Organic agriculture in the Visegrad four countries

Ekologické poľnohospodárstvo v krajinách Vyšehradskej štvorky

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Abstract

The organic lifestyle is an increasingly important part of our lives and its impact on the economy is becoming more and more significant. More and more businesses dealing with organic products have opened in recent years. Organic production is a rapidly developing sector in agriculture and, based on the statistics of the European Union, its economic importance is increasing. The purpose of the research is to examine the characteristics of organic agriculture in the Visegrad countries. The research also covers changes in the data, we were curious to what extent the individual indicators have changed in the last 10 years and whether there are differences between the countries of the Visegrád Four. During our research, we used Eurostat data.

Keywords: *Organic agriculture, Hungary, Czech Republic, Slovakia, Poland*

JEL Classification: Q12, Q15, Q38

Introduction

Sustainability, particularly in the realm of sustainable food production, is becoming an increasingly significant sector of the economy. Organic farming is now considered an alternative to traditional agricultural systems, as it can contribute to addressing various environmental and food quality issues (TUOMISTO ET AL., 2012). This agricultural and management approach protects the quality of soil, the environment, and living organisms. Consequently, organic farming is gaining popularity and is an increasingly relevant topic among researchers (FERDOUS ET AL., 2021). Research in this field is also gaining importance in the Visegrád Group countries. More and more entrepreneurs operating in the agricultural sector are choosing to conduct their businesses in a more sustainable manner. Therefore, our research aims to examine how the proportion of businesses engaged in organic farming has changed in the Visegrád Group countries. The economic environment of each country is also crucial in understanding how businesses in this sector evolve. Hence, our goal is to investigate how countries support enterprises engaged in sustainable production.

Theoritical summary

Ecological agriculture differs from conventional agriculture in that it achieves productivity without the use of pesticides, synthetic fertilizers, and insecticides (NIKOL ET AL., 2021). This stands in contrast to conventional agriculture, where these inputs are employed to enhance productivity (NIKOL ET AL., 2021). Given that chemicals indirectly find their way into people's diets, ecological agriculture presents a healthier alternative (RIZZO ET AL., 2020). Various synthetic substances not only impact human health but also degrade soil quality while harming flora and fauna (RANA – PAUL, 2020). Therefore, in the 21st century, as sustainability gains increasing prominence, the role of agriculture has been

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reassessed, with ecological agriculture playing a vital role on regional and national levels (JEZIERSKA-THÖLE ET AL., 2017). Consequently, it has gained acceptance among producers, consumers, policymakers, and economic stakeholders (SIDERER- MAQUET- ANKLAM, 2005).

From its inception, ecological farming adheres to principles such as diversified farming systems, sustainable practices, nutrient cycles, and the strict restriction and prohibition of synthetic and chemical substances. Additionally, it emphasizes avoiding the use of genetically modified crops. Societal principles also characterize these farms, including human-centeredness, close relationships with producers, environmental consciousness, small-scale farming, and gaining consumer trust (ARBENZ ET AL., 2017).

These principles, deviating from the traditional, demand much from ecological farmers, necessitating structural changes in their operations (LAMPKIN – PADEL, 1994). Access to new information and acquiring new skills, often incurring additional costs, is indispensable for ecological farms. Transforming conventional farms into sustainable ones involves new investments. As ecological farms break away from traditional production systems, foundational entrepreneurs need new knowledge, and agricultural know-how plays a crucial role in their success (LUCZKA – KALINOWSKI, 2020).

Since the 1990s, there has been a noticeable increase in the number of ecological farms (PALSOVÁ, 2019; SIEPMANN-NICHOLAS, 2018). However, the quantity and development of these farms are influenced by the economic environment and regulations of individual countries. Changes over the years can be observed, with some countries abandoning good practices while others adopt and improve the economic environment for ecological farms (HEINZE-VOGEN, 2017). In some countries, the decrease in the number of ecological farms surpasses the influx of new ones, a trend also reflected in the reduction of areas dedicated to ecological crops.

In the European Union, the presence of organic farms is accepted and supported. In 2019, out of the 156.7 million hectares of agricultural land in the EU, nearly 12.5 million hectares were converted to organic farming. The EU's "Farm to Fork" strategy aims to transform 25% of agricultural land into such production by 2030 (BARBANOVA ET AL., 2015). Western European countries, such as Spain, France, Italy, and Germany, are more open to and advanced in transitioning to organic farming, with significant areas already converted (BLANCO-PENEDO ET AL., 2019). The largest share of land dedicated to organic farming is in Austria (24.6%), followed by Estonia (23.1%), Sweden (20.2%), and Italy (16.5%) (CASOLANI ET AL., 2021).

The continuous expansion of ecological farm areas characterizes the European Union. According to Eurostat, the EU-28's total area was 11.1 million hectares in 2015, compared to 5 million in 2002. Over the past decade, the area of ecological farms has increased by about 500,000 hectares annually. Despite this significant and ongoing growth, the total area still represents only 6.2% of all agricultural land in Europe (ROSSI, 2016).

Poland joined the EU in 2004, marking a significant increase in the importance of ecological farming. Since then, there has been rapid growth in the development of ecological farming, accompanied by an increase in available support for this purpose. The growing quantity of sustainable food has led to increased consumer demand. Besides meeting domestic needs, Poland exports organic products to Western European and third countries due to higher revenues (BRODZINSKA, 2018; LUCZKA – KALINOWSKI, 2020). Farms in Poland are generally smaller, reflecting the characteristics of the Visegrád Group countries. The legacy of the previous socialist system, where a certain percentage of farms were owned by production cooperatives, has significantly influenced the development of such farms. In Poland, approximately 23.8% were cooperative-owned, while the rest were privately owned, giving Polish farmers more experience and equipment compared to Hungarian farms, of which 90% were part of production cooperatives (MAZUREK-KUSIAK, 2021).

In Hungary, due to the fact that a large part of the farms belonged to production cooperatives during socialism, ecological farming is still in its early stages. Initiatives have been launched since the regime change to promote agroecology, appearing in education and agricultural practice, but changes are occurring at a slower pace. Increasingly, research, projects, and organizations focus on the concept and development of ecological farming, such as the National Association of Conservationists (MOUDRY ET

AL., 2018). From 2012 to 2019, 2.8 million tons of organic agricultural products were produced in Poland, 2.5 times more than in Hungary (MAZUREK-KUSIAK, 2021).

From a historical perspective, Czech Republic and Slovakia created Czechoslovakia together, so there are similarities in their development as well. The development of ecological farms and agriculture started in 1989. The foundations for ecological farming were laid in 1990, by the Ministry of Agriculture in the Czech Republic. The first resources supporting the establishment of organic farms appeared in 1994 when a unified trademark for organic products was introduced in the Czech Republic. Today, organic farming in the Czech Republic is a stabilized agricultural system supported by the state (MOUDRY ET AL., 2018).

In Slovakia, development started after 1989, resulting in a 15-20 year lag behind Western European countries. Until that point, they exclusively employed traditional, production-maximizing farming. Currently, organic farming represents a rapidly growing segment in Slovakia, aided by the country's favorable geographical and soil quality conditions (PALSOVÁ ET AL., 2014).

Methodology

A research aim is to explore changes in the organic agriculture of the Visegrád Group (V4) countries (Czech Republic, Hungary, Poland, and Slovakia) during the period from 2013 to 2020. The focus particularly centers on the evolution of the proportion of enterprises engaged in ecological farming. The research relies on secondary data sources, gathering information from agricultural and environmental statistics of the respective countries, agricultural market reports, as well as relevant scientific articles and conference materials. Additionally, OECD and Eurostat data are utilized. The collection of periodic data spans from 2013 to 2020 to provide a comprehensive overview of the trends during the examined period. We analyze the changes in the proportion of organic farms in each country, both individually and comparatively. The annual analysis of enterprise proportions is presented through graphs and diagrams.

The primary focus of our research is on understanding how the proportion of organically cultivated areas has changed over the years, relative to the total cultivable land size. Furthermore, we examine the number of farms registered as organic in each country in different years. The changes in the proportion of organic farms in individual countries are compared, and the reasons behind potential differences are analyzed. Special attention is given to the support systems in each country, which may influence the evolution of the proportion of organic farms. Acknowledging the limitations of the research, particularly concerning the completeness and accuracy of data from secondary sources, we recognize the need to consider political and economic decisions, as well as environmental changes, when analyzing the reasons behind the annual changes. The results of the research are summarized, drawing key conclusions about the evolution of the proportion of organic farms over the period. The findings may indicate trends in the development or decline of organic agriculture, serving as a basis for further research and policymaking in the field of sustainable agriculture.

Results

Support for organic farming is implemented in the Visegrád Group (V4) countries, namely in the Czech Republic, Hungary, Poland, and Slovakia, through various forms of assistance and during different periods. Evaluating the effectiveness of these support measures is challenging, as it depends on the implementation of specific programs, the agricultural economic environment, and other factors. The introduction of support measures is linked to rural development programs and the budgetary cycles of the European Union. Typically, these programs operate in cycles of 5-7 years, introducing new support measures at the beginning of each new cycle.

In terms of sources, support for organic farming comes from European Union funds, and individual countries' governments may contribute to financing. The V4 countries, comprising the Czech Republic, Hungary, Poland, and Slovakia, have implemented various measures and policies to promote organic agriculture since 2013. These measures aim to stimulate the production and consumption of organic

products, thereby fostering a more sustainable agricultural sector. Additionally, in these countries, the quality and type of permissible pesticides are regulated in accordance with European directives.

Tab. 1 Organic action plans of V4 countries

Country	Action plan name and period	Description
Czech Republic	Action Plan of the Czech Republic for the Development of Organic Farming between 2011– 2015	Doubling number of organic food producers; 60% share of Czech products on the organic food market
	National Action Plan to Reduce the Use of Pesticides in the Czech Republic. (2013-2017)	
Poland	Information campagaign for organic food and farming (no action plan)	
	Sustainable development strategy for countryside, agriculture and fisheries for 2012 – 2020	Production of high quality agriculture and food products which are safe for consumers; increasing producers' and consumers' knowledge and awareness about agriculture and food production and nutrition rules.
Slovak Republic	In 1995, a "Conception of Organic Agriculture in Slovakia" was worked out (Horizon until the year 2010, set of measures for its realization).	5% of the agricultural land area 30 % of certified organic products in domestic market
	Rural Development Programme of Slovak Republic for 2014 – 2020	Supporting the transfer of knowledge and innovation in agriculture, forestry and rural areas. Promoting organic farming, which includes payments for transition to procedures and methods of organic farming.
Hungary	Rural Development Program and the National Rural Strategy 2012-2020.	
	National Action Plan for the Development of Organic Farming for 2014-2020	Increasing the production volume adapted to the market needs, and strengthening the development of processing and marketing; controlled ecological activities, training, research and development and consulting systems. Increasing consumer awareness of, and confidence in products from organic farming.

Source: own editing (data from Food and Agriculture Organization of the United Nations)

As can be seen, without claiming to be exhaustive, countries have prepared various provisions and plans over the years to support the development of sustainable agriculture. The plans of individual countries are in line with the Common Agricultural Policy (CAP) of the European Union, which is a key initiative aimed at supporting and regulating agricultural activities in member states. The CAP forms the backbone of the EU agricultural support system and aims at the sustainable development of agricultural production, revitalization of rural areas, and ensuring stability in agricultural markets. The CAP operates on a periodic cycle, typically spanning seven years. The current period (2021-2027) has witnessed CAP reforms emphasizing sustainability, organic farming, and environmentally friendly practices (EUROPEAN COMMISSION, 2023).

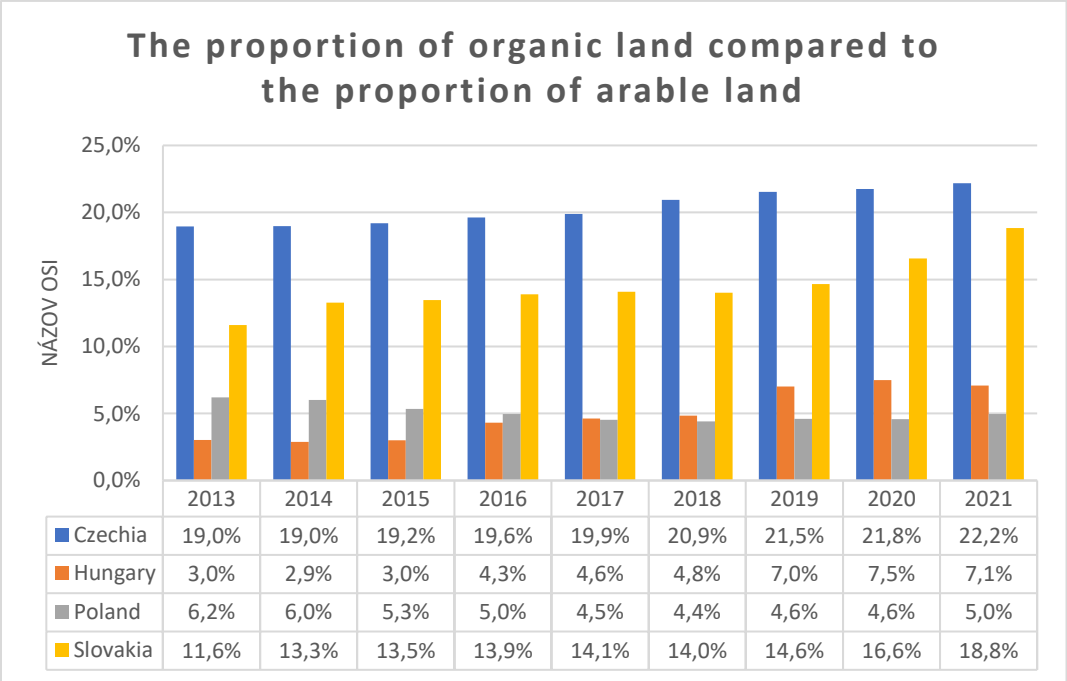
The following diagram, based on data from the OECD and Eurostat, illustrates how the proportion of organically cultivated land relative to the total arable land size in each country has evolved from 2013 to 2021.

In the case of the Czech Republic, this country is the closest to the 25% target set by the European Union. In 2013, the proportion of sustainably cultivated areas was 19%, which increased to 22.2% by the end of the study period. Slovakia has also made significant progress in terms of proportion during the examined period. In 2013, the proportion of organically cultivated land was 11.6%, rising to 18.8% by 2021. From 2019 onwards, there was a sudden increase in the proportion of such areas.

Hungary and Poland still have a longer way to go to achieve the goals set by the European Union. Despite Poland having a smaller proportion of state-owned land in the previous system, giving entrepreneurs more knowledge and resources to run their own farms, only 6.2% of the land was organically cultivated in 2013. This proportion decreased to 4.4% in 2018, marking a turning point. By 2021, 5% of arable land was organically cultivated, which, although lower than the 2013 average, represents significant progress compared to 2018.

In the case of Hungary, it is noteworthy that in 2013, this country had the lowest proportion of organically cultivated land, accounting for only 3% of arable land. From 2015 onwards, continuous development was observed, reaching 7.1% in 2021. This percentage is higher than that of Poland in 2021.

Graf 1 The proportion of organic land compared to the proportion of arable land



	2013	2014	2015	2016	2017	2018	2019	2020	2021
Czechia	19,0%	19,0%	19,2%	19,6%	19,9%	20,9%	21,5%	21,8%	22,2%
Hungary	3,0%	2,9%	3,0%	4,3%	4,6%	4,8%	7,0%	7,5%	7,1%
Poland	6,2%	6,0%	5,3%	5,0%	4,5%	4,4%	4,6%	4,6%	5,0%
Slovakia	11,6%	13,3%	13,5%	13,9%	14,1%	14,0%	14,6%	16,6%	18,8%

Source: own editing based on Eurostat data

The following chart depicts the number of individuals who registered businesses engaged in organic agriculture during the observed period from 2013 to 2021. The chart does not illustrate the overall number of businesses in this sector; our primary goal is to observe the proportion behind initiating such ventures.

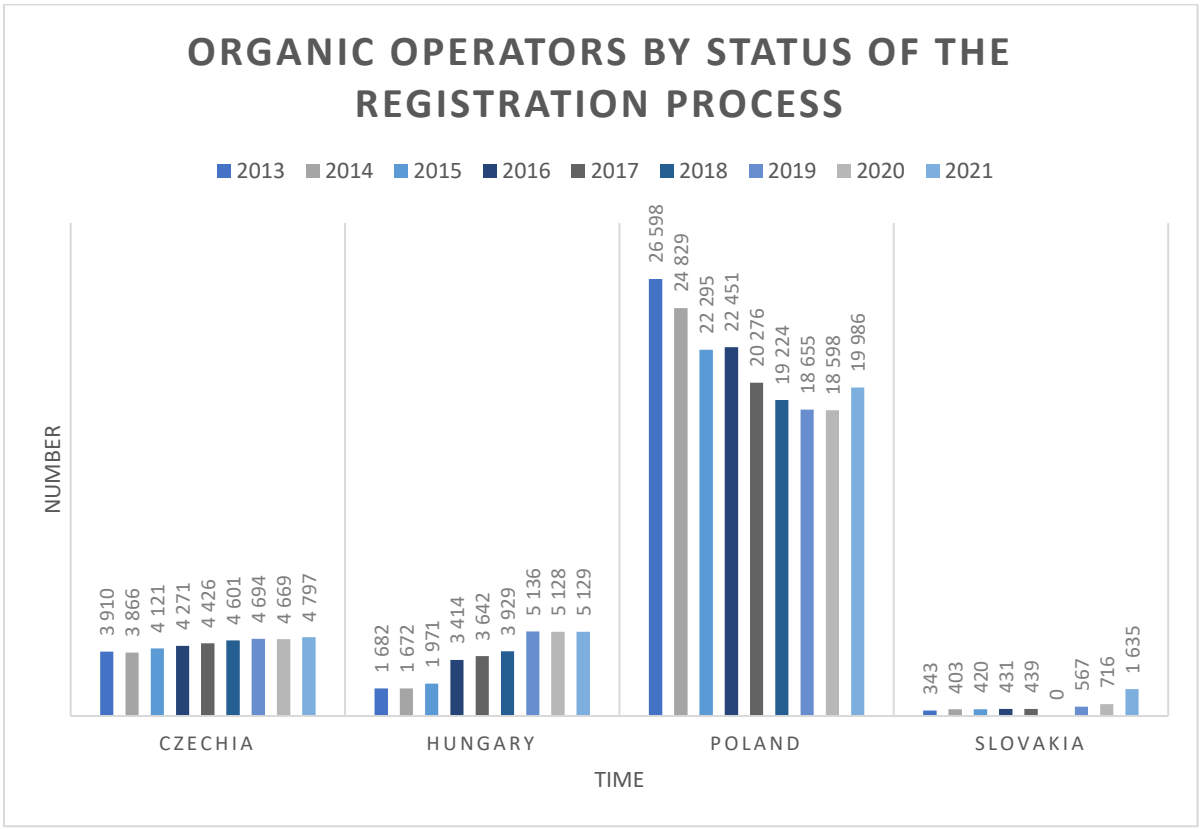
The observed data reflects trends similar to those in the previous chart. In the case of the Czech Republic, there is a continuous increase in the number of registrations during the examined period. In 2013, 3910 businesses were registered, and by 2021, this number had risen to 4797.

For Hungary, the number of registrations for such businesses had a slower pace until 2015, followed by a sudden increase. While there were 1682 registrations in 2013, by 2021, 5129 businesses of this nature were registered.

In Poland, 26598 businesses were registered in 2013, decreasing each year until reaching a low point in 2019, with only 18655 entrepreneurs deciding to engage in organic agriculture. After 2019, there was an increase in willingness, and by 2021, 19986 businesses had been established that engaged in organic production.

Slovakia, however, does not show as favorable figures. Compared to the other Visegrád Group countries, the number of registered businesses involved in such activities is significantly lower. In 2013, a total of 343 businesses of this kind were founded. Until 2019, the number of new businesses in this sector remained stagnant, but afterward, there was a continuous increase. In 2021, 1635 entrepreneurs were registered as organic farmers, representing a more than 400% increase compared to 2013.

Graf 2 Organic operators by status of the registration process



Source: own editing based on Eurostat data

Conclusion

In conclusion, the study provides insights into the dynamics of organic agriculture in the Visegrad Four (V4) countries - Czech Republic, Hungary, Poland, and Slovakia. The research, spanning the years 2013 to 2021, aimed to understand the changes in the proportion of businesses engaged in organic farming and the evolving landscape of organic cultivation in the region.

The theoretical summary underscores the fundamental principles of ecological agriculture, emphasizing its departure from conventional practices through the elimination of synthetic inputs and a focus on sustainability. The acceptance and promotion of organic farming have grown globally, driven by concerns about environmental impact and food quality. The unique characteristics of each V4 country, influenced by historical, political, and economic factors, contribute to variations in the development of organic agriculture.

The results of the study reveal the diverse approaches and progress of the V4 countries in promoting and adopting organic farming. The Czech Republic and Slovakia have shown commendable advancements, approaching the European Union's target of 25% organic cultivation by 2030. On the other hand, Hungary and Poland, while making progress, still have significant ground to cover. The varying trajectories in these countries highlight the importance of understanding and considering national contexts in sustainable agricultural development.

The research also sheds light on the support mechanisms each country employs to foster organic farming. Government initiatives, rural development programs, and adherence to European Union policies play crucial roles. The analysis of action plans and strategies demonstrates the commitment of V4 countries to promote sustainable agriculture through financial and regulatory support.

The findings regarding the number of registered businesses engaging in organic agriculture offer insights into the entrepreneurial landscape. While the Czech Republic and Hungary exhibit consistent growth, Poland experienced a temporary decline before a resurgence. Slovakia, although starting from a lower baseline, demonstrated a remarkable increase in registrations, signaling a growing interest in organic farming.

In essence, the study underscores the importance of ongoing support, policy frameworks, and societal awareness in shaping the trajectory of organic agriculture. The results serve as a foundation for further research and policy development in sustainable agriculture, emphasizing the need for tailored approaches based on each country's unique context. As the demand for organic products continues to rise globally, understanding and fostering organic farming practices remain imperative for a resilient and sustainable agricultural future in the Visegrad Four countries.

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