems such as rural-urban migration, destruction of agricultural lands, lack of sustainable agricultural policies, and global climate change. For this reason, employment in the agricultural sector is decreasing day by day and the agricultural population is getting older. The rates of those employed in this sector have decreased by 6% worldwide in the last 10 years. (ILOSTAT, 2019)

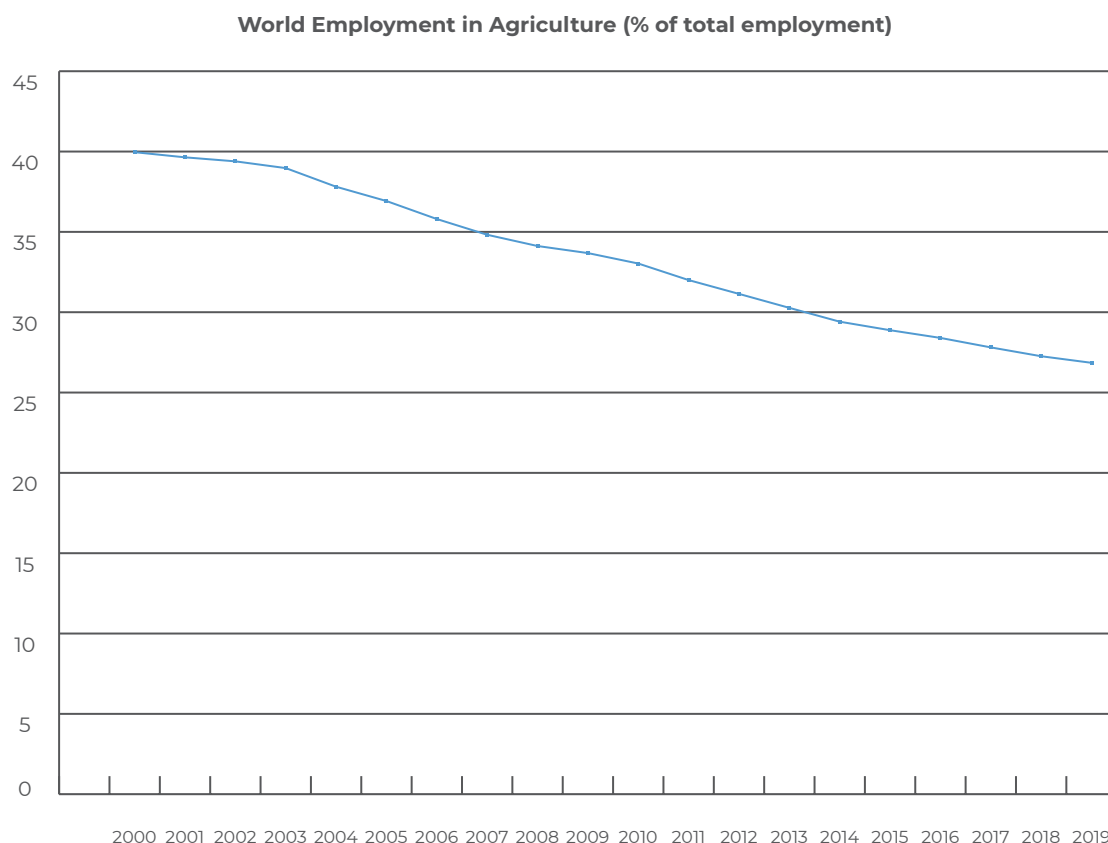


Figure 6. 2000-2019 World Employment Rate% in Agriculture (ILOSTAT database, 2020)

The employment rate of the young workforce between the ages of 15 and 34 is lower in the agriculture sector compared to other sectors worldwide. However, in many South African Development Community (SADC) countries, youth between 15-24 are mostly employed in the agricultural sector. The share of the agricultural sector in total employment in low-income countries is 70%. For example; at least two thirds of the youth and young adults in Madagascar, Democratic Republic of the Congo, Mozambique, United Republic of Tanzania and Zimbabwe, and about 50% of the young population in Angola are employed in the agricultural sector (Table 3) (ILO Global Employment Trends for Youth 2020a).

SADC Counties Youth Employment in Agriculture	Agriculture's Share of Employment By Age Group	
	15-24 Age Group	15-34 Age Group
Madagascar	81%	77%
D.C. of Congo	72%	70%
Mozambique	74%	70%
U.P. of Tanzania	76%	67%
Zimbabwe	78%	50%
Angola	60%	50%

Table 3. Southern African Democratic Community Youth Employment in Agriculture (ILO calculation based on labour surveys, 2020b).

Agricultural employment has an important place among the member states of the EU. 9.7 million people work in the agri-food sector. This shows that 3.9% of the total population is interested in agriculture. Romania has the highest share among EU member states with a share of 22.45%. Looking at the European region, Albania (37.79%) and Moldova (32.03%) come before Romania with their agricultural employment rate. Turkey stands in fourth place with 18% share. (The Global Economy, 2020).

Agricultural Employment Rate in EU-27 Member States

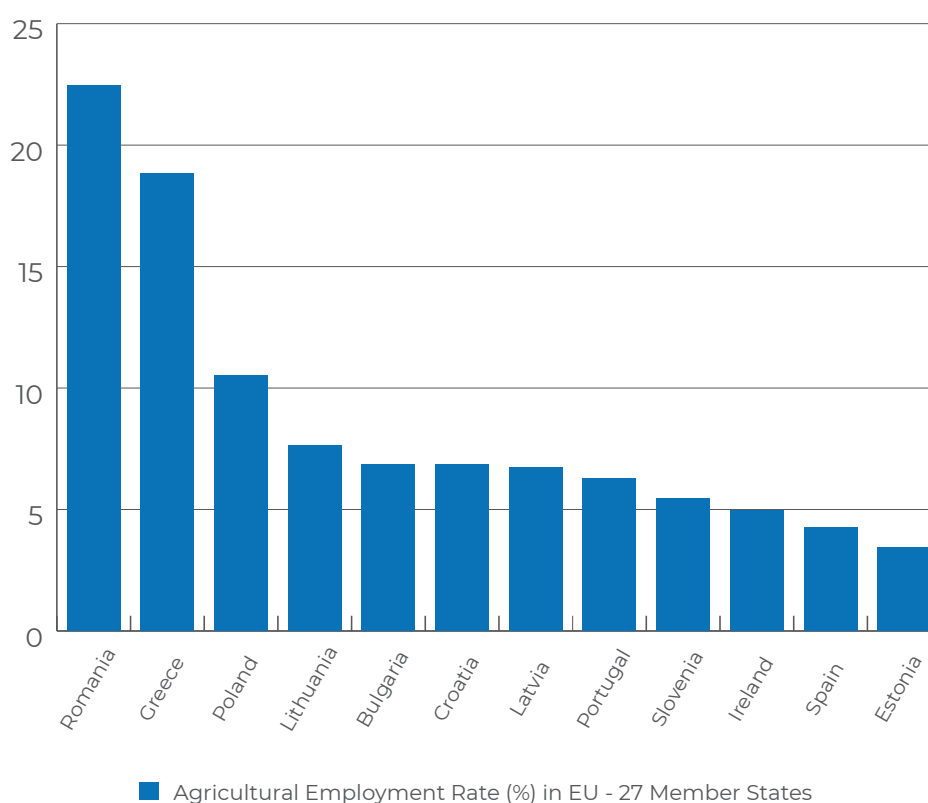


Figure 7. Agricultural Employment Rates in European Union Member States in 2019 (World Bank, 2019)

The main problem in the EU countries is that the agricultural population is aging. (ILOSTAT database, 2019). Only 11% of farm managers in European countries are under the age of 40. Since there is no retirement expectation in the population working in the agricultural sector, the population aged 65 and over sees the agricultural sector as the only option in their working area.

The regions where young people play a role in farm management are quite limited. While the ratio of elderly farm managers is decreasing in Croatia, Italy and Bulgaria; in the vast majority of Spain, Italy, Hungary, Romania, Bulgaria, Denmark, Poland and Finland, the number of farms managed by young farmers is decreasing. In the agricultural sector, the area where the ratio of young and old farmers is homogeneous is very limited. For example; Slovakia and Belgium. (EUROSTAT Statistics, 2018).

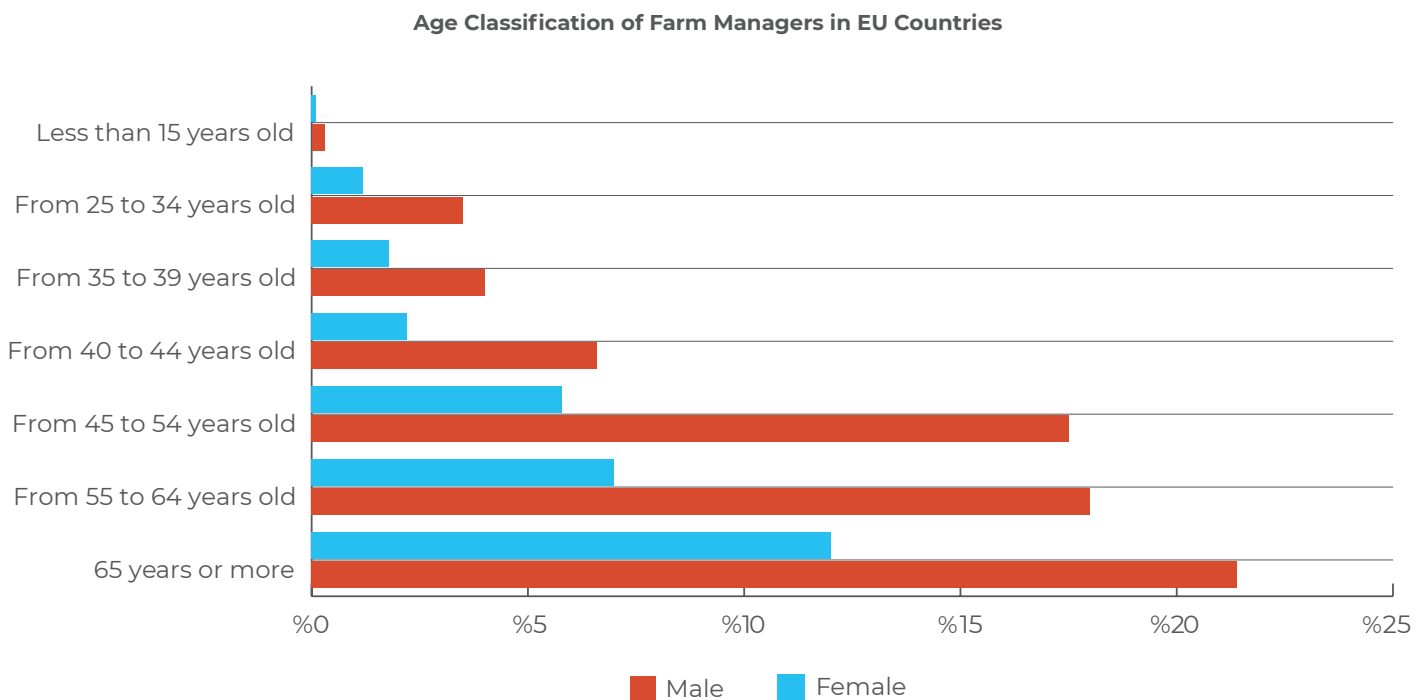


Figure 8. Farm Manager Rates in EU Countries by Age and Gender Factors (EUROSTAT Statistics, 2018).

Employment patterns of young population in rural areas;

- Employer and self-employed,
- Unpaid family worker,
- Wage worker, salaried employee or casual employee.

Young people working in this sector worldwide are mostly employed in the informal economy as family workers, micro entrepreneurs or unskilled workers. Working conditions are heavier in this sector, which is generally worked with low wages, and living conditions are far behind when compared to other sectors. Young people, who cannot find sufficient incentives and support for entrepreneurship, cannot work on their own account and thus cannot take part in the deciding process on the farm. In addition, the young population does not prefer to work in this sector due to limited access to agricultural lands and financial resources, insufficient educational opportunities and limited access to market opportunities. At the same time, the perspective of farming among young people decreases the rate of young people operating in this sector. (Schuh et al., 2019).

The world population is projected to reach 8.5 billion in 2030. In the future, fewer people working in this sector will have to produce more to feed the world population. This situation highlights the importance of increasing employment in the agricultural food sector.

So as to increase youth employment in agricultural areas, the EU conducted surveys to identify the needs of young people under the age of 40 operating in the agricultural field. As a result of the survey, it was determined that the main problems were access to land, need for further financial supports and difficulties finding sufficient qualified workforce. In this context, there is a Young Farmer Payment Fund to provide income support to young people engaged in agricultural activities in EU countries. Rural Development Programs also offer additional packages that include grants, loans, and training to help young agro entrepreneurs start. These investments in European countries for young farmers bring together the European agricultural fund for rural development and European Investment Bank expertise and aim to direct young people to agricultural activities. (European Commissions: Young Farmers, 2020).

Among the activities of the FAO is to create an integrated model in state and private sector cooperation in order to provide youth employment in the agricultural sector in African countries. With the FAO's "private and public partnership model for youth employment in agriculture" model to be created, it is aimed to develop skills appropriate to labor force demands, provide transit to land, provide access to agricultural loans and markets as well as develop climate-friendly agricultural business skills. (FAO, 2014).

2.2. Employment Status of Young Population in Agri-Food Sector in Spain

In Spain, 4.27% of the manpower were used in agricultural sector in 2019. Agriculture in Spain has undergone changes and modifications that have substantially influenced employment in the last 25 years. In February 2020 the Spanish Minister of Agriculture said that all matters related to the future of agriculture and livestock necessarily pass through young men and women, as they are "fundamental elements for the renewal of the Spanish primary sector". In fact, 2 out of every 3 Spanish farmers will leave their activity in the next decade, so it is necessary to guarantee the generational replacement. The profitability of farms is key to incorporate young people into the agricultural and livestock activity and achieve a living rural environment, with wealth and with possibilities for the future. In this sense, in the framework of the Common Agricultural Policy (CAP) negotiations, Spain is committed to a future CAP that supports all horizontal measures aimed at improving the profitability and competitiveness of agricultural holdings.

The Spanish Ministry knows that new people are needed, with new ideas for Spanish agriculture and livestock, which will be radically transformed in the next 10 years. **For this, the "magic triangle" made up of young men and women, the digitization of the countryside and efficient irrigation is strategic for the future of the sector.**

The Agrarian Association of Young Farmers ASAJA, created on July 14, 1989, is the biggest professional agricultural body in Spain with more than 200,000 affiliates working directly on farms, both owners and hirers. ASAJA is constituted for the representation, management, defence and promotion of the professional interests of the agricultural sector. Its objective is the defence of family farms and agrarian companies under any form of private initiative, and their development as a viable economic activity, seeking to improve the conditions of young people access to the exercise of the activity, their training and professional training and in general defending both nationally and internationally, the competitiveness of the Spanish agricultural sector. ASAJA has a national headquarters, 15 regional centres, 40 provincial offices and 810 local offices, as well as a permanent representation office in Brussels.

So, in Spain both the public and the private organizations are aware of the importance of the importance of young people started working in the agrifood sector.

But the labour force in the Spanish agriculture sector is totally heterogeneous with very big and multinational companies (usually with good salaries) and other small and familiar farms and exploitations that fight to economically survive.

According to the International Labour Organization (ILO) report “Safety and Health in agriculture” 2011, a crucial problem in the agricultural sector is the lack of lucid variations between the various worker categories. Many types of labour relations and labour force participation exist. Worker categories also change in each country, a farmer may belong to more than one category. For instance, a lot of smallholders supplement the income they earn from subsistence farming with wages they earn working on large commercial farms during harvesting. In this case, the farmer, who owns the business, is also an agricultural worker. (Rios, 2019).

By the other hand working conditions and labour relations vary considerably between permanent and temporary workers. Permanent workers receive some job security, relatively higher wages and greater benefits in terms of housing, health and working conditions. However, most of the waged agricultural work is performed by seasonal workers who conduct work in precarious conditions and perform tasks that require minimal training. A large part of that workforce frequently includes entire families of workers.

Young workers have to be trained in order to give added value to the agricultural Spanish chain: new ideas and innovations, to improve digitalization mainly in small and family farms, to optimize water and energy consumption and minimise the environmental impact in the sector taking always into account that food safety is the most important issue.

2.3. Employment Status of Young Population in Agri- Food Sector in Estonia

6% of the employed in Estonia work in the agricultural, fisheries and food industry sectors. About 3% of the employed work in the food sector. The agri-food industry has a major labor shortage issue. There is a lot of seasonal work in agriculture. 19858 short-term jobs were registered in Estonia in 2018, of which 2 788 were seasonal jobs. More than 80% of registered seasonal workers worked in agriculture and the food industry. The vast majority of seasonal workers were from Ukraine (Republic of Estonia Ministry of Rural Affairs, 2019).

The agricultural, forestry and fisheries sectors are facing aging workforce. In the age group 15-24, the number of employed has decreased around 3 times compared to the turn of the century. At the same time, the count of people who employed in the age group 50-74 is increasing (Figure 9) (Republic of Estonia Ministry of Rural Affairs, 2019).

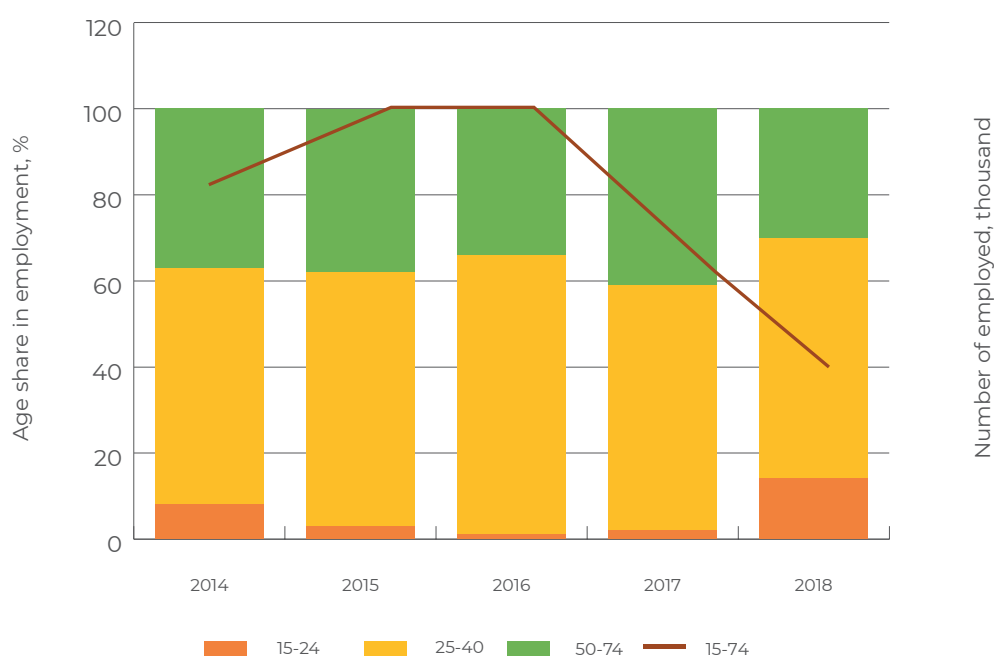


Figure 9. Number and Age Distribution of Employed in Agriculture, Forestry and Fisheries in Estonia, 2014-2018 (Statistics Estonia).

For a continuous and sustainable rural development, living and working in these areas must be more attractive for young people. Supporting generation renewal and involving young people in agricultural activities is very important. From 2015, support for young farmers has been paid. The aim of this is to support young farmers in starting a farm. The support is paid to persons under the age of 40 who are taking up the activity of farm manager for the first time or have set it up for up to five years before the first young farmer applies for support. In 2018, 963 applicants, who used 24,393 hectares of agricultural land, applied for support for a young farmer (Republic of Estonia Ministry of Rural Affairs, 2019).

2.4. Young Population Employment Situation in the Agri-Food Sector in Turkey

The agricultural sector is an area of vital importance but is the area with the lowest employment rates in all economic sectors in Turkey. Despite the increase in total population in Turkey it is steadily decreasing population engaged in agriculture. Particularly among the young population, the employment rate in the agri-food sector remains low. With the development of the industry, employment opportunities increase in these areas, and the rapidly increasing urbanization causes the rural-urban population balance to not be achieved. With the increase in migration from the country to town, the population in rural areas is aging day by day. The change in demographic structure in rural regions and the decrease of youth's interest in activities in the agri-food sector is one of the threats to the agricultural sector.

Table 4. Employment Data In The Agricultural Sector Between 2017-2019 (Thousand People)

Agricultural Employment	2017	2018	2019	Percentage Change (%) 2018-2019
Number of Employees (Thousand)	5.464	5.624	5.392	-4.3%
Percentage of People Working in the Agricultural Sector	%19,4	%19,2	%18,9	-%0,3

Source: The Presidency of the Republic of Turkey, Strategy and Budget Presidency, 2020 Presidential Annual Program

As of 2019, the share of the agricultural sector in Gross Domestic Product (GDP) is 6.2% and the number of people working in this sector over 15 is 5 million 392 thousand people. At the same time, the rate of people working in this sector is 18.9%. The number of people working in the agricultural sector decreased by 232 thousand and showed a decrease rate of 4.3% compared to past year (Table 4) (Presidential Annual Program, 2020)

The young population between the ages of 15 and 29 constitutes 23.2% of the total population (19,322,983 people) (TURKSTAT, 2019). The employment number in all sectors in this age group is 7,354,000 (TurkStat labor force statistics, 2019). When we look at the share of the agricultural sector in total employment, we see that 14% of the youth in the 15-29 age group work in the agricultural sector (Figure 10). It is noteworthy that the agricultural employment rate was around 46% in the 1990s, compared with the current rate of 18.9%, the employment rates in the sector have decreased significantly (Olhan, 2011).

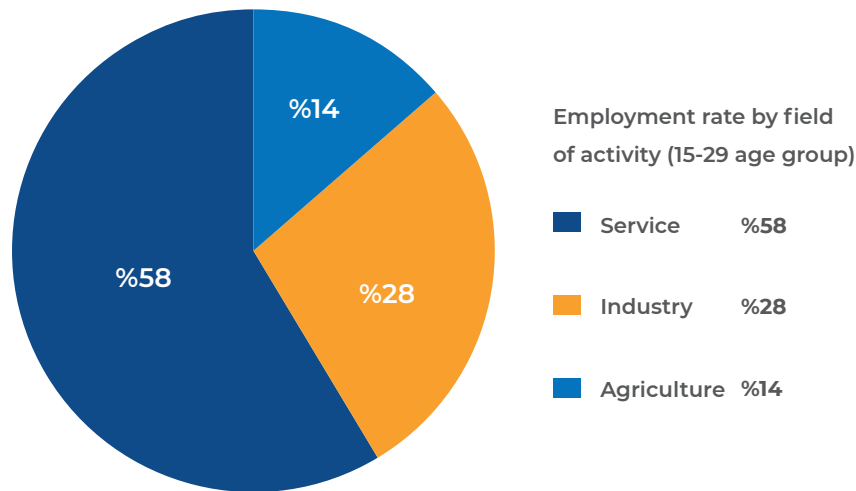


Figure 10. The Employment Rate of Youth in Turkey According to the Field of Activity (15-29 age group) (TurkStat Labor Force Statistics, 2019).

Employment Age in Agriculture Sector	Female (thousand people)	Male (thousand people)	Total Number of People (thousand)	Yüzde Değişim (%) 2018-2019
15-19 age group	142	211	353	-%4,3
20-24 age group	140	191	331	-%0,3
25-29 age group	152	171	322	
Total	434	573	1.006	

Table 5. The Number of People Employed in Agriculture Sector Between The Ages of 15-29 Years (TURKSTAT, 2019).

As in the whole world, employment in the agri-food sector in Turkey is provided as an employer and on its own account, free of charge in the family business or as paid, salaried and casual employee.

However, due to the high unregistered employment rate of unpaid family workers, casual and self-employed people in this sector, young farmers and women cannot benefit from social security protection. For this reason, increasing the registered employment rate will contribute to the young and qualified workforce to operate in agricultural areas. At the same time, supporting entrepreneurship in women and youth will enable the sustainability of family business and increase the activities to be carried out in this field.

Approximately one in five people work in the agricultural sector in Turkey. With the increase in migration from the country to town, the population in rural areas is getting older and the average age of those working in the agricultural sector is increasing. The young population does not prefer to work in the agricultural sector due to the fact that the rural areas in the world and in Turkey are economically and socially lower than the cities and the need to increase the quality of life in these regions. Young people operating in this sector, on the other hand, cannot develop their production capacities, and cannot benefit from modern agricultural techniques and good agricultural practices, as they have limited access to educational/expansion activities and market opportunities. (Güresinli, 2015).

It is not enough to improve social facilities (health, education, housing, social and cultural activities, etc.) and focus only on regional problems in order to enable young people to perform more activities in rural areas. All layers of the agricultural sector should be included in the process. For this purpose, it is essential to enhance the education level of young farmers in order to provide qualified workforce and increase productivity. Meanwhile, increasing registered employment and developing the social and economic situations of those working in the agricultural sector will increase the willingness to work in this sector. (Hekimoğlu and Baş, 2018). In addition, the establishment of a vocational standard for activities carried out in the agri-food sector, the establishment of farming vocational training institutions and the promotion of young people trained in this field will contribute to the creation of a qualified workforce. (Republic of Turkey Ministry of Agriculture and Forestry, 2019).

There is an increase in various state supports, incentives and educational activities so as to bring the young population to the agri-food sector. In this regard, projects for rural young population are increasing. Qualified training programs are prepared by various institutions and organizations under the leadership of the Ministry of Agriculture and Forestry. At the same time, incentives and funds are provided by IPARD (the instrument for pre-accession assistance for rural development) for young farmers under the age of 40.

In addition, it is foreseen that it will provide employment to young farmers with the implementation of green agriculture practices. (Güresinli, 2015). There are model applications for increasing the participation of young people in the agri-food sector in Turkey. A few of these applications are mentioned below.

Agricultural Population is Getting Younger Project

One of the examples of training and extension activities under the leadership of the Ministry of Agriculture and Forestry is the “Agricultural Population is Getting Younger” project. The “Agricultural Population is Getting Younger Project” was put into effect within the scope of the Active Labor Market Programs Cooperation Protocol signed among Ministry of Agriculture and Forestry Training and Publishing Department, Turkish Employment Agency and The Union of Turkish Agricultural Chambers.

Within the scope of this project, it is aimed to bring the young population to agriculture, to increase and professionalize the qualifications of young farmers who will work in the agricultural sector, to ensure that young people follow modern and good agricultural practices and agricultural innovations, and to establish a link between the relevant sector stakeholders and young people in the fields they receive education.

Within the frame of the project, education will be given to the young people between the ages of 15-40 who are at least primary school graduates and rural areas by the Provincial Directorates and In-service Training Centre and at the end of the training, participants will be given a certificate of completion. By means of this document, participants will have received a training certificate, one of the documents required for projects supported by IPARD. At the same time, those who attend these trainings will have an advantage in participating in the Young Farmer Project initiated by the Ministry of Agriculture and Forestry. (Ministry of Agriculture and Forestry, 2020).

Young Farmer Project

The Young Farmer Project was initiated by the Ministry of Agriculture and Forestry for the purpose of agricultural development and employment for young people. Within the scope of supporting rural areas, young farmers between the ages of 18 and 40 who have not benefited from agricultural grants before can benefit from this project. Within the scope of this project, grant support is provided under the main topics of Animal Production, Medicinal and Aromatic Herb Production and Plant Production. As part of the “village return grant”, 16.000 unemployed young farmers who provide the necessary conditions are provided with a 30,000 TL non-refundable grant. With the increase in migration from village to city, demographic structure changes in rural areas. The young farmer project, which aims to return to the village, aims to encourage the young population to work in the agri-food sector and to prevent the rural population from aging (<http://gencciftci.tarim.gov.tr/>).

Experts Hands Projects

Another one of the rural development projects that support the youth's activities in the agri-food sector by the Ministry of Agriculture and Forestry is the "Experts Hands Project". Within the scope of the project carried out by institutions affiliated to the Ministry of Agriculture and Forestry in four pilot provinces (Amasya, Düzce, İzmir, Mardin) in 2019-2020, grant support of up to 100 thousand liras is provided to contribute to rural development, prevent migration from the village to the city and support educated young entrepreneurs. With the support given within the framework of this project, it is aimed to contribute to the employment of educated young people graduated from vocational schools or universities, which provide education in the fields of agriculture, animal husbandry, forestry, food and fisheries (<https://uzmaneller.tarimorman.gov.tr/>).

3. Problems Faced by Youth in Agri-Food Sector

It is obvious that workforces of young people are necessary in agriculture to feed a rising world population. However, people who take part in this sector are facing various problems that have been stated in the literature (Anonymous, 2014);

Access to Education and Training

When it is focused on youth employment, an education and training terms have a key role on this subject. The major problem that rural youth (especially girls) observe is the lack of access to education and training. This situation makes it difficult for them to catch job opportunities in agriculture because they will not have the necessary skills. Nonetheless, other problems confront to educated youth concerning their training got from agricultural schools. Generally, agricultural courses are more theoretical than practical and when young people graduated, they find themselves inefficient in terms of the skills required on the job market.

Access to Land

The another restriction faced by young people is access to land when they want to start a work related to agriculture. Land issues change country to country, based on their policies and schemes.

Access to Finance

Finding financial support is another problem. Many banks are reluctant to give them credits because they see young people as "risky clients".

Access to Markets

Access to markets and suppliers is a problematic issue that youth in rural areas face and this situation avoids them earning money from agriculture.

Limited Job Opportunities For Educated Youth

Youth who graduated from agricultural sciences are now finding themselves in a situation where no good job is available for them in the sector. Consequently, they start looking for a job in other sectors and this means that workforce that can be used in agriculture is losing. Furthermore, most of the people who work in the agricultural sector do not have a degree related to agricultural sciences and they get low-salary. These factors make youth demotivated. This circumstance direct other youth not to select agricultural sciences because they do not want to experience some difficulties.

Lack of Incentives and Opportunities

Young people are generally encouraged to start up an agri-food business and become entrepreneurs. However, incentives and opportunities should be provided in order to help them for starting these activities, which are present in national policies or schemes. It is clear that there is a need to make an investment in education, advocate agricultural innovation, construct market infrastructure, develop the business environment and expand the agriculture value-chain and make agricultural activity more attractive for youth. An ageing population is a big problem in the EU farming sector. In the EU, only 11% of farm managers were under the age of 40 years. According to surveys, although the EU assists young farmers for more than 30 years, the “young farmer problem” continues (Michalopoulos, 2019). Hence, in order to solve this problem, challenges that they faced should be determined at first. Survey that is given at the end of this material was sent to the project partners. Then, project partners delivered this survey to target groups (unemployed youth, future farmers, agri-food professionals, local authorities, NEETs, students at high-school or university etc.) in their country and they requested to fill the survey.

3.1. Results of the Survey Conducted Within the Scope of the Research

The survey contains 40 questions (total) about personal information, problems and needs of young people working or wanting to work in the agri-food sector.

The survey contains 40 questions (total) about personal information, problems and needs of young people working or wanting to work in the agri-food sector. In total, 165 people (57% men) was filled the survey from Turkey, Spain and Estonia. 81.2% of the attenders were between the ages of 18-24 and 10.9% of the attenders were between the ages of 25-34. 60% of them graduated from university and 35% of them were high-school graduate. 20% of attenders were having a job in agri-food sector and their monthly income was mostly between 1500-4000 TL in Turkey and 1000-2000 Euro in EU countries. Most of the people surveyed stated that internet environment, chamber of agriculture & cooperatives and universities & technological centres were their main source of information on agri-food sector and 85.7% of them stated that they would prefer digital/online learning method (Figure 11).

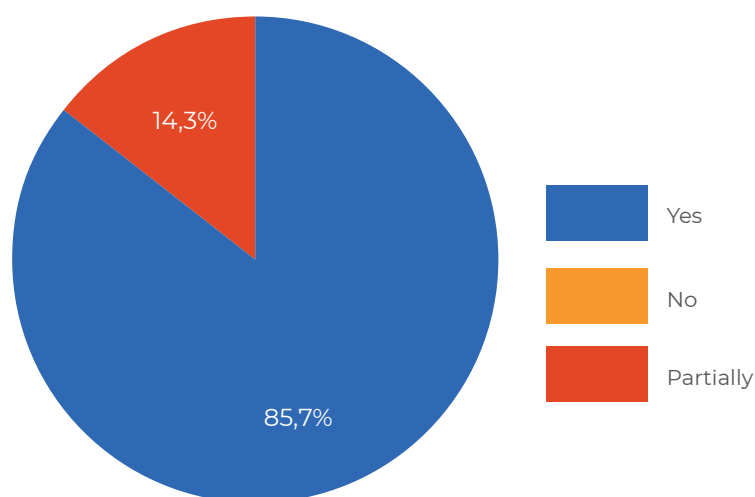


Figure 11. Pie Chart of Percentage of Total Persons According to Their Digital/Online Learning Preferences

According to the survey, a total of 91 participants (55%) had no or limited information about standards and regulations of good agriculture practices (GAP). 48% of them said that they do not have any information about precision farming. Also, it was seen that 77% of them did not attend any organization (fair, seminar etc.) related to GAP and precision farming. Nobody was able to specify an application they have done within the scope of GAP and precision farming. A total of 54% of them thought that the training materials related to GAP and precision farming was not satisfactory or partially satisfactory. In total, 67% of them said that they could not or could partially access the training materials about GAP and precision farming. Half of the participants stated that not being competent in GAP and precision farming decreased their self-confidence to start a business related to the agri-food sector. As can be seen from answers, one of the challenge that young people face to start agri-food business is **insufficient information on GAP and precision farming.**

Moreover, a total of 65% and 52% of participants had no or partial information about agri-food marketing channels and strategies, and agri-food marketing regulations, respectively. Similarly, a total of 94 persons (57%) had no or limited information about the internal and external factors that affect the marketing environment. As a total, 58% of them thought that training materials related to agri-food marketing were insufficient and partially sufficient and more than 60% stated that they could not or partially access training materials about agri-food marketing. A total of 50% of them stated that not being competent in agri-food marketing decreased or partially decreased your self-confidence to start a business related to the agri-food sector. These results showed us that the other challenge is **insufficient knowledge about agri-food marketing**.

According to the survey, in total, 48% of the participants had no or partial entrepreneurial spirit in the agricultural field. A total of 85.7% of them had no or partial information about agricultural entrepreneurship opportunities and government support for entrepreneurs (Figure 12). Also, a total of 85% of them had insufficient or partial insufficient foreign language knowledge to trade agri-food products internationally. 111 participants (67%) did not attend any organizations (fairs, seminars etc.) related to agricultural entrepreneurship. In total, 70% of them thought that not being competent in agricultural entrepreneurship decreased or partially decreased their self-confidence to start a business related to the agri-food sector. The other challenge is that young people have **a low entrepreneurial skills with regards to agri-food sector**.

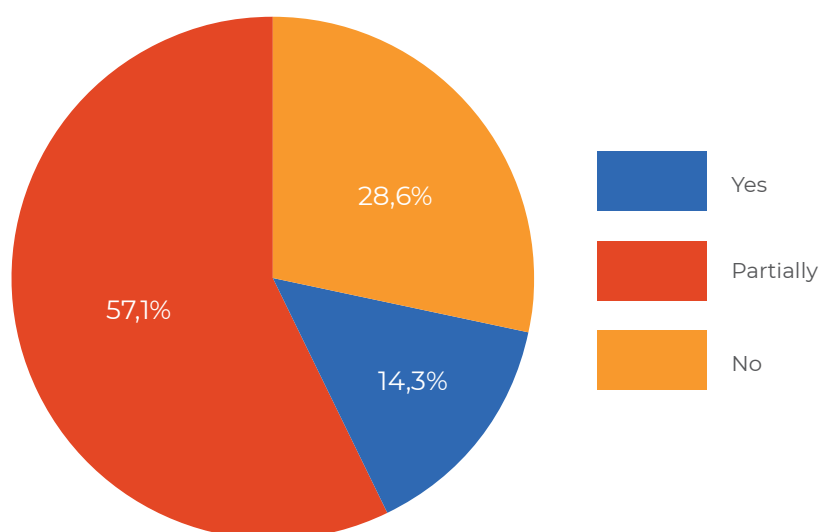


Figure 12. Pie Chart of Percentage of Total Persons According to Whether They Have Information about Agricultural Entrepreneurship Opportunities and Government Support for Entrepreneurs

In total, 63% of participants had no or partial information about the importance and procedures of food safety. A total of 70% of them had insufficient and partial insufficient knowledge about traditional food processing technologies and 27% of them do not know how to pack the produced food. 116 persons (70%) did not attend any organizations related to food safety and food processing technologies. 30% of them thought that training materials related to food safety and food processing technologies was insufficient. In total, 43% of them could not access or partially access training materials about food safety and food processing. 32% of them stated that not being competent in food safety and food processing decreased their self-confidence to start a business related to the agri-food sector. These results indicated that there is **a limited information and skills about food safety and food processing among youth.**

In total, 48% of participants had no or limited information about value adding to agricultural products. As a total of 60% of them did not know or partially know processing technologies that will increase the added value of agricultural products. 92 participants (56%) did not know or partially know value-added agricultural food products with high export potential. A considerable number of attenders thought that training materials related to obtaining high value added food products from agricultural crops were insufficient and they could hardly access training materials about obtaining high value added food products from agricultural crops. Half of them stated that not being competent in high value-added agricultural food products and processing technologies decreased their self-confidence to start a business related to the agri-food sector. **Insufficient information about value-added food products is another challenge.**

4. Description of Social Exclusion

No single accepted describing of the social exclusion concept exists because this term is defined in different ways in literature. Social exclusion shows up because of several reasons; these are economic reasons like unemployment, lack of income and assets; individual causes like low education and gender; social and institutional causes and political reasons like not being able to benefit from political rights and to participate in political decision-making mechanisms. The person, who is excluded owing to one or more of these reasons, faces some problems at the social and individual level and is exposed to inequality. As in many countries in the world, young people in the disadvantaged group in EU countries face the risk of social exclusion due to unemployment. Thus, the state should provide the necessary social protection and support to individuals who are in bad economic condition and cannot get enough support from their social environment. Social exclusion can be reduced by ensuring social justice and cooperation (Şahin & Çoşkun, 2009).

5. Description and Objectives of the Project

AGRI-FOOD project aims to provide the target groups (i.e. unemployed youth, future farmers, agri-food professionals, local authorities, NEETs, students at high-school or university etc.) with marketable skills, in order to improve competences and opportunities. It aims to increase employability of young people belonging to NEETs (up to 30 years old) interested to work in agri-food sector. Expected results are encouraged youth to go in the labour market, increased employability of youth especially those belonging to the NEETs; obtaining innovative training materials proposing skills required by the labour market; offering training activities jointly designed by the partners involved and targeted to youths, promotion of social inclusion, preventing migration towards big cities, supported agricultural sustainability and making farming activities more attractive for youth.

The process of improving the terms for individuals and groups to take part in society is defined as social inclusion. Young people facing the risk of social exclusion due to fewer opportunities and unemployment are the main group that this project is targeted to. Outputs of the project will provide them an opportunity to have a positive impact in their society and feel included. It is known that social exclusion leads long-term damage to the living conditions, social and economic participation and health status of youth. Youth work may prevent or amend this bad circle. By offering young people targeted support, opportunities for non-formal learning, information on health and wellbeing, and opportunities for positive integration into the local community, youth workers may decrease the further social exclusion risks.

Poor employment prospects, job quality, health outcomes and economic opportunities threat youth between the ages of 15 to 24 (constituting 1/4 of the world's population) (EC, 2020).

- In 2019, above 3.3 million youth (aged 15-24 years) were unemployed in the EU.
- In the EU, above 5.5 million youth (aged 15-24 years) were NEETs in 2018
- Even though there is a decrease (from 24% in 2013 to less than 15% in 2019), the youth unemployment rate is still very high in the Europe.
- Economic growth and better living conditions can be obtained by helping youth to enter and stay in the labour market.
- Youth face specific problems in the crossing from school to work. New graduates hardly find a job or are often employed on temporary contracts.
- Youth are easily kicked out when the economic cycle is weak.
- The economy importantly influences the levels of youth unemployment.
- Structural problems include unsatisfactory outcomes in education and training, segmentation of labour markets affecting young people.

6. General Evaluation and Conclusion

The global youth unemployment is rising and higher than 40% of the world's active young population is either unemployed or living in poverty despite having a job. Youth inclusion is a critical social, economic and political matter. It is clear that 600 million jobs are necessary over the next ten years to absorb currently unemployed persons and provide job opportunities for the 40 million young people getting in the labour market every year (EBRD, 2020).

The agri-food sector has a big potential to generate job opportunities for youth. Due to urbanization and changing diets, new ways to process, market and consume foods become necessary, thus agriculture may provide more job opportunities for youth. Nevertheless, rural youth are leaving small farming at such alarming rates due to several reasons. Governments or relevant bodies should provide appropriate education and training and need to polish image of this sector in order to attract more young people. Similarly, a survey conducted showed that young people need to develop their skills and competencies related to agri-food sector. The survey highlighted training needs of young people about GAP and precision farming, agri-food marketing, agricultural entrepreneurship, food safety and traditional food processing technologies, value-added food products from fruits and vegetables.

When young people have increased their knowledge and skills about this sector, more and better farms and firms will be created and relevant sectors in agri-business, land management and agricultural engineering will also develop. Agricultural exports will aid create jobs throughout the entire value chain such as family farms, cooperatives and small and medium enterprises. In parallel, the social exclusion of youth in Europe will be decreased.

“Enhancing social inclusion of youth through employment in agri-food sector (AGRI-FOOD)” project results will be presented on the electronic platform and in the form of printed publications for the use of sector employees and the target groups. Multiplier events (workshop on agricultural entrepreneurship, workshop on food safety and good agricultural practices and final dissemination conference) will be organized in order to share and disseminate the intellectual output realized within the scope of the project. Furthermore, intellectual outputs will be transferred to a learning model that can be accessed electronically for use in the education of target groups. It is expected that prepared training materials will help youth for finding jobs in agri-food sector by improving their job-related skills. This means that social inclusion of youth in Europe will be promoted.

ANNEX

AGRI - FOOD PROJECT SURVEY

In cooperation with partners from European countries (TFTAK in Estonia and CTC in Spain) and Turkey (GDAR and CRIFFC), TARIMAS is carrying out a project supported by the Union (Enhancing Social Inclusion of Youth Through Employment in Agri-Food Sector [AGRI-FOOD] 2019-3-TR01-KA205-079155). We ask you to answer some of our questions under this project. Questions are asked to identify the problems and needs of young people working or wanting to work in the agri-food sector.

The survey results will be used to contribute to increasing social participation of young people by employing them in the agri-food sector in the European Union.

Your opinion is important for our findings. All information that we collect will be evaluated confidentially and anonymously.

Gender

- Woman
- Man

How old are you?

- 18-24
- 25-34
- 35-44
- 45-54
- 55 and above

What is your country?

- Turkey
- Spain
- Estonia

What is your education level?

- Primary school
- Secondary school
- High school
- University
- Professional training

Do you have a job in the agri food sector?

- Yes
- No

If yes, What is your monthly income?

- 500 Euro or below
- 501-1000 Euro
- 1001-2000 Euro
- 2001-3000 Euro
- 3001 Euro or above

What are your sources of information on agri-food sector?

- Universities, Technological centres
- Internet environment
- Chamber of agriculture, agricultural associations, cooperatives
- Provincial / district directorates of agriculture
- Technical staff of company
- Other

Do you have any information about standards and regulations of good agriculture practices (GAP)?

- Yes
- Partially
- No

Do you have any information about precision farming?

- Yes
- Partially
- No

Did you attend any organization (fair, seminar etc.) related to GAP and precision farming?

- Yes
- No

Do you have any application in the scope of GAP and precision farming?

- Yes
- No

If your answer is yes for previous question, what are they?

Are the training materials related to GAP and precision farming satisfactory?

- Yes
- Partially
- No

Can you access the training materials about GAP and precision farming?

- Yes
- Partially
- No

Does not being competent in GAP and precision farming decrease your self-confidence to start a business related to the agri-food sector?

- Yes
- Partially
- No

Do you have any information about agri-food marketing channels and strategies?

- Yes
- Partially
- No

Do you have any information about agri-food marketing regulations?

- Yes
- Partially
- No

Do you have any information about the internal and external factors that affect the marketing environment?

- Yes
- Partially
- No

Are training materials related to agri-food marketing sufficient?

- Yes
- Partially
- No

Does not being competent in agri-food marketing decrease your self-confidence to start a business related to the agri-food sector?

- Yes
- Partially
- No

Do you have an entrepreneurial spirit in the agricultural field?

- Yes
- Partially
- No

Do you have any information about agricultural entrepreneurship opportunities and government support for entrepreneurs?

- Yes
- Partially
- No

Do you have sufficient foreign language knowledge to trade agri-food products internationally?

- Yes
- Partially
- No

Did you attend any organizations (fairs, seminars etc.) related to agricultural entrepreneurship?

- Yes
- No

Does not being competent in agricultural entrepreneurship decrease your self-confidence to start a business related to the agri-food sector?

- Yes
- Partially
- No

Do you have any information about the importance and procedures of food safety?

- Yes
- Partially
- No

Do you have sufficient knowledge about traditional food processing technologies?

- Yes
- Partially
- No

Did you attend an organization (fair, seminar, etc.) related to food safety and food processing technologies?

- Yes
- Partially
- No

Are training materials related to food safety and food technologies sufficient?

- Yes
- Partially
- No

Can you access training materials about food safety and food processing technologies?

- Yes
- Partially
- No

Does not being competent in food safety and food processing decrease your self-confidence to start a business related to the agri-food sector?

- Yes
- Partially
- No

Do you know what it means to value adding to agricultural products?

- Yes
- Partially
- No

Do you know processing technologies that will increase the added value of agricultural products?

- Yes
- Partially
- No

Do you know value-added agricultural food products with high export potential?

- Yes
- Partially
- No

Are training materials related to obtaining high value added food products from agricultural crops sufficient?

- Yes
- Partially
- No

Can you access training materials about obtaining high value added food products from agricultural crops?

- Yes
- Partially
- No

Does not being competent in high value-added agricultural inod products and processing technologies decrease your self-confidence to start a business related to the agri-food sector?

- Yes
- Partially
- No

Would you prefer digital / online learning method?

- Yes
- Partially
- No

REFERENCES

Ahuja, K. and Rawat, A. (2019). Processed Fruits and Vegetables Market Size. <https://www.gminsights.com/industry-analysis/processed-fruits-and-vegetables-market>

Aksoy, A. and Kaymak, H. Ç. (2016). Outlook on Turkish Tomato Sector. *Iğdır Üniversitesi Fen Bilimleri Enstitüsü Dergisi*, 6(2), 121-129.

Allen, A., Howard, J., Kondo, M. (2016). Agrifood Youth Employment and Engagement Study (AGYEES). Michigan State University. https://www.isp.msu.edu/files//4814/7249/7008/AgYees_Report_FINAL_web.pdf

Anonymous (2014). Challenges faced by youth in agriculture. <https://youngfarmersfoundation.wordpress.com/2014/02/13/challenges-faced-by-youth-in-agriculture/>

Anonymous (2016). Futures of food provision four possible scenarios for the AgriFood industry. <https://www.pwc.com.tr/tr/publications/industrial/retail-consumer/pdf/futures-of-food-provision.pdf>

Anonymous (2018a). Global bread and bakery consumption continues to experience modest growth. <https://www.bizcommunity.com/Article/1/162/176273.html>

Anonymous (2018b). Taking a look at the Turkish Food & Drink Industry. <https://www.worldfood-istanbul.com/Articles/taking-a-look-at-the-turkish-food-drink-indus>

Anonymous (2019a). Turkey seeks to boost tomato exports to \$1 billion. <https://www.hurriyetdailynews.com/turkey-seeks-to-boost-tomato-exports-to-1-billion-143987>

Anonymous (2019b). Turkey Dairy Sector. <https://idfwds2019.com/en/turkey-dairy-sector>

Anonymous (2020a). Global Fruit & Vegetable industry trends (2015-2020). <https://www.ibisworld.com/global/market-research-reports/global-fruit-vegetable-processing-industry/>

Anonymous (2020b). Worldwide: Spice production increasing. <https://www.freshplaza.com/article/2127205/worldwide-spice-production-increasing/>

BBM (2020). World Pasta Market and Turkey. <http://www.magazinebbm.com/english/world-pasta-market-and-turkey/.html>

Bedford, E. (2020). Non-alcoholic beverage consumption worldwide 2011-2021. <https://www.statista.com/statistics/724438/non-alcoholic-beverage-consumption-worldwide/>

Berners-Lee, M., Kennelly, C., Watson, R., Hewitt, C.N. (2018). Current global food production is sufficient to meet human nutritional needs in 2050 provided there is radical societal adaptation. *Elem Sci Anth*, 6(1).

- CTCN (2020). Improvement of Agri-food processes. <https://www.ctc-n.org/technologies/improvement-agri-food-processes>
- Celik, S. (2017). Investigation of Red Meat Production in Turkey by ANOM Test. *Journal of Agricultural Science and Technology A* 7:209-213.
- Duyum, S. (2019). Turkey Poultry and Products Annual 2019. Gain Report Number: TR9021
- EC (2020). Youth employment. https://ec.europa.eu/info/index_en
- EBRD (2020). Youth inclusion. <https://www.ebrd.com/what-we-do/projects-and-sectors/youth-and-inclusion.html#:~:text=600%20million%20productive%20jobs%20are,and%20a%20social%20time%20bomb.>
- European Commission. (2020). Young Farmers: Young People in Farming. https://ec.europa.eu/info/food-farming-fisheries/key-policies/common-agricultural-policy/income-support/young-farmers_en
- Eurostat Statistics. (2018). Farmers and the agricultural labour force – statistics. https://ec.europa.eu/eurostat/statistics-explained/index.php/Farmers_and_the_agricultural_labour_force_-_statistics
- Eurostat. (2019). Sustainable Development in the European Union: Overview of Progress Towards SDGs in an EU Context. Luxembourg: Publication Office of the European Union.
- Eurostat. (2020). Youth Employment Rate, Age Group 20-29. <https://ec.europa.eu/eurostat/databrowser/view/tesem070/default/table?lang=en>
- Erdogan, C. (2019). Turkey's Advanced Food Sector Provides Opportunities in Spite of Economic Downturn. Gain Report.
- FAO (2009). How to Feed the World in 2050. http://www.fao.org/fileadmin/templates/wsfs/docs/expert_paper/How_to_Feed_the_World_in_2050.pdf accessed 13/09/17
- FAO (2019a). Overview of global dairy market developments in 2018. <http://www.fao.org/3/ca3879en/ca3879en.pdf>
- FAO (2019b). Livestock Primary. <http://www.fao.org/faostat/en/#data/QL>
- FAO (2020). FAO Cereal Supply and Demand Brief. <http://www.fao.org/worldfoodsituation//csdb/en/>
- FAO Case Study Series 4. (2014). FAO, private and public partnership model for youth employment in agriculture Experiences from Malawi, Tanzania Mainland and Zanzibar archipelago. Rome. <http://www.fao.org/3/a-i4118e.pdf>
- Hekimoğlu, B. & Baş, E. (2018). Ülkemizde ve Samsun'da Tarımsal Değişimler: Tarımsal İstihdam İçin Öneriler. https://samsun.tarimorman.gov.tr/Belgeler/Yayinlar/Tarimsal_strateji/Tarimsal_istihdam_i%C3%A7in_oneriler.pdf
- Huhn, P. (2018). Production of meat and poultry meat products revenue in Turkey 2013-2022. <https://www.statista.com/forecasts/413694/production-of-meat-and-poultry-meat-products-revenue-in-turkey>

Görmüş, A. (2019). "Türkiye'de Tarımsal İstihdamın Cinsiyete Dayalı Yapısı ve Sosyal Politika Önerileri.". Eskişehir Osmangazi Üniversitesi İİBF Dergisi, 14(3), 563-578.

Grande, M.J.G., Morales, J. M. L. (2015). The Agri-Food trade in Spain: specialization and international competition.

Grun, R., Çapar, S. & Aran, M. et al. (2013). Türkiye'de İyi İşler. Dünya Bankası ve T.C. Kalkınma Bakanlığı. 83818-TR.

Cüresinli, S.B. (2015). Tarım Sektöründe Aile Çiftçiliği, Kadın ve Genç İstihdamı Üzerine Bir Değerlendirme. AB Uzmanlık Tezi, T.C. Gıda, Tarım ve Hayvancılık Bakanlığı AB ve Dış İlişkiler Genel Müdürlüğü, Ankara.

IGEME (Export Promotion Center of Turkey) (2009). Turkish Agriculture and Food Industry. <http://www.samrioglu.com/pdf/Turkish-agr-food-industry.pdf>

ILOSTAT Explorer. (2019). Employment Distribution By Economic Activity. https://www.ilo.org/shinyapps/bulkexplorer33/?lang=en&segment=indicator&id=EMP_2EMP_SEX_GEO_ECO_DT_A

ILOSTAT. (2020). Employment. https://www.ilo.org/ilostat-files/Documents/Stats_sheet_employment_EN.pdf

ILO (2020a). Global Employment Trends for Youth 2020: Technology and the future of jobs. Geneva: ILO

ILO (2020b). World Employment and Social Outlook: Trends 2020, ILO Flagship Report, Geneva. https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_734455.pdf

İslamoğlu, E., Elif Alp. (2019). "Türkiye'de Okuldan İşe Geçiş: TÜİK'in Gençlerin İşgücü Piyasasına Geçiş Araştırma Sonuçları Üzerine Bir Değerlendirme." Sosyal Güvenlik Dergisi, 9(1), 103-121.

ITEFood & Drink (2017). 5 products winning big on Turkey's food import market. <http://www.food-exhibitions.com/Market-Insights/Turkey-and-Eurasia/5-products-winning-big-Turkey-food-import-market>

Kirova, M., Montanari, F., Ferreira, I., Pesce, M., Albuquerque, J.D. et. al. (2019). Research for AGRI Committee-Megatrends in the agri-food sector, European Parliament, Policy Department for Structural and Cohesion Policies, Brussels.

Lyons, J. (2019). 7 global trends impacting food processing. <https://www.rentokil.com/blog/food-processing-trends/#.XnqQRqgzbIV>

Market Research Report (2019). Non-alcoholic Drinks Market Size, Share & Trends Analysis Report By Product (Soft Drinks, Functional Drinks), By Distribution Channel (Offline, Online), And Segment Forecasts, 2019 – 2025.

Market Report (2017). Global Market Study on Non-alcoholic Beverages: North America to Register a High Value CAGR During the Forecast Period 2017-2027. Persistence Market Research.

MarketWatch (2019). Global Processed Food Market 2019 Industry Size, Trends, Global Growth, Insights and Influence Factors Shared in Latest Report 2025. <https://www.marketwatch.com/press-release/global-processed-food-market-2019-industry-size-trends-global-growth-insights-and-influence-factors-shared-in-latest-report-2025-2019-05-14>

Maverick, J.B. (2019). The 4 Countries that Produce the Most Chocolate. <https://www.investopedia.com/articles/investing/093015/4-countries-produce-most-chocolate.asp>

Michalopoulos, S. (2019). Young people and women in EU farming. https://www.euractiv.com/section/agriculture-food/special_report/young-people-and-women-in-eu-farming/

Ministry of Rural Affairs. (2019). Agriculture, fisheries and food industry overview 2018. <https://www.agri.ee/sites/default/files/content/ylevaated/ulevaade-pokat-2018.pdf>.

Ministry of Rural Affairs. (2019). Food, agriculture, rural affairs, fisheries. <https://www.agri.ee/sites/default/files/content/valjaanded/valjaanne-2019-messitrukis-eng.pdf>.

Ministry of Rural Affairs. (2020). Foreign trade in agricultural products and foodstuffs 2019. <https://www.agri.ee/sites/default/files/content/ylevaated/valiskaubandus-2019-04.pdf>.

Mordor Intelligence (2019). Pickles and pickle products market-growth, trends, and forecast (2020-2025). <https://www.mordorintelligence.com/industry-reports/pickles-and-pickle-products-market>

OECD/FAO (2018). Oilseeds and oilseeds products. OECD-FAO Agricultural Outlook 2018-2027.

Olhan, E. (2011). "BM Ortak Programı Herkes İçin İnsana Yakışır İş: Ulusal Gençlik İstihdam Programı ve Antalya Pilot Bölge Uygulaması", Türkiye'de Kırsal İstihdamın Yapısı. MDG, FAO, İŞKUR.

Rawal, V., Navarro, D. K. (2019). The Global Economy of Pulses. Rome, FAO.

Rastoin, J.L. (2012). The agri-food industry at the heart of global food system. <http://regardssurlaterre.com/en/agri-food-industry-heart-global-food-system>

Regazzi, D., Camanzi, L., Malorgio, G. (2003). Agri-food Turkish trade: structure, competitiveness and relations with the EU. Mediterranean Journal of Economics, Agriculture and Environment.

Republic of Estonia Ministry of Rural Affairs. (2019). Estonian Land, Lives and Nourishes: Food, Agriculture, Rural Affairs, Fisheries. Tallinn. <https://www.agri.ee/sites/default/files/content/valjaanded/valjaanne-2019-messitrukis-eng.pdf>

Research and Markets (2017). Growth Opportunities in the Global Beverage Market. <https://www.researchandmarkets.com/reports/4171584/growth-opportunities-in-the-global-beverage-market>

Research and Market (2020). Food and Beverage Market Research Reports. <https://www.researchandmarkets.com/categories/food-beverage>

Resmi Gazete. (24.03.2018). Kırsal Kalkınma Destekleri Kapsamında Genç Çiftçilerin Desteklenmesi Hakkında Tebliğ. Gıda, Tarım ve Hayvancılık Bakanlığı, 303707 <https://www.resmigazete.gov.tr/eskiler/2018/03/20180324-14.htm>

Rios, J.J. (2019). Generational Renewal Report. Euractive. Special Report. <https://eurac.tv/9R3N>

Ross, S. (2019). 4 Countries That Produce the Most Food. <https://www.investopedia.com/articles/investing/100615/4-countries-produce-most-food.asp>

Schuh, B. et al. (2019), Research for AGRI Committee – The EU farming employment: current challenges and future prospects, European Parliament, Policy Department for Structural and Cohesion Policies, Brussels.

Shahbandeh, M. (2019). Global Meat Industry - Statistics & Facts. <https://www.statista.com/topics/4880/global-meat-industry/>

Shahbandeh, M. (2020). Vegetable oils: production worldwide 2012/13-2019/20, by type. <https://www.statista.com/statistics/263933/production-of-vegetable-oils-worldwide-since-2000/>

Sousa, M., Moreno, R., Zafra, A. (2019). How the food sector can help reduce youth unemployment in European medium-sized cities. Urbact. <https://urbact.eu/how-food-sector-can-help-reduce-youth-unemployment-european-medium-sized-cities>

Statista (2020). Bread & Bakery Products in Turkey. <https://www.statista.com/outlook/40050000/113/bread-bakery-products/turkey#market-marketDriver>

Statistics Estonia. (2020). Agriculture. <https://www.stat.ee/en>

Şahin, T., & Coşkun, S. (2009). Sosyal dışlanma ve yoksulluk ilişkisi. Başbakanlık Sosyal Yardımlaşma ve Dayanışma Genel Müdürlüğü.

Tănasă, L., Brumă, I. S., Doboş, S. (2016). Merchandizing Agri-Food Products By Means Of Short Food Supply Chains In Mureş County. Agricultural Economics and Rural Development, 13(1), 35-57.

T.C. Cumhurbaşkanlığı Strateji ve Bütçe Başkanlığı. (2019). 2020 Cumhurbaşkanlığı Yıllık Raporu. Karar:1733. http://www.sbb.gov.tr/wp-content/uploads/2019/11/2020_Yili_Cumhurbaskanligi_Yillik_Programi.pdf

T.C. Gıda, Tarım ve Hayvancılık Bakanlığı. (2017). 2018-2022 Stratejik Plan. <https://www.tarimorman.gov.tr/SGB/Belgeler/2013-2017/GTHB%202018-2022%20STRATEJI%CC%87K%20PLAN.PDF>

T.C. Tarım ve Orman Bakanlığı Eğitim ve Yayın Dairesi Başkanlığı (2013). Tarımsal Nüfus Gençleşiyor Projesi. <https://www.tarimorman.gov.tr/EYYDB/Sayfalar/Detay.aspx?OgId=18Liste=Haber>

T.C. Tarım ve Orman Bakanlığı. (2019). Tarım Orman Şurası Sonuç Bildirgesi. <https://www.tarimorman.gov.tr/Haber/4207/3-Tarim-Orman-Surasi-Sonuc-Bildirgesi>

T.C. Tarım ve Orman Bakanlığı a. (2020). Genç Çiftçi Projesi. <http://gencciftci.tarim.gov.tr/>

T.C. Tarım ve Orman Bakanlığı b. (2020). Kırsal Kalkınmada Uzman Eller Projesi. <https://uzmaneller.tarimorman.gov.tr/>

The Global Economy. (2020). Employment in Agriculture in the European Union. https://www.theglobaleconomy.com/rankings/employment_in_agriculture/European-union/

The World Bank. (2020). Employment in agriculture (% of total employment) (modeled ILO estimate). <https://data.worldbank.org/indicator/SL.AGR.EMPL.ZS>

TOBB. (2013). Türkiye Tarım Sektörü Raporu. https://www.tobb.org.tr/Documents/yayinlar/2014/turkiye_tarim_meclisi_sektor_raporu_2013_int.pdf

Trading Economics. (2020). Turkey- Employment in Agriculture. <https://tradingeconomics.com/turkey/employment-in-agriculture-percent-of-total-employment-wb-data.html>

TUIK (2018). Fishery Products. <http://www.turkstat.gov.tr/HbPrint.do?id=27669>

TUIK (2020a). Adrese Dayalı Nüfus Kayıt Sistemi Sonuçları. <https://biruni.tuik.gov.tr/medas/?kn=95&locale=tr>

TUIK (2020b). İşgücü İstatistikleri. <https://biruni.tuik.gov.tr/medas/?kn=72&locale=tr>

Turkey Ministry of Agriculture and Forestry (2019). Turkey is a world leader in production and export of four agricultural product. <https://www.tarimorman.gov.tr/News/4045/Turkey-Is-A-World-Leader-In-Production-And-Export-Of-Four-Agricultural-Product>

UNDP. (2011). Human Development Report 2011. Sustainability and Equity: A Better Future for All. New York: Palgrave Macmillan.

UNO (2017). Bread Waste. <http://www.comcec.org/en/wp-content/uploads/2017/02/9-AGR-PRE-7-3.pdf>

USDA (2019). Sugar: World Markets and Trade. <https://apps.fas.usda.gov/psdonline/circulars/sugar.pdf>

World Integrated Trade Solution (WITS) (2018). Turkey Food Products Exports by Country 2018.

Workman, D. (2020). Top Pasta Exporters by Country. <http://www.worldstopexports.com/top-pasta-exporters-by-country/>





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