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EUROPEAN CHALLENGES FOR AGRICULTURE AND FOOD

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Abstract
Human existence depends to a large extent on a continuous supply of food from a well-functioning natural environment. This is achieved through a sustainable agri-food sector producing diverse and high-quality foods. Although agriculture and food continue to be a priority for the economy, they are undergoing rapid change due to climate change, pollution and biodiversity loss. Growing political and economic tensions worldwide are further intensifying the challenges facing European farmers and all actors in the agri-food chain.
More than ever, a new vision and decisive action are needed to address these challenges. The transition must be directed towards more resilient, sustainable, competitive, profitable and equitable agri-food systems. Building an economically, socially and ecologically balanced system involves optimizing benefits in terms of sustainability, resilience, profitability and a responsible attitude of all actors along the chain, together with the rural community, citizens and local institutions. The future of the agri-food sector is built on several priority areas related to simplifying the regulatory framework that impacts farmers and the entire value chain, and innovations that offer effective solutions for a faster transition to a sustainable transition.
This report aims to outline the European challenges for the future development of agriculture and food. *In this regard, to achieve the set goal, a general review of the literature is carried out, European and strategic documents related to the vision for agriculture and food are analyzed in connection with the construction of a future European food and beverage sector.* This is crucial for ensuring sustainable European agriculture and food security, supporting and stabilizing farmers' incomes, creating opportunities for fair living and working conditions and encouraging young people to develop entrepreneurial activity in rural areas.
As a result of the research conducted, it was found that the new vision for agriculture and food outlined in four main priority areas is of key importance for achieving long-term competitiveness and sustainability of the sector, making it significant for the European economy. The application of research and innovation in agriculture will undoubtedly lead to increased sustainability and efficiency of European farms in rural areas.

Key words: agri-food sector, agriculture, food, challenges, sustainability.
JEL: O13, Q01, Q56

Introduction

Agriculture and food continue to be at the heart of European living conditions. Strategic sectors such as agriculture and food, as well as fisheries and aquaculture, provide safe and healthy food for many people around the world and play a crucial role in food security. They are key to maintaining viable and economically viable rural and coastal areas. Rural areas provide shelter for 25% of the EU population,

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covering 75% of its territory with the main task of reducing rural depopulation. At the same time, it can be said that agriculture and fishing have a very strong connection with the natural environment. For example, farmers and fishermen are guardians of nature, who are a vital part of the solutions related to the sustainability and protection of the components of the environment – soils, water, air, biodiversity, oceans and climate. The development of innovative technologies creates more sustainable business models, making the transition profitable, not only for farmers and fishermen, but also for nature and the environment (European Commission. A Vision for Agriculture and Food. Shaping together an attractive farming and agri-food sector for future generations, 2025).

The publication aims to outline the European challenges for the future development of agriculture and food. In this regard, to achieve the set goal, a general review of the literature is carried out, European and strategic documents related to the vision for agriculture and food are analyzed in connection with the construction of a future European food and beverage sector.

Today, agriculture is going through difficult structural transformations. According to Eurostat, only 12% of farmers in the EU are under 40 years of age. In recent years, although per capita income among those employed in agriculture has been increasing, it has remained much lower than the average growth in the rest of the economy. This directly reflects on the livelihoods of farmers and reduces their ability to make investments, plan, seek and implement innovative solutions in agriculture.

Although more and more young people are interested in pursuing a career in agriculture, and some of them continue to successfully manage family farms, this sector faces a number of difficulties and challenges. Some of the main factors negatively affecting agriculture are related to demographic changes, the political situation in the country, bureaucratic burdens, low profitability, gender inequality and uncertain incomes for farmers. It is therefore essential that the EU recognises the vital role of farmers who choose to work in this sector, which feeds entire families, the population and provides a range of benefits for society and the economy. This is why new challenges and opportunities for the future development of agriculture, food and farmers must be a priority for every EU Member State (Strategic Dialogue on the Future of EU Agriculture. A Shared Vision for Farming and Food in Europe, 2024).

Methodology

The presented report is based on publicly available information and includes analysis of European and strategic documents. General scientific research methods necessary to achieve the final conclusions were used – literature review, analysis and synthesis, part of the information is illustrated in the form of a figure. The focus

of the publication is mainly on presenting the positive aspects of the vision for agriculture and food outlined in four priority areas related to research, new technologies, innovation and digitalization. The scope of the analysis is at the European level.

Results and Discussions

The Common Agricultural Policy (CAP) after 2027 has a key role in the next EU budget to deliver on the strategic guidelines set out in the vision for agriculture and food (https://agriculture.ec.europa.eu/common-agricultural-policy/cap-overview/cap-post-2027-next-eu-budget_en). A simpler and more forward-looking budget responds to the new challenges facing farmers, agriculture and rural areas in the EU, while allowing for synergies between sectors. The CAP plays a key role for society and agriculture by ensuring stable food supplies, providing targeted support and protection of farmers' incomes, preserving the environment and keeping rural areas vibrant.

In her study, Krasteva examines the implementation of sustainable agricultural practices in agriculture as possible solutions to reduce environmental problems and with a number of ecological, social and economic benefits for the environment and climate (Krasteva, 2024). In this way, long-term sustainability of agriculture and food will be achieved and the well-being of the population will be improved on a global scale.

The future of agriculture is also discussed in a number of reports. For example, in 2024, Mario Draghi, former President of the European Central Bank, published a report on "The Future of European Competitiveness" (Draghi, 2024). He presented his vision of the urgent need for the EU to focus its efforts and resources on overcoming the economic challenges to transform Europe into a sustainable and competitive one.

On 19 February 2025, the European Commission presented a roadmap for a thriving agri-food sector in the EU. This new vision for agriculture and food lays the foundations for an attractive, sustainable, fair and future-oriented agri-food system that meets the ambitions of current and future farmers in the sector. Due to the increased penetration of innovative technologies and digitalisation in agriculture in the future, a comprehensive package to simplify the current legislative framework in the field of agriculture, together with an EU digital strategy for agriculture, is being prepared and presented to the public (European Commission. A Vision for Agriculture and Food. Shaping together an attractive farming and agri-food sector for future generations, 2025).

The new vision outlines ***four main priority areas*** presented in Figure 1:

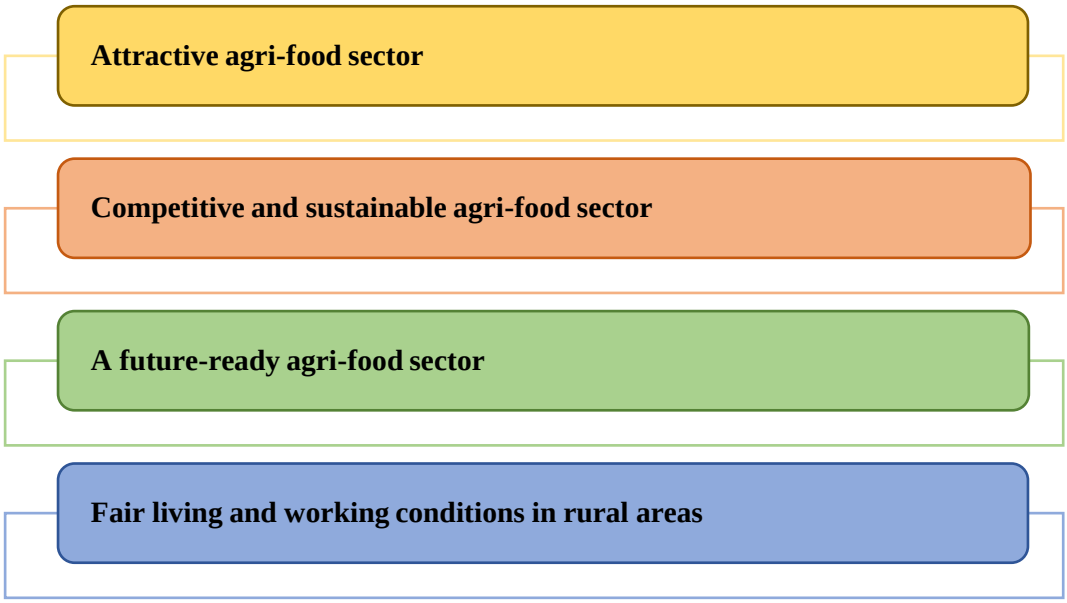

Figure 1. Key priority areas outlined in the new vision for agriculture and food

Source: authors' figure

- ✓ **Attractive agri-food sector and fair income for farmers –** agriculture must encourage more and more young people to choose farming in order to continue producing healthy and accessible food that meets consumer demands. Farmers must take advantage of all the opportunities that the sector offers. For example, the advantages of technology, innovation, new business models and various types of ecosystem services that protect the natural environment, water, soil, air, climate, which will lead to a faster ecological transition.
- ✓ **Competitive and sustainable agri-food sector –** the EU's main focus remains food security and the protection of the interests of European farmers. The demands of farmers, citizens and society to successfully adapt and comply with international rules on production standards for imported products are of great importance. Measures need to be put in place to ensure closer alignment between the standards for hazardous pesticides banned in the EU and food safety standards. In addition, animal welfare and care for the long-term development of the livestock sector need to be strengthened.
- ✓ **A future-proof agri-food sector –** agriculture and the food industry contribute to the transition to a low-carbon economy. Climate action is combined with food security, while farmers implement environmentally friendly practices that contribute to keeping soils healthy, water and air clean, and restoring ecosystem biodiversity. Some of the challenges facing the sector are related to the

preparation of a voluntary analysis system for measuring and improving farm sustainability performance, as well as developing a water sustainability strategy for more sustainable and efficient water use.

- ✓ **Fair and dynamic living and working conditions in rural areas –** rural areas continue to be dynamic and multifunctional. The link between food, territory, culture and tradition is considered an integral part of the European way of life. Living and working conditions attract more women and young people to agriculture, where the rights of farm workers are protected.

The new vision is essential to ensure the sustainable development of the agricultural and food sector in the long term. The priority areas outlined guide a wide range of future strategic issues related to agriculture and food. The main objective is to create an attractive, competitive and sustainable agricultural and agri-food sector as a key element of the European economy.

At the same time, it is necessary to create a favorable environment for the development of scientific research, innovation and knowledge in the European agri-food economy. The digital transition will contribute to the faster improvement of economic performance and sustainability of agricultural holdings. Artificial intelligence and digital technologies will significantly lead to stimulating innovation, improving production practices to produce healthy and sustainable food with care for the environment, climate and people. Lack of trust in digital technologies, awareness and high costs remain among the leading reasons why farmers do not fully and effectively benefit from the advantages of digitalization.

It is important to introduce additional training in digital skills and advice to be able to collect up-to-date data from farmers' digital systems. To facilitate the digital transition, ***an EU digital strategy for agriculture*** needs to be established (https://digital-strategy.ec.europa.eu/bg/policies/digitalisation-agriculture).

New technologies and innovations are advancing and should be encouraged. The application of digital technologies in agriculture, through the implementation of sensors, data analysis and more precise agricultural practices, increases the efficiency of agricultural holdings. The amounts of data collected are specific and contain information about the land, crops, animals, agronomic data, climate data, etc.

A new EU strategic approach to research and innovation is being developed to improve the competitiveness of agriculture, forestry and rural areas. Strengthening cooperation and partnerships with international organisations such as FAO and OECD to find innovative solutions to global challenges and to implement the 2030 Agenda for Sustainable Development is a priority.

Of key importance is the inclusion ***of new genomic techniques*** (NGTs) as an innovation in plant breeding (https://www.europarl.europa.eu/topics/bg/article/20240125STO17062/novi-ghenomni-tekhniki-za-po-ustoychivi-rasteniia). They represent an innovative method for introducing specific changes in the structure of cultivated plants. The use of these techniques in agriculture accelerates the

development of climate-resistant and high-yielding varieties, protects crops from diseases, pests and enemies, and at the same time improves the nutritional quality of the soil. Their application has a positive impact on agricultural production and food security, creating conditions for more sustainable food systems and reducing the need for the use of synthetic fertilizers and pesticides. A favourable regulatory framework in the EU is needed to reap the full benefits of these innovations. The EC proposal for a new regulation on plants created by certain new genomic techniques will make it easier to obtain authorisation for plants obtained by methods considered equivalent to traditional breeding methods. Plants obtained through this type of method are prohibited in organic production, but requirements are being created for traceability and labeling of plants to make it clear what crops farmers are growing with the ability to consult a public register of all NGT products.

According to Dimitrova, one of the possible ways to minimize risk in agricultural farms is genetic engineering. Crossbreeding between different crops and animal breeds creates new variants that are resistant to changing climatic conditions. Such hybrid plant varieties and animal species adapt much faster to new conditions of nature (Dimitrova, 2020).

All Member States should focus their efforts on strengthening their ***Agricultural Knowledge and Innovation Systems*** (AKIS). The Common Agricultural Policy therefore continues to provide support for the implementation of AKIS strategies. At the same time, it encourages actions to support ***independent and competent advice and investment in high-quality training*** for farmers and their future professional development prospects. As a result of stimulating the development of knowledge and skills in the field of agriculture, more and more young people are becoming successful entrepreneurs in agriculture.

In addition to the positive aspects outlined in the vision for agriculture and food, there are also negative aspects expressed in threats, risks and crises related to the agri-food sector. For example, extreme weather events, unstable political conditions worldwide, violent wars between countries, animal and plant diseases are just some of the leading risks and challenges that farmers have to deal with. Uncertainty requires the creation of a good toolkit for better risk and crisis management at European level. Incentives for farmers to share risk situations by joining together in producer organizations or cooperatives will be strengthened. Farmers have a wide range of options when managing agricultural risk. They can use a range of risk reduction measures and strategies, appropriate technologies, diversification, and a variety of insurance and financial instruments (Harizanova-Bartos, H., Stoyanova, Z., Petkova, I., Metodiev, N., Harizanova-Metodieva, Ts., Sheytanov, P., Dimitrova, A., 2021).

It is therefore necessary for all Member States to actively contribute to the creation of effective and adapted risk management strategies, guiding farmers to manage their crisis moments with greater certainty.

Conclusion

It can be summarized that the European agri-food sector has many positive qualities and is a leader in the areas of health, safety, quality, sustainability and innovation in food production. The global challenges faced by farmers, fishermen and all other actors in the agri-food chain must meet the requirements of the future conditions for a simpler and more targeted legislative strategic framework. Intergenerational continuity is essential for maintaining traditions, protecting the environment and ensuring sustainable development of agriculture. The established priority areas of action aim to restore the connection between people and the food they consume and local traditions and culture, which must be respected and respected. In addition, the EU's digital strategy for agriculture will support digital data technologies in the sector and, with the help of a voluntary analysis system, will measure and improve results on farms. The agri-food sector will undoubtedly become more sustainable, viable and attractive for many young farmers to develop entrepreneurial activity in rural areas, both in the EU and at a national and regional level.

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