

FURKAN GDYNIA



DISCOVER

CHALLENGES
IN FOOD
CULTIVATION
AND
PRODUCTION
IN GDYNIA
AND THE
SURROUNDIN
G AREA

GOOD
PRACTICES AND
INNOVATIONS
SUPPORTING
THE
CULTIVATION
AND
PRODUCTION
OF PLANT-
BASED FOOD

A photograph of a child wearing a white hat, a pink shirt, blue overalls, and red boots, sitting on a wooden wheelbarrow filled with flowers. The child is in a greenhouse, surrounded by various plants and a large glass structure. The text 'TODAY, WE ARE ALREADY BUILDING THE FUTURE OF LOCAL FOOD' is overlaid on a yellow background in the upper right corner of the image.

TODAY, WE ARE ALREADY
BUILDING THE FUTURE OF
LOCAL FOOD

Project information

FURKAN Gdynia is an initiative implemented by Busola Trends and the City of Gdynia, in cooperation with the Zatoka Foundation. The project aims to inspire the implementation of modern and sustainable practices in the production, processing, and distribution of plant-based food in the Gdynia region and surrounding areas. We seek to achieve this by stimulating cooperation around food between the City of Gdynia and its neighbouring municipalities, as well as through the education of urban and rural communities. We encourage everyone involved in the local food system – farmers, processors, allotment gardeners, and consumers – to explore new solutions that make it possible to combine high quality, safety, and care for the environment.



The project belongs to the EIT Food portfolio and is part of the EIT Community New European Bauhaus Enhance 2025 group of initiatives, funded by the European Institute of Innovation and Technology (EIT).

The EIT Community New European Bauhaus (NEB) supports citizens, grassroots initiatives, and start-ups that embody the key values of the New European Bauhaus promoted by the European Commission – sustainability, inclusiveness, and aesthetics – by offering support in business creation and development, funding, mentoring, and network-building.



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1

Introduction: Gdynia's food system

Gdynia, a coastal city with a population of more than 240,000, is part of a larger, dynamic food system in which urban gardens, fields on the outskirts, and surrounding agricultural areas form an interconnected network. Agricultural land accounts for only 14.7% of its land area. Therefore, the local food system relies not only on the resources of Gdynia itself, but also on cooperation across the wider region. The surrounding municipalities — Kosakowo, Rumia, Szemud, Wejherowo, and Puck — supply fresh vegetables, fruit, and other plant-based products, complementing the urban market and strengthening its diversity. An important element is also the Port of Gdynia, which, as an import hub, can strengthen the resilience of the system during periods of shortage, but in times of crisis may also become a potential source of risk if global supply chains are disrupted.

There are 23 Family Allotment Gardens within the city, which serve as places of learning and integration, elements of green infrastructure supporting the city's natural environment and the health of its residents, and above all as a source of fresh food. Preserving this role is particularly important at a time when more and more city residents are becoming detached from the process of food production, which weakens the local market and makes it more difficult to understand the everyday challenges faced by producers.

In a survey conducted among residents of Gdynia and the surrounding municipalities, one in three respondents declared that they grow vegetables or fruit for their own use. Supermarkets remain the most common place of purchase (61%), followed by local greengrocers (20%) and marketplaces (18%). Purchasing decisions are most often driven by availability, health, and taste, while environmental considerations appear only rarely — they were indicated by just 9% of respondents. The concern most frequently identified by consumers regarding the future of the local food market is the lack of transparency about the origin of food and the way it is produced (48%), which points to the need to build trust in the producer–consumer relationship.

Among the producers surveyed, the most frequently indicated problems were rising production costs (81%) and limited access to markets (72%). Although 68% of producers sell at local marketplaces, only 32% identify them as their main source of income. More than half use chemical plant protection products, while at the same time regenerative practices can be observed in cultivation methods, including widespread composting. 73% of producers indicate pressure from pests and plant diseases as a challenge, and more than 71% recognise the effects of climate change. Problems related to soil quality, soil drying, and the observed decline in biodiversity increase the risk of crop losses.

Both producers and experts point to the potential benefits of implementing a food policy and strengthening cross-sector cooperation. Strengthening Gdynia’s food system so that easy access to fresh products from nearby producers becomes part of everyday life means striving to develop producer and consumer cooperatives, as well as intensifying education among consumers, producers, and decision-makers alike. In this publication, we present the most important challenges in three areas — “Food Safety and Quality,” “Environmental Change,” and “Cooperation” — which are of fundamental importance to small food producers in the context of global trends. We then propose 17 good practices that may help reduce their impact on our future.

Where does the data in this publication come from?

Methodology in the FURKAN Gdynia project

Consumer opinion survey

Method: CAPI/CAWI (questionnaire interviews)

Sample: 200 consumers

Survey among producers

Method: questionnaire interviews

Sample: 100 producers

Study of challenges among experts

Method: IDIs (in-depth individual interviews)

Sample: 25 experts

Analysis of the impact of megatrends on challenges

Method: megatrend impact matrix based on data from the EU Megatrends Hub.

Analysis and selection of good practices

Method: Mapping of 60 good practices, followed by the selection of the best solutions during World Café workshops with local experts.



2

Challenges in food safety and quality

Food safety and quality are the foundation of trust in the local food system. This means that products available to residents should meet nutritional, health, and sensory requirements — from taste and smell to composition and shelf life. It is the shared responsibility of decision-makers, producers, and supporting institutions to protect consumers from chemical hazards (pesticides, herbicides), biological hazards (bacteria, viruses, fungi), and physical hazards (foreign bodies). Maintaining these standards at every stage, from cultivation in the field to the final product, is associated with multidimensional challenges resulting, among other things, from the pressure of pests and crop diseases, which affects both the environment and the quality of yields. At the same time, limited monitoring of production processes makes certification and the building of consumer trust more difficult. For this reason, the education of both producers and consumers in the principles of sustainable food production and consumption is so important, as it supports the building of lasting trust in local products.



Under conditions of growing environmental, economic, and social pressure, the safety and quality of local food in Gdynia and the surrounding municipalities are becoming increasingly problematic. Two particularly important challenges are the chemicalisation of plant production and the lack of monitoring and documentation of production processes. These point to structural weaknesses in the food system which, without rapid and adequate action, may lead to a decline in the quality and safety of products, as well as a further decrease in consumer trust.



One of the most serious threats is the growing chemicalisation of plant production, which negatively affects consumer health through chemical residues in food, while also deepening the problem of environmental degradation. A direct cause of this situation is the increasing pressure from pests and plant diseases, reported by as many as 73% of local producers. This results largely from the weakening resilience of agroecosystems, leading to soil degradation, reduced biodiversity, and the effects of climate change, such as irregular rainfall and rising temperatures. In the absence of support and alternatives, many producers, especially commercial ones, turn to chemical plant protection products, which, although effective in the short term, in the long run lead to a vicious cycle of dependency: the greater the use of pesticides, the greater the resistance of pathogens, the degradation of the environment, and the need for further chemicalisation. This situation also results in increasingly lower crop quality, a decline in the nutritional value of harvests, and a growing risk of chemical residues in food. This, in turn, directly affects the health of consumers — that is, all of us.

The second problem is the lack of systematic monitoring and documentation of production processes. The vast majority of producers limit monitoring to mandatory activities, such as basic soil testing or phytosanitary parameters, while an even smaller share implement formal quality systems or conduct analyses of the chemical composition of products. As a result, local food, even when produced in a responsible and sustainable way, remains outside certification systems. The lack of certification or any other form of quality confirmation limits its access to the institutional market and also reduces consumer trust. For many residents of Gdynia, a major concern regarding the future of the local food system is the lack of transparency about the origin of food and the way it is produced — this was indicated by 48% of respondents. Supply chain transparency is regarded as one of the key gaps, and improving it could strengthen the market position of local producers.

From a long-term perspective, these challenges will not only persist, but are also highly likely to intensify. Climate change, including increasingly irregular rainfall, heatwaves, and ongoing seasonal shifts, will favour the emergence of new pests and plant diseases, increasing the need for crop protection methods that will not be neutral for either the environment or human health. At the same time, ongoing urbanisation and rising land prices will limit the availability of space for cultivation, while increasing energy and water costs will intensify the economic pressure on small producers. Under such conditions, the risk of quality-related compromises grows, leading to shortened control procedures, the use of cheaper and less safe solutions, as well as the abandonment of sustainable practices.

Challenges in the area of food safety and quality will become increasingly important in the face of pressure to improve the health of an ageing society and to counteract lifestyle diseases. Under such conditions, local food becomes a key element of public health protection. At the same time, any potential limitation in access to fresh and safe products, as well as any decline in their quality, may particularly affect vulnerable groups such as children, older people, and individuals with weakened immune systems.

Risks worth knowing



Cumulative dose – the result of a chemical substance accumulating in the body as a consequence of long-term exposure, potentially causing chronic health effects.

Cocktail effect – the combined and often unpredictable impact of many different chemical substances in the body, even if each of them individually remains within the accepted safety limits.

Myth of a safe dose – the simplified assumption that there is a universal dose of a chemical substance that has no impact on health, whereas the body's sensitivity depends on age, body weight, health condition, and other factors.

Loss of agroecosystem resilience – the inability of the agricultural environment to self-regulate and regenerate after disturbances, including the loss of ecosystem services such as natural water purification or pollination.

3

Good practices in food safety and quality

Mitigating challenges in the area of food safety and quality requires combining natural crop protection methods with digital and educational solutions that support precise crop management and informed consumer choices. The good practices presented in this chapter include modern technologies, biological solutions, and methods supporting monitoring and precision management. They include both practices that strengthen producers in the long term and ad hoc measures that make it possible, for example, to protect crops effectively in a natural way. Their parallel use is recommended in order to achieve both immediate and lasting effects. Each practice was assessed in terms of effectiveness, environmental impact, and implementation potential under local conditions, so that it can genuinely raise production standards and strengthen the position of producers.

BIOFUNGICIDES

natural fungicides

PROBLEM:

Chemical fungicides lead to soil degradation, reduced biodiversity, and the accumulation of chemical residues in crops. In the long term, they also increase pathogen resistance and contribute to environmental contamination.

SOLUTION: Biofungicides are natural biocontrol preparations based on microorganisms (bacteria and fungi), such as *Bacillus subtilis*, *Pythium oligandrum*, or *Trichoderma harzianum*. They combat pathogens through the production of antifungal substances, competition for resources, induction of plant resistance, and parasitising disease-causing organisms. Their use translates into higher product quality and greater cultivation efficiency. They can be applied in the form of sprays, seed treatments, or organic fertilisers.

EFFECTIVENESS: The use of biofungicides makes it possible to reduce the consumption of chemical fungicides by as much as 60–80%. These preparations comply with the requirements of organic production.



LASER WEEDER

laser weed removal

PROBLEM: Traditional weed control methods rely on chemical herbicides, which contaminate the soil and lead to biodiversity loss. Mechanical weed removal requires significant physical labour and, in the case of row crops and dense cultivation, carries the risk of damaging cultivated plants.



QR CODE IDENTIFICATION

tracking product batches

PROBLEM: Consumers increasingly expect transparency. They want to know where a product comes from, when it was harvested, how it was cultivated, and which plant protection products were used. Especially in the case of small farms, a lack of transparency may limit their competitiveness and make it more difficult to meet quality requirements.

SOLUTION: Laser devices (for example the LaserWeeder by Laser Robotics) used for weed control provide a precise and fully ecological alternative to traditional methods. Autonomous robots, using cameras and artificial intelligence, identify weeds and direct a laser beam at them, destroying the growth point. The machines can operate unattended for many hours, and their use is possible both on large farms and on smaller cultivated areas.

EFFECTIVENESS: The effectiveness of treatments reaches 90–95%, which eliminates the need to use herbicides. In addition, the method supports soil regeneration and reduces the need for manual labour. Cost of the device: from PLN 90,000 to PLN 300,000.

SOLUTION: Placing QR codes on packaging or crates makes it possible to quickly access detailed information about a product batch, such as the place and date of harvest, cultivation practices, and even the plant protection products used. Food producers can generate unique codes in simple record-keeping systems, also available in open-access models, and assign cultivation-related information to them.

EFFECTIVENESS: This solution builds consumer trust, promotes local products, serves an educational and marketing function, and supports producer recognition. The implementation of QR code identification is relatively inexpensive; for a small farm, the cost ranges from PLN 1,000 to PLN 3,000.

VIRTUAL FARM

crop management platforms

PROBLEM: The lack of systematic planning and documentation of agrotechnical treatments, rapid response to changing weather conditions, and monitoring of phytosanitary threats creates serious challenges for producers. In addition, the absence of well-organised documentation often limits the possibility of applying for subsidies, participating in certification schemes, or selling to public institutions.

SOLUTION: Digital platforms that enable comprehensive farm management make it possible to integrate data from local weather stations, keep detailed records of crops, fertilisation, spraying, harvesting, and other treatments, support calculations of production costs and the analysis of the profitability of particular activities, and facilitate the preparation of documentation, including HACCP.

EFFECTIVENESS: Management platforms make it possible to reduce errors resulting from a lack of up-to-date information, respond to adverse events, plan the season effectively, and meet quality standards, which increases producers' chances of obtaining certificates and gaining access to sales markets. Access to such platforms through a subscription model in 2025 is associated with a cost of PLN 50–200.

ENTOMOLOGICAL BIOREGULATION

biological pest control

PROBLEM: The proliferation of pests and their increasing resistance to plant protection products lead to secondary infestations and, as a consequence, to the intensification of chemical methods and excessive levels of these substances in food.

SOLUTION: Biological control is a method aimed at regulating populations of harmful insects through the introduction of natural enemies, such as predators, parasitoids, and insect pathogens, as a substitute for chemical plant protection products. Trichogramma is a genus of tiny wasps whose larvae develop inside the eggs of other insects. Trichogramma is commonly used to control the European corn borer as well as various species of codling moth.

EFFECTIVENESS: This method can reduce the use of chemical plant protection products by as much as 50% compared with control crops and may lead to a slight increase in yields of around 4–10%.



4

Environmental change challenges

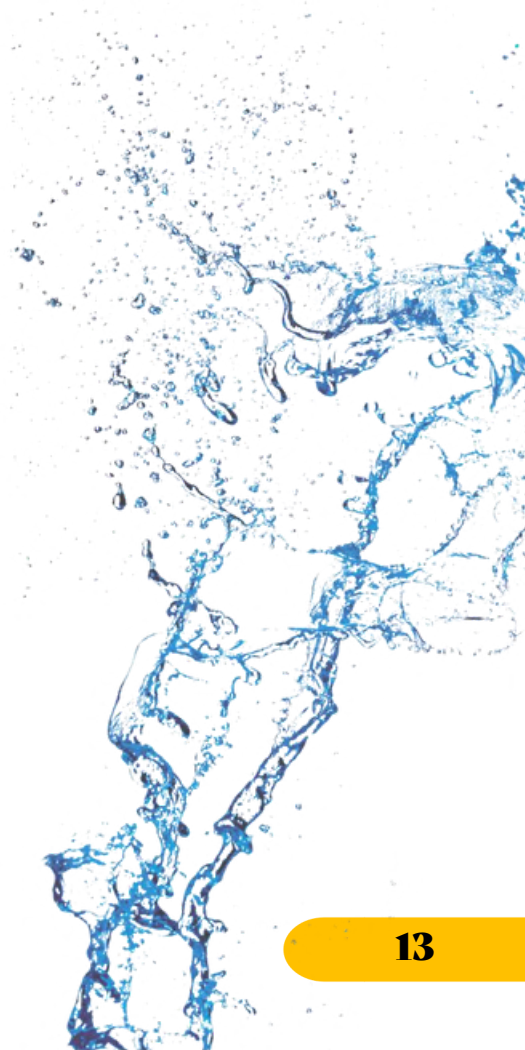
Environmental changes observed at both the local and global levels are not only delayed or geographically distant consequences of climate change, but above all real and tangible phenomena affecting the production and cultivation of local food. Progressive water pollution, soil degradation, loss of biodiversity, recurring heat waves, periods of drought, and increasingly frequent extreme weather events all contribute to the destabilisation of agricultural ecosystems. As a result, agriculture is becoming less and less predictable, less resilient, and more dependent on external inputs such as fertilisers and pesticides. The weakened capacity of the ecosystem for self-regulation means limited production of high-quality food, rising prices, more difficult access to healthy products, and deepening food inequalities. Environmental change therefore has not only a natural dimension, but also a social, health-related, and economic one.



Challenges in the area of environmental change are systemic in nature and often form the basis for challenges in the other two areas — both food quality and safety, and cooperation. Weakened ecosystems encourage the spread of pests and plant diseases, which leads to greater use of chemicals and higher costs of producing high-quality food. Two environmental challenges are particularly important: the ongoing degradation of soils associated with improper cultivation practices, and the high energy and water intensity of agriculture.

The deteriorating condition of soils results both from natural processes of degradation and erosion and from human activity, including the lack of a systemic approach to sustainable practices and conscious management of natural resources, and in some cases also from excessive soil acidification. Degraded soils are characterised, among other things, by low humus content and poor water-retention structure, which makes them less resilient to climate fluctuations and more vulnerable to the loss of production value. This phenomenon intensifies especially as a result of intensive exploitation without the appropriate selection of crops and fertilisation, which leads not only to declining yields but also to increased demand for chemical inputs. These, in turn, contribute to further environmental degradation.

A second, closely related challenge is the high energy and water intensity of local plant production. Agriculture, originally a producer of energy, has now become a major consumer of it, using significant amounts of electricity, fuel, and water. High energy consumption relates, among other things, to heating polytunnels, mechanical irrigation, spraying, and transport, while the water intensity of agriculture increases further under conditions of extreme weather events, irregular rainfall, and periods of drought. Data show that 81% of producers identify high production costs — including energy and water costs — as one of the two greatest barriers to development. High energy and water intensity mean that even relatively small-scale cultivation generates a carbon footprint that is difficult to balance without external support and access to more efficient technologies. Only a small number of producers invest in renewable energy sources or water-saving irrigation systems; however, the lack of widely available calculation models and resource-use benchmarks means that many do not identify the points at which they could reduce losses, while capital barriers make the implementation of modern solutions more difficult.



From a long-term perspective, soil degradation as well as the high energy and water intensity of food production lead to the weakening of the local system, and without decisive action, this problem will deepen. Soil degradation will reduce local production capacity, which may result in greater dependence on food imports and a decline in food security. At the same time, growing energy and water consumption may increase production costs, enlarge the carbon footprint, and deepen agriculture's vulnerability to the effects of the climate crisis. As a result, access to fresh, high-quality food will become increasingly difficult, and social inequalities in this area will grow.

The intensification of agriculture in response to growing demand, carried out without investment in water retention, soil health, and biodiversity protection, sets in motion a vicious circle of unsustainable exploitation. Pressure to increase production efficiency, combined with the lack of tools and support adapted to local soil and water conditions and to the realities of small-scale agricultural production, means that producers are left without real possibilities to counteract these processes in the long term.

Risks worth knowing



Biologically dead soil – a condition in which the soil loses the activity of microorganisms, fungi, and soil fauna, and along with it the ability for natural self-regulation: nitrogen fixation, decomposition of organic matter, and water retention. It then becomes merely a physical substrate whose productivity is maintained artificially through fertilisers and chemical inputs, which further deepens degradation.

The irrigation trap – a situation in which increasingly intensive watering leads to the leaching of mineral nutrients, soil degradation, and rising production costs instead of improving yields. It is a mechanism that creates dependence on ever greater water inputs.

Environmental food inflation – a sustained increase in food prices caused by the rising environmental costs of production, such as soil degradation, water and energy consumption, and the loss of ecosystem services. This phenomenon limits the availability of fresh plant-based food and reduces its affordability for households.

The agricultural energy tipping point – the moment at which rising energy and fuel costs cause local food production to lose its advantage in terms of profitability and sustainability over imported food. Once this point is passed, the system becomes dependent on external support and loses resilience.

5

Good practices in environmental change

Good practices in the area of environmental change respond to the declining resilience of ecosystems and, indirectly, also contribute to reducing problems related to food safety and quality. The good practices presented in this chapter focus on current problems with wide-ranging effects, but also on their causes, including restoring to the environment its lost natural capacity for self-regulation. These solutions include both systemic actions, such as a comprehensive approach to soil nourishment or the rebuilding of the microbiome, as well as solutions that can be implemented immediately, such as the use of biochar or drip irrigation. Each practice has been described with regard to its effectiveness, impact on the ecosystem, and potential for local implementation, so that it may serve as a real tool for adapting to climate change and building stable foundations for food production in the future.

THE 5C FRAMEWORK

an approach to soil regeneration

PROBLEM: A decline in humus content, microbiological depletion, acidification, and a reduced capacity to retain water lead to the loss of the soil's natural functions and its ability to sustain production.

SOLUTION: The “5C” code is a set of five interconnected practices that improve soil condition in a comprehensive way. It includes: Carbon (introducing organic matter, for example, biochar), Cover (the use of cover crops), Crop rotation (diverse crop rotation), Compost (enriching the soil with mature compost), and Conservation tillage (reduced or simplified tillage).

EFFECTIVENESS: Over a period of 3–5 years, increases in yields, better product quality, and lower fertilisation and irrigation costs can be observed. The 5C model is also gaining recognition in EU policies as an example of a regenerative approach to agriculture.



pH AND EC METERS

testing soil parameters

PROBLEM: The lack of ongoing monitoring of pH (acidity) and EC (electrical conductivity) results in uneven fertilisation, localised acidification, salinity, and the waste of nutrients, and consequently in yield losses and rising food production costs.



BIOCHAR KILN

home biochar production

PROBLEM: In response to soil degradation, solutions such as conventional fertilisers are often used, even though they do not support soil fertility in the long term.

At the same time, post-harvest biomass, horticultural residues, and organic waste are often composted without fully realizing their potential.

SOLUTION: Portable soil meters are a fast, precise tool for assessing soil chemical parameters without sending samples to a laboratory. Measuring pH makes it possible to identify soil acidity and apply appropriate liming, while measuring EC enables control of fertilisation levels and salinity.

EFFECTIVENESS: Regular monitoring of pH and EC allows for more accurate fertilisation, which can reduce the use of mineral fertilisers by as much as 20–30%. This practice enables more precise crop management, improving both economic and environmental efficiency. Modern meters (costing PLN 300–900) are easy to use and do not require specialist knowledge.

SOLUTION: Biochar increases water retention and retains mineral nutrients in the soil. Thanks to its porous structure, it also provides a habitat for soil microorganisms, which may improve soil fertility and structure. Its production uses a pyrolysis furnace, which processes biomass residues, such as straw, sawdust, or plant waste, into biochar and gas (so-called syngas), which can be used as a local source of energy, for example to heat a greenhouse.

EFFECTIVENESS: The use of 1–2 tonnes of biochar per hectare may increase yields by 5–15%, depending on soil conditions, crop type, and method of application. Biochar production is possible on a small scale and does not require advanced technology or high financial investment.

DRIP IRRIGATION

precise water dosing

PROBLEM: Traditional methods, such as sprinklers or surface irrigation, often lead to excessive water use. In addition, they may cause periodic overwatering of the soil, followed by drying out, which leads to plant stress and may inhibit growth as well as increase the risk of diseases associated with excessive moisture.

SOLUTION: Drip irrigation is a method of delivering water directly to the root zone of plants through a network of pipes, hoses, and drippers. Water is supplied precisely, which minimises losses resulting from evaporation and surface runoff, while ensuring optimal hydration for plants even under difficult conditions. Drip systems can be automated, making it possible to adjust the amount of water precisely to the current needs of plants, depending on weather conditions.

EFFECTIVENESS: This method can reduce water use by as much as 40–60% compared with traditional irrigation methods, such as surface irrigation or sprinklers. In addition, minimising water stress may lead to yield increases of 20–50%, depending on the type of crop.

AGRICULTURAL WEATHER STATION

planning based on the microclimate

PROBLEM: Various weather phenomena, such as droughts, frosts, and heavy rainfall, as well as their increasing variability, are causing significant crop losses ever more often. Traditional weather forecasts, based on a large spatial scale, do not always reflect the microclimate of a specific field and are characterised by lower data accuracy.

SOLUTION: An agricultural weather station enables precise and continuous monitoring of key microclimatic parameters within a specific cultivation area. These stations measure, among other things, air and soil temperature, humidity, rainfall, sunlight exposure, wind speed and direction, as well as the dew point. The data are available in an application, which often also includes a weather alert system and forecasts of plant disease risk. The station may operate independently in terms of energy supply.

EFFECTIVENESS: This solution supports more accurate planning of plant protection treatments, fertilisation, and irrigation, reduces losses, and increases cultivation efficiency. The cost of a weather station ranges from around PLN 1,000 to several tens of thousands of zloty, depending, among other things, on the number of sensors.



6

Challenges in cooperation

Cooperation within the local food system includes several interconnected dimensions. It is shaped by relationships between people growing vegetables and fruit in the city – in Family Allotment Gardens and community gardens – as well as by cooperation among farmers, gardeners, and processors producing food in rural areas. Through joint action, it becomes possible to implement good practices and increase the visibility of small-scale producers. Cooperation also includes links with consumers and with people with whom crops are shared through exchange, as well as connections with marketplaces, restaurants, schools, and kindergartens. All these participants in short supply chains are part of the food system. The third dimension of cooperation consists of relationships with local administration, regulatory institutions, social organisations, and education. This is where food policies, urban strategies, regulations, and educational programmes are developed. This level determines whether the food system is coherent or dispersed and fragmented. Every participant in the system bears responsibility for its condition, and the relationships between these dimensions form the foundation of food system transformation.





In Gdynia and the surrounding area, research indicates the existence of informal forms of cooperation among people involved in the cultivation and production of food. Relationships are stronger among producers who sell their products than among those who grow food for their own needs. At present, the greatest challenges concern the second dimension of cooperation, responsible for ensuring market access for producers and product availability for consumers. **Particularly important challenges include the low level of mutual understanding between producers and consumers, as well as the immaturity of community-based channels.**

The lack of mutual understanding between producers and consumers is one of the most serious challenges facing the local food system. Both sides operate according to different logics that rarely meet. For producers, the key factors are seasonality, labour costs, weather variability, and the scale of cultivation. These are the realities that determine both the price and the availability of products. Meanwhile, consumers tend to perceive local food primarily through the lens of convenience, availability, and low prices, often without being aware that quality is shaped by biological and economic constraints. As many as 83.9% of producers indicate that consumers' lack of knowledge about the benefits of choosing local products is one of the main sales challenges. On the consumer side, uncertainty also arises regarding the origin of products – 48% of respondents are concerned about a lack of transparency regarding the source and method of production of local food in the future. It is worth emphasising that at marketplaces and in local greengrocers, alongside products from local farmers, there are often also goods sold by vendors offering food from outside the local food system.

This problem is closely linked to a second challenge, namely the immaturity of community-based channels. Food cooperatives, buying groups, self-harvesting, community gardens, and community supported agriculture may constitute a real alternative to commercial retail chains, yet they still remain on the margins. Only 3% of the surveyed producers cooperate within such initiatives. The lack of formal structures, organisational tools, and stable resources means that the development of these forms of cooperation is based mainly on the commitment of individuals, which limits their durability and scale. If the immaturity of community-based channels persists, the local food market will remain vulnerable to fluctuations in demand and pressure from large retail chains, and the potential to build alternative, more resilient distribution models will not be realised. As a consequence, the region may lose the opportunity to develop an integrated, self-sufficient food system based on trust and direct relationships between producers and consumers.

As a result, among other things due to the lack of appropriate community-based tools, as many as 81% of producers assess limited access to sales markets as one of the most serious obstacles to the development of their activity. This limits the effectiveness of promotion and the visibility of local products, slows down the development of the local market, and makes nutrition education and the shaping of ecological habits more difficult. The ongoing digitalisation, as well as the growing importance of online sales platforms and community exchange, on the one hand create new opportunities, but on the other hand are also a source of risks, especially for those who do not have adequate digital competences or support in developing them and may become excluded from the market. In the long-term perspective, the third dimension of cooperation – the systemic and institutional one – is also becoming increasingly important. At present, however, it remains fragmented, which is already being identified by experts as a serious risk. In the absence of a strategy, local initiatives develop in isolation, without mechanisms for coordination and mutual reinforcement of effects. This leads to the fragmentation of resources, duplication of activities, and a lack of continuity, which in the longer term limits the food system's capacity to adapt.

Risks worth knowing



The paradox of the local market – a situation in which spaces and institutions associated with local production, such as marketplaces, festivals, and “eco” shops, become increasingly based on non-local products, thereby reinforcing the image of locality while in fact limiting its real availability.

The threshold of entrenched distance – young consumers and producers enter the market already assuming that cooperation is ineffective or burdened with risk. This leads to the reproduction of distrust and the deepening of the problem: the longer the lack of cooperation lasts, the smaller the chances of rebuilding it.

Disintegration of the short supply chain – a moment in which the food distribution system formally preserves the appearance of locality, but in fact relies on complex transport routes and intermediaries. Products sold as “local” travel long distances within wholesale flows, so that their environmental and cost footprint becomes similar to that of imported food. This phenomenon undermines the very meaning of short supply chains and weakens consumer trust.

Displacement of agricultural production – a situation in which consumers accept and desire the final result in the form of food, while at the same time not accepting the environmental effects of the production process, such as smell, noise, the presence of animals, fertilisers, or machinery. This phenomenon intensifies in suburban areas, where suburbanisation leads to neighbourhood conflicts and the marginalisation of agriculture.

7

Good practices in the area of cooperation



Stabilising agriculture and supporting transformation at the local level through the responsible management of the food system lead to an improved quality of life for urban residents. The development of commercial spaces, such as greengrocers, markets, and market halls, strengthens local markets and ensures that residents have access to fresh, healthy food. The area of cooperation, unlike technical or production-related solutions, connects different levels – from individual actions to systemic initiatives that can be incorporated into urban and regional strategies. These mechanisms may take different forms, adapted to local needs and conditions. One example is a self-harvest portal, which can connect farmers with consumers, but can also serve as a platform for exchanging services for crops within Family Allotment Gardens. Each good practice has been described with reference to the problem it addresses, the solution itself, and an assessment of its effectiveness.

FOOD COOPERATIVE

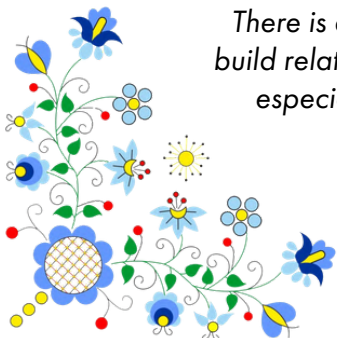
food straight from the farmer

PROBLEM: *In a competitive food market, local producers often remain unrecognised, and their values, such as sustainable production, transparency, and quality, remain invisible to consumers.*

There is a lack of tools that build relationships and trust, especially beyond direct sales.

SOLUTION: A food cooperative is a model of collaboration in which consumers and producers jointly organise the process of purchasing and distributing food. It may operate on the basis of membership and democratic decision-making principles, which help maintain control over where the food comes from and how it has been produced. Over time, the cooperative builds a network of trusted suppliers and producers with whom it maintains ongoing relationships, gaining influence over cultivation practices and labour standards.

EFFECTIVENESS: Consumers buy directly from farmers, which means that prices are often lower, sometimes by as much as half compared with popular retail sales channels. The cooperative also offers transparency regarding the origin of products.





AGRICULTURAL TOURISM

getting to know the place of
production



PROBLEM: The lack of relationships between the city and the countryside, as well as insufficient cooperation between producers and consumers, constitutes a barrier to building a shared market. In cities, interest in healthy food is growing; however, consumers often have no direct contact with the place of production, which makes it more difficult to understand the value of products and the effort involved in producing them.

SOLUTION: Agricultural tourism is a way of building bridges between the city and the countryside. More and more organic markets organise trips that integrate the community of producers with consumers. Educational visits to farms taking part in the market enable participants to become directly familiar with everyday work on farms, understand the challenges faced by farmers, and get to know their suppliers in person. During these trips, city residents can also take part in workshops, tastings, and even shared cooking activities.

EFFECTIVENESS: Participation in such educational trips allows city residents to better understand the food production process, which increases their awareness of the value of organic products and of the difficulties involved in producing them.



LOCAL PRODUCTION LABEL

example: South Tyrol Quality Mark

PROBLEM: The lack of consistent product origin labels in the region means that local products compete on the market without any visible distinction. Consumers are often unsure which products genuinely come from a given area and meet specific quality standards.

SOLUTION: A regional quality label, such as the South Tyrol Quality Mark, is a tool for certifying products that meet specific criteria, such as origin, quality, sustainable production, and tradition. Such a system requires the creation of an institutional framework: a certifying body, a catalogue of requirements, and a promotion strategy. In the context of Gdynia and Pomerania, a possible solution would be to create a label such as “Produced in Gdynia and the surrounding area”, supported by local government, local NGOs, and sectoral organisations.

EFFECTIVENESS: Distinguishing local production in this way improves the visibility of local products, strengthens their market position, and makes it easier to promote them beyond the region.

SELF-HARVESTING PORTAL

making crops available for self-harvesting



PROBLEM:

An increasing number of consumers are seeking experiences connected with local food and want direct contact with the producer. At the same time, many small-scale farmers do not have sufficient support during harvest and are unable to make full use of their crops due to a lack of labour or buyers.



REGIONAL LOGISTICS PLATFORM

centralisation of orders and deliveries

PROBLEM: Traditional sales channels are often complicated, costly, and time-consuming for smaller producers. Handling multiple individual orders, issuing separate invoices, and coordinating deliveries can be a barrier for both suppliers and buyers.



SOLUTION: Creating a local online portal, online map, or community group where farmers can announce opportunities for self-harvesting on their farms. Consumers sign up for selected dates, visit the farm, and pay for the fruit or vegetables they collect. An example of such a solution in Poland is the MyZbieramy.pl platform, which allows users to find farms offering self-harvesting across the country.

EFFECTIVENESS: Self-harvesting strengthens relationships between urban communities and farmers, increases awareness of the seasonality and origin of food, and reduces crop losses. In this way, farmers can generate additional income without the need to hire seasonal workers, while consumers can buy fresh products that are often cheaper.

SOLUTION: A regional logistics platform makes it easier for local farmers and producers to sell their products to retail networks, kindergartens, the hospitality sector, and other institutional buyers. The platform operates through the centralisation of deliveries: farmers deliver food to a warehouse or distribution hall located near the city, from where the products are then transported to recipients in the city. As a result, buyers receive one consolidated delivery with a single invoice, which significantly simplifies the purchasing process and makes it easier to establish cooperation.

EFFECTIVENESS: An example of such a solution is the Vanier platform in the city of Ghent, Belgium. By simplifying deliveries and centralising settlements, the share of local products on the market can increase by 5–20%.

BRAND LABELS AND LEAFLETS

presenting the product's story

PROBLEM: In a competitive food market, local producers often remain unrecognised, while their values – such as sustainable production, transparency, and quality – remain invisible to the end consumer. There is a lack of tools that build relationships and strengthen trust, especially beyond direct sales.

SOLUTION: Placing short pieces of information on the packaging of agricultural and processed products about the producer, cultivation methods, ingredients, and nutritional values. Paper labels, stickers, or leaflet inserts are used for this purpose. QR codes are also increasingly being introduced, leading to the producer's profile or a specific product batch. One example is a farm that includes a mini photo report from the field and a description of the week's work in its vegetable box.

EFFECTIVENESS: This practice increases brand recognition, customer loyalty, and positively affects the perceived quality of the product. Consumers are more likely to return to producers whose philosophy and story they know.

COMMUNITY SUPPORTED AGRICULTURE

product subscription model

PROBLEM: Farmers often face difficulties achieving financial stability due to income uncertainty and the risks associated with unpredictable weather. At the same time, consumers are looking for regular access to fresh, healthy products.

SOLUTION: Community Supported Agriculture (CSA) is a model in which consumers commit to purchasing products from a farmer for the entire season, paying in advance at the beginning of the season. In return, they receive regular deliveries of fresh vegetables and fruit, for example, once a week. The farm gains financial stability, which enables better production planning and reduces the risks associated with an unstable market. Consumers, in turn, gain the assurance that they are receiving healthy, locally grown food.

EFFECTIVENESS: The model should be optimised to match the costs and conditions of a given farm. Example subscription prices range from PLN 1,700 to PLN 2,500 per season.

Regardless of whether you manage a small family garden or run a farming business, it is essential to understand how to improve the quality and safety of your products. Appropriate practices not only ensure competitiveness on the market, but also build consumer trust. It should be remembered, however, that the solutions presented are examples of good practices, and their implementation requires adaptation to local conditions or to a specific crop, as well as an assessment of effectiveness appropriate to the scale of cultivation and its particular challenges. In the case of machinery and equipment, selecting the right supplier also plays an important role.

Didn't find the right solution for yourself? Would you like to learn more details or seek support in implementing innovation or good practices?

Contact us at: info@busolatrends.com

We are here to support you in the transformation process.



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Summary: local solutions to local challenges

Contemporary challenges faced by the local food system in Gdynia and the surrounding areas are not isolated – they are part of global climate, environmental, social, and technological tensions that are increasingly affecting the everyday lives of producers and consumers. In a region where the dynamics of metropolitan development meet agriculture of varying scales, the need to create a coherent, resilient, and sustainable model of food production is becoming increasingly visible. The water crisis, soil degradation, climate variability, and urbanisation pressure affect not only crop quality, but also the economic and environmental stability of the entire system.

At the same time, awareness is growing that local development must go hand in hand with the responsible management of natural resources and the protection of biodiversity. In this context, practices already being implemented today both by farmers in the region and by consumers show that, if the right support and conditions for development are provided, change is possible. The use of tools such as biofungicides, biological pest control, micro-pyrolysers, precision soil meters, or digital crop management platforms makes it possible not only to reduce losses and costs, but also to regenerate soil, improve food security, and increase ecological efficiency.

Educational and consumer initiatives, from a self-harvest portal to supporting applications, constitute a practical response to the need to shorten supply chains, as well as to strengthen trust and rebuild urban–rural relations. The sustainable future of food in Gdynia and the surrounding areas depends on the capacity for cooperation between farmers, consumers, local governments, educational institutions, and advisory services. Only through the creation of a shared ecosystem of knowledge, innovation, and solidarity will effective adaptation to changing environmental, economic, and social conditions be possible.

We need a system which, through regeneration, transparency, locality, and inclusiveness, will not only respond to present and future crises, but also effectively prevent them. The practices described are not only a catalogue of solutions, but also proof that the transformation of the local food system has already begun. This process is worth supporting, developing, and disseminating. This set of good practices is intended to serve not as a fixed set of instructions, but as an inspiration for further experimentation, cooperation, and learning for a more resilient, sustainable, and just local food economy.

About us:

Małgorzata Piskórz – researcher, foresight practitioner, and trend analyst. A graduate of the Faculty of Food Sciences at the University of Warmia and Mazury in Olsztyn. Co-founder of the foresight studio Busola Trends, where she supports cities and organisations in embedding long-term thinking into innovation processes and in developing future-resilient strategies.



m.piskorz@busolatrends.com
(+48) 504 068 552

Michał Stokowski – graduate in spatial planning with a specialisation in territorial foresight from the University of Warsaw, and a PhD candidate at the Doctoral School of Social Sciences at the University of Warsaw. Recipient of a French Government scholarship at Sorbonne University in Paris. Co-founder of the student organisation Ad Futurum and a member of the Busola Trends team.



m.stokowski@busolatrends.com
(+48) 505 177 402

Magdalena Muszel – sociologist and cultural anthropologist. In 2013, she earned a PhD in Social and Political Sciences from the European University Institute in Florence. President of the Zatoka Foundation, which supports the development of civil society by building networks among activists and local community leaders.



magdalena.muszel@fundacjazatoka.org
(+48) 602 134 254

THANK YOU FOR YOUR DAILY EFFORTS TO
CREATE HEALTHY FOOD AND A SUSTAINABLE
ENVIRONMENT IN GDYNIA.

