

OPPORTUNITIES FOR THE DEVELOPMENT OF THE LOCAL FOOD SYSTEM BY IMPLEMENTING THE BUSINESS-TO-GOVERNMENT (B2G) MODEL

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ABSTRACT

The public sector sales market, dominated by the Business-to-Government (B2G) model, is large and important for economic development and community sustainability. It is similar but different to, in several key aspects, other markets, such as retail, 'Business-to-Consumer' (B2C) and 'Business-to-Business' (B2B). There is a lack of knowledge and a systematic approach to how the Business-to-Government (B2G) model works, and what opportunities exist to transform existing food systems into inclusive and sustainable local food systems. This paper explores the implementation of the Business-to-Government (B2G) model at the municipal level. It also examines changes in public procurement regulations, and their impact on the ability of local food producers to implement the B2G model when organising meals for children in pre-school institutions, where a short food supply chain strategy is applied. The business model of farmers in the Rokiškis district, who participated in the EIP project and applied the principles of the short food supply chain to sell their products to contracting authorities, is described. The advantages and disadvantages of the B2G model, and actions to address the disadvantages, were identified. In the case studied, the potential for local food supply has not yet been fully exploited. Local farmers' cooperatives, as an innovative form of food system, can be both inclusive and effective, but it is necessary to continuously analyse how the needs of both local product consumers and cooperative members are being met. Based on the concept of co-production, a collective process of creating alternative food supply chains and supply practices should be developed, to help establish connections and develop relationships, and enable farmers and consumers to develop appropriate solutions, taking into account the specific needs of production and consumption systems.

KEY WORDS: *Business-to-Government (B2G), short food supply chain, stakeholders, co-production.*

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Introduction

Achieving sustainable development goals requires a transition to a new pattern of economic growth that is compatible with environmental protection and the sustainable use of limited natural resources, while ensuring significantly higher living standards and reducing poverty (Bosman, Rotmans, 2016; Lithuanian Bioeconomy..., 2017). The global strategy 'Food 2030' has identified, and countries have agreed on, four priorities, which are ultimately related to nutrition or sustainable and healthy diets, climate-resilient and environmentally sustainable food systems, circularity and resource efficiency of food systems, and innovation and empowerment of communities (Food 2030; 2018). A strategy for developing short food supply chains could be a tool for achieving these goals. The opinion of the European Economic and Social Committee

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(17-07-2019) ‘Promoting Short and Alternative Food Supply Chains in the EU. The Role of Agroecology’ emphasises that ‘short supply chains are capable and suitable tools for addressing food security challenges. They could become a key pillar in the development of policies aimed at ensuring sustainable food supply systems and achieving sustainable development goals within 10 years (by 2030).’³

Food systems are unsustainable (Crippa et al., 2021), and operate in a high-risk environment (Ericksen, 2008). The importance of short food supply chains and local production has increased, and food security has become a strategic area of national security and resilience due to the Covid-19 pandemic (Jarzębowski, Bourlakis, Bezat-Jarzębowska, 2020), rapid climate change (Crippa et al., 2021; Schiller-Merkens, Machin, 2023), and the war in Ukraine, which has disrupted normal food supply chains. Assessing the vulnerability of modern food systems to increasing global environmental change trends, many of which are largely determined or caused by humans, is no easy task. There is still an insufficient understanding of what vulnerability means in this type of socio-ecological system (Ericksen, 2008).

Lithuania’s policy is more focused on supporting technologies and investment that promote increased productivity in agriculture, without addressing issues of sustainability and healthy food production or consumption. However, with the EU’s decision to become the first climate-neutral continent by 2050, and to de-link economic growth from resource use,⁴ member states, including Lithuania, having assumed the relevant obligations, and must change their thinking and policies.

It can be assumed that the creation of sustainable and flexible local food systems is the main tool for achieving the Sustainable Development Goals,⁵ and a transformative tool for transitioning to a local food system (Schiller-Merkens, Machin, 2023). The benefits of short food supply chains for the national and local economy, as well as for rural social development, are undeniable. Local food systems developed by municipalities can contribute to solving regional development problems, help accelerate the transition from a linear to a circular economy, and increase the resilience of local communities to geopolitical and other crises. The principles of developing short food supply chains create a need for new solutions: cooperation in the production of agricultural products and food, processing, distribution, consumption, and waste management in a specific area.

The development of local food systems (LFS) is on the national and regional policy agenda of every EU country, but, as has already been mentioned, assessing their vulnerability is very challenging. EU countries cooperate extensively to ensure that the food they produce meets common standards and safety requirements, and they also cooperate in providing aid to countries in need.

A study on the need to organise LFS in Lithuanian pilot municipalities (Pakruojis, Jurbarkas, Molėtai and Radviliškis) (Atkočiūnienė et al., 2018) showed that the main problems in organizing LFS are the lack of a unifying leader with knowledge and motivation, and that the short food supply chains that are being developed are not cooperative and inclusive, and therefore do not provide sufficient development force for local food systems to be formed. A study by Šumylė et al. (2018) showed that the creation of LFS in Lithuania is fragmentary and inconsistent, with more bottom-up initiatives at the beginning of the process, but these initiatives later fade away due to a lack of cooperation. According to scientists, cooperation would be strengthened by a common and clear goal linking all participants in the system (Šumylė et al., 2018). So far, there is a lack of knowledge and a systematic approach on how to transform existing food systems into inclusive and sustainable local food systems (Kump, Fikar, 2021; Schiller-Merkens, Machin, 2023). The latter study assumes that the development of the Business-to-Government (B2G) model, which has a multiplier effect (Morcov, Puiu, 2023), can accelerate the transformation of the food system. So far, there are insufficient measures and methods to support the B2G market (Morcov, Puiu, 2023).

³ Opinion of the European Economic and Social Committee of 17 July 2019 on ‘Promoting Short and Alternative Food Supply Chains in the EU: The Role of Agroecology’. Access online (viewed 15/05/2025): <https://eur-lex.europa.eu/legal-content/LT/TXT/HTML/?uri=CELEX:52019IE1463>.

⁴ Communication of the European Commission on 11 December 2019 European Green Deal. Access online (viewed 15/05/2025): <https://eurlex.europa.eu/legal-content/LT/TXT/?uri=COM:2019:640:FIN>

⁵ United Nations General Assembly Resolution of 25 September 2015 ‘Transforming our World: The 2030 Agenda for Sustainable Development’. Access online (viewed 15/05/2025): <https://lithuaniasdg-ls-osp-sdg.hub.arcgis.com/>

The research object is the implementation of the Business-to-Government (B2G) model.

The research problem is formulated by raising several questions:

1. What are the possibilities for implementing and developing the Business-to-Government model at the municipal level?
2. What concept of production or co-production is applied when implementing the Business-to-Government model?
3. What collective process of developing alternative (short) food supply chains and product sales practices, based on the concept of co-production, would contribute more to the creation of a local food system?

The research aim is to define the challenges and opportunities in developing a local food system by implementing a Business-to-Government (B2G) model, and to identify methods that promote changes in the development of the food system.

Research methodology. This study took a qualitative longitudinal approach. Research methods such as analysis of scientific literature, systematisation, case analysis, synthesis, comparison, and others, were applied. Research data was collected using the snowball method from secondary scientific sources. In the empirical study, the authors sought to link theoretical LFS models with the short food supply chain (SFSC) strategy, where the B2G model is applied, which helps to concentrate demand and enter the large public sector market (Josephson et al., 2019).

The case study method was used in the research. The project selected was ‘Creation and Implementation of a System of Short Food Supply Chains Using Locally Grown Produce in the Public Sector’, implemented between 2022 and 2024. The project was implemented by the Lithuanian Chamber of Agriculture, in collaboration with six farmers from the Rokiškis district and the Institute of Economics and Rural Development of the Lithuanian Social Sciences Centre. The aim of the project was to develop and implement a system that would enable agricultural entities to supply locally produced goods to public sector institutions (schools, kindergartens, nursing homes, etc) without intermediaries. The system would reduce the administrative burden on both the contracting authorities and agricultural entities participating in public procurement, ensure a fair income for agricultural producers, and, as the supply of products would be coordinated, it would reduce logistics costs and the negative impact of transport on climate change.

The authors took the approach that scientific works focused on shaping food system transformation policy require a ‘holistic approach’ (Guyomard et al., 2012) when drawing on various scientific disciplines, ‘defining an appropriate agenda for action’, with a particular emphasis on the relationship between science, competence and citizens (Bäckstrand, 2003). Therefore, one of the researchers and authors of this article participated in the implementation of the EIP project introducing the Business-to-Government (B2G) model.

In order to assess the continuity of the B2G model implemented during the project, i.e. its ability to operate independently without project support, a discussion was organised among a group of stakeholders on the advantages and disadvantages of the model, and how the disadvantages could be eliminated (Table 1).

The research methodology included data collection through the organisation of one focus group discussion, data systematisation, analysis and evaluation. Eight case study participants took part in the discussion: five farmers developing SFSC, and three representatives of the public sector. Due to the limited scope of the article, only some of the research data is presented. The stakeholder discussion was coherent and open, and helped clarify terminology and reveal new insights. Both positive and negative responses and feedback were equally valued in the discussions.

The study is not extensive, therefore certain limitations have been identified. One of the narrower forms of the B2G model application is analysed is feeding children with local products in public institutions when the SFSC strategy is applied. The case study, a qualitative, exploratory method, was conducted in the Rokiškis district. It helped the researchers gain an initial understanding of a new and little-studied field of the application of the B2G model.

Table 1. Characteristics of focus group discussions

Method	Qualitative research, focus group discussion
Number and duration of discussions	I discussion, duration: 83 min.
Date and place	19 June 2024, in the Rokiškis district municipality
Criteria for selecting participants in focus group discussions	Business-to-Government (B2G) model for organising the catering for children with local products in public institutions where the SFSC strategy is applied, group representation: local farmers and their cooperative administration staff, representatives of contracting authorities (administrative manager and employees of the Public Procurement Department). Convenience sample principle
Questions raised during the discussion	What encourages the continued implementation of the Business-to-Government (B2G) business model, which organises the provision of local products for children's meals in public institutions, when the SFSC strategy is applied? What weaknesses and barriers did farmers and their cooperatives encounter when implementing the business model? How can these weaknesses and barriers be eliminated?
Research process	The group discussion took place in a friendly and sincere atmosphere; participants developed each other's ideas, understood the questions well, and were interested

1. Theoretical approach

Research and innovation play a key role in ensuring that countries' food systems are more resilient, sustainable, responsible, diverse, competitive and inclusive (Caron, Ferrero y de Loma-Osorio, Nabarro, Hainzelin, Guillou, Andersen, Verburg, 2018). 'Inclusive and sustainable food systems are necessary not only for achieving SDG 2 but also as a contribution to the whole of the 2030 Agenda for Sustainable Development. Sustainable food systems may contribute to four outcomes: 1) enabling all people to eat nutritious and healthy diets; 2) regenerating ecosystems; 3) mitigating climate change; 4) encouraging social justice through focusing on the resilience and well-being of poorer rural communities' (Caron, Ferrero y de Loma-Osorio, Nabarro, Hainzelin, Guillou, Andersen, Verburg, 2018, 40).

Food systems encompass a set of processes, activities and outcomes, from production to consumption, that encompass human, environmental, economic and cultural aspects. The definition of food systems encompasses more than the production and supply of insufficient food, as it is a system whose functioning is vulnerable (Ericksen, 2008). This must include the provision of safe and biologically valuable food for healthy and sustainable diets (quality), while ensuring the accessibility and affordability of food products (Bentsen, Pedersen, 2021).

Food supply chains play a special role in the food system and are important (Fig. 1), and a holistic approach is applied to their management (Midgley, 2016). In the studies by Lankauskienė, Vidickienė and Gedminaitė-Raudonė (2022), the development of short food supply chains is presented as an innovative change, a transition from a linear model to a network model, where interactions are formed. Two main groups cooperate directly in this network: farmers and food producers, and consumers. This structure not only strengthens the ability of the entire supply chain to create synergies (network effects), but also stimulates demand for new business models. The local food system creates complex benefits at the local, regional and national levels, to the environment, the community and society, and individuals (Table 1).

The public sector market, also known as the Business-to-Government (B2G) model, is particularly important for the development of the local food system, as it is considered to be large in scope and with great potential (Morcov, Puiu, 2023). In the context of local food systems, the B2G model stands out by its particularly high multiplier effect (Short Food Supply Chains..., 2020; Atkočiūnienė et al., 2021; Morcov, Puiu, 2023). The B2G market is large, reaching €2 trillion per year in Europe, but it is under-researched and lacks

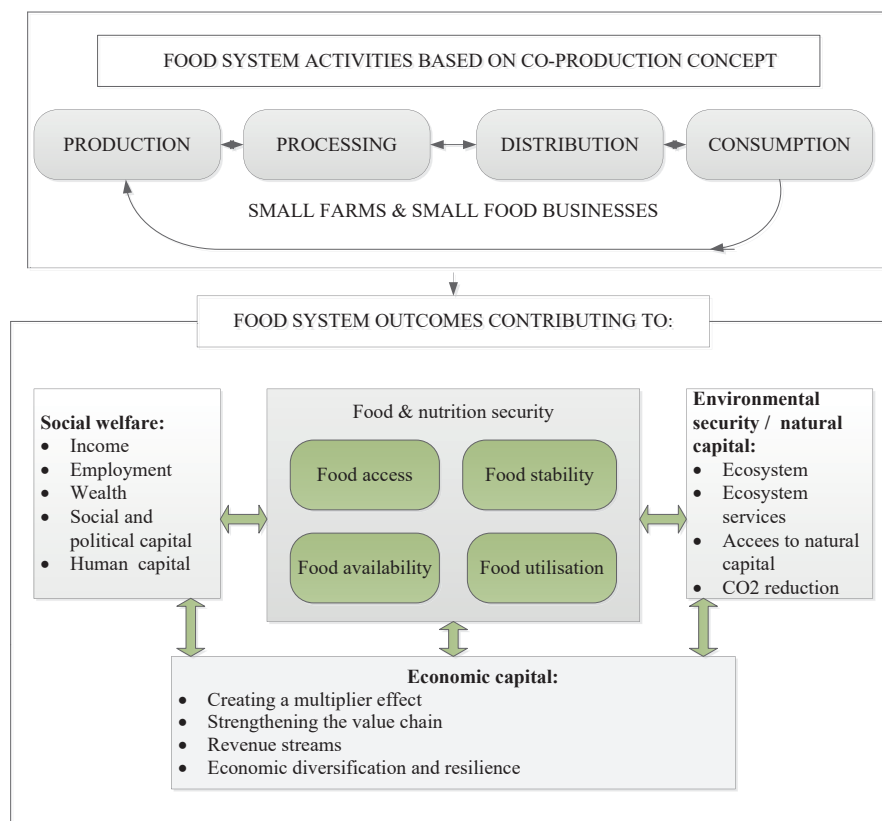


Figure 1. A food system based on the conceptualisation of cooperative and individual short food supply chains (Eriksen, 2008; SALSA, 2020; Caron, Ferrero y de Loma-Osorio, Nabarro, Hainzelin, Guillou, Andersen, Verburg, 2018; Bentsen, Pedersen, 2021)

appropriate tools and methods. Public procurement is difficult to access and requires specialised expertise and significant initial investment (Morcov, Puiu, 2023). B2G is similar, but distinct from other markets, such as retail Business-to-Consumer (B2C) and Business-to-Business (B2B) (Kenton, 2021; Morcov, Puiu, 2023).

The public sector sales market is not yet frequently analysed, researched or officially defined. It is often analysed in the context of short food supply chains and the development of public food systems, with particular attention being paid to the organisation of public procurement. The terminology is still not well defined, and researchers are trying to find a more accurate term in their studies. Thus, there are various alternative names used for the domain, such as Business-to-Government (B2G), Public Sector (PS), Public Procurement (PP), Business-to-Public-Administration (B2PA), and Business-to-Public-Sector (B2PS).

Co-production methods are increasingly being applied in research into the transformation of food systems (Bentsen, Pedersen, 2021; Shaw et al., 2024). Co-production methods are variable, because goals are dynamic, and connections, relationships and deadlines can change during the process. The food system itself is a complex and intricate network of interconnected actors and activities (Parsons et al., 2019; Hasnain et al., 2020). This calls for systemic thinking and a shared perspective among stakeholders, the importance of co-production, and recognising the complex power dynamics of stakeholders, the diversity of perspectives and non-linear processes (Midgley, 2016).

The analysis by McMullin (2022) showed that different priorities are given to different types of collaborative production when addressing the same social problem, which is partly shaped by the cultural and political context. For example, in England, individual and group collaborative co-production prevails, aiming to create value for the consumer and the group, while in France, collective collaborative co-production is

Table 2. Social benefits generated by local food systems (LF)

Benefits generated by local food systems		
To the environment	To the community and society	To individuals
<ul style="list-style-type: none"> • Reduce transport costs • Reduce carbon dioxide emissions • Reduce energy consumption • Reduce waste 	<ul style="list-style-type: none"> • The range of biologically valuable products is expanded • Creating new employment opportunities • Promoting solidarity between the population and reducing social exclusion • Strengthening cooperation between the different actors concerned with LFS functioning • Efficiency of public spending, transparency, supplier diversification and participation, public procurement success rate, and project success rate • Public contracts, their suppliers and recipients, SMEs, consulting firms, academia, NGOs, etc, are important • The number of participants in the community spaces of farmers has increased • The promotion of local farmers' entrepreneurship and contribution to economic development in the area 	<ul style="list-style-type: none"> • New interactive relationships with consumers are created • Consumer knowledge and experience are expanded • Consumption of high-quality and biologically valuable food products is encouraged • Consumer attitudes and consumption habits are changed • Entrepreneurship of local farmers is developed • The availability and accessibility of local products on the market are increasing, offer prices are decreasing, the range of offers is wider, the quality of the product is better, and profitability is increasing

emphasised, linked to social and political value. However, the emergence of new trends and the implementation of innovative strategies require additional research and knowledge, both in order to adapt existing models and to develop new solutions for creating local food systems and developing local product markets. It is equally important to understand clearly the possibilities for implementing the B2G model in a specific cultural context and the roles of the stakeholders. The roles of stakeholders reveal an understanding of the concept of co-production through the motivations of stakeholders, the challenges they face, and the actions necessary for the successful implementation of the B2G model within the context of short supply chains.

2. Features of implementing the Business-to-Government model in the Rokiškis district

The Rokiškis district is located in northeast Lithuania and borders Latvia. Rokiškis is equidistant from the main Lithuanian cities of Vilnius and Kaunas, 174 kilometres from each. A total of 28,204 inhabitants live in Rokiškis district municipality.⁶ In 2020, there were 18 general education schools and pre-school institutions in Rokiškis, educating 4,028 children,⁷ and the Rokiškis Nursing Home, which is home to 43 residents.

According to data from the Agriculture Department of the Rokiškis district municipality, 2,919 agricultural entities in the Rokiškis district declared 86,221 hectares of agricultural land (2024). The dominant activity of farmers in the district is crop production. Local farmers declared 22,000 hectares of winter wheat, 7,100 hectares of winter rapeseed, 4,200 hectares of buckwheat, 103 hectares of potatoes, 123 hectares of vegetables, 142 hectares of orchards, 123 hectares of berry fields, as well as nuts, sea buckthorn, shiitake

⁶ Access via the Internet (viewed 15/05/2025): <https://www.lrvalstybe.lt/savivaldybes/rokiskio-rajono-savivaldybe>

⁷ Access via the Internet (viewed 15/05/2025): <https://old.rokiskis.lt/lt/svietimas/mokyklu-sarasas.html>

mushrooms, and other crops. Small and medium-size farms dominate in the district: 1,226 entities declared up to five hectares of land, 1,180 declared between five and 30 hectares, while ten entities declared more than 500 hectares (2023).⁸

Until 2023, local farmers did not take advantage of the opportunity to participate in public procurement organised by public catering establishments in the district (kindergartens, schools, nursing homes, etc), because the public procurement conditions did not match the capabilities of local food producers: the variety of products offered by farmers was limited, and the delivery schedule was unattractive. The contracting authority needed a wide selection of products, and did not have the capacity to store them, so suppliers had to deliver them three or four times a week. This increased the cost of the products, and required additional labour and time.

Since the beginning of 2022, with the entry into force of the National Green Procurement Implementation Programme, the requirement has been introduced that at least 50% (in 2022) and 100 per cent (in 2023) of public procurement by contracting authorities must comply with green procurement requirements. Public procurement must comply with greening requirements, i.e. criteria demonstrating that public procurement aims to reduce negative environmental impacts, promote sustainable production and consumption, and introduce environmentally friendly practices. In the case of the public procurement of food products, at least 30% of the quantity of food products purchased (calculated in kilograms, litres or units) must be certified as organic, or produced in accordance with a national quality scheme, or be registered in the EU register of geographical indications or traditional specialities guaranteed, which attests to their specific origin and production traditions. This requirement applies to each purchase separately, and if the purchase is divided into parts, this percentage must also be ensured in each part. The aforementioned legislative changes have limited the opportunities for local farmers who grow natural but uncertified organic or national quality scheme products to supply them to public sector contracting authorities. Only at the end of 2022, when Article 71(6) of the Public Procurement Law was supplemented, with a provision classifying agricultural and food products purchased from short supply chains as simplified procurement cases that may be implemented through unannounced negotiations, were local farmers given the opportunity to participate in the public procurement of food products organised by local contracting authorities. Changes in public procurement regulations have had a significant impact on the ability of local food producers to implement the Business-to-Government model when organising children's meals with local products in public institutions where the SFSC strategy is applied.

In 2023, the Rokiškis district municipality administration began to organise centrally public procurement for all kindergartens and day centres in the district. In 2023, the project participants – farmers – established a local farmers' cooperative called Ūkio ratas (Farm Circle), whose goal is '...to meet the economic, agricultural and social needs of its members by providing them with means of production, services, manufacturing, processing and marketing of products, as well as engaging in other manufacturing, agricultural and commercial activities, representing and defending the interests of its members in various institutions.'⁹ The Business-to-Government (B2G) model was applied during the project (Fig. 2).

Taking advantage of the exception provided for in the Law on Public Procurement of the Republic of Lithuania,¹⁰ in August 2023 the cooperative signed a contract with the administration of the Rokiškis district municipality to supply local food products (vegetables, fruit, dairy products) to the district's kindergartens and day centres. In 2024, the cooperative's main activities were to strengthen the negotiating power and administrative capacities of its members, and to provide distribution services for products manufactured by its members. In 2024, the district municipality no longer acted as an intermediary, and did not organise centralised public procurement, so the cooperative concluded individual food supply contracts with district

⁸ Access via the Internet (viewed 15/05/2025): <https://rokiskis.lt/naujienos/tendencijos-rokiskio-rajone-zemes-savininku-mazejaukiai-stambeja/>

⁹ Article 5, page 1, of the Articles of Association of the cooperative Ūkio ratas, approved on 2 December 2022.

¹⁰ Law of the Republic of Lithuania on Public Procurement No I-1491, passed on 13 August 1996, consolidated version from 1 February 2025, Art. 71, p. 6, part 19. Access via the Internet (viewed 15/05/2025): <https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/TAIS.30614/asr>

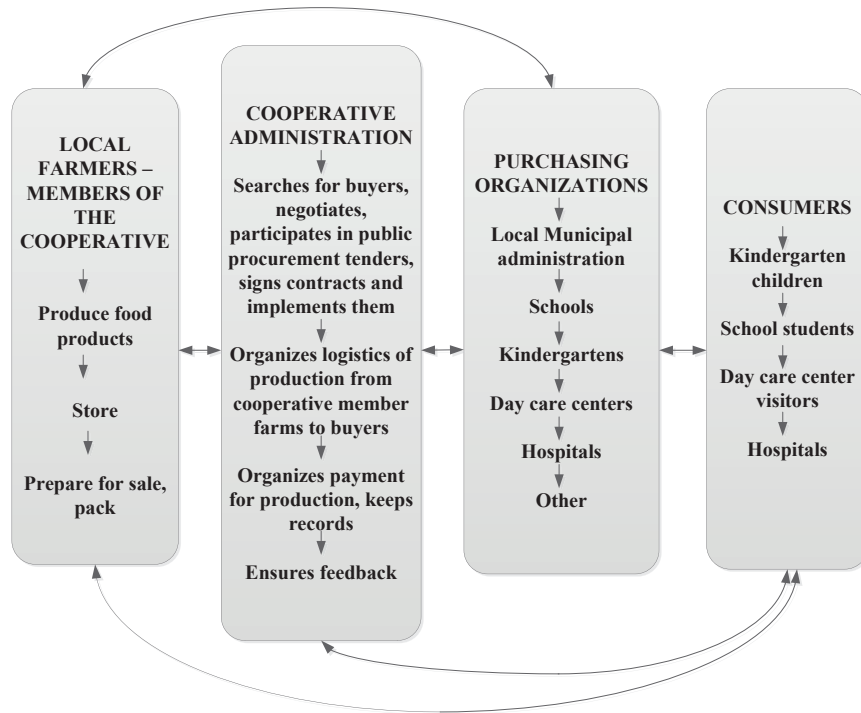


Figure 2. The Business-to-Government (B2G) model for the sale of products by farmers in the Rokiškis district participating in the EIP project and applying the principles of short food supply chains to contracting authorities

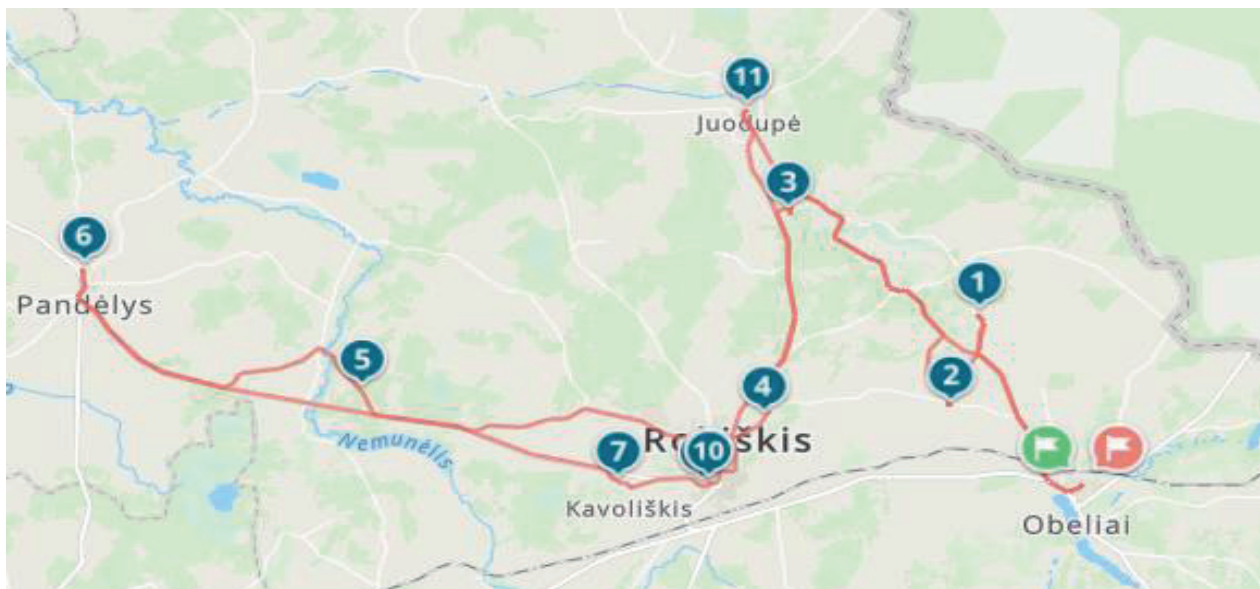


Figure 3. The shortest logistics route for produce from cooperative members' farms to kindergartens

kindergartens, day centres and schools. When organising the logistics of the production of five cooperative members' farms to six kindergartens per day, the cooperative would travel 135.46 kilometres (Fig. 3) on the shortest route, and the route time would be five hours and three minutes. The fastest route would take three hours and nine minutes, but the distance travelled would be 150.98 kilometres. If each of the five cooperative members transported their products separately to the same six kindergartens, they would travel a total of 521 kilometres per day, and it would take nine hours and 29 minutes. In accordance with Regulation (EU) 2019/631 of the European Parliament and of the Council (17-04-2019), setting CO₂ emission standards for new passenger cars and new light commercial vehicles, the average CO₂ emissions of new light commercial vehicles registered in the EU are limited to 147 g CO₂/km for the entire EU vehicle fleet, a reduction of 54.39 kg CO₂ per day, 870.24 kg CO₂ per month, and a theoretical reduction of 10.44 t CO₂ per year.

Four business models for Business-to-Government (B2G) for organising children's meals with local products in public institutions by a group of stakeholders: local farmers, their cooperative, procuring organisations, and consumers (kindergarten children and their parents and guardians) were identified.

Based on the collected data, the advantages and disadvantages of the Business-to-Government (B2G) model for organising children's meals with local products in public institutions when the SFSC strategy is applied in the Rokiškis district were identified, and the actions to eliminate the disadvantages were determined (Table 2).

Table 2. Advantages and disadvantages of the Business-to-Government (B2G) model for organising children's meals with local products in public institutions when the SFSC strategy is applied in the Rokiškis district, and actions to overcome the disadvantages

Actors in the B2G model	Advantages	Disadvantages	Required actions
1. Local farmers	New sales channel; Positive feedback from new local consumers, parents of kindergarten children, about the quality and benefits of the products for children's nutrition; Lower transport costs and CO ₂ emissions, thanks to centralised delivery of products four times a week to all kindergartens in the district	Due to the excessive amount of production contracted, farmers lose the opportunity to sell their remaining production at their discretion during the most favourable period on the market; The amount sold is very small compared to the total production of the farm; Additional labour and working time are required, because the produce must be weighed and packaged in non-standard packaging according to the daily needs of each nursery. There is no additional income from other markets	<i>The following actions were taken:</i> In 2024 and 2025, the cooperative's administration agreed on less frequent deliveries (twice a week) and more standardised packaging, which slightly reduced costs and the need for additional work. However, it has not yet been possible to resolve. <i>Planned actions:</i> Search for new sales channels and penetration of new local markets (e.g. catering for children's camps); Establish contacts and build relationships with consumers

Actors in the B2G model	Advantages	Disadvantages	Required actions
2. Farmers' cooperative	Three part-time workplaces have been created; The circle of like-minded farmers is growing: greater bargaining power for the cooperative	High administrative costs that are not covered by the price of purchased products; In the first years of the project (2022 and 2023), it was not possible to participate in public procurement, due to the greening requirements set for public procurement A lack of cohesive leadership and common, clear, united values	<i>The following actions were taken:</i> In 2024 and 2025, the number of contracting authorities was expanded to include several schools and nursing homes, and the supply of products was coordinated twice a week, which slightly reduced the administrative burden and logistics costs of production, However, the volume and price of product sales are not yet sufficient. <i>Planned actions:</i> Further expansion into neighbouring districts is planned. Initiate training on children's nutrition in educational institutions
3. Purchasing organisations	Contributing to the promotion of the local economy, strengthening the resilience of local farms, maintaining the diversity and vitality of rural economic activities; Promotes a healthy diet, which in the long run reduces the need for health services; Contributes to CO ₂ reduction; Leaders in supporting local farms	An additional administrative burden that does not create added economic value, because instead of a single public procurement, where the entire range can be purchased from one major supplier, it is necessary to organise several public procurements, or, using the exception provided for in the Law on Public Procurement of the Republic of Lithuania, to organise a procedure that is still unusual: unannounced negotiations, which requires additional time to analyse the requirements for this procedure; The price of local products is not competitive enough. Additional investment is needed to store the products	<i>Planned actions:</i> It is necessary to involve other local institutions (e.g. municipal public health offices) in programmes promoting children's education and healthy lifestyles for families, as well as healthier eating habits. Be more active in getting involved in the co-creation process.
4. The consumer community	Healthy, seasonal, fresh food products; High content of nutrients, vitamins and antioxidants; Positive feedback from parents of kindergarten children about the quality and benefits of the products for children's nutrition	Lack of information and knowledge about healthy foods; The consumer community does not feel any 'tangible benefits'.	<i>Planned actions:</i> Cooperative members should establish and develop closer ties with parents and children, and organise food delivery and tasting sessions; New educational programmes for children on food production are needed (e.g. broccoli and strawberry, education on the basic principles of healthy living, agricultural production, food production). It is necessary to involve other local institutions (e.g. the municipal public health office) in children's education programmes

The project ‘Creation and Implementation of a System of Short Food Supply Chains Using Locally Grown Produce in the Public Sector’ lasted only three years (2022 to 2024), but the process of organising activities was very complex and challenging. Some of the actions were carried out, but some of the shortcomings identified during the interviews could not be eliminated (Table 2). The goal of the project was achieved. A system was developed and implemented that enables agricultural entities to supply locally produced goods to public sector institutions (schools, kindergartens, nursing homes, etc) without intermediaries. However, so far, the cooperative’s functions are more infrastructural than value-added: narrow logistics services, with only weak links between short food supply chain developers. Local authorities and consumer communities are not fully involved, and the co-creation process has not yet taken shape. There is a one-sided relationship between the cooperative and the purchasing organisation. The public sector and cooperatives have not yet become a platform for cooperation where producers, consumers and institutions create a food and catering model together (more of a social innovation than just supply). The system created by the model reduces the administrative burden on more agricultural entities participating in public procurement, but due to low sales volumes does not ensure higher incomes for agricultural producers, and does not create greater synergies. So far, the main focus has been on simple supply to order, operating under the traditional public procurement scheme and applying the traditional concept of production. In implementing the short food supply chains strategy, farmers and the newly established cooperative focused their attention and activities on the concept of production rather than co-production. After analysing the case of the Rokiškis district, and integrating the data from the analysis of scientific literature, a collective process of developing alternative (short) food supply chains and product sales practices based on the concept of co-production was identified. The collective process, in which all interested groups participate, is based on similar but also different principles (the values of the interested parties), that would help establish contacts and develop relationships, and enable cooperating farmers, the purchasing organisation and consumers to work together to create sustainable solutions, taking into account the specific needs of production and consumption systems (Fig. 4).

Production and co-production describe different relationships between the producer, consumer and other participants in the chain. Production refers to the traditional approach: the farmer or producer is responsible for food production, and makes decisions about technology, products and cultivation methods, while the consumer plays a more passive role, simply purchasing the final product. The relationship was ‘one-way’: producer-consumer. When implementing the Business to Public Sector model, the role of the consumer is played by two institutions, the contracting authority and the consumer community (children, parents and guardians), which creates a problem of information asymmetry. When the concept of co-production is applied, a more modern, cooperation-based approach emerges, whereby consumers become active participants in the production process. Consumers can contribute: with their knowledge (e.g. by expressing their needs regarding product types, quality, ecology), through direct participation (tasting, farm visits, events), and financially (through food basket subscriptions, and community-supported agriculture, or CSA). This creates a partnership between the producer and the consumer, reduces the gap, and strengthens trust and community spirit.

By applying the concept of co-production in the B2G model, the relationship between producers, the public sector and consumers can become one of partnership: the public sector, farmers, food service providers and the community work together to create a food supply system. There are various forms of stakeholder involvement and participation:

Participation in planning: representatives of the public sector, parent communities or guardians can express their needs regarding the menu (e.g. more organic or local products).

Adaptation of public procurement: together with the municipality and farmers, the contracting authority sets criteria (e.g. shorter supply chains, seasonality, social criteria).

Strategic partnerships: the public sector enters into long-term contracts with local suppliers, reducing the risk for farmers or assuming part of the risk.

Education: schools not only serve local food, but also organise educational activities, whereby farmers or other local institutions are invited to introduce children to agricultural products and food production.

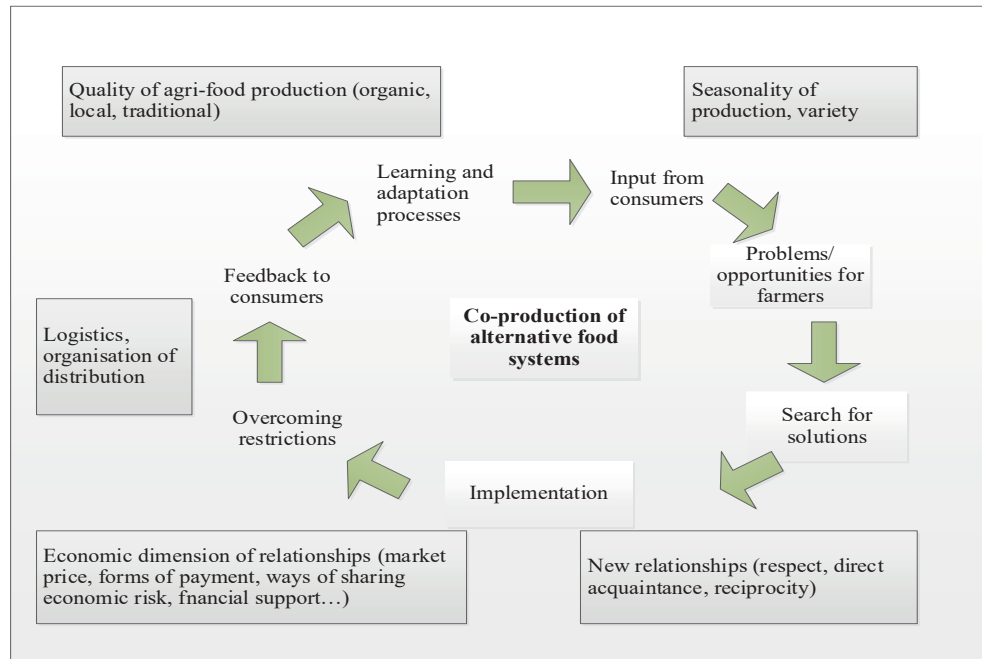


Figure 4. Collective actions of implementing the Business-to-Government (B2G) model, and the process of adhering to the co-production concept, when applying the principles of the development of short food supply chains

In this case, consumers (e.g. children and their parents, students, patients) become indirect co-producers, through community representatives and decisions, and shape what food they receive.

According to the researchers, the 7-step process (Fig. 4) would not only help to ensure multi-stakeholder relationships, but would also help to form new relationships, shared collective knowledge, and values.

Values therefore become one of the most important elements when the B2G (Business to Government) model is applied to short food supply chains.

1. Values are important, because the public sector has a social mission to fulfil. Schools, hospitals and care institutions are not ‘ordinary customers’. They are responsible for public health, education, child welfare and social justice. Therefore, not only are prices important, but also values, such as health, quality, sustainability and social responsibility.

2. The B2G model often sets precedents. After all, when the public sector involves local farmers and chooses organic or seasonal products, it sets an example for the community. In this way, B2G responds to broader societal goals (mitigating climate change, strengthening the regional economy).

3. In the logic of the co-production concept, values bring stakeholders together. Farmers, the public sector and consumers may have different interests (farmers want stable incomes, municipalities want lower costs, consumers want healthy food). Values (e.g. healthy nutrition for children, support for local farms, environmental protection) create a common basis for dialogue and compromise.

Conclusions

A local food system is a complex socio-economic phenomenon, often defined as a system of support and food security for local populations. It involves strengthening the economic well-being and farm viability of rural and urban communities, improving access to fresh, healthy and biologically valuable food, and opening up markets to local farmers and those who cannot sell their products in wholesale markets due to the smaller quantities, limited resources or unusual products. Small and medium-size farms could play a key role in a local

food system, but high-value-added agricultural and food products need to be recognised as competitive advantages by most stakeholders (especially public sector institutions). The activities of farmers, intermediaries (cooperatives, purchasing organisations) and consumers should be oriented towards a process of co-creation.

After examining the case of the project involving the introduction of the B2G model implemented in the Rokiškis district, a fundamental difference was identified between the concepts of Production and Co-production. In the case under review, the implementation of the B2G model followed the concept of Production, i.e. traditional relationships were established: the farmer produces, and the cooperative delivers the products according to the public sector's order. The public sector acted as a buyer, setting formal criteria (quality standards, price, delivery terms), and the farmer usually adapts to the requirements but has little influence over the menu or consumption habits in the educational institution. Consumers (children, parents) are passive: they receive what is purchased through public procurement. There is a one-way relationship between the producer, the public sector and consumers. The approach used in the project created a one-sided process, whereby the producer produces and the consumer only buys; rather than a two-way or even multi-way process, whereby the producer and consumer create the food system together, sharing responsibility, risk and benefits.

In the case study, the purchase of local food products for the public sector made it possible to ensure product quality and protect the public interest, particularly with regard to the supply of biologically valuable food products, their quality, and their positive impact on the environment and public health, but only to a limited extent. During the three-year project period, stakeholders have not yet fully understood and mastered all the opportunities and risks of the B2G model, so their understanding of their roles and potential remains fragmented.

Cooperation between farmers in the Rokiškis district has paved the way for a new sales channel: the public catering sector (kindergartens, schools, care homes). The cooperative provides logistics services, strengthens farmers' bargaining positions, and reduces the administrative burden on farmers participating in public procurement. Relationships and connections between local producers and consumers remain sporadic and unstable, and have not yet begun to transform into a co-production process. The implementation of the analysed project highlighted the need for a unifying leader who has the knowledge and motivation, and is able to bring together all four stakeholder groups. During the implementation of the B2G model, too little attention was paid to creating common values and relationships.

The public sector and cooperatives have not yet become a platform for cooperation where producers, consumers and institutions create a food and catering model together (more of a social innovation than just supply). When implementing the B2G model, the main focus so far has been on simple supply to order, operating according to the traditional public procurement scheme, and applying the traditional concept of production.

The opportunity to expand both the range of products offered by cooperative members and the services provided arises from closer cooperation with public sector institutions and consumers through various forms of stakeholder involvement and participation: participation in planning, adaptation of public procurement, creation of strategic partnerships, and education.

The development of short food supply chains could be strengthened by a value-based partnership network, bringing together local farmers, business representatives, consumer communities and public sector organisations, in a system of co-creation and cooperation that promotes sustainable regional growth. When implementing the B2G model in the context of short supply chains, the role of stakeholders should be based on collaborative leadership, effective planning, agricultural and marketing solutions, and the introduction of innovation.

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VIETOS MAISTO SISTEMOS KŪRIMO GALIMYBĖS DIEGIANT *VERSLAS VIEŠAJAM SEKTORIUI* (B2G) MODELĮ

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Santrauka

Viešojo sektoriaus pardavimų rinka, kurioje dominuoja *verslo ir valdžios sektoriaus* (B2G) modelis, yra didžiulė ir reikšminga ekonomikos vystymuisi ir bendruomenės tvarumui. Ji panaši į kitas rinkas, skiriasi tik keliais pagrindiniais aspektais, tokiais kaip mažmeninė prekyba, vartotojų rinka (B2C) arba verslo ir verslo (B2B). Trūksta žinių ir sisteminio požiūrio, kaip funkcionuoja B2G modelis ir kokios yra galimybės esamas maisto sistemas transformuoti į įtraukias ir tvarias vietos maisto sistemas. Tyrimo problema suformuluota keliant kelis klausimus: kaip būtų galima diegti ir plėtoti B2G modelį savivaldybių lygmeniu; kokia gamybos ar bendros gamybos koncepcija taikoma diegiant B2G modelį; koks kolektyvinis alternatyvių (trumpųjų) maisto produktų tiekimo grandinių vystymo ir produktų pardavimo praktikų procesas, pagrįstas bendros gamybos koncepcija, labiau prisidėtų prie vietos maisto sistemos kūrimo? Atliekant tyrimą siekiama apibrėžti vietos maisto sistemos kūrimo iššūkius ir galimybes diegiant *verslas viešajam sektoriui* (B2G) modelį bei nustatyti maisto sistemos vystymo pokyčius skatinančius metodus. Taikyti tokie tyrimo metodai, kaip mokslinės literatūros analizė, sisteminimas, grupinė diskusija, atvejo analizė, sintezė, palyginimas ir kiti. Tyrimo duomenys rinkti, taikant „sniego gniūžtės“ metodą, iš antrinių mokslo šaltinių. Empiriniame tyrime autoriai siekė susieti teorinius vietos maisto sistemos (VMS) modelius su trumpųjų maisto tiekimo grandinių (TMTG) strategija, kai taikomas B2G modelis, leidžiantis koncentruoti paklausą ir patekti į didžiulę viešojo sektoriaus rinką. Autorės laikėsi požiūrio, kad rengiant mokslinius darbus, kurie orientuoti į maisto sistemos transformacijos politikos formavimą, būtinas holistinis požiūris: remiamasi įvairiomis mokslo disciplinomis, apibrėžiama tinkama veiksnių darbotvarkė, ypač vertinamas mokslo, kompetencijos ir piliečių ryšys. Todėl viena iš tyrėjų ir šio straipsnio autorių dalyvavo įgyvendinant projektą, kur diegtas B2G modelis. Šiame straipsnyje nagrinėjamas *verslas viešajam sektoriui* (B2G) modelio įgyvendinimas savivaldybių lygmeniu. Be to, nagrinėjami viešųjų pirkimų reglamentavimo pokyčiai ir jų įtaka vietos maisto produktų gamintojų galimybėms įgyvendinti B2G modelį, organizuojant vaikų maitinimą ikimokyklinio ugdymo įstaigose, taikant trumposios maisto tiekimo grandinės strategiją. Aprašytas Rokiškio rajono ūkininkų, kurie dalyvavo EIP projekte ir taikė trumposios maisto tiekimo grandinės principus, produkcijos pardavimo perkančiosioms organizacijoms modelis *verslas viešajam sektoriui* (B2G), nustatyti jo privalumai, trūkumai, išvardyti pastarųjų šalinimo veiksmai. Nagrinėtu atveju vietos maisto produktų tiekimo potencialas dar neišnaudotas. Vietos ūkininkų kooperatyvai, kaip inovatyvi maisto sistemos forma, gali būti ir įtraukūs, ir efektyvūs, tačiau būtina nuolat analizuoti, kaip tenkinami tiek vietos produktų vartotojų, tiek kooperatyvo narių poreikiai. Vadovaujantis bendros gamybos koncepcija, turėtų būti plėtojamas kolektyvinis alternatyvių maisto produktų tiekimo grandinių kūrimo ir tiekimo praktikų procesas, kuris padėtų užmegzti ryšius ir plėtoti santykius, o ūkininkai ir vartotojai galėtų priimti tinkamus sprendimus, atsižvelgdami į konkrečius gamybos ir vartojimo sistemų poreikius. Galimybė plėsti tiek kooperatyvo narių produktų asortimentą, tiek teikiamas paslaugas, susidaro glaudžiau bendradarbiaujant su viešojo sektoriaus įstaigomis ir vartotojais, *taikant įvairias* suinteresuotųjų įtraukimo ir dalyvavimo formas: dalyvavimas planuojant, viešųjų pirkimų pritaikymas, strateginės partnerystės kūrimas, švietimas.

RAKTINIAI ŽODŽIAI: *modelis verslas viešajam sektoriui (B2G), trumpoji maisto tiekimo grandinė, vietos maisto sistema, bendros gamybos koncepcija.*

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