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SHORT FOOD SUPPLY CHAINS IN BULGARIA – SUSTAINABILITY AND DISRUPTIONS

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ABSTRACT

Short food supply chains have the potential of improving local food production and provide the population with high quality fresh food. The sustainability of these chains has come under question last year (2020) due to the disruption caused by the pandemic and the lack of preparation for it.

The goal of this study is to analyze the sustainability of short food supply chains in Bulgaria and identify the main sources for their disruptions.

In order to achieve this goal, the following tasks must be solved: to analyze the state of short food supply chains in Bulgaria; to evaluate the level of sustainability of these chains, and to discover and present the main sources for disruptions of short food supply chains in Bulgaria.

Key words: agriculture, competitiveness, logistics

INTRODUCTION

Sustainable development of the food chain in Bulgaria is a priority in several programs, both at national and European level, as it provides food for the population and is directly related to the use of natural resources. The functioning of the food chain in Bulgaria in the separate sub-sectors and sectors of agriculture is distinguished by a few peculiarities. It is determined both by the opportunities provided for access to the European common market and by some challenges in the field of production, trade, and consumption.

The theory of sustainable development connects many economic and non-economic scientific fields, where it is considered in economic, biological, social, technological, and most often in environmental terms. Sustainability depends on many factors and especially on the achieved level of social development, presented as a result of the interaction of different forms of capital - natural, material, human and social.

The problem of the functioning and development of food chains has been the subject of several studies relatively recently. Its relevance is growing due to the new challenges facing each element of this chain. In-depth studies on the condition and stability of the food chain are lacking.

METHODOLOGY

The main methods used in solving the research problems and achieving the goal are: literature review of available research in peer reviewed jurnals with significance to the topic, comparative analysis of the proposed policies and presentation of relevant institutional framework for support of short food supply chains.

RESAULTS AND DISCUSION

The interest in short food supply chains (SFSCs) is mainly due to the fact that they are widely recognized as innovative initiatives that allow

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farms to increase their participation in the local market in order to better control the prices of their products and become more independent in what and how they produce. These initiatives are designed to strengthen their position in relation to the monopolized power of large distribution companies that seek to control global food chains (Ilbery, B., Maye, D., 2005).

Several authors have examined the impact of the CAP on the functioning of the food chain: Lines Thomas, (2009) EU Food and agriculture. Policy for the 21st Century. Alternatives to the CAP. www.tomlines.org.uk; Matthews Allan (2011); Mishev Pl., N. Ivanova, (2004); Marsden, T., et al., (2000), Mundler, P., (2016), Zhang, X., et al., (2020).

The new SFSC food chain model can be defined as "a supply chain involving a limited number of economic operators engaged in cooperation, local economic development and close geographical and social relations between producers, processors and consumers" (European Rural Development Regulation (1305/2013). The food supply chain has the potential to develop in the future. Above all, this development will be in line with the requirements of European legislation - aimed primarily at improving conditions in the various sectors and sub-sectors of agriculture. Short supply chains are also supported by the Rural Development Program (2014-2020) under Priority 3: Promoting good organization of the food chain, incl. processing and marketing of agricultural products, animal welfare and risk management in agriculture and Priority 3A: Improving the competitiveness of primary producers by better integrating them into the agricultural and food chain through schemes for quality improvement aimed at adding value to agricultural products, promotion of local markets and short supply chains, producer groups and organizations and interbranch organizations.

The wide distribution of sales channels concentrated in a limited number of companies allows them to put pressure on small farmers with low purchase prices for their products, the obligation to provide products with specific characteristics under strict delivery conditions. In this sense, SFSCs are a game changer representing a social innovation that allows smallholder products to oppose food standardization. In the presence of direct contact with consumers, additional characteristics are transmitted to the authenticity of the product, the farm in which they are produced and the adjacent territory. Participants in short food supply chains have increased their knowledge and information about food and its origin. Short supply chains (SFSCs) are suitable for trading in high-quality products, while promoting sustainability, cost-effectiveness, reducing food waste, eating healthier and more sustainable food, and ethical considerations.

The main difference in the distribution of short food chains from those of long ones refers exclusively to the number of intermediaries (maximum one in short supply chains) linking production and consumption. However, some authors consider that this definition can be quite confusing and limited in terms of defining the "alternative" nature of these practices. According to Lyson (Lyson, TA, Green, J., 1999) some world food systems meet the requirements to be considered as a single mediator, but other social criteria must be introduced to achieve social goals such as the value of cooperation. Parker (Parker, G., 2005) believes that not only is it necessary to have a small number of intermediaries, but the geographical distances between consumption and production must also be short. Marsden (Marsden, T., et al., 2000) and Renting (Renting, N., Marsden, T., 2003) argue that the key element determining short supply chains has more to do with the organizational dimension - participation and horizontality, operating between the two ends of the food chain, which allows for the creation of new forms of food management. Whatmore (Whatmore, S. et al., 2003) consider that the fair redistribution of power and added value in the chain are the main aspects determining SFSC. In this sense, it should be emphasized that the "functions" of traditional marketing agents are not eliminated. Rather, they are taken over by the manufacturers and the only element eliminated is the speculative nature of the marketing agent.

The short food supply chain, often referred to in the literature as the direct or local food supply chain, can be identified by two main characteristics: "production, processing, sale and consumption of food in a very small geographical area (territory) and the number of intermediaries in the chain is minimal" (Todorovic, V., 2018).

The food supply chain can be defined as 'short' when there are short distances (the distance as a physical dimension that covers the range in which the product passes between the start and end point in the chain), or only several (or zero) intermediaries between producers and consumers (distance as a social dimension, which includes direct interaction and exchange of information between producers and end consumer). SFSC was initially identified as an example of farmers' 'resistance' to modernizing their food production and distribution system, in line with the development of global retail chains. The resistance is reflected in the fact that direct consumer sales bypass intermediaries, thus creating an opportunity to increase profits for producers and identify new market niches.

From an agricultural market perspective, short food supply chains (SFSCs) are an alternative to traditional supply chains. They fully respect the principles of sustainability (economic, environmental, and social) and participate in the economic strengthening of a country by stimulating the income of food producers by supporting small farms and businesses. SFSC achieves competitive pricing compared to the global food chain, by excluding the intermediary fee and thus the selling price is easier to control. For example, in the global conventional food chain, consumers buy food at three to four times the price paid to producers. SFSC has a positive impact on the employment rate, strengthens the sense of sustainable agriculture and influences the social development of a region (especially rural areas) by preserving local communities and social justice (strengthening local economies). Environmental criteria are also influenced by SFSC. As producers have a greater number of interactions with end-users, they can adopt more sensible agricultural methods by reducing the use of chemicals at the request of consumers (Todorovic, V., et. Al., 2018).

Environmental aspects of short food supply chains

Short supply chains have less negative impact on the environment, which is explained by the reduction in kilometers traveled (distances between place of production and consumption). The longer consumers have to travel to buy a product, the greater their impact on the environment, CO_2 emissions and noise pollution. In order to measure transport emissions more accurately, it is necessary to take into account the different modes of transport, equipment and different types of fuel. Some authors equate shorter transport with less energy consumption, while others believe that short supply chains generally have weak energy characteristics. Many consumers try to reduce the harmful effects on the environment by consuming locally produced food.

A sustainable food system must have little impact on the environment, and organic production is one of the best ways to achieve this goal. However, even SFSCs in organic farming are not automatically considered to be organic, nor can it be generalized that conventional cultivation systems and supply chains are in any case more environmentally intensive than SFSCs. The sustainability and effectiveness of SFSC product quality are closely linked to the local context and the market situation in which they operate. Local food systems using organic methods are increasing worldwide, but little is known about their carbon footprint.

Economic aspects of short food supply chains

Food production practices aimed at increasing yields often create externalities that increase the costs of regulating and maintaining ecosystems, such as regulating soil quality and other natural resources. This necessitates critical thinking about how digital agriculture can be applied, which can favor maximizing food production only through a technological solution within an industrial production model. This presentation of the relationship between the problem and the solution can mask the ways in which people choose not only which technologies to develop, but also how to implement them. Digital agricultural innovation deserves a careful assessment of the contribution they can make to tackling the great challenges of the 21st century. It is extremely important to think carefully about social and technological changes in agriculture. Can we imagine using emerging digital technologies that don't just replicate existing systems? In what specific context do we see digital tools applied and significantly, according to which principles (eg. productivity versus biodiversity)? Here, researchers of ecosystem

services can offer a lot, taking into account the consequences of different models of digitalization of agriculture in the future, analyzing the impact and trade-off of digital agriculture and its relationship with different types of future food systems. These analyzes can shape the processes of responsible innovation. The implementation of digital agriculture models in Bulgaria must be part of a larger framework allowing for consideration of all externalities in order to avoid mistakes made by more experiancesd countries.

In terms of economic sustainability, short retail chains can support local and regional development, contribute to consumer food quality and job creation (Mundler, P., 2016). SFSCs are mainly used by relatively small farms. They integrate the functions of the supply chain but must be connected horizontally. In many cases, the participation of producers in SFSC is motivated by interdependence, self-employment, or by direct sales to the consumer, avoiding retail and wholesale trade. In this way, they can get a higher return. In short supply chains there is an opportunity to get more added value for producers. Non-financial motivations for participation can be: preserving tradition, creating and maintaining relationships with customers, protecting local values and environmental factors, such as sustainability and natural or cultural environment. Limited local demand and seasonality are disadvantages of these chains. According to Zhang (Zhang, X., et al., 2019), SFSCs can have a positive impact on local economic development. The income generated by the participants can remain in the local economy.

Social aspects of short food supply chains

The social aspects of sustainability in supply chains can be analyzed through consumer behavior and its impact on system performance. The supply chain can increase its socio-environmental and economic performance by motivating consumers to green consumption and consumers to motivate producers and suppliers to change the way they work in this regard. Production methods and methods can significantly influence consumer decisions. Maintaining local producers can be an important motivating factor for consumer participation in SFSC. The success of farmers' work depends on the support of the community. Loyalty and trust can contribute to the progressive development of SFSC. The long-term viability of SFSC strongly depends on customer satisfaction. The social and environmental side of agriculture can also be a motivating factor for consumers. Increasing and maintaining the well-being of others is in line with the main objectives of short supply chains. Even antipathy to the dominant consumer culture can motivate customers to buy at SFSC. The visibility of food production and its natural and seasonal limitations can encourage customers to handle food sparingly and responsibly.

Customers usually have a positive attitude towards the place of production, but this in itself does not mean that they are able and willing to pay premium prices for local products. Local food is usually more expensive than conventional products due to low production volumes and high transport costs.

CONCLUSION

The involvement of producers in short food supply chains is motivated by the need for self-employment or direct sales to the consumer, avoiding retail and wholesale trade. This allows these producers to get a higher return cost-effectiveness and better economic performance, as well as eliminate some of the risks associated with the market. Short retail chains support local and regional development, contribute to improving the quality of food for consumers and creating jobs for the local population.

The success of short supply chains in economic and social terms depends on the support of the community, based on the trust between producers and consumers, which is based on personal relationships between them. Customers are often required to pay higher prices for locally produced products, which can be unaffordable for households with severe budget constraints. The main problem facing the development of short food supply chains remains the level of consumer confidence as a social element, and the economic element is the inability to pay higher than average market prices for locally produced products.

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