



„Europejski Fundusz Rolny na rzecz Rozwoju Obszarów Wiejskich: Europa inwestująca w obszary wiejskie”.

Operacja współfinansowana ze środków Unii Europejskiej w ramach Schematu II Pomocy Technicznej

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Instytucja Zarządzająca Programem Rozwoju Obszarów Wiejskich na lata 2014–2020 – Minister Rolnictwa i Rozwoju Wsi

Polish Innovation Foundation – Multimedia campaign Eat Wisely, Know What You Eat

– Short Food Supply Chains a source of innovation for agricultural and rural development.

Compendium of good practice in organising Short Food supply Chains (SFCs)¹

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¹ The organisation responsible for the content of this report is the Polish Innovation Foundation, which prepared this report as part of the project ‘Multimedia Campaign Eat Wisely, Know What You Eat – Short Food Chains as sources of innovation for agricultural and rural development’. The author is Maria Gorzkowska-Mbeda from the IsoTech company, who prepared this report on the basis of materials made available by the Polish Environmental Partnership Foundation, the Polish Rural Forum and the Agricultural Advisory Centre in Minikowo and specialists supporting the project.



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I. Summary

This Compendium of good practice presents a review of various organizational solutions for Short Food Chain (SFC) systems, which are used in Poland and internationally. There is no one ideal model or solution. SFC organises must develop their own organisational solutions, taking advantage of the experience and solutions, which have been tested in the marketplace. Every successful SFC venture is based on adapting available solutions to the specifics, constraints and capabilities of the organisers, but also depends on working out own solutions. The experiences of SFC suggest that IT solutions are essential for achieving scale and sustainability of operations.

The Good Practice examples included in this Compendium seek to answer the following question: **What are the practical possibilities available to a small producer using non-industrial methods, to sell his/her products in the marketplace, so as to assure significant and regular income?**

The examples of good practice from Poland and internationally, which are presented in this report Focus on the following organisational solutions:

- Shops in rural areas, including on-farm shops
- Local farmers' markets
- Cooperatives
- Organisational innovations
- IT platforms

The good practice examples of IT platforms suggest that these need to be adapted to the changes taking place on the side of consumers, as well as to the circumstances and specifics of small and geographically-dispersed small farms. Solutions relating to logistics and sales based on own resources of the farmer or producer (packing, delivery) or of participating consumers – as in the case of cooperatives – have limited scope for scale-up, as their principal cost is the time and engagement of the produce in logistics and sales. Automation in the form of vending machines is a promising direction for scaling, but this still requires logistics solutions. A promising solution in this regard lies in information platforms that seek to make more efficient use of the logistical resources available from producers and consumers participating in a given SFC system.



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II. Challenges, opportunities and constraints to SFC development in Poland

Recent changes in sanitary and tax regulations related to direct selling, especially regulations related to so-called Agricultural Retail Trade (RHD) and Marginal, Limited, Local production (MLO) allow Polish farmers to process and sell directly to individual and institutional (shops, schools, cafeteria) consumers, food products made from what they grow/produce on their farms.

The new regulations are an opportunity for small farms and small food processors, who have the capability of producing high quality food using non-industrial methods. The opportunity relates to growing demand for such food products combined with new sales formats. A growing number of consumers is looking for food that is fresh, authentic and chemical-free, and also of known origin – ideally purchased directly from the farmer or food producer. Product origin or traceability is important. More and more frequently, the consumer takes into account not just food price, but also how the food is produced. More and more frequently, consumer confidence results not from certificates attesting to quality, but from trust of the producer built on reputation, eye for detail, engagement and skills. The possibility of confirming authenticity of origin (traceability) is becoming increasingly important.

Repeating food-related scandals and scares associated with industrial forms of food production are resulting in significant and far-reaching changes in food markets. These changes have been recognised by corporations and food providers internationally with the result that they are seeking to meet consumer expectations. Today in Poland, all significant supermarket chains offer organic and regional products, and increasingly underscore the origin of products offered for sale (for example from Polish farmers) and their freshness (e.g. Lidl Food Market). Moreover, supermarkets increasingly bake bread and smoke cold cuts in the shop, underscoring also the local nature of production and the traceability or food origin.

In view of the foregoing, the basic challenge facing small food producers in Poland, who operate outside of the market (producing for their own subsistence needs) is related to the future development of local markets for food. In other words, when promoting legalisation of informal small-scale direct farm sales through for example, Agricultural Retail Trade (RHD), it is important to answer the following question:

Realistically, what is the potential of direct sales of own-products in the marketplace generating significant and regular income to small producers practicing non-industrial production methods?

Increasing competition in the food marketplace means that connecting with consumers and increasing sales is an enormous challenge for small producers operating individually. But in



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spite of the difficulties and the complex nature of that challenge, we have more and more examples in Poland, of entrepreneurial producers who are successfully selling their products directly to consumers on an individual and regular basis. But for most small farms, especially those located far from cities, operating alone or individually is unlikely to succeed as they will be unable to assure consumers easy and regular access to their products at competitive prices.

Short Food Chain systems (SFC) constitute a response to this state of affairs. **These refer to a variety of organizational group arrangements between producers and consumers, which generate benefits for participating individuals.** In order for SFCs to develop, they must provide for those participating benefits, which they could not achieve acting alone or in isolation. SFC innovations are especially those which relate to organisational arrangements that enable geographically-dispersed producers and consumers to overcome barriers associated with assuring continuity of supply of quality products at competitive prices in a

The good practices presented in this Compendium focus on organisational solutions, which offer the possibility of scaling – in the sense of numbers of producers and consumers involved, range of products offered for sale, sales volume and contribution to developing local markets.

The Compendium is a review of selected initiatives and solutions, which SFC organisers can use as inspiration or models for working out their own solutions, which must be fit for purpose in relation to their local circumstances, potential and constraints.

It is worth underscoring that interest in local food – including interest in SFCs as novel organisational forms – is an international phenomenon, and is not confined to Poland. This is the reason why the European Commission is trying to support the development of SFC systems, pointing to organisational, technological and financing solutions as priorities in development of agriculture and rural areas. In turn, the FAO and other UN agencies are also drawing attention to good practices and potential for SFC development in other parts of the world, especially in countries with large small family farm sectors - www.fao.org/family-farming-decade

New IT technologies, supporting networking and co-creation of solutions, provide new possibilities for organising “scaleable” SFC systems. This is why good practices underscore the importance of organisational forms, which can – in the first instance – make use of new ICT possibilities. Good practices must propose solutions that are user-friendly, and which respond to the following dilemmas:

- How to introduce organisational structures, operating rules and oversight, while at the same time avoiding creating large, centralised organisational structures?
- How to sustain the traditional decentralised nature of small farms and small-scale processing, while at the same time competing with commercial-scale farms and supermarket chains?



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- How to deliver small orders of food products from geographically-dispersed producers directly to geographically-dispersed individual consumers?
- How to improve profitability where there is no prospect for increasing scale and introducing standardised production processes of the kind demanded by large buyers?
- How to exploit local product quality and their ‘traceability’ in competing with supermarkets, which are themselves introducing technologies for monitoring traceability based on the latest information technologies, including blockchain?
- And finally, in what ways can food safety be realistically assured in small-scale production that is geographically-dispersed from the perspective of state capabilities in this regard?

III. Good practice in logistics and sales

Theoretically – excluding or reducing the number of intermediaries between producer and consumer by shortening the supply chain – should result in increased income for the producer who does not need to share profits with an intermediary. But in the case of engaging small farms in an SFC system means engaging not only producers operating typically at a small-scale, using non-industrial production methods, but also producers who are dispersed geographically. Typically, we are concerned with farms producing mainly for their own needs, which do not participate in the market. Thus two key challenges are in need of solutions:

1. **How to finance the development of an SFC system** so that it can respond to the financial needs, including investment needs, of the participating producers? Banks and financial institutions are typically not interested in such investments, perceiving them as high risk. In turn, grants and subsidies do not necessarily lead to market competitiveness.
2. **How to provide logistics for an SFC system** for storage and transport of food products where producers and consumers are separated from one another and geographically dispersed? In such situations logistics costs serve to make small-scale production and scale uncompetitive.

In Poland, we have more and more SFC initiatives, which suggest that it is possible to solve financing and logistical challenges without advanced IT technology. But IT-supported logistics-sales solutions open up new possibilities as they generate cost and time savings for the producer.

Good practice examples in Poland and internationally discussed in this Compendium focus on the following:



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- Producer-owned village shops or on-farm sales.
- Farmers' markets
- Cooperatives
- Organizational innovations
- IT platforms

a. Producer-owned shops in rural areas or on-farm sales

The simplest sales solutions is to organise on-farm sales. Logistical costs on the part of the producer are minimal, as these are covered by the buyer who comes to the farm or to the producer-owned shop near to the production site in the case of processed food. In Poland, we have examples of systems, which encourage buyers to visit the places and areas where the food is produced by promoting the values and attractions of the place or region of origin.

A good practice example in this regard is the Ojców Trout (Pstrąg Ojcowski). This is a family business operated by mother and daughter - Magdalena Węgiel and Agnieszka Sendor, which bases production, marketing and sales on the values of the Ojców National Park. See: <http://pstragojcowski.pl/> And also a film - <https://youtu.be/gcchvDKyxJ8>

The business is operating since 2014, when the two ladies leased the ruined fish ponds of the Ojców National Park. They restored the ponds and established a river trout hatchery. They opted for a production that was in line with sustainability and ethical principles combined with education focused on the history of the region and trout culinary traditions. Their remarkable effort was recognised by the European Union-wide Copa-Cogeca agricultural organisation as the most innovative farming initiative of the year.

The idea underlying the business is all about enticing buyers to come and visit the ponds in Ojców National Park. In this way, the business built up a brand also with buyers in the form of Krakow restaurants. A strong brand associated with quality and the values of a national park enables a higher price. With limited production, only selected restaurants can be served, which also makes organising logistics much easier.





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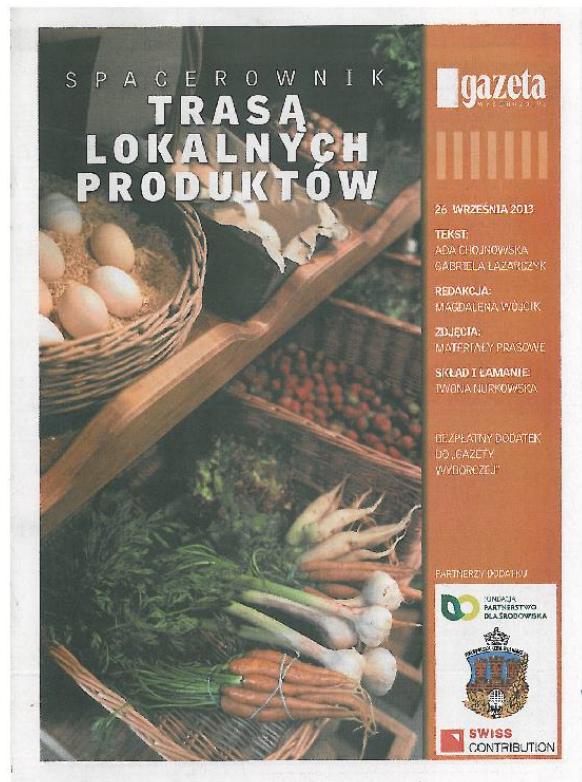
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The Ojców Trout example is something of a special case as we have an unusual situation of a national park located close to Krakow. This means Ojców is not only popular with Cracovians for weekend visits, but also as a centre nature and culture attracts tourists from across Poland. There are not so many such places. This is why in most places, concerted and systematic action is needed to attract consumers to come from the city to purchase authentic quality food. Farms typically also need to be adapted to receiving visitors and sales as most are completely unprepared for such activities.

A tried and tested good practice in this regard is that of organising **culinary trails and shopping visits to rural areas**, which seek to connect producers and consumers so as to enable them to work out mutually beneficial buying and selling relationships. It is important to have in mind that most urban consumers shop in supermarkets and have little idea of how to connect with farms selling food products. In this regard, collaboration with the media is essential.

In the years 2015-17, the Polish Environmental Partnership Foundation worked with the Malopolska Agricultural Chamber and the Wyborcza newspaper to organise a “Local Food Products Trail”. On the one hand, the initiative sought to develop the trail together with farmers so that it led from farm to farm where farmers were interested in selling their products, and on the other, Cracovians were encouraged to explore new ways of buying food individually or through participation in organised visits. The whole idea was to connect consumers with producers so as to enable ‘direct sales’ to take place. This required helping farmers to organise sales on their farms on the one hand, ensuring that they were in compliance with food safety regulations and were able to develop a ‘sales strategy’. And on the other hand, to work with consumers to persuade them as to the merits of this form of buying and debunking myths that food bought directly from farmers was not necessarily safe and in any case was more expensive than in shops.



Another way of attracting consumers to rural areas is through culinary trails. There are several such trails now in Poland. Gastronomic traditions, regional food specialties, authentic products and farms all combine to market places and regions in order to create local food markets. In



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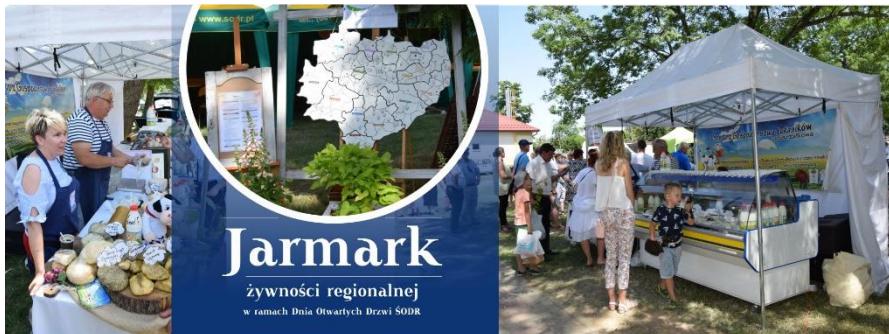
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almost all cases, culinary trails in Poland have been initiated, promoted and developed by public institutions, especially voivodeship authorities, tourism promotion organisations and agricultural advisory centres. Direct food sales and engaging farms in selling their products is not typically the main focus of these culinary trails, but there is little doubt that they are an important part of the whole.

Examples of the most developed culinary trails include: the Świętokrzyskie ‘Forge of Local Flavours’ (**Świętokrzyska Kuźnia Smaków**) which brings together 72 sites, including restaurants, taverns, agritourism farms and local producers, located actors 7 counties in the Świętokrzyskie Voivodeship: <http://www.swietokrzyskakuzniasmakow.pl/>

Verification and inclusion of products and producers in the trail takes place through an annual competition “Our Culinary Tradition – Tastes of Our Region” which is organised by the



Marshall of the Voivodeship and also through inclusion on the List of Traditional Products of the Ministry of Agriculture and Rural Development. As part of the trail, there are a multitude of local food fairs, which promote the Trail and its attractions. In this way, the Trail and events along the Trail do not themselves constitute a regular distribution and sales channel for both producers and consumers. But the Trail is most certainly an important tool for promotion and marketing, which allows both producers and consumers to organise individually or jointly their own customised distribution channels.

Another, perhaps more widely known culinary trail that promotes tourism in the region is the Carpathian Local Tastes Culinary Trail (**Szlak Kulinarny Podkarpackie Smaki**), which encourages visitors to learn about and understand better the multi-ethnic character of the region through regional food:

www.szlakpodkarpackiesmaki.pl Interested visitors can choose from three trails: the Bieszczady Trail (Bieszczadzka), Beskid-Podgorze Trail (Beskidzko-Pogórzańska) and the North Trail (Północna). Each of the Trails offers a variety of tourist packages (weekend, group, 3-day etc), which hotel accommodation along with culinary attractions. Just as in the Świętokrzyski Trail, the Carpathian Trail seeks to create a local market for local products and local producers by



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attracting people to the rural area. But at the current stage of development, the main beneficiaries are restaurateurs and agro-tourist operators who are most directly involved in developing the Trail as a business operation.

The Oscypek Trail (**Szlak Oscypkowy**) in the Podhale Region is an effort to organise a marketing and sales system for authentic mountain cheeses, which is based on buying directly from the shepherd-cheese producer. The Trail itself is organised as an educational initiative by the Association of the Oscypek Trail concerned with the past and present of shepherding in Poland. The Trail is co-created by 31 shepherd cheese producers, who offer for sale the famous Oscypek cheese. The Malopolska Voivodeship promotes the Trail as an element of its tourist offer: <https://www.visitmalopolska.pl/web/agroturystyka/-/malopolski-szlak-oscypkowy>

It has to be said that sales initiatives based on buying on the farm face a very difficult challenge, as consumers are today used to buying in supermarkets. It is supermarkets that dominate as they offer attractive prices, a diversity of products, access to products and also make buying convenient for their customers.

Another variation of buying directly from the producer is where the producer seeks out the consumer. An interesting good practice example in this regard are **vending machines**. One example is that of the egg vending machine, which sells eggs directly from the farm. The strength of this solution is that the vending machine offers high quality eggs – fresh and organic – of a kind, we are unlikely to encounter in the supermarket. This solution is attractive for small producers as the vending machine makes accessing the consumer much easier, reduces distribution costs and enables higher margins as compared to wholesale prices. Vending machines are convenient for the consumer, who is looking for high quality eggs of known origin at attractive prices.





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Selling fresh eggs requires a special type of vending machine, which is similar to a parcel dispenser. The eggs are placed in small ‘compartments’ where they are displayed on shelves, just as in a supermarket. When the customer completes payment, the machine opens a drawer and the customer can take the purchased eggs. This solution is very simple and also very effective. For this reason, more and more vending machine solutions are appearing on the market.

An example of good practice of this form of selling is that of Fenellas Farm in the UK, which makes use of the most up-to-date vending machines. Payment can be in cash, by card or through the internet: <https://www.facebook.com/fenellasfarm>.

Egg vending machines are increasingly common also in Poland. For example, in Celejów in the Wawolnica municipality in the Lubelskie Region, the owner of a free-range hen farm started selling through an egg vending machine as a curiosity, but the initiative has grown in popularity among customers: <https://www.facebook.com/pg/jajazcelejowa>

Another product, which is commonly sold through vending machines is milk. Milk vending machines are becoming increasingly popular in Poland. As with egg vending machines, the vending machine has to be specially adapted for selling fresh milk. The machine has to have a cooling system that can sustain a programmed temperature (4 C), a system for mixing milk and an alarm system in case of problems with cooling and a messaging system for communicating milk quantity by sms, or internet. Food safety has be assured, which means that the milk dispenser is cleaned with water and a UV light for bacteria. Typically, vending machines comprise two milk containers. One is inside the vending machine whereas the other is used as a replacement. The containers are washed and filled with milk on the farm, whereas at the point of sale, the dispenser mechanism is washed each time the container is replaced. .



For the consumer, the milk vending machine offers an opportunity to buy any desired amount of milk. The machine dispenses milk once payment is made. The milk can be poured into the customer’s own container or a container can be purchased from the vending machine.



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The ‘Pod Polaną’ farm in Puławy Górnne in the Podkarpacie region sells milk of the highest quality through a network of 6 milk vending machines located in shops and farmers’ markets in nearby towns. <https://podpolana.pl/mlekomaty/>

Successful selling with vending machines requires choosing an appropriate location, ‘educating’ consumers to buy in this way, as well as assuring a continuity of supply. Having in mind, the technological advances being made with vending machines, it would appear inevitable that this sales form will be developed further in coming years. Already in Warsaw, there is a network of automated distribution of food products by the Coolomat company - <https://coolomat.com/>. The focus is not on direct purchasing from the farmer, but it is certainly a sales form that can be used in developing SFC systems. For the farmer, this is a very convenient sales form as it does not require constant attention.

Other variation on ‘going to the client’ which is widely practiced in Poland is that of mobile or door-to-door sales. An interesting example of a distribution system that shows the potential of scaling the approach is that of the Olchowy Domek Manufacture developed by Witold Śledź for meat and cold cuts in the Kujawy-Pomorze region. The focus is on production of traditional cold cuts using non-industrial methods, locally-sourced meat and traditional recipes in accordance with the Marginal, Marginal, Limited regulation. The sales and distribution system is based on daily sales in a shop in the production facility and regular sales in specified locations from a specially adapted vehicle. In this way, the company has built up a network of clients who buy regularly in this way: <http://olchowydymek.pl/>

b. Local farmers’ markets

The oldest and most common form of direct selling in Poland is the local farmers’ market. Until recently, markets in large Polish cities were dominated by intermediaries. For example, there are 16 municipal markets in Krakow, all of which dominated by intermediaries until recently. In 2014, the Parsley Market initiative undertaken by the Association of the Friends of Podgorze, the Malopolska Association of Organic Farmers ‘Natura’ and the Polish Environmental Partnership Foundation established a farmers’ market which allowed only farmers and small-scale food processors.

Those selling have to fulfil 3 conditions: (1) the farm should be no more than 150 km from Krakow; (2) the farm and/or products should be certified organic or be ready to submit their products to laboratory testing; (3) the farmer or producer sells his own produce or by way of a family member. The Parsley Market has turned out to be a great success – and more importantly



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– a sustained success. The Parsley Market has inspired other markets, in which producers dominate, whereas existing municipal markets have opened up to farmers, creating opportunities for farmers to sell directly to consumers.

In almost every large city in Poland, there is today a local farmers' market offering sales of processed and unprocessed food products directly from farmers and small producers. Most often these are initiatives, which are created jointly with farmers and small producers, non-governmental organisations promoting healthier eating, entrepreneurs looking for new business opportunities and local governments and other public agencies seeking to promote and develop the municipality, county or voivodeship. Good practice example of local farmers' markets include the following:

- Biobazar in Warsaw and Katowice: <https://biobazar.org.pl/>,
<https://www.facebook.com/pg/BioBazar.Warszawa>
- Green Market in Poznan: <http://www.poznanskizielonytarg.pl>
- Tastes of Kociewie Bazaar in Stargard Gdanski -
<https://www.facebook.com/KociewskieSmaki.Starogard/>



From the point of view of the farmer or food producer, the farmers' market provides a sales opportunity for selling products, but does not guarantee such sales (much depends on circumstances of market days and marketing effectiveness of the market organisers). The products have to be transported to the market and a sales point needs to be serviced. Not every farmer is able to do this, especially if the farm is located far from the city.

c. Food cooperatives

Initiating various forms of food cooperatives or community-supported agriculture is growing in popularity as a way of consumers gaining regular access to quality food products of known-origin



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on the one hand. And providing farmers and small food producers a regular sales channel for their products. There is a food cooperative in most large cities in Poland². Members of the cooperative work jointly to secure food supplies directly from producers. The search out and organise suppliers, who in turn, are able to guarantee sales for their products.

The cooperative model provides a way of solving problems of distribution, logistics and quality/authenticity control of food origin. This formula allows for engaging farmers and producers, who often have difficulty in accessing farmers' market, as costs of engaging in the initiative are shared. The cooperative model provides members with concrete benefits in the form of access to quality food, but demands also their engagement. Everyone has to contribute a specified number of hours each month to help with operations and also to participate in meetings at which standards and procedures are agreed. There are no bosses, chairs or owners. Some cooperatives organise as closed groups, focused only on food purchases. Others undertake also social and educational activities. Most operated at a limited scale and does not take advantage of advanced IT solutions. Direct interpersonal contacts are seen as something that is the most important. The cooperative model has large potential and can be replicated with success across Poland.

Good practice examples of food cooperatives include the Grochowska Cooperative (**Kooperatywa Grochowska**) in Warsaw <https://www.facebook.com/pg/Kooperatywa-Grochowska-271104212954599> and/or www.kooperatywagrochowska.pl or the Warsaw Food Cooperative (Warszawska Kooperatywa Spożywcza) <https://www.facebook.com/Warszawska-Kooperatywa-Spozywcza-122929004555712/> and/or www.wks.waw.pl.



² Potkańska D. (2013) Zmierzch epoki tradycyjnego konsumenta, czyli jak wspólne zakupy ekologicznej żywności kształtuje tożsamość społeczną młodych Polaków. Odradzający się ruch żywieniowy kooperatyw spożywczych w Polsce – przykład Warszawy, <https://depot.ceon.pl/handle/123456789/5186>



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There are also several good practice examples operating outside of Warsaw, including the following:

- Poznan Food Cooperative (**Poznańska Kooperatywa Spożywcza POKOSPOKOO**) -
www.poznanskakooperatywa.pl and/or
<https://www.facebook.com/pg/PoznanskaKooperatywaSpozywcza>
- Wroclaw Cooperative (**Kooperatywa Wrocław**) -
<https://www.facebook.com/KooperatywaSpozywczaWroclaw/> and/or
<https://kooperatywawroclaw.wordpress.com>
- Plock Food Cooperative (**Płocka Kooperatywa Spożywcza**) -
<https://www.facebook.com/pg/kooperatywaplock/about> oraz <http://koop.vitkov.pl>
- Lublin Cooperative (**Kooperatywa Lubelska**) -
<https://www.facebook.com/kooperatywa.lublin/> and/or
<https://lubelskakoooperatywa.wordpress.com/about/>
- Food Cooperative in Lodz (**Kooperatywa Spożywcza w Łodzi**) -
<https://www.facebook.com/kooperatywa.lodz/> and/or
www.lodz.kooperatywaspozywcza.pl

d. Organisational innovations

An example of an interesting SFC solution used by the **Buzby Farm in New Jersey in the USA** shows the potential of innovative organisational solutions, which could be replicated and developed with success also in Poland: www.buzbyfarm.com/farmersmarkets

The Buzby Farm is a 70 ha farm producing fresh fruit and vegetables for local markets. Andrew and Dawn Buzby started the initiative in 1981, engaging family and friends to develop financing solutions. The basis of the initiative was the production and direct sale of safe and healthy food solely in local markets

The Buzby Farm operates shops in 3 farmers' markets and their own CSA – Community Supported Agriculture system, which is co-created with clients. This is a system of distribution and sale of seasonal vegetables and fruit during the course of a 20-week farming season, which lasts from May to September. The system involves customers signing up to purchase part of the farm production without specifying the actual products purchased each week. The customer collects an allotted portion of fruit and vegetables production at one of 4 collection points.



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To participate in the CSA system, customers must buy a subscription. A full subscription costs \$26/week or \$520/season or ½ subscription for \$14,50/week or \$290/season. Payment is made at the outset, though there is also a possibility to pay in instalments. In this way, the consumer gets guaranteed access to high quality food, whereas the producer has guaranteed sales. Payment upfront helps the producer with cash flow and allows capital accumulation for investments.



The CSA system helps solve financing issues, resolves logistical issues because it is the consumer who collects a purchase at a specified place and at a specified time. The producer needs only to deliver the products to the collection points. There is no need for longer term storage as the customer does not buy specified products each week, but a portion of weekly production.

Surpluses over and above the CSA system are sold in 3 retail sales points, which are simultaneously collection points (there are no retail sales on the farm, only collection of products by those participating in the CSA scheme).

The Buzby Farm CSA system is extremely popular with consumers, but the total number of participants is limited. Each year, many consumers sign up for a waiting list. The large number of people interested in participating translates also into profitability of the undertaking.

Distribution and sales models based on the CSA approach are also being developed in Europe, and also in Poland. In the case of smaller farms, collaboration between them is essential so as to achieve scale in distribution and sales, while at the same time reducing costs. A good practice



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example is the farm collaboration taking place in Italy at the **La FATTORIA DI CORAZZANO**

www.fattoriadicorazzano.it



La FATTORIA DI CORAZZANO is a network of 3 organic farms, which recognised that joining forces could translate into reducing costs and increasing sales. Collaboration seeks to ensure that the sales offer is interesting and of quality to consumers, whereas production, processing and logistical costs are reduced through sharing.

Previously each of the farms produced over 60 varieties of vegetables and had problems with sales. The 3 farms decided joint on limiting the variety of vegetables produced, coordinating crop rotation, increased production volumes and made use of a joint system of processing, sales and logistics.

In this way, each one of the participating farms increased its profitability, whereas consumers had sustained access to high quality food products. Products are sold through telephone/internet orders or directly from one of the participating farmers.

e. IT Platforms

The logistical and sales solutions discussed so far are based on the resources available to the farmer or producer (packing, transport) or participating consumers, as in the case of cooperatives. In such arrangements, there is no need for special IT solutions, except for a web page or standard book-keeping and cash-register software. Such solutions when involving direct sales by the farmer, a common solution is to organise customer collections at specified times and in specified places, sometimes in standardised seasonal selections or without ordering specific products.

But in all the solutions discussed so far, scaling potential is limited as the basic cost involved is the time and engagement of the producer both in dealing with logistics and sales. Automation of



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sales through vending machines represents a significant time-saving for the producer but requires considerable investment in purchase, managing and locating the vending machines.

For promoters of SFC systems, it is important to note that good practices based on on-farm sales need to be replicated as small-scale undertakings to create a greater whole that can achieve collective impact in terms of sales, while also bringing individual benefit to those involved by limited costs of logistics and time.

Scale and impact of SFC systems should be considered in terms of the numbers of producers and consumers involved, the diversity and range of products offered for sale, sales volumes and impact on local economy – and so in consequence socio-economic development of rural areas.

Applying the latest IT solutions to the good practices in logistics-sales described in this paper needs to translate into individual benefits to producers in terms of increasing the scale and reach of their sales.

There are several good practice examples of the application of advanced IT solutions for logistics and sales in Poland. One example is that of the Buyers' Club, which brings together producers and consumers from a defined geographical region in a weekly on-line farmers' market, which is presented in detail in another good practice guide³ with reference to the Liszki Basket www.zakupy.koszykliciecki.pl

Other examples of IT applications, which have built up constituencies of regularly collaborating producers and consumers, include the following:

- Local Farmer (Lokalny Rolnik) - www.lokalnyrolnik.pl

Lokalny Rolnik is about organising an on-line market. The organisers do not buy products farmers and sell them on, as is the case with shops. Producers are free to set their own prices with their own tabs on the Lokalny Rolnik platform. They receive feedback about their products in the form of consumer comments. There are currently 90.000 families using the platform, who are organised in 202 Buyers' Clubs that operate across the country. Producers must deliver their products to logistical centres, which subsequently deal with distribution.



³ <https://prostodrolnika.pl/dla-organizatorow/>



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- **Parcel from the Farmer (Paczka od Rolnika) [Rzuchowa, Małopolska]** -
<http://www.paczkaodrolnika.pl/>

This is a long established venture organised by a group of organic farmers. The group sell their own products under a common ‘From the Farmer’ brand in the form of a ‘parcel from the farmer’. All the farmers involved sell directly, whereas a non-profit – the Association of the ‘From the Farmer’ Group serves as the coordinator, develop and promotor of the direct sales idea. The Group is not an intermediary in the sales process in the classical sense. Thanks to the parcel formula, farmers can get better prices for their products whereas consumers have ready access to fresh, high quality produce of known-origin at a competitive price. The consumer orders their parcel via the internet. The parcels are delivered once a week (Tuesdays) by courier – mainly in Krakow and Tarnow, though there are customers in other parts of Poland. The courier service covers all of Poland. The total parcel weight is up to 30 kg. For logistical reasons, only dry fruit and vegetables are sent by courier.



IT solutions are of critical importance to the future development of SFCs as they eliminate – or provide an opportunity to eliminate – key barriers limiting access to markets, stabilising production and profitability. The key barriers identified include the following:

- Inadequate information available to consumers concerning products offered for sale;
- Low and volatile sales with little knowledge as to the demand for the products offered for sale;
- Difficulties in accounting and documenting transactions;
- No certification or verification of origin and quality;
- Limited access to transportation and/or costly transportation;
- Limited storage capacity and/or costly storage;
- High capital costs for infrastructure and transport.

It is important to note at this point, that compliance with the Agricultural Retail Trade (RHD) regulations, does not require advanced IT support. The good practices described so far in this



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Compendium can all be used without sophisticated IT tools, including on-farm sales, vending machines, local farmers' markets, mobile sales, buyers' clubs, cooperatives and CSA solutions.

But without advanced IT-support and dedicated IT platforms, the market penetration will be limited with high costs borne by the producer, often indirectly (the farm typically does not count costs of time, fuel etc). Including such own-costs in business calculations and passing these onto the consumer would translate into higher prices and further limit sales.

IV. Good practice - ICT

Systemic IT solutions for logistics and post-harvest management have been prepared and are being developed further to network small producers in creating local markets in India and countries of Africa and Asia, where smallholder farming dominates agricultural activity. They suggest promising avenues for working out solutions to logistics, sales and financing challenges, which could also be applied successfully by organisers and promoters of SFCs in Poland to overcome the same barriers. The opportunities for IT innovations for growing SFC systems is discussed by Krzysztof Gorlich in a paper prepared for the Eat Wisely, Know What You Eat Campaign in 2018⁴, and lists the following good practices:

- **Star Agri, India** <http://www.staragri.com> This is a private Indian company which provides ICT solutions to individual farmers to help them manage storage and retail sales, but also to manage finances, including guarantees for agricultural loans. The company received financing for developing the software from IDFC Alternatives, and Indian private equity fund. The mission of Star Agri is to empower farmers by equipping them with tools that give them control over their own production and sales.
- **Logistimo, India, Bangalore.** <https://logistimo.com/platform.html>. This is a web platform constructed in the SaaS system for mobile telephones and computers that has been designed for improving participation in local markets in rural areas. The platform can be configured and is easy and cheap to use, providing access to information that aids (better) decision on logistics. The system has been deployed in 6 countries and has reportedly 15.000 users managing 12.000 local storage areas. The system enables monitoring storage conditions (temperature, humidity) by connecting to a network of

⁴ <https://prostodrolnika.pl/wp-content/uploads/2018/11/Innowacje-informatyczne-dla-systemów-Krótkich-łańcuchów-dostaw-Żywności-KŁŻ-dla-potrzeb-kampanii-„Wiedz-i-Mądrze-Jedz”.pdf>



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sensors and Internet of Things devices. The Logistimo system can monitor billions of data points (the system is also being used in Africa to ensure appropriate cooling of vaccines in the supply chain – 430 million doses annually).

- **Agronavti in Georgia.** <https://gfa.org.ge/en/> This is a mobile telephone application developed for the Georgian Farmers Association as a tool for linking individual farms to an Agricultural Products Distribution company, as well as with individual consumers and HORECA companies.
- **Kalo.ge in Georgia.** <http://kalo.ge> This website is dedicated to microfinancing and has been developed by the largest bank in Georgia for registered agricultural users. It provides agronomy information and access to agronomy services, knowledge bases etc. with the objective of reducing financial risk in agricultural production.
- **AgriDigital in Australia.** <https://www.agridigital.io/products/blockchain> The AgriDigital company has been working on IT solutions for global agricultural markets since 2015 based on blockchain technology. In 2016, it created the first system for direct sales of wheat from producer to client and in 2017 initiated a pilot project aimed at enabling traceability of products, real-time financial transactions and digital escrow accounts. The AgriDigital platform is a cloud-based application for managing product supply chains based on blockchain technology.

V. Conclusions and recommendations

The good practices presented in this Compendium focus on logistical-distribution solutions, which are of greatest significance to small farmers and small-scale producers, located far from urban areas. Dealing with logistical-distribution challenges through application of new organisational and IT solutions will be key to creating local markets and securing consumers. Effective solutions in this area serve also as a basis and point of departure for solving finance and financing challenges, product development issues, assuring quality and authenticity of products offered for sale, consumer education and more effective small-scale production and processing. With market access secured through an SFC system, the farmer or small-scale producer can work with the SFC organiser and/or consumers to secure technical and financial support and financing that is secured by future sales and not be existing assets.

Identifying and developing good practice in organising and developing SFC systems, it is important to focus attention and effort on the specifics of small farms. IT solutions adapted to the



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needs and circumstances of small farms, which are dispersed geographically and remote from markets in larger cities can also be applied to large farms, but not vice-versa (i.e. solutions developed for large farms are mostly not applicable to smallholder farming). Direct selling and SFC for large commercial farms is something different to non-commercial small-scale farming and food processing. The economic challenge, which the good practices presented in this Compendium seek to solve, relates to generating food sales from small farms by creating markets in their vicinity to the extent possible. This requires finding solutions to the following:

- Unprofitable small scale production,
- Ineffective marketing when competing with discount stores and supermarkets, and
- Costly and ineffective logistics in a Short Food Chain system, which from the point of view of the customer results in:
 - Limited access to products,
 - Limited range of products offered;
 - Inconsistent supply;
 - High prices.

The specifics of the small farming sector mean that developing SFC systems as solutions for smallholder farms and small-scale food producers is a most appropriate and much needed direction that could slow or stop the disappearance of small farms from rural areas. Stemming the loss of small-scale farming is important because losing small farms translates into:

- Limiting access to safe, fresh, tasty and diverse food that is produced using environmentally-friendly methods;
- Economic and social disintegration of rural communities, and in consequence also, loss of unique and authentic local culture and traditions;
- Loss of biological diversity, which plays a critical role in sustaining life support systems;
- Landscape changes, which in consequence, degrade cultural heritage and threaten tourism development.

Small farms represent a resource and opportunity for animating socio-economic development of rural areas through the development of local markets. The good practices presented in this Compendium suggest that solutions to the problems of geographically-dispersed small-scale farming in rural areas lies with the consumer – individually and collectively (and not with the state!). In coming years, it will be the market for food, that will shape the character and place



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of agriculture in rural areas and the economy as a whole (do government policies with respect to the small farming sector will make a difference!).

If local markets are to develop in a dynamic way, organisational and IT innovations are needed for enabling small farms and small-scale food processing to contend with globalising markets by making competition in the market place for food more even and fairer.

This is not a matter of sentiment or nostalgia for small farming, but a matter of responding to the negative impacts of (industrial) commercial agriculture. Increasing farm size and centralisation in agriculture has led to the industrialisation of agricultural production, which has brought with it several negative impacts:

- Mass application of chemicals;
- Numerous intermediaries in the food supply chain, separating ‘field to fork’;
- Food travelling long distances;
- Long and costly storage of products.

The key challenge for growing the impact of SFCs is that of sales volume. Thus the key question for organisers and promoters of SFC systems is as follows:

How to support/organise SFC systems (with IT) as local markets so that they give small farms and small-scale producers the opportunity for achieving greater scale in direct sales?

The good practice examples of IT platforms suggest that the innovations need to both respond to and shape changes taking place on the part of consumers, as well as the specifics of small and geographically dispersed farms. Innovations are needed for creating:

- IT platforms, which stimulate and sustain self-organisation and self-regulation of dispersed networks of producers and consumers (i.e. work against centralisation tendencies);
- Systems for unambiguously tracing the origin of food products, verifying certificates, and monitoring progress from ‘field to fork’;
- Systems for organising Logistics based on self-organisation and using existing transport and storage assets available to those participating in the local market;
- Systems for settling financial transactions between geographically dispersed producers and consumers excluding existing financial intermediaries;

Overcoming the technological and organisational barriers listed above is a *sine qua non* for sustaining small-sale farming and **assuring supply of food that is tasty, healthy, safe in local food markets.**