SOCIO-ECONOMIC DETERMINANTS OF SUSTAINABLE AGRIFOOD PRODUCTION AND CONSUMPTION

SOCIO-EKONOMICKÉ DETERMINANTY UDRŽATEĽNEJ POĽNOHOSPODÁRSKO-POTRAVINÁRSKEJ PRODUKCIE A SPOTREBY

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ABSTRACT

In the management of agri-food companies in the Slovak Republic, significant changes have taken place in the last 4 decades, which were caused by social and economic changes in our society. After 1989, it was the transformation of agriculture into a market economy, gradually added to the pre-accession requirements for further changes in the agricultural sector. Accession to the EU meant great challenges, opportunities and risks for Slovak agriculture. However, the decline in agricultural production has not stopped, which is especially true of livestock production. Other obstacles had to be faced by farmers and food producers during the global economic and financial crisis from 2008 to 2010, and currently, in addition to environmental issues, the problems associated with the COVID 19 pandemic and food sufficiency and security are coming to the fore. In addition to addressing all external factors that affect the agri-food complex, managers must address agro-innovation issues and the penetration of new management models and approaches related to providing quality food to final consumers. The purpose of this paper is to point out key socio-economic determinants affecting production and consumption in the agri-food industry.

KEY WORDS

agrifood industry, food production, food consupmtion, key determinants, environmental and growth, population growth

JEL – CLASSIFICATION: *O13, O38, O44, Q18, Q56*

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1 Introduction

There are 690 million chronically malnourished people in the world. people [Global Panel on Agriculture and Food Systems for Nutrition, 2020**]**. According to the indicator of sustainable development goal 2, 700 mil. people suffer from high food insecurity, while 1.3 mil. people are affected by a milder form of hunger, so there are a total of 2 billion people who do not get enough food, which accounts for almost a quarter of humanity (26%). More than 200 million children under the age of 5 are exposed to severe malnutrition. Nutrition and the food systems that provide it are the axis of challenges associated with malnutrition, human health, the degradation of natural resources and climate change. The crisis associated with the COVID-19

pandemic and the resulting economic recession, estimated by the World Food Program, will cause another 130 million people to be affected by acute hunger, mainly in sub-Saharan Africa and the Middle East [Khorsandi, 2020]. Other forms of malnutrition are also spreading around the world. In 2016, 1.9 billion adult population, about 40% are overweight and one third of them are obese – 650 million. [WHO, 2020a]. At the same time, about 1.5 billion People suffer from one of the forms of mineral and vitamin deficiency. It is a consequence of poor nutrition, while vitamin A and iron are absent, which is a necessary prerequisite for good health. In addition, poor diet caused by low food security leads to a large number of diseases worldwide, with a serious impact on social and economic development. These diseases can be acute or chronic and can be caused by factors such as viruses, bacteria, parasites, mycotoxins, heavy metals and natural toxins. According to the WHO, poor food diseases have caused 600 million diseases and 420,000 deaths worldwide [WHO, 2015]. Although food security has improved in recent decades, new risks have emerged due to changes in food systems and environmental changes that are becoming more complex [Nayak and Waterson, 2019].

2 Data and Methods

The main objective of the submitted paper is to point out key socio-economic determinants affecting production and consumption in the agri-food industry, show up devoplment of agri-food sector in the Slovak republic and characterized main issues of ondividual agri-food vertivals in the Slovak republic and propose recommendations that will lead to the improvement of the situation. The picture of socio-economic determinants affecting production and consuption in agrifood industry is created upon summarazing data and information from literature sources.

3 Results – characteristics and selected issues of individual agri-food verticals in the Slovak Republic

From the point of view of the overall economic position, it can be stated that domestic primary agricultural production is in long-term stagnation. Long-term weak economic results, decline in importance in the economy, low level of investment in technological renewal and increasing labor productivity are the result and at the same time that the competitiveness of Slovak agricultural production is declining, respectively. at best, it stagnates. The weak position of agricultural primary production in the food supply chain is the orientation and emphasis primarily on the production process, while the sales process is not addressed simultaneously, but only subsequently and many times unsystematically. The current situation in agriculture in terms of positions in the supply chain is marked by a weak commitment to building alternative sales channels, lower concentration compared to the last downstream sectors, low bargaining power and insufficient support for cooperation and organization of the first robots.

Compared to primary agricultural production, the processing industry is influenced by external factors such as weather and environmental change, through the price and quality of purchased raw materials. From the point of view of basic economic indicators, the situation in the processing industry is relatively stable, which is also a higher rate of foreign investment and the use of know-how compared to agricultural primary production. Nevertheless, the competitiveness of processors' products does not reach the required level. Also given the size of the domestic market and the problematic technological level and level of utilization of production capacity, domestic producers have significant problems in gaining a foothold in the market dominated by industrially produced foods, for which competitiveness criteria are decisive. Although the high use of cheaper imported raw materials has a positive effect on the economic results of processors, it hampers the possible development of agricultural primary production

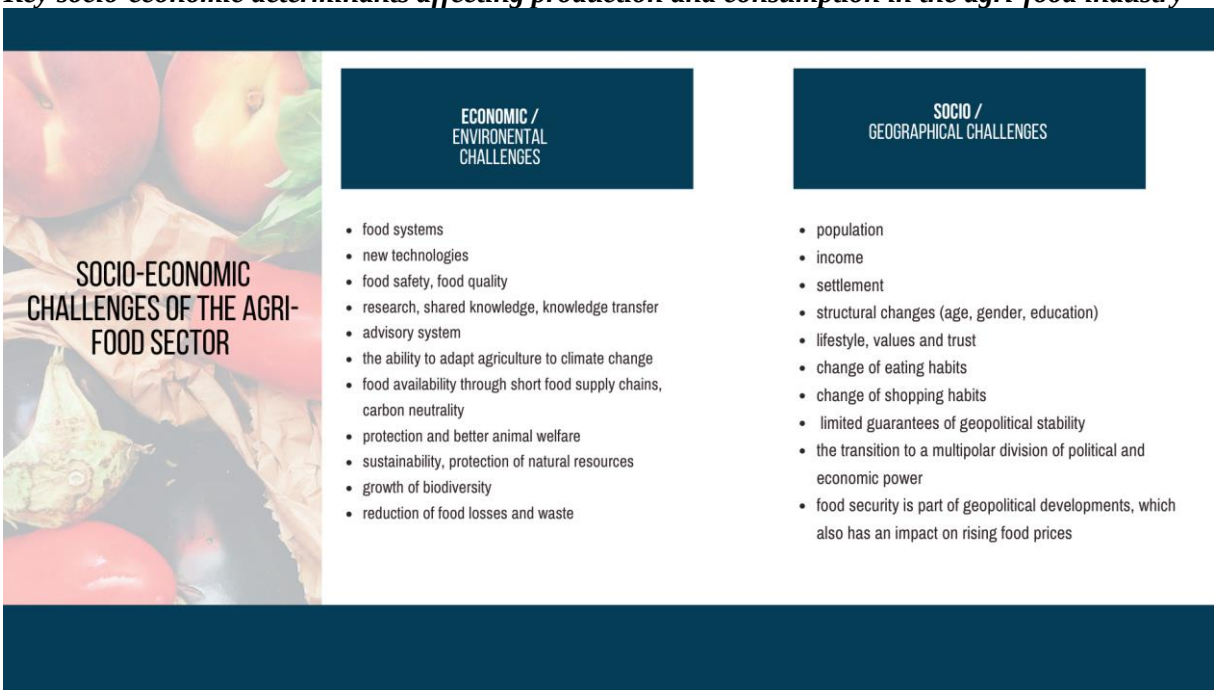
and, in its long-term nature, leads to stagnation and reduced competitiveness of the processing industry itself.

From the point of view of key economic indicators, the trade sector assesses long-term stability and continuous sales growth. It maintains the dominant situation in the food supply chain also thanks to very intensive communication with the consumer. into a dense network of stores, the trade sector offers consumers a high degree of availability of a wide range of food products. On the other hand, the structure of its and at the same time the price offer of domestic products is largely influenced by the sale of food products.

The consumer is part of the food supply chain because he decides on the final purchase of food. In this respect, it clearly influences and monitors its consumer behavior, especially in retail chains, where consumers currently mainly buy food. Food manufacturers do not have the means to target consumers through direct or indirect advertising. The Slovak origin of food is not of significant importance for many consumers. Nevertheless, more and more Slovak consumers are starting to look for homemade food, which results in a shortening of the sales chain, but only in a very unexplored form.

Based on the above facts, we can point out the key socio-economic determinants affecting production and consumption in the agri-food industry.

Figure 1
Key socio-economic determinants affecting production and consumption in the agri-food industry



Source: *own elaboration*

Socio-geographical challenges

The world's population is increasing, relocating to cities, getting richier and older. This is not a new trend, but it brings with it new trends that affect agriculture and the food industry. Higher urban wages are also changing consumer habits. Higher wages tend to increase the cost of food preparation opportunities and favor food products that have a large workforce involved: fast food, street food stalls, food purchased in stores. Sophisticated modern market instruments, a wide and attractive offer of agri-food commodities, promotions of retail chains with advantageous offers, year-round availability of food, especially in developing countries, lead

consumers to buy more food than they consume. Approximately 1.30 million tons of food is discarded, which means a saturation of 842 mil. people that are most affected by acute hunger today. 25% of available calories and proteins are lost worldwide, 10–15% of fats, 18–41% of vitamins and minerals are lost, including vitamin A, calcium, iron, phosphorus and zinc (FAO, 2011).

Reducing the impact of agriculture on environment

Today, there are 500 million family farms in the world. The issue of family farms is becoming important due to climate change, the problem of intensive agriculture associated with the use of plant protection products, but also food security and rising unemployment. Family farms can also help protect nature and contribute to biodiversity, which modern agricultural methods suppress. They strengthen the local economy mainly by shopping within local and regional markets. This will need to focus on family farm programs and strengthen yard sales and create the conditions for regional outlets in urban and peri-urban areas. Climate change is affecting the adjustment of EU legislation in this area, which will secondarily affect the efficiency of milk production. Producers will have to adapt to this legislation. Farmers will need to learn how to effectively reduce greenhouse gases with minimal impact on farm profitability. Moreover, simply restricting livestock production in the EU may not lead to more sustainable agri-food chains. The transition to more sustainable food systems cannot ignore the economic and socio-cultural importance of the sector. Livestock farming is more than just food production. Innovation will be crucial to reduce the negative impacts of this sector, including the use of agri-environmental approaches, technologies and the circular economy. It is important to points out the importance of ensuring the continuity of farms and preventing threats to employment during the transition to sustainable livestock systems. This transition will need to be supported by public policies and through visibility and economic returns. Slovakia emits a relatively low amount of harmful gases from agriculture. On the other hand, at the level of an individual livestock farm, there are usually reserves to reduce emissions. Comprehensive knowledge of the real situation in this segment of animal production is very important for all stakeholders, because they have not only the ecological but also their economic aspect.

4 Discussion

Agricultural and food businesses are exposed to significant challenges, which they will have to deal with in the coming period. It is about increasing the protection of natural resources, ensuring greater biodiversity and substantially reducing the impact of agriculture on climate change. Food producers are therefore rightly expected to produce food in a sustainable way, using methods and technological processes that protect the quality of the environment for future generations and ensure safe and healthy food for humans. Incorporating sustainability into national food security concepts is logical, as trends such as climate change, degradation of natural resources, and increasing social and economic inequality reduce the future capacity of ecological systems to face such confrontations in the production of diverse and healthy food. It is therefore imperative of this time to ensure the cooperation of social and economic systems through regenerative methods of agricultural production, which ensure long-term food security and nutrition. To achieve this, we must embrace innovation while drawing on the traditional practices and time-tested farming methods of indigenous peoples. The transformation to smart farming is a difficult process and many managers deal with it in different ways. To this end, it is necessary to build National Regional Agricultural Knowledge and Innovation Systems in order to achieve knowledge exchange and innovation processes that will help accelerate innovation. A goal-oriented and well-functioning advisory system is an important determinant of agricultural

and rural development. We need to strengthen livelihoods and ensure that rural communities – often the most vulnerable people in the most vulnerable regions – are resilient to climate change and its effects. Although some progress has been made in achieving sustainable goals, the world needs to do more and do it faster.

5 Conclusion

Agricultural policies, the food chain and consumption are interlinked areas and are reflected in the following policy approaches: policies guiding agricultural development, investment, supporting the various actors in the food system, food chain regulation, fiscal policies, market regulation, food self-sufficiency (food security) and consumer protection, social safety nets, sustainable development policies and environmental protection policies. The transition to more sustainable agri-food systems cannot ignore the economic and socio-cultural importance of the sector. Livestock farming is more than just food production. Innovation will be crucial to reduce the negative impacts of this sector, including the use of agri-environmental approaches, technologies and the circular economy. It is important to points out the importance of ensuring the continuity of farms and preventing threats to employment during the transition to sustainable livestock systems. This transition will need to be supported by public policies and through visibility and economic returns.

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REFERENCES

FAO (FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS). 2011. Global food losses and food waste – Extent, causes and prevention. SAVE FOOD: An initiative on Food Loss and Waste Reduction [online]. Rome. 37 s. ISBN 978-92-5-107205-9 [cit. 2020-03-15]. Dostupné na: http://www.fao.org/docrep/014/mb060e/mb060e.pdf

Global Panel on Agriculture and Food Systems for Nutrition. 2020. *Future Food Systems: For people, our planet, and prosperity*. London, UK. 2020. 203 pg. ISBN 978-0-9956228-5-2

KHORSANDI, Peyvand. 2020. WFP chief warns of 'hunger pandemic'as Global Food Crises Report launched. [online] *World Food Programme Insight*, 2020. [cit. 2020-05-05] Dostupné na: https://insight.wfp.org/wfp-chief-warns-of-hunger-pandemic-as-global-food-crises-report-launched-3ee3edb38e47

Nayak, Rounaq; Waterson, Patrick. 2016. *The assessment of food safety culture: An investigation of current challenges, barriers and future opportunities within the food industry*. Loughborough University. Journal contribution. https://hdl.handle.net/2134/23304

WHO (WORLD HEALTH ORGANIZATION). 2015. World health statistics 2015. World Health Organization, 2015. 161 s. ISBN 978-92-4-156488-5

WORLD HEALTH ORGANIZATION (WHO), 2020a. Overweight and Obesity. Fact Sheet, [online]. *World Health Organization, 1 April 2020*. [cit. 2020-05-05] Dostupné na: https://www.who.int/en/news-room/fact-sheets/detail/obesity-and-overweight

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