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FARM TO FORK STRATEGY AS A FRAMEWORK FOR NEW SERBIAN AGRICULTURE AND RURAL DEVELOPMENT STRATEGY¹

Abstract: The EU's Farm to Fork strategy provides a comprehensive framework for transforming the food system and promoting sustainable agriculture. In this paper, we analyze the potential of this strategy as a basis for creating a new strategy for agriculture and rural development in Serbia. This topic is significant because Serbia is in the process of European integration, which implies a specific political synchronization. In addition, the current strategy ends in 2024, so the topic is up to date. This paper aims to provide recommendations to policy-makers based on a comparative analysis of these two strategies and the performance of Serbian agriculture. The paper highlights that the country may face challenges in adapting to new standards and regulations and in securing the necessary resources and financial support for implementing changes.

Keywords: Agriculture, Strategy, European Union, Serbia.

1. INTRODUCTION

In August 2014, the Agriculture and Rural Development Strategy of the Republic of Serbia for the period 2014-2024 was published, so this is the last year of this strategy. It is expected that the development of a new strategy for the period after 2024 will begin soon. As in the case of the current strategy, the EU strategy and policy will most likely be the basis for the process of creating a new one, due to the process of European integration. In the past ten years, significant changes have taken place in the EU, especially with the adoption of the European Green Deal (EDG), the goal of which is to make Europe the first climate-neutral continent by 2050. For the agricultural sector, the Farm to Fork Strategy (F2F), which is derived from EGD, is particularly important. This paper aims to provide recommendations to policy makers based on a comparative analysis of these two strategies and the performance of Serbian agriculture. In the first part of the paper, the key elements of the F2F strategy were analyzed, and in the second part, potential implications for Serbia's new strategy were presented. At the end, the conclusions of the research are summarized. All data were taken from the FAOSTAT electronic database.

¹ The paper presents a part of research on the Erasmus+ Jean Monnet project Jean Monnet Centre of Excellence: Sustainable Agriculture for Greener Future – AgriGREEN (101085183).

2. KEY ELEMENTS OF THE FARM TO FORK STRATEGY

The Farm to Fork Strategy aims to accelerate transition to a sustainable food system that should (European Commission, 2023):

- have a neutral or positive environmental impact;
- help to mitigate climate change and adapt to its impacts;
- reverse the loss of biodiversity;
- ensure food security, nutrition and public health, making sure that everyone has access to sufficient, safe, nutritious, sustainable food;
- preserve affordability of food while generating fairer economic returns, fostering competitiveness of the EU supply sector and promoting fair trade.

Following these goals, particular emphasis is placed on ecology and climate change, the global transition towards sustainability, the creation of new jobs in the new system, and greater resilience of the food supply chain, which is especially important in crisis conditions (Figure 1).



Figure 1: Key elements of the Farm to Fork Strategy
Source: European Commission, 2023.

This strategy also defines targets. For the agricultural sector, the following are particularly important:

- Reduction of the overall use and risk of chemical pesticides by 50% and the use of more hazardous pesticides by 50% by 2030,
- The reduction of nutrient losses by at least 50% while ensuring no deterioration in soil fertility. This will reduce the use of fertilizers by at least 20% by 2030,
- Reaching at least 25% of the EU's agricultural land under organic farming by 2030 and a significant increase in organic aquaculture.

These targets can be considered very ambitious and radical. It is very questionable what the consequences will be on the food market if there is such a significant drop in the use of chemical inputs. Wesseler (2022) indicates a decline in EU agricultural production in quantitative terms. Furthermore, the F2F strategy negatively affects aggregate consumer surplus and a net increase or decrease in producer surplus, thereby inducing an overall net welfare loss. The strategy's success will be contingent on the political willingness of the European Parliament and Council to support the European Commission's high levels of ambition and the capacity to reconcile opposing interests between Member States, political groups, and interest groups (Schebesta & Candel, 2020).

3. IMPLICATION ON NEW SERBIAN AGRICULTURE AND RURAL DEVELOPMENT STRATEGY

In 2014, the Agriculture and Rural Development Strategy of the Republic of Serbia has set goals that are in line with the trends of the EU in that period (Off. Gazette of RS, 2014):

- production growth and producer income stability;
- growth of competitiveness with adaptation to the requirements of the domestic and foreign markets and technical-technological improvement of the agricultural sector;
- sustainable resource management and environmental protection;
- improving the quality of life in rural areas and reducing poverty;
- efficient management of public policies and improvement of the institutional framework for the development of agriculture and rural areas.

The goals defined in this way are in accordance with this sector's needs for further economic development. The previous period showed that the main focus was on the growth of production and economic performance, while other goals were subordinated, primarily environmental. Based on the structure of support measures, it is possible to determine the importance of individual goals. Most of Serbia's agricultural budget is spent on market support and direct payments. Direct payments had a share of 50% in the total payments, while 17% goes to direct payments based on production and 2% to subsidizing variable inputs. Of the measures that belong to the group of structural support and support for rural development, almost all funds are spent on improving the competitiveness of the agricultural and food sector. Like other developing countries, environmental payments, organic production, and animal welfare are at the statistical error level. In addition, 2% of the total funds are spent on research, development, advisory, and professional services (APP, 2023). This structure of support measures indicates that the agrarian policy is mostly directed toward achieving the first goal - production growth and producer income stability.

In order to draw a parallel with the performance of the EU in critical points related to chemical inputs, Figure 2 shows the use of nitrogen fertilizers in the agriculture of the EU and Serbia.

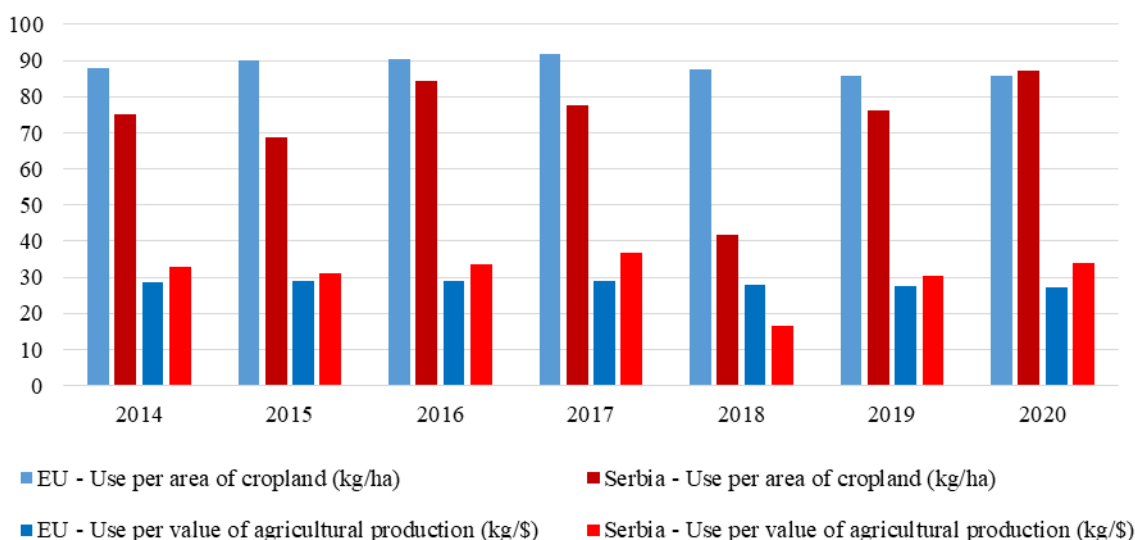


Figure 2: Fertiliser use (N) in EU and Serbia

Source: FAOSTAT, 2023.

In the years under review, mineral fertilizers per area are slightly higher in the EU than in Serbia. However, what is worrisome for Serbia is that more mineral fertilizer is used if we look at the use per value of agricultural production. This implies that this input is used less efficiently. Furthermore, this situation results from two factors, the quality of the mineral fertilizer and the way of management. Therefore, it is clear that more education and better farmers' management are necessary to optimize the use. A particular problem for Serbia is the importance of fertilizer use. According to Đokić et al. (2022), using mineral fertilizers is a crucial source of growth in land productivity in Western Balkan countries. Therefore, the potential drop in use can dramatically change output and productivity.

The chemical inputs, the most important of which are mineral fertilizers, have the largest share in total variable costs in crop production. Non-optimal use implies an increase in costs and a reduced economic result. Indeed, technological solutions are still being sought, and one of the biggest questions is the economic profitability of applying new technology. Some of the solutions offered by modern science are: applying more efficient "smart" fertilizers, organic fertilizers, and precision agriculture. The basic idea of smart fertilizers is a slower release of the active substance so that the crops can absorb nutrients for extended periods. By applying this type of fertilizer, the active substance is used more optimally, and the ecological effect is favorable because most nutrients are absorbed, preventing groundwater pollution. One of the most modern types of smart fertilizers is those based on nanotechnology. Calabi-Floody et al. (2018) believe that this technology can significantly increase the efficiency of using mineral fertilizers and reduce the harmful environmental effects. On the other hand, precision agriculture is based on technology that enables a better analysis of the agricultural production process and implies the automation of some processes. The concept of precision agriculture appeared in the mid-1980s in order to apply mineral fertilizer more adequately with the help of new technology (Robert, 2002). Today, precision agriculture involves the application of technologies, which McBratney et al. (2005) divided into several groups, of which the most significant for the use of fertilizers are the development of hardware and sensors, as well as data analysis and decision support systems. This technology makes it possible to detect crop needs and optimize the intensity of mineral fertilizer application in the field. However, this technology has yet to find widespread use. Robert (2002) points out that socioeconomic barriers, such as high application costs and lack of expertise and training of farmers, prevent widespread application. Also, one of the solutions is organic fertilizers. Wang et al. (2018) point out that most farmers still prefer chemical fertilizers over organic ones because they fear they will achieve lower yields and

income. The same authors state that the popularization of organic fertilizers requires the support of the state and that membership in cooperatives can have a positive impact.

On the way to the ecological transition of agriculture, another essential factor is organic production. Figure 3 shows the areas under organic production in the EU and Serbia. Based on these data, the set goal of the F2F strategy seems highly ambitious. In the period until 2023, it is predicted that the areas under organic production will make up almost a third of the total areas. In the case of Serbia, organic production is at an enviable level. However, the agricultural policy will play a significant role in that process. Nieberg, Offermann, (2000) insists that government support is necessary for producers engaged in organic agriculture to achieve similar economic results as conventional producers.

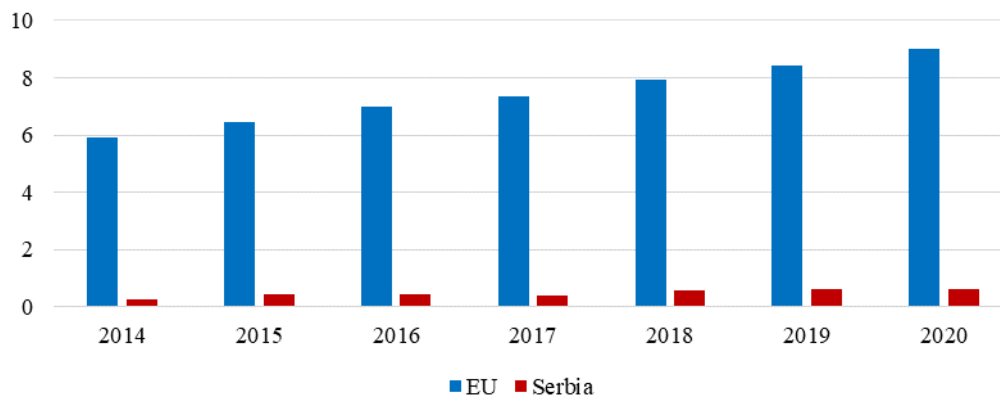


Figure 3: Agriculture area under organic production (share in the total agricultural land - %)
Source: FAOSTAT, 2023.

4. CONCLUSION

The F2F strategy represents a radical shift in the food production sector. Regarding agriculture, the critical elements are reducing the use of chemical inputs and promoting organic production. Indications are that such a turn will lead to a significant reduction in output. In the previous period, Serbia's agricultural policy was mainly focused on production growth and increasing efficiency. If the EU policy is followed while drafting the new Strategy, as was the case in the previous period, the consequences can be dramatic.

The most significant challenge for the creators of the new Strategy will be balancing the economic and ecological goals of the agricultural policy, given the undeniable economic importance of this sector for the economic development of Serbia. One of the possible solutions and main recommendations is to change the focus on economic measures aimed at the research and development of green technologies, which will have a significant impact on technical progress in agriculture and enable the sustainable development of this sector in the long term. Also, the new Strategy must include a gradual transition towards greener agriculture so that the economic consequences are not devastating for agriculture. Finally, support measures must be focused on new modern types of fertilizers, organic production, and the education of farmers.

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