

The Sustainable Food Concept of Sopron's Region

NIKOLETTA NÉMETH & ATTILA KURUCZ

Abstract One of the main objectives of the latest rural development researches was to strengthen the local economy of Sopron and Sopron district. Previous analysis and studies have led to the recognition that it would be expedient to support local (regional) farmers and to create a market organization to increase the use of local food products. In the first step, the researchers concentrated on supplying raw materials and raw materials to so-called "big consumers" (restaurants, institutions, social care, etc.). On the other hand, it is very important to examine the existing sources of food supply and elaborate on the concept of an organization that enables market coordination. This paper is a milestone. In this paper, we undertook to develop the concept of the local food chain. It would also cover some modern aspects that were not included in previous agro-economic studies. According to our conception, it is very important to integrate and activate digital solutions as well. Thus, not only the co-operative model but the integration of local money and the development of a virtual market space can play an important role in developing an effective food chain and boots the regional economy.

Keywords: • food chain • local market • Sopron region • local food producers • local money •

CORRESPONDENCE ADDRESS: Nikoletta Németh, Assistant Professor, Sopron University, Department of Management, Erzsébet u. 9, 9400 Sopron, Hungary, e-mail: nemeth.nikoletta@uni-sopron.hu. Attila Kurucz, PhD, Associate Professor, Széchenyi István University, Department of Marketing & Management, Egyetem tér 1, 9026 Győr, Hungary, e-mail: kurucz.attila@sze.hu.

DOI <https://doi.org/10.18690/978-961-286-213-8.9>
Available at: <http://press.um.si>.

ISBN 978-961-286-213-8

1 Introduction

The present study aims to describe the food supply concept of Sopron's region, one of Hungary's western border regions. Earlier projects have already looked at the agricultural enterprises in the region, particularly the famous viticulture. The intention here is to give a comprehensive, conceptual evaluation and introduction of a viable and sustainable food system that builds on local capabilities. Within this context, a summary will be given of the agrarian economic opportunities, market operations as well as economic specialties, such as the local currency, which is Sopron's unique facility. A strong focus will be given to local businesses and local producers, therefore to the local agricultural distribution processes. In addition to the existing opportunities, it is also important to show the directions of future developments in order to confirm the existence of sustainability. Therefore, in line with the elaborated concept, recommendations will be given on how to build it up and operate in the future.

2 The sustainability of the supply systems

The global increase in consumption affects all products, durable and perishable goods as well. The issue of sustainability will come to the fore from environmental and economic perspectives, but perhaps food consumption is the most vulnerable area in this regard. All the members of society can experience this when they do not get access to a certain type of food or when they can buy them at a much higher price.

One of the most common inferences of agricultural and agrarian economic studies is that the production, processing, distribution, and use of raw food materials have become strategically important due to the increased demand for food worldwide and the limited natural resources available. In addition to address the issues of food supply security, food manufacturers have to be more and more circumspect from healthcare aspects, too. This is mainly about food safety issues, controlled by central regulations.

As a result, it is necessary to create higher level co-operation between market players and state governance, and vertical and horizontal alignment of market players, as well as methods of co-operation with other food-chain related industries. (Kardeván, 2011).

One of the major requirements of sustainable food production systems is ensuring compliance to natural environmental and environmental protection standards, but economic and social aspects should also be considered due to increasing competition, rapidly changing consumer habits and labour market changes. On account of food security, the sustainable food concept needs to take into account a fourth dimension, i.e. consumer health. This is not only a matter of state coordination, rather people's own claim, which is a very important requirement for food manufacturing and distribution companies. With regard to the traditional approach to sustainability, four dimensions have to be considered and aligned here, as shown in the 1. figure below.

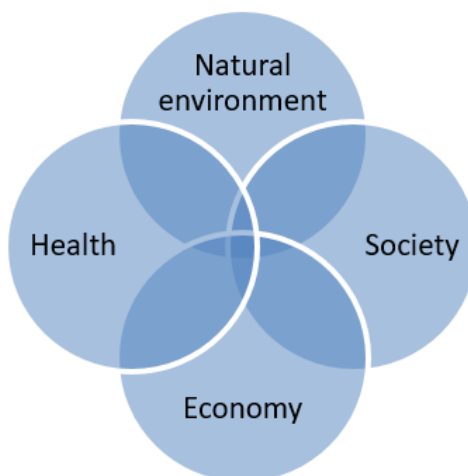


Figure 1: The four dimensions of sustainable food.

(Source: UMBESA, 2014)

The issue of healthy food, or food security, has been at the forefront of interest around the world and also became a priority for the European Union. Due to media news and possible bad experiences, a significant part of the population is concerned about the potential pathogens and chemicals in foodstuffs, including pesticides, veterinary residues, additives, and pollutants from the contaminated environment. Misconceptions and half-information may give rise to distorted prejudices against products and their producers. The well-known phenomenon that people are afraid of the results of new technologies is perhaps even more pervasive in this industry: a well-known example is the market launch of genetically modified foods (Nébih, 2015).

Ensuring access to quality food is a challenge in itself, although there is no shortage or significant quality concerns in the region under review. This study focuses on how to solve the food issue in the Sopron region in a sustainable manner, relying on local producers and other economic players involved in processing and transfer activities. Sustainability requirements can be met basically by regional co-operation and synchronising local needs and opportunities. In sustainable systems, due to the proximity of food production to the market, producers, processors, and consumers get closer together, and this will result in shorter supply chains, simpler, more transparent and cheaper distributions, and consequently cheaper food products. In addition, we can also assume that this way the opportunity increases to establish food security, to make healthier food more accessible and develop a food culture better suited to traditions. From an economic point of view, synergies can emerge if the formation of typical local and regional products and product groups creates a platform to shared marketing and tourism-aligned developments, and this can lead to an increased employment and more secure earning possibilities and livelihood for the families of the region.

2.1 The role of the local economy in sustainable food

In Western Europe there's been a tendency since the late 1980s with an increasing demand for region-specific food products produced with traditional methods passed on by former generations. Recognising this trend, France became the first to set up an inventory of specialty foods with high added value. Following the success of the French collecting work, in 1992 the European Commission's Directorate-General for Agriculture entrusted the project manager with the professional leadership of a European-wide comprehensive program, named Euroterroirs (Regions of Europe). The European collection comprises 4,000 products from the 129 regions of the EU.

The new approach and cultural attitude also influenced gastronomy; one of the most famous example is the slow food movement launched in 1989 in Italy, which emphasizes the relationship between meals and the environment and encourages, among other things, the consumption of local food. ([Http://slowfood.com](http://slowfood.com))

In 2005, the “100-Mile diet” movement was launched on Canadian initiative. The essence of the initiative was restricting food consumption, for one year, to include only foods grown within 100 miles. The authors have put forward several arguments for the consumption of local food:

- eating always fresh food,
- knowledge of the food’s origin,
- building human relationships,
- proximity to nature, considering seasonal changes,
- the opportunity to try out new flavours,
- getting familiar with own environment and protecting it,
- helping small farmers, supporting the local economy,
- a healthier lifestyle,
- getting experiences, memories.

In the framework of the European Union FP7 Program, FAAN (*Facilitating Alternative Agro-Food Networks*) research was completed in 2010, in which NGOs and researchers collaborated to assess what local food systems can operate successfully in Europe. Five EU Member States: Austria, France, Poland, Hungary and the United Kingdom participated in the research, with a civil organization and an academic institute. The results of the research made it clear that the various European initiatives are driven by different motivations. Some of them simply want to sell their products on the nearest market, while others have defined alternative food systems as innovative food production and distribution initiatives that aim to preserve and develop the interests and values of producers, consumers, local communities and the natural environment and seek social, environmental, and economic sustainability.

At the beginning of the 2000s, a view was already developed holding that purchasing local products can favourably affect the local economy (Gareth, 2010, Hinrichs, 2000, Feenstra, 1997, Sims, 2009). The locally grown fruits and vegetables are fresher due to shorter transport distances and time. While vegetables sold in big supermarkets are usually harvested unripe and often transported for weeks, local vegetables can be collected just one day prior to the market sales. This also has a positive effect on the nutritional value of vegetables and fruits, and local food is considered by many people to have better taste as well.

The consumption of local products also reduces the impact on the environment. In addition, local food from familiar producers may contain less chemical residues. Due to the fact that local products have to be transported for considerably shorter distances, there is no need for significant logistical input and this fact lowers the level of pollutant emissions. Because of the shorter delivery time, the role of preservation decreases. Local food also encourage people to consume seasonal vegetables and fruits that has the best taste and quality when they are available in large quantities. In addition, this is the time when they are the cheapest as well. Effective economic and social processes also include local producers' faster accountability for food hygiene, warranty and quality complaints. So, the expectation is that they can react more quickly and flexibly and correct their mistakes. Naturally, it is in the interest of the producer to produce quality products, since their honour, reputation and, altogether, their livelihood may depend on it.

Selling local products contributes to sustaining ecological diversity. Since producers do not have to grow standardized, easy to store, easily transportable varieties, the indigenous domestic breeds can survive, whose cultivation otherwise would be forgotten.

Earlier, Sopron did not differ from similar Hungarian and other neighbouring cities in terms of food production. The food was mainly produced in the surrounding villages, but agricultural products were also produced in significant quantities in the town area. Viticulture has long been a major agricultural sector in the town. Besides vegetables, fruit, sugar beet, potatoes, cereals, fodder crops were grown and livestock was bred. Processing was largely done locally, the slaughterhouses and meat factories were well-known. After the Second World War, the production of food ingredients was mostly maintained in the city, but the former producers were replaced by large factories (since 1951, the Sopron State Farm and after the merger of smaller cooperatives, the Dózsa Agricultural Cooperative) beside the few sustaining small producers.

There are 39 settlements¹ in the Sopron district. It is bordered by Austria from the west and north, Vas County from the south, and Kapuvár District from the east (Figure 3). Its territory is 868 km², its population was 99,053 in 2010. There is practically no unemployment since 2.7 percent of the working-age population are registered jobseekers. This is mainly due to the industry relocation and the fact that many people from the villages work in Austria, in border areas. This, of course, hinders the development of labour-intensive agricultural sectors, which is also reflected in the altered production structure.

The natural conditions of the district are excellent for agriculture. Most of the area is flat or slightly hilly, with an average precipitation as well as average crop yields exceeding the national average. (Hungarian Central Statistical Office, 2013). The climate of the region is subalpine, and it is influenced by a favourable microclimate of Lake Fertő, which is a benefit especially in viticulture. The Fertő Hanság National Park with The Egret Castle of Sarród is a major natural asset even in European terms, providing conditions for breeding indigenous livestock. The best-known products are the Hungarian grey cattle salami and water buffalo salami, as well as honey, propolis, and beeswax (Murai, 2013).

Nevertheless, in several areas of the district intensive agricultural production has shrunk. The reasons for this are, on the one hand, labour market changes mentioned earlier, as well as some regime-change related tendencies that also adversely affected the agricultural production and food processing. In Sopron district, this culminated in the privatization and closure of the Petőháza Sugar Factory. Meat processing industry also suffered significant losses. In Sopron District, there are only a few smaller slaughterhouses suitable for processing poultry, pigs and sheep (Egyházásfalu, Völcselj, Iván, Nagylózs, etc.) Almost only the dairy and spirits production sector is present in the region.

¹ Settlements of the district: Ágfalva, Agyagosszergény, Csáfordjánosfa, Csapod, Csér, Ebergőc, Egyházásfalu, Fertőboz, Fertőd, Fertőendréd, Fertőhomok, Fertőrákos, Fertőszentmiklós, Fertőszéplak, Gyalóka, Harka, Hegykő, Hidegség, Iván, Kópháza, Lövő, Nagycenk, Nagylózs, Nemeskér, Peresztég, Petőháza, Pinnye, Pustacsalád, Répcevis, Rőjtökmuzsaj, Sarród, Sopron, Sopronhorpács, Sopronkövesd, Szakony, Újkér, Und, Völcselj, Zsira.



Figure 2: The map of Sopron district.

(Source: Districts (Járások) 2015)

3 Developing the local food concept of Sopron region

3.1 The theoretical background of the concept

The purpose of the research is to enable Sopron district's agricultural producers to reach consumer markets of the district with their products in ways that can reduce logistical costs, and also, local yields and profit remaining in the area the local economy can revitalise and develop. To meet this goal, it seems essential that local demand and supply should meet as well as demand-, and supply-management should be coordinated (Figure 3).

Figure 3 shows that well-organised co-operation is a prerequisite for boosting the local economy, which is the coordinated operation of local producers (possibly intermediaries) and consumers in order to achieve a superordinate common goal - cost reduction, profitable growth, and market revival.

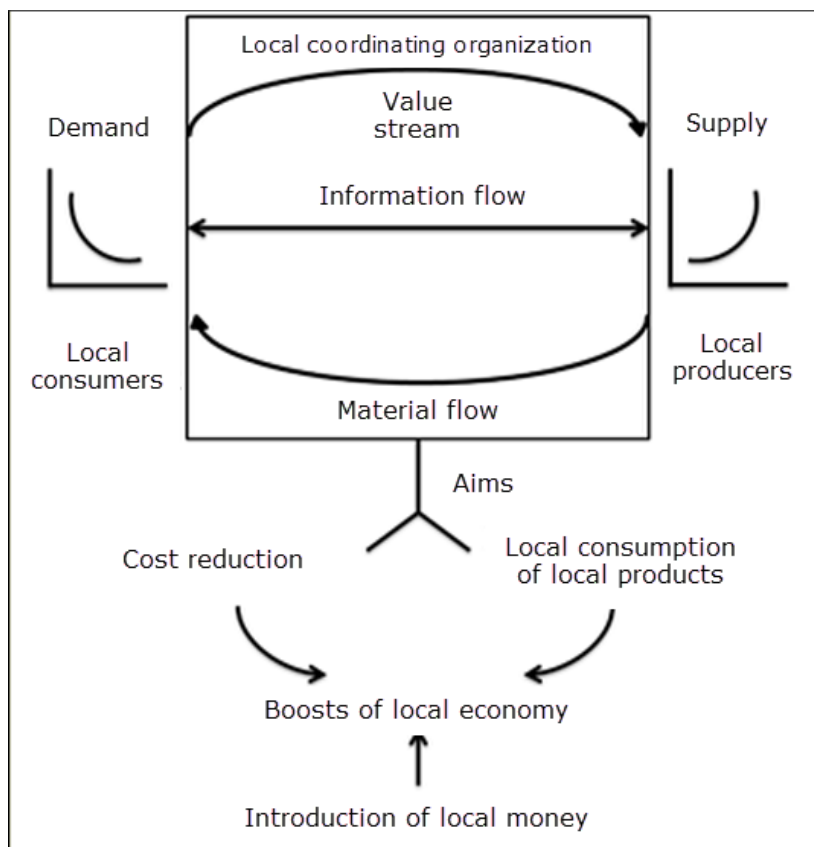


Figure 3: The principle of boosting the local economy.

(Source: made by the authors)

When designing the concept, the stakeholder theory and stakeholder strategic alliances play an important role, which is indispensable for setting up a well-functioning system. A local coordinating organisation is very important for this aim. This organisation should be able to ensure a seamless connection of the local market stakeholders. This is a prerequisite for the formation of an efficient local market and the concentration of sources enabling the invigoration of the local market. The coordinating body should work independently, but should also ensure local producers and consumers can find each other. The vital point is, therefore, the coordinating force functioning as a catalyst, because it facilitates the delivery of the raw material products to the field of use, helps the new value derived from the activity streaming to new places and ensures a continuous flow of information between local consumers and producers. The above role helps the local economy to boost and develop while hinders the added value to leave

the local economy. This process can be strengthened by the creation of local currency and its use on the local market.

3.1.1 Cooperation opportunities

According to noteworthy researchers' opinion, nowadays the success of the local economy is largely determined by the market players' position in the business network because the economic stability of a place depends on the common strategy and value chain integration strength. This has become the prerequisite of success in the 21st century. A peculiar situation can be noted when examining the local economy of Sopron district. On the supply side there are farmers with relative autonomy and who are profit-oriented, but at the same time, they are also interested in co-operation in order to achieve economies of scale and access markets as well as arranging more efficient business operation. (Figure 53).

On the demand side, there are local economy participants who require raw materials primarily for restaurant food processing. Since restaurant services including mass caterers are cost-sensitive areas, the players in the demand side are also interested in creating a form of co-operation.

Table 1: Characteristics of the supply and demand side of the local economy

Demand-side		Supply side	
Flexibility	Co-operation	Autonomy	
Low risk		Rigid	production framework
Autonomy and self-interest		High risk	
Meeting customer demands on a higher level		High industrial input prices	
Service orientation		Yield orientation	
Profit orientation		Relatively low	output prices

Source: made by the authors

The high degree of environmental dependence and production orientation of the supply side is in contrast with the more flexible nature of the demand side and its service orientation. A common interest in boosting the local economy and reducing costs can create forms of co-operation that support common interests.

The comparison of the characteristics and goals of vertical and horizontal co-operation can give a clear picture of which form can be more useful to revitalise the local economy and enforce local interests. This relationship is illustrated in Table 2.

Table 2: Characteristics of vertical and horizontal integration

Vertical integration	Horizontal integration
Based on the supply chain	It can be among the companies of the same size
Extending the scope of operation to the buyer or suppliers.	The basis of cooperation are the similar product, sales and marketing.
The goals: make stronger control though the whole value chain	The goals: good purchasing power, better bargaining power
Strengthening influence in the operation and quality, maintain the competitiveness.	Lower alternative and transaction costs, decreasing the cost rate

Source: made by the authors

Comparing the main features of vertical and horizontal co-operation, it can be concluded that the horizontal co-operation models are more suitable to the stimulation and efficient operation of the local economy in terms of the relationship between the producer and the intermediary (some tourism companies included as well). Thus, the concept is based on activities aimed at strengthening market presence and their long-term sustainability. Naturally, when examining the relationship of processing companies and producers, it is necessary to consider the possibility of vertical models operating effectively. When the relationship of buyer-supplier, so market supply-demand is examined, one can see that vertical relationships are more typical. It seems possible that they can be developed, either when the goal is to launch new crops to the market or to improve the efficiency of production technologies.

3.1.2 Levels of the producer side

On the supply side, not just nationwide but also in the examined region, there is still a significant share of farmers who produce their products as independent small farmers or in family businesses. These businesses are characterized by the fact that when selling their product, they have no co-operation form to support

their agricultural output to access markets. This, on the one hand, weakens the efficiency of cost-cutting measures that would reduce the time for the products to get to the local consumers, and increase delivery and transaction costs (distributing smaller quantities to several markets and organising it). On the other hand, it may result that local producers' products are not sold in the region, thus reducing the application of principles to boost local economies. The problem is further complicated by the fact that local micro and small businesses are acting against co-operation, primarily because of the fear of losing self-reliance and the lack of co-operation traditions. The additional expenses due to the widening agricultural price gap, high industrial input prices and fragmented sales procedure significantly increase the break-even yield and the return revenue. Ultimately, as a result of the high level of logistic and marketability costs, the loss-minimisation behaviour is gaining ground.

As mentioned earlier, co-operation allows rapid information flow between the producer and the user sides. Similarly, the lack of co-operation blocks or delays information transfer, which leads to growing market uncertainty and disorganisation in sales processes.

Foreign experiences show that the transport and transaction costs of the small-scale market can be significantly reduced by co-operation forms organized on a causal basis (Figure 4).

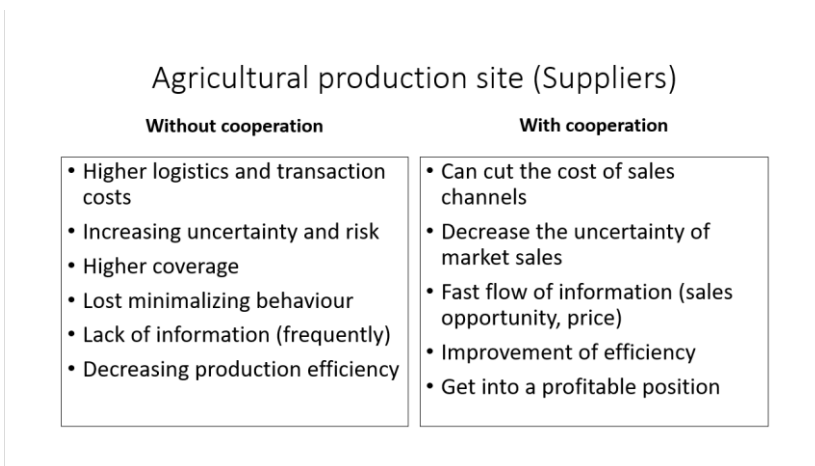


Figure 4: Anticipated effects of cooperation on the supply side.

(Source: made by the authors)

The above mentioned may point out that farmers can manage more efficiently if they arrange market access and sale of their products through cooperation.

The simplest form of co-operation between players of the fragmented agricultural market can be a horizontally organised partnership that is close to the producer phase, but its essential role is not production arrangement, rather conducting and organising sales activities. Its members are typically small farmers, sole traders, and family entrepreneurs, not excluding well-capitalised bigger businesses either. Beside organisation and sales, their scope of activity also includes logistics and other functions (marketing) as well.

3.1.3 Aligning sales channels

A well-organized supply chain including the appropriate distribution channels integrated into the system is the prerequisite for the efficient maintenance and long-term operation of a local economy. Short and direct sales channels are a network of producers and consumers that means the local economy's food production and sales system and a bottom-up collaboration, basically in contrast with the traditional "long-distance" sales channels. Although the change in consumer attitudes is apparent, establishing a link between locally produced products and end consumers is not easy. A place and platform need to be created where supply and demand can meet. It is not merely about reorganising small local markets, but it is also vitally important that producers can provide information for their customers in cyberspace. By informing customers about the products, their benefits, the time and location of the availability, producers can gain credibility as well.

Changes in the producer and consumer attitude, and also a marked change of mindset are the prerequisites of the system operation.

Direct sales, therefore, shorten sales routes because raw or processed materials are delivered directly to consumers and users by eliminating intermediate sales actors (wholesale, retail). These local producer markets can be organised in several ways. Focusing on a given location, several producers can offer their products. Where appropriate, producers can go to customers via mobile sale. They can also be combined with electronic web-based solutions. Sale can take place on the Internet, and the delivery and the receipt of goods can be much easier because of the geographical proximity.

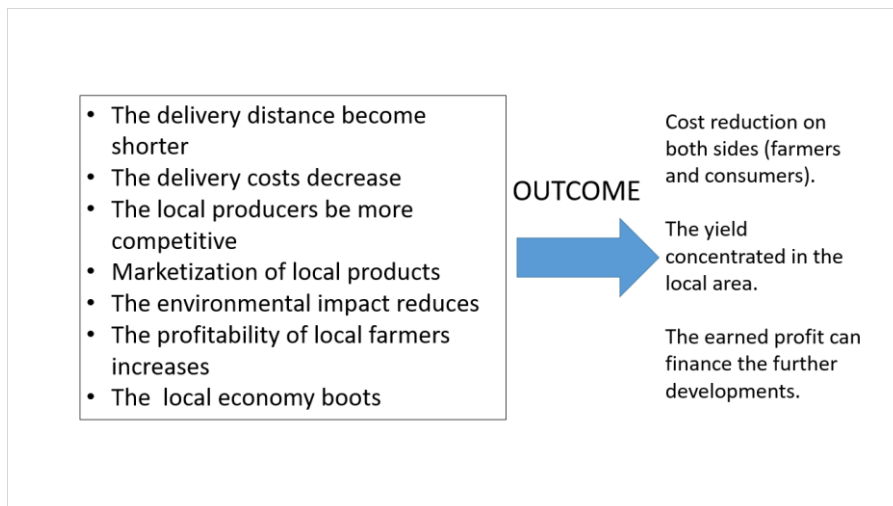


Figure 5: The effects of direct sales.

(Source: made by the authors)

Of course, the direct sales can benefit both the producer and user side and it can be made more intensive with virtual tools of business. Direct links of the supply and demand side of the local market significantly reduce transport distance, which also leads to a significant reduction in transaction and delivery costs for both producers and users. These cost-saving options reduce the cost-intensity of food producers and users, and thereby increase profits. It is not a negligible factor that the competitiveness of local agricultural producers can be improved by making better use of their natural capacities as it is possible to involve products that otherwise cannot withstand longer deliveries. Producers can appear at local events where their PR activity can strengthen their market position and promote their products.

The environmental impact of production can be reduced by stimulating the local markets since lower transportation and logistics costs may save resources that otherwise would play a central role in environmental pollution.

Finally, the introduction of a direct sales system would significantly improve the profit prospects of local producers, small farmers, and family businesses as a result of cost-reducing effects and efficiency improvement measures. Although the organisational and informational activities certainly involve a learning process, this price is worth being paid so that not only profitable, but

economically viable and thus strategically more successful businesses can develop.

The consequences of direct sales are therefore clearly beneficial as they enable the local market to operate more efficiently. Taking steps that result in cost reduction inversely increases income with surplus yield and also promotes the use of capital for development purposes.

There are several ways to directly sell the locally produced products. There is a possibility of a bottom-up collaboration that will establish the links between supply and demand, thus enabling rapid market sales of fresh fruits and vegetables, storable vegetables, meat, eggs, and dairy products. Product delivery from the producer to the consumer takes place directly via the integrator mediator. Because of the small territory of the local market and the small number of producers and consumers, information can spread quickly, making the market operation more efficient. This can only be enhanced with the electronic solutions and web support, as mentioned above. As in the case of enterprises, it can be anticipated that coordinating organisations will deploy new IT technologies so that their market organisation processes become up-to-date and effective and remain so in the future.

In the case of larger local markets, it is possible to establish a partnership that maintains a logistical center, with jointly supervised sales points or shop-networks that not only cater to the large customers of the region but also meet the needs of individual consumers. The latter form can be considered as a more structured, higher-level form of cooperation.

3.1.4 The use of local currency

Foreign and domestic literature and experience show that the introduction of a local currency can stimulate the local economy (Tóth, 2011).

Local money is an alternative currency with limited territorial use to support the local market. The issuer can tailor local money so that it can economically support the region. Local money ensures that local agriculture and food production will develop, as it functions as a medium of exchange, stimulates local demand and enhances competitiveness. This is achieved through the fact that it does not have a positive interest rate, it is not worth accumulating, but it is worth circulating quickly.

Official currency, however, due to its positive interest and the potential yield-generating capacity often migrates to more lucrative areas, restraining the deposit of local economy profits, thus hindering the economic development of the region. If local currency is introduced as scriptural money as well, that would create an increasing and inexpensive credit supply for the local economy participants.

In terms of money, there is a widespread practice that can be regarded very positive and promotes the spread of local currency: a deposit should be placed in the bank in a low-risk portfolio with the same value as the local currency. Then the accumulated yield can and must be used to stimulate the local economy.

It should also be remembered that cash substitutes will not only be able to leverage the region's long-term economic recovery but also by promoting the purchase of local products and services, the liquidity position of market participants can also be improved due to a cash-saving solution.

The leverage effect of local money can be further strengthened if, when paying with local funds, the user is rewarded with various discounts and the money substitute, for example, can be used as a meal voucher.

Lastly, it should be mentioned that the economy reinvigorating effect of local money can be enhanced when converting local money into official money has an additional cost, and when the local currency has a negative interest. In this case, there is little incentive to exchange local money back into official money.

As a summary, the following economy-stimulating effects can be expected:

- As it is territorially limited, it exerts its economic stimulus effect on local markets;
- It circulates fast as a means of exchange, so it can enhance competitiveness;
- It has a zero or a negative interest rate, so it means an inexpensive credit supply as account money;
- The yield on bank deposits also has an incentive effect on the economy, since the liquidity (by revolving credit) of the market players can be ensured from this return;
- It can be used as a voucher with a beneficial effect on trade processes;
- Although it can be exchanged back with extra cost, its volume in the economy can be quickly and flexibly influenced.

Sopron is in an advantageous position, first in the country to have introduced "local money", the Blue Frank (Perkovátz, 2010). Local money in Sopron appears as a transferable voucher and is currently available only in cash. It has proven its viability in many areas and has in many respects contributed to the cooperation of local economy players in the city and its surroundings.

3.2 Models of the local market revitalisation in Sopron district

Several methods of cooperation between the supply and the demand side can be outlined in the region. In the next section three progressively cascading models are presented. These are the following: the looser contractual relationship model, the cooperative model that organizes sales and the integrated local food-chain model.

3.2.1 The contractual relationship model

In view of the economic conditions described above and the circumstances of the region, the contractual relationship can be considered the most basic form of cooperation between the two parties. In a contractual relationship, the consumer commits himself to the purchase of the raw material and the producer usually sells the product at a price calculated on a predetermined basis. Naturally, the contract is already in place before the agricultural product is produced.

The contractual relationship is beneficial for both parties, reduces market uncertainty and promotes a better position for local market players. Farmers can sell their products very easily compared to open market production (sales without cooperation) and the risk of selling can be mitigated by the rapid sale of relatively easily perishable agricultural raw materials. In addition, it has a predictable sales revenue, which is a great advantage in the food producing markets, as the liquidity of the enterprise can be scheduled in advance. Here, too, we can turn to the beneficial effects of the usage of local money.

Both the producers of agricultural products and the consumers benefit from the contractual sales relationship. In the greater part of the year, the supply of raw materials in the local market is guaranteed not only for well-preserved products but also for seasonal, lower-demand raw materials.

The biggest problem with the contractual relationship is that the meeting of the fragmented supply and demand sides takes time and cannot be guaranteed. The establishment of contractual relations involves relatively high transaction costs and the success of transactions cannot be guaranteed without sufficient organising integrator force. The consequence will be that the contractual model is likely to operate with little efficiency and thus it is not able to ensure the expected level of invigoration for the local market.

3.2.2 A cooperative model organising sales activity

The conditions for a more efficient operation of the local market can be created by the cooperative model organizing *sales activity*. The cooperative models are characterised by the fact that they are essentially supply-side oriented, but their important task is to adequately represent the users' interests, in other words, the needs of the demand side are taken into account with due regard. However, efficiency gains can only be measured through the growth of the local market if a sufficient number of producers and users are cooperating. Otherwise, the benefits of the cooperation specializing in sales cannot be used properly.

The main advantage of the above cooperation is that, besides the coordination of production and the increase of added value, it does not only facilitate supply and demand encounters but - within certain limits - it is capable of aligning supply to demand and synchronise the two.

It is also important to note that the aforementioned coordinating and synchronising force facilitates the use of market information on production and user-side decision-making, and thereby reduces market uncertainty.

Of course, developing and maintaining the above cooperation form also involves costs and expenses. First of all, resources should be created that are necessary for the cooperation that was established as an economic player and for the completion of organisation and leadership tasks, human resources should be assigned. Although any member of the cooperative can assume these roles or entrust anyone, it will increase their expenses. Nevertheless, the benefits of a cooperative model focusing on sales seem to far outweigh its disadvantages and are capable of being the driving force of the local market's invigoration.

The cooperative model may also mean the creation of a *purchasing*-type cooperative if the interests of users become more vigorously expressed. This is already enough to help the whole food system, especially if, for example, producers do not want to create a cooperative for some reason. The interest enforcement and economic stimulus coordination can also be created on the demand side.

3.2.3 The integrated food chain model

Before outlining a market organisation that is most likely to help market coordination, let's recall the aspects of revitalizing the previously described local market and then the opportunities for cooperation and integration that can help farmers and agricultural products users in Sopron region to be more efficient. Subsequently, mention was made of the possibilities of cooperation between the supply and demand side. In the study, the conclusion is crystallized that the multifunctional cooperative model can provide the most favourable organisational framework for cooperation, and market participants need to focus on direct and short sales channels because they can best support the local market. Finally, it has been stated that the introduction of local money can also improve the region's more efficient operation by boosting local market turnover.

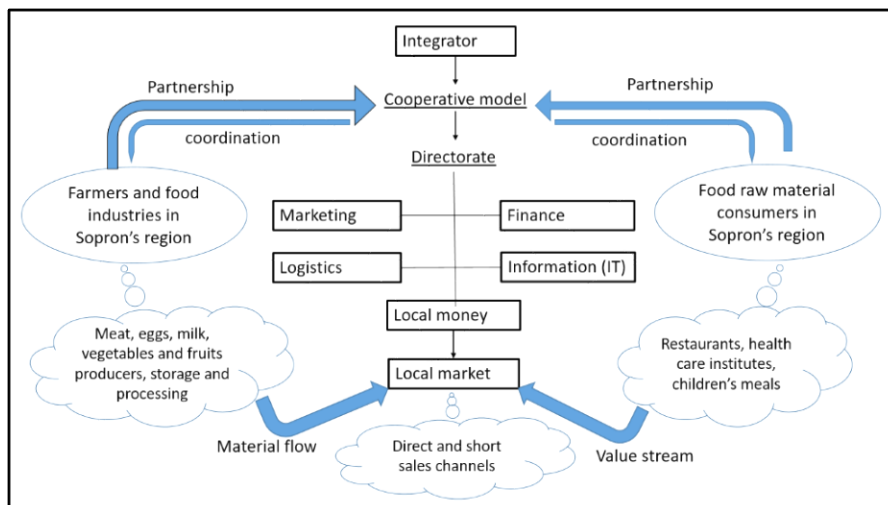


Figure 6: The integrated food chain model.

(Source: made by the authors)

Figure 6 illustrates the model of the local market supported by the present study, which may indeed be suitable for developing the local agricultural market in Sopron. This concept is believed to allow the region's resources to support innovation in the entire food chain and to prevent the migration of local resources.

In the district, the market supply side comprises the producers who produce good quality and sufficient quantities of agricultural products with the agricultural resources available in the region (farmland, meadow and pasture, skilled workforce, agricultural machinery, and equipment).

In the region, besides extensive livestock farming - for which it is a prerequisite to have good quality and sizable meadows and pasture areas - intensive, stable cattle breeding can be found as well. The latter is characteristic predominantly for primary producers and small producers, but there are also a bigger number of cattle fattening and dairy businesses. In addition to cattle, pork and poultry farming, and also egg production are rather intense, and sheep breeding is extensive. There is intensive vegetable growing in the district - in some companies already in large scale - while the fruit production volume is not significant.

Most of the agricultural raw materials are needed for primary processing (e.g. cutting, cooling) or storing (potatoes, root vegetables, fruits, etc.). These activities are part of the integrated system as well.

It is a problem that the supply side operators often sell their products far away from the region, in absence of a good market organising power.

The demand side means restaurants, canteens for children and youth or healthcare institutions and residents of the region, using different agricultural raw materials. Surveys show that players in the demand side primarily do not purchase raw material from local producers, but from wholesalers or from other parts of the country.

It can be seen, therefore, that basically neither the producers nor the users go to the local market to sell their product or purchase material and this clearly hinders the efficient operation of the region's local market.

It is a prerequisite for boosting and improving the local market, that selling and buying should mostly take place in the region's internal market. In order to fulfill this important condition, it is essential to *establish a cooperative operating as an integrator, whose role would cover the entire food chain, i.e. production, processing, and distribution as well as cooking preparation and service*. This integration can ensure cooperation between market players by establishing cooperative member status for business-related stakeholders. The co-operative thus basically acts as a catalyst - not as a bureaucratic oversized head, whose maintenance would require a high level of indirect expenses - ensuring the meeting of participants in the supply and demand side within the region. Naturally, the establishment and maintenance of the integrator role involve expenses that can be covered from membership fees.

When market players meet, actual business relationships and trades activities take place on the local market. The material flow from farmers to the local market ensure the satisfaction of needs of raw food material consumers users, while the value flow from the demand side conveys the sellers' satisfaction.

An essential element of the cost-effective operation of the model is that the sales channels on the local market should be direct and short. Otherwise, the maintenance cost of the long sales channel increases, and also, the profit outlooks will drop for both the producer and the user side.

The integrator's professional activity covers the four important functions that are most important to market revitalisation.

The role of marketing in the model is to collect and organise information about the local market and their stakeholders, thus supporting the more efficient operation of the local market.

The logistics function is to ensure the flow of material, value, and information by connecting supply management (agrarian producers and users) and demand management (material users) enabling market players to make relevant decisions.

Using the basic data that can be mapped from the broad and narrow economic environment, the integrator generates and transmits important information to the participants in the local market. This information is not only necessary when quantifying natural yields and needs, but also in financial and liquidity areas, because with its help it is possible to improve efficiency and enhance profit outlook.

Incorporating financial function into the co-operative model is also important because it is indispensable to monitor the financial activities of the integrator and follow the cost needs of maintaining the local market. This function also includes the maintenance of adequate liquidity and the search for favourable equity investment alternatives.

The financial function plays an important role in the creation and efficient management of local currency. The introduction of local currency on the local market requires great caution. If successful, its use as a means of exchange relieves local market from using the official money, improves the liquidity position of market participants, has a resource-boosting effect, and its coverage background produces yields.

The design and implementation of the outlined integrated food chain model are obviously complicated and time-consuming. Any mistakes in this area may even hinder the implementation of the concept and the successful operation of the integrated system. That is why, in the event of a positive decision by potential participants, a thorough preparatory work and a gradual introduction are needed. It is also possible that the cooperation of the narrower circle of participants and the two previous models will be introduced first and after effective and effective cooperation between stakeholders, the organisation will gradually be transformed into an integrated chain.

4 Conclusion

It seems possible to invigorate the agricultural market in the Sopron region since it already possesses good opportunities and operating agricultural enterprises. Their coordination can be achieved with integration through the establishment of an economic network based on horizontal relationships and the establishment of a flexible food chain. With a changed mindset of enterprises and the increase of their learning capacity, it seems certain that local food can find their market in the area. What is more, this can be linked to tourism later on as a major industry in border regions. One should not forget about digitization, which can provide platforms for businesses, and can significantly increase their operational efficiency and market sales processes. A noteworthy capability of Sopron is the presence of local currency, which, integrated into the model, has tangible financial benefits for both manufacturing and processing businesses. Setting up a coordinator body as early as possible can be seen as a key to development, which - when implemented in an appropriate structure - can create a successful incubation effect in the region.

References

- Districts Information Portal (Járások információs portálja).
<http://www.jaras.info.hu/lap/soproni-jaras> [Accessed 18 August 2015.]
- Feenstra, G. W. (1997). Local food systems and sustainable communities, *American Journal of Alternative Agriculture*, Volume 12, Issue 1 March 1997 , pp. 28-36
<https://doi.org/10.1017/S0889189300007165>, Published online: 30 October 2009
- Gareth, E-J. (2010). Does eating local food reduce the environmental impact of food production and enhance consumer health? *Proceedings of the Nutrition Society*,

- Cambridge University Press, <https://doi.org/10.1017/S0029665110002004>
Published online: 10 August 2010
- Hinrichs, C.C. (2000). Embeddedness and local food systems: notes on two types of direct agricultural market, *Journal of Rural Studies* Volume 16, Issue 3, July 2000, Pages 295-303 [https://doi.org/10.1016/S0743-0167\(99\)00063-7](https://doi.org/10.1016/S0743-0167(99)00063-7)
- Hungarian Central Statistical Office (2013). *Mezőgazdaság számokban. GSZÖ 2013 Agrárium*. Győr-Moson-Sopron megyei információk a 10-11. oldalon. Központi Statisztikai Hivatal (KSH), Budapest, 2013.
- Kardeván E. (2011): *Gondolatok a magyar élelmiszerlánc kibontakozási lehetőségeiről*. Gazdálkodás, 55. évfolyam 1. szám, 2-7. p.
- Murai Sz. (2013): *Helyi termékek Nyugat-Pannóniában*. PaNaNet/Pannonian Nature Network. Szaktudás Kiadó Ház Zrt., 36 p. ISBN 978-615-5224-53-9
- NÉBIH (National Food Chain Safety Office) webpage:
<https://www.nebih.gov.hu/szakteruletek/szakteruletek/eki> [Accessed 19 August 2015]
- Sims, R. (2009). Food, place and authenticity: local food and the sustainable tourism experience, *Journal of Sustainable Tourism*, Volume 17, 2009 - Issue 3, Pages 321-336 | Received 10 Mar 2008, Accepted 25 Jun 2008, Published online: 01 May 2009 <https://doi.org/10.1080/09669580802359293>
- Tóth, B. I. (2011): A helyi valuta szerepe a lokális gazdaságfejlesztésben A bajor Chimsee Regiogeld és a soproni Kékfrank-utalvány kezdeményezés *Pénzügyi Szemle Folyóirat*, LVI. évfolyam, 2011/1. szám 66-77pp
- UMBESA (2014): Nachhaltiger Speiseplan/Sustainable Menu. Umsetzung der Nachhaltigkeit in Großküchen unter besonderer Berücksichtigung von biologischen, regionalen, saisonalen Lebensmitteln, frisch zubereiteten und optimalen Fleischportionen (Projekt UMBESA). umbesa.rma.at