

# Establishment and Development of the Agricultural Cluster „Polish Nature”

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## Abstract

*The article discusses the formation of an agricultural cluster in the environment of Polish orchardists. This was a rare initiative in Poland, completely bottom-up, not inspired by state or local government administrations, although after its establishment the cluster enjoyed and enjoys the support of the municipal authorities. The discussion on the necessary further development of agriculture towards the consolidation of local resources began among orchardists, local government officials, entrepreneurs and scientists in the second half of 2014. The venue for the discussion was the village of Lipie in the Municipality of Błędów. The initiator and organizer of the first meetings was the author of the article, who led to the formation of a team of people interested in the issues of the necessary reform in agriculture. The immediate inspiration for the Initiator Group was the deteriorating conditions of orchard farms and the concept of introducing an organizational culture based on a high capital of social trust. The text discusses the subsequent phases of the cluster's activities and the troubles it encountered in the later phase of its operations. Despite these troubles, the cluster exists and produces healthy fruits under the 'Amela' brand. The article concludes with a SWOT analysis of the municipality of Błędów.*

**Keywords:** economic cluster, fruit production, social capital.

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## Introduction

My article is devoted to a brief discussion of the history of the creation of the 'Polish Nature' cluster and is of an empirical nature. At the outset, however, I will refer to a few remarks about the problem of clusters. Clustering as a concept of networking cooperation is not a new concept, it has accompanied the economy for more than 100 years. As early as the end of the 19th century, British economist Alfred Marshall (1842–1924) considered what benefits a large number of small companies with similar activities in the same locality could bring to the economy (Marshall, 1920). He is widely recognized as the 'father' of the concept of cluster (or clustering) and creator of the term 'cluster'. One also encounters the term 'cluster' used by the American economist, head of the Institute for Strategy and Competition at Harvard Business School, M.E. Porter [b. 1947]. This scholar defines a cluster in his work 'The Competitive Advantage of Nations', published in 1990, and then cites this definition in his subsequent works as 'a geographic concentration of interconnected companies with specialized suppliers and business service units that operate in related sectors, as well as related institutions like universities, industry associations, local governments. Cluster participants compete with each other, but above all they cooperate' [Porter, 2013]. The quarter century that has passed since M.E. Porter promulgated the modern definition of a cluster has brought both theoretical and practical development of the issue. In the world, especially in Europe, many clusters have been organized that successfully compete in the market. The success of clusters has caused entrepreneurs, government institutions, universities, financial institutions or business environment institutions to become initiators, participants, observers, researchers and creators, of this phenomenon. Recent researchers include Western European scholar J. Simmie describing the issue in his book 'Innovative Clusters and Competitive Cities in the UK and Europe', and researchers working on Polish examples, such as B. Plawe, L. Knop, S. Olko, E. Bojar, J. Stachowicz. R. Zalewski, Z. Olesiński.

Among the group of creators and interpreters of cluster concepts are such institutions as the OECD and the European Commission. The latter defines a cluster as 'an organized production system in which economic entities specializing in the same field are geographically concentrated, develop common market and non-market relations, and thus affect the raising of the level of innovation and competitiveness'.

## 1.1. Assumptions and Principles of Operation of the Cluster

The organizers of the cluster in the municipality of Błędów adopted a number of assumptions and principles at the time of starting the construction of the cluster, which they then put into practice. I will present these assumptions principles and related forms of social activity. In the next part of the article I will present the phases of the Cluster's development.

**The first assumption** was a consequence of the statement that in the commune of Błędów commune, as in agriculture throughout Poland, major changes must take place, primarily related to increasing the awareness of fruit farm owners that the improvement of the competitiveness of their products is related to innovative development in production and trade. The lack of innovative development in these farms results in regression and loss of competitiveness of fruit growers on the local, national and foreign markets. In the situation of agricultural monoculture based on the production and trade of fruit (mainly apples – over 80% of the economic activity of the Błędów commune), the lack of development will mean a deep socio-economic crisis for the entire region. The result of these discussions were the first attempts to define a systemic business model for the fruit industry in this area.

**The second assumption** was related to the conviction adopted during the construction of the strategy that the development of the entire region, including fruit growing, can only take place in a situation of harmonious cooperation of the local community with the local government and scientists. The group of initiators has been extended to include local government activists and local Agricultural Producers Groups (APG) and scientists in order to develop the best solutions and methods of fruit-growing development. The initiators of the cluster analyzed domestic and foreign examples of the activities of economic and social organizations in agriculture and adopted the 'Agricultural Cluster Model' based on the example of Italian cooperatives. After a comparative analysis, it was decided that the Italian project is the best form of social organization that can introduce the necessary changes in the Błędów region. I would like to add that justifying this choice, an account was presented of a group of fruit growers who organized a study trip to Italy in 2016 and visited regional fruit cooperatives. On this basis, 'Basic information on clusters' was developed, which was then presented to the authorities of the Błędów commune and local stakeholders.

**The third assumption** was related to the conviction of the need to expand the scope of local cooperation. As a result, the areas adjacent to the Municipality of Błędów were included in the Cluster project, defining this area as the 'Błędów Region'. Further regions were also analyzed on the assumption that very similar problems of the fruit and vegetable industry affect the whole of Poland. It was found that the main obstacle to the development of peasant farms in the agricultural market is the lack of recognizable brands, and it was assumed that in order to be competitive it is necessary to promote a commercial brand of the product (fruits and vegetables) with a quality certificate in the domestic and foreign markets. The certificate should apply to each batch delivered to the market and include the producer's metric. The product should be distinguished by the characteristics of healthy food and qualities specific to the place of its production. It is assumed that only those producers who obtain a certificate for their products (fruits and vegetables) will have the right to use the commercial brand. The certificate will be issued by the Agricultural Department at the Municipality Office or by a specially established local government institution operating at the Cluster.

**The first principle** that was adopted in building the strategy was to look for innovative solutions in all projected activities of the Cluster. According to the initial assumptions, solutions for product, process, organizational and marketing innovation will be applied. This meant that the Cluster as a whole organization with its members and partners, supported by the local government, will change the socio-economic relations in the Błędów Region from competition between fruit growers to cooperation within a community of interest. This community will be an entity in the external market with its own production and sales system. In addition, the Cluster and the Municipality will be able to apply together for subsidies in available programs such as 'smart growth' 'agricultural and rural development' 'regional operational programs' and EU projects related to innovative social, economic and environmental development.

**The second principle** applied to the system analyses was to collect source data and check it repeatedly. This was necessary because each orchardist pursuing a completely independent production and trade policy in a situation of internal regional competition and distrust of the neighbor and an orchardist-unfriendly distribution system protected his experience and knowledge. Municipal authorities did not collect data on the financial situation of farms and did not conduct the analysis needed to stimulate the socio-economic development of the orchard industry in their area.

**The third principle**, making the Cluster Development Strategy more realistic, which was often applied by the Group of Initiators, was to reach for the Resolution

of the Council of Ministers of February 16, 2016 on the adoption of the 'Plan for Responsible Development'. This plan defined the government's areas of support:

- 1) within the framework of regional policy, the inclusion of rural areas and family farms in development processes, using their own resources for development potential;
- 2) development of local markets, including agri-food, local processing and direct sales;
- 3) support entrepreneurship and labor mobility in rural areas using local potentials, their resources and strong farms;
- 4) increase employment through communication accessibility of rural areas with remote work;
- 5) support the competitiveness of a sustainable agricultural production sector ensuring food security;
- 6) inclusion of family farms in the profitable process of producing food of the highest quality, especially based on traditional production methods.

**The forth principle** is the active participation of members of the Cluster Initiators Group in a seminar called 'Polish Capitalism' conducted by the Institute of Philosophy, Sociology and Economic Sociology of the Warsaw School of Economics in conjunction with the All-Poland Federation of Entrepreneurs and Employers - Entrepreneurs PL. Participation in the seminar of active orchardists, allowed them to get acquainted with the views of Polish scholars on the economy and enabled them to establish contacts with entrepreneurs working to restore 'Universal Economic Self-Government' in Poland. The seminar was an important platform on which circles interested in the necessary reform in Poland met, where answers were sought to the constitutional provision of what is a 'social market economy' and what does 'social solidarity' mean? These questions are still relevant.

Using the aforementioned assumptions and principles, a multi-year timetable for building the Cluster was adopted, which assumed that its development would take place in three phases

- 1) Initial Phase – the preparatory period;
- 2) Development Phase – the period of building solutions;
- 3) Maturity Phase – the period of expansion.

Applying the above-mentioned assemblies and principles in building an organization to make socio-economic changes in the Błędów Region allowed the Group of Initiators to assemble a group of needed professionals and prepare the farming community for cooperation. An important supporting element in building a cluster organization in Błędów was the 'Agricultural Cluster Model' plan.

## 2. Initial Phase

### 2.1. Partnership

Partnership in the implementation of common goals for the benefit of the Cluster is the basis for the efficiency and effectiveness of this community. Success in achieving the goals of the Cluster depends on the level of trust between partners. The transition from a situation of widespread competition for a market between farmers to pooling of resources and joint action is a very difficult and time-consuming task. Essential elements in the implementation of this task are the credibility and patience of the initiators and the full support of local government and, above all, the assistance of state authorities. Only a true partnership will enable the construction and implementation of a strategy for the socio-economic development of the Region, of which the Cluster will be an important element. The proposed Agricultural Cluster, is another (higher) form of innovative development on the basis of existing Agricultural Producer Groups (APGs) in the area of selected regions. The developed model (with subsequent amendments) has been used several times to create a strategy for the development of the innovative Cluster 'Polish Nature', which was created in the Municipality of Błędów.

### 2.2. Role of the Municipality of Błędów

The Municipality is the site of the largest orchard in Europe, where the Agricultural Cluster Model was implemented. In the Municipality, there were 14 APGs. The specialty of 90% of the farms is highly productive orchards mainly producing apples (70%), but also pears (20%) and other fruits (10%). The APGs have buildings well equipped with machinery to prepare fruit for sale to domestic and foreign markets. The facilities were built with 80% EU subsidies. The management staff is mostly well educated and professional. It should be emphasized that the commune authorities strongly support activities for the development of the 'Polish Nature' Cluster.

### 2.3. Summary of Initial Phase

The model of the Agricultural Cluster adapted to the needs of the fruit growers of the Municipality of Błędów was highly appreciated by the Municipality authorities and prominent people in the orchardists' community. In 2015–2017, four seminar debates were held, at the Warsaw School of Economics (SGH) in Błędów and Lipie on the possibilities of further agricultural development based on the presented Model. These were meetings within the framework of the debates in the «Polish Capitalism» series organized since 2014 by the Institute of Philosophy, Sociology and Economic Sociology of the Warsaw School of Economics and Cluster partner the All-Poland Federation of Entrepreneurs and Employers. These meetings were attended by prominent scholars from various national universities, the Polish Academy of Sciences and numerous entrepreneurs.

In November 2015, the Gardener's Cooperative in Grójec, together with the Municipality of Błędów, organized a demonstration of orchard management carried out in a group of agricultural producers for the participants of the seminar meetings. At this meeting, Professors of the Warsaw School of Economics (SGH) and the Polish Academy of Sciences (future members of the Cluster Program Council), wishing success in organizing the Cluster, presented, among other things, the issue of social capital and the deficit of this capital in Polish society, and pointed out that a great opportunity for the development of social trust in Poland may have good practices in the functioning of an agricultural cluster. Thus, the development of agriculture in Poland should be pursued on the basis of higher forms of joint action such as clusters, which create value chains. They stressed the high importance of civil society institutions and the possibility of obtaining synergies needed in supporting companies in the competitive struggle in foreign markets. Finally, they concluded by adopting the Model's indications for Polish agriculture as a whole. These activities should be carried out in the following order:

- 1) Creation of Agricultural Producers Groups (APGs);
- 2) Creation of innovative agricultural clusters;
- 3) Developing clusters in the direction of building agro-industrial companies;
- 4) Consolidation of companies under the brand of Polish healthy food producers;
- 5) Developing companies exporting Polish healthy food, primarily through their own sales networks abroad, especially in Polish diaspora centers.

After receiving support for the developed model of the Agricultural Cluster, the model was submitted to the Ministry of Agriculture for approval. While waiting for

approval, members of the Initiator Group began to promote the project by organizing meetings, giving interviews, writing articles to the media, etc. Unfortunately, on the part of the Ministry's authorities there has been no response to date and the environment has been and still is indifferent.

Disregarding this, the 'Polish Nature' Cluster, after a period of promoting the idea in the community of fruit growers in the Municipality of Błędów and obtaining initial approval, began to be created according to the original plan adopted by the Cluster Council. The plan, along with the schedule, was developed on the basis of the previously adopted 'Agricultural Cluster Model', which included analyses of good practices. The model was the primary source of guidance for the Cluster's founders on how to further develop and build a community of people who understand the sense of acting for the public good: for partners, local communities, society as a whole and the natural environment in the region and the country. Once again, it is important to emphasize the role of the Code of Good Practices adopted by the Cluster Council, referring to the basic principles of cooperation, especially in the context of the attitudes of the Polish farming community – fractured, distrustful, strongly competing and worried about the future.

### **Appointment of a Cluster Coordinator**

As early as 2015, the search for a candidate for Cluster Coordinator began – unfortunately, without success. After a year of searching, the Council, by resolution of 31.10.2016, established an Association called 'Land of Orchards and Gardens' with the specialty of Cluster Coordinator. Members of the Initiator Group continued to work for the Cluster by serving on the Board of Directors of the Association and the Cluster Council.

The Cluster Council considered the 'initial phase of building the Cluster', ended on 27.04.2017 with the signing of an agreement between the Cluster Council 'Polish Nature' and the Board of the Association 'Land of Orchards and Gardens' to perform the function of Cluster Coordinator.

## **3. Construction of the 'Polish Nature' Cluster – Development Phase**

According to the adopted schedule, the Development Phase of the 'Polish Nature' Cluster, i.e. the period of building links and conducting business, took place from



1 may 2017. The period of 1.05. 2017–31.12.2021 must be divided into three different parts taking into account the dynamics of the Cluster's development.

The first period (years 2017–2018) was the phase of dynamic development. Almost forty individual fruit growers, three large groups of agricultural producers, a scientific institute, two organizations of entrepreneurs, six production and trading companies, two insurance agencies, the Municipality of Błędów joined the Cluster. All signed partnership cooperation agreements and a Code of Good Practices. A Scientific Council was formed, as well as a group of volunteers supporting the Cluster. Matters related to cooperation between partners were handled by the Cluster Council and matters of orchard production and trade were handled by the Association Board. In the Association – the Cluster Coordinator, in early 2017 the fruit growers affiliated with the Cluster adopted for use the innovative fruit production technology developed by them, unique in Europe, without residues of pesticides, mainly pesticides, called 'zero residues'. The creation of a common brand of the Cluster's products was carried out with the approval of the Cluster Partners. By September 2017, the coordinator led to the agreement of the brand name, the adoption of the design project and carried out the procedure for the reservation of the name and the mark in the Patent Office of the Republic of Poland. Since then, the trademark of the Cluster 'Polish Nature' is the name 'Amela' in red on a white background. The first procedures for using the mark and a plan for promoting the Cluster's goods using the brand were implemented. Full procedures for using the brand were to be developed after analyzing the first pilot transactions of apples bearing the 'Amela' mark. These pure fruits under the 'Amela' brand were harvested in the orchards of Błędów in the autumn of 2018 and the Association received the first small income from sales. The 'Amela' brand is owned by the Association and since then it has been developing branded production, taking care of the quality of the fruit, promoting and selling the produced goods. Currently, the Association has a 'farm' system of quality control and sales of fruit, supported by Cluster partners. The Board of Directors of the Association, preparing for further activities in the development phase of the Cluster, has developed a project to establish a Department to control the quality of fruit for sale produced in accordance with the innovative 'zero residue' technology in a mass marketing situation. Realizing the expectations of the Cluster Partners, the Board of the Association has begun efforts to obtain a certificate for the branded food 'Amela'. These activities are waiting to continue in the post-crisis situation.

The Association's Board of Directors, as Cluster Coordinator, with its own innovative production technology, innovative product and innovative organization of agricultural operations, began to apply for aid funds for its own development

and for helping other fruit growers in Poland. To this day, he has not received any response to the many projects and applications he has submitted. This reluctance was mainly due to the economic policies of the new government in Poland. The state authorities have moved away from supporting the development of social initiatives related to innovative development and have shifted to a form of state administration management of their chosen projects. This policy detrimental to the development of civil society and Poland as a whole has had and continues to have a destructive effect on the development of the 'Agricultural Cluster' project and was the main reason for the stagnation of the development of the 'Polish Nature' Cluster.

The second period 2 (2019) was a time of stagnation. The lack of support for the Agricultural Cluster project by the Polish authorities and, in particular, the withdrawal of support for innovative development in the form of a cluster and a significant decline in the profitability of orchard production, resulted in a lack of available funds for further development and, consequently, caused stagnation. The activities of the Cluster were practically limited to the work that the Association – the Cluster Coordinator did, i.e. the production and sale of 'Amela' brand fruits. In this activity, it is important to note the success of the Board of the Association and, above all, the President Sławomir Rzeźnicki in the development of the production of branded fruits without residues and related sales to reputable retail chains. So far, this is a local success with no scope for further development.

The third period (2020–2021) was characterized by a regression in the development of the Cluster, caused by the economic crisis triggered by the continued closure of the Russian market, followed by a pandemic, which significantly affected agriculture mainly in the area of investments. In the fruit-growing industry, overproduction of fruit caused huge losses primarily in APGs, which, burdened with large loans, lost liquidity and a couple of them declared bankruptcy. The deep health and economic crisis has caused a widespread reluctance among farmers to get their act together and individually save what they already have.

All these factors meant that the development of the cluster has not yet reached the 'maturity Phase – the period of expansion'.

Despite the crisis, the Association continues to do business, selling more and more «Amela» brand fruits recently. The 'Polish Nature' Cluster persists and propagates its achievements by promoting an innovative product, innovative technology of pure fruit production and innovative production of healthy food.

## Summary of the Stages of Development of the 'Polish Nature' Cluster

The initial period of operation of the Cluster ended in 2018, and was followed by stagnation and regression, which continues, to a greater or lesser extent to this day. Comparing the action plan of the 'Polish Nature' Cluster Coordinator with the actual implementation, the results can be listed tasks on:

- 1) unrealized;
- 2) partially realized;
- 3) fully realized.

### 1. Unrealized tasks

- a) The planned systematic work on the promotion of the trademark 'Amela' was not undertaken;
- b) The coordinator did not apply to the Patent Office for the names Cluster 'Polish Nature' and 'Land of Gardens and Orchards';
- c) The number of Agricultural Producer Groups operating within the Cluster has decreased to two. The same process was true for fruit growers and entrepreneurs;
- d) Work on the Cluster's development strategy until 2030 has not been completed, despite the guidelines adopted (the strategic plan ends in 2022). This was a result of the global crisis, which significantly increased the degree of uncertainty about the future. For the same reason, work on the development strategy for the Municipality of Błędów was not undertaken;
- e) The profit obtained from the sale of fruit under the 'Amela' brand is minimal and insufficient for the basic needs of the Cluster;
- f) The Cluster has not received assistance or even interest from the state authorities, and the fruit-growing community has remained mostly skeptical of the Cluster.

### 2. Partially realized tasks

- a) The Office of the Coordinator has not been organized. The functions of the Office are performed according to the needs of the Cluster Partners;
- b) A website was made, which, together with the newsletter, was still working efficiently in 2019 (now the website is inactive);
- c) the fruit trade organization 'Amela' was not established within the Cluster (the fruit trade business 'Amela' is carried out by Cluster Partners);
- d) the Cluster does not cooperate with science on a contractual basis. Contacts and cooperation with scientists are personal and not institutionalized.

### 3. Fully realized tasks

- a) Cluster Partners have developed and implemented an innovative technology for the production of fruits without pesticide residues;
- b) The Cluster Coordinator has obtained trade protection for the 'Amela' brand;
- c) Cluster Partners increased the production of 'Amela' brand fruits every year;
- d) The 'Polish Nature' Cluster is registered on the Map of Polish Clusters maintained by PARP and received a positive evaluation after last year's audit (2021);
- e) The Cluster Coordinator has signed multi-year agreements with two large retail chains for the supply of 'Amela' brand fruits.

## Conclusions

In a short report on the history of the 'Polish Nature' cluster, I emphasized the problems faced by the creation of this cluster. On the one hand, it is a lack of mutual trust between agricultural producers. This phenomenon is well described in the sociological literature, we often discussed it during seminars at the Warsaw School of Economics. The lack of trust and reluctance to act collectively in the environment of private entrepreneurs of the SME sector were analyzed on the basis of empirical data (including the book Gardawski 2013). On the other hand, the creation of the cluster was hindered by the latest crises: the Covid pandemic, the war beyond our eastern border, the ecological crisis and others. The war in the East caused not only a great immigration problem, but also a collapse of exports of agricultural products (especially apples) to Russia, Ukraine and other countries.

Despite these threats, the Group of Initiators continues to work for the development of the 'Polish Nature' Cluster. This is due to the conviction that the innovative idea of developing Polish agriculture in the form of a cluster will gain support from the Polish authorities in the future. A group of Initiators consisting of Andrzej Stępniewski, Sławomir Rzeźnicki, Jacek Adamski and Zbigniew Beliniak is constantly working on the development of the Agricultural Cluster Model, preparing subprograms and plans for the 'Polish Nature' Cluster. Our work is constantly supported by the municipal authorities. We hope that our consistent actions will result in an increase in the level of social trust in the agricultural community in our region, as well as in increased support from the central economic authorities of the country.

# Appendix

## SWOT analysis of Błędów Region

### 1. Structure of orchard farms in the Municipality of Błędów

#### (a) Strengths of orchard farms

- orchard character of the Municipality;
- mostly favorable soil conditions;
- well-watered land under orchards;
- proximity to fruit and vegetable processing plants;
- sufficient road network;
- high knowledge of orchardists in the field of orchard crops;
- high concentration of agricultural producer groups with an orchard profile;

#### (b) Weaknesses of orchard farms

- lack of a strategy for the socio-economic development of economic development of the Municipality;
- scattered production, lots of fruit species and varieties;
- poor knowledge of the domestic market for fruits and vegetables;
- lack of discernment of the EU market for fruits and vegetables;
- scattered fruit sales among fruit growers;
- market-destroying competition within fruit growers and producer groups;
- lack of branding for local product;
- poor promotion of the region as 'Europe's Biggest Orchard'.

#### (c) Opportunities for orchard farms

- the possibility of obtaining large subsidies for the modernization of the entire orchard economy in the Municipality of Błędów;
- selection of several species of fruit /apple/ as a local product;
- intensive promotion of the Municipality as a place particularly predisposed in Poland for the production of fruits with healthy food characteristics;
- changing the profile of planting and cultivation of orchards for healthy fruits;
- changing the technology of orchard handling and storage of fruits classified as healthy food;
- a shift from individual to joint marketing of fruits ascribed to a single brand - 'production in Błędów';
- creation of a supplier's market for Błędów products;
- cooperation with science to improve the quality of fruit from Błędów;
- creation of scientific facilities in the Municipality of Błędów research facilities for orchard production.

**(d) Threats to orchard farms**

- in a situation of agricultural monoculture, crop failure or crop failure over a long period of time (e.g. 5 years) is a socio-economic disaster for the entire region;
- lack of response by fruit growers and the Municipality to unfavorable changes in fruit and vegetable markets;
- preference for individualism in orchard farm development programs;
- loss of competitiveness as a result of lowering the quality of fruits and vegetables,
- loss of opportunities for subsidies for necessary modernization of orchards and improvement of infrastructure in the Municipality;
- reduction in the income of orchardists as a result of the collusion of customers for low prices;
- diminished opportunities to gain additional value from the synergies created when working together.

**2. Fruit market in the Błędów Region****(a) Strengths of the fruit market**

Concentration of production on selected fruit varieties,

- well-organized logistics;
- large and modern storage facilities make the product available all year round in good and uniform quality;
- good organization of selection of homogeneous varieties for disposal of large batches of fruit;
- large production of high quality industrial fruit;
- a very well organized service for orchard production in logistics centers, agrotechnical companies, packaging production, transportation services;
- availability of cheap seasonal labor from Ukraine.

**(b) Weaknesses of the fruit market**

- main customer was Russia lack of diversification of markets;
- mono product is apple, difficulty in developing a broader offer;
- in case of emergence of organized large customers
- possibility of price collusion on their part;
- monopoly in the concentrate market;
- lack of suitable varieties for far Asian markets;
- high electricity costs;
- lack of market stability, a market of large fluctuations.

**(c) Opportunities in the fruit market**

- acquisition of new markets, mainly in Asia: India, China, Vietnam, Saudi Arabia, Qatar, United Arab Emirates;
- emergence of small home fruit processors such as ice cider, pickled apples, dried apple bars, baby food, etc;
- fruit processing for biogas;
- Introduce innovative marketing in the region, with fruit promotion;

- promoting regional fruit varieties associated with Błędów and conducting joint promotion of a single fruit brand;
- Increasing competitiveness for local products by introducing cogeneration and RES in the production and storage process.

#### **(d) Risks in the fruit market**

- climatic and biological conditions - frost failure, long drought, sudden unknown disease of fruit trees, etc.;
- biodegradation of soils and groundwater due to intensive cultivation;
- the dynamic development of fruit growing in the world, especially in South America and Eastern Europe. Large global overproduction of apples;
- abandonment of innovative and competitive development of the Błędów region 'Europe's largest orchard';
- further increase in the cost of obtaining energy for production and storage.

### **3. The community of fruit growers and its surroundings in the Błędów region**

#### **(a) strengths of the orchard community**

- high level of knowledge of fruit growers in the field of fruit cultivation;
- openness to innovations in fruit cultivation and storage;
- a desire to modernize orchards according to individual plans;
- ambition in arranging production farms and family homes based on high technology and technique;
- high level of use of teletechnical and boarding facilities;
- a high degree of intellectual potential, used to cope with emergency situations;
- openness to accepting the guidance of local authorities;
- propensity to participate in well-organized community service;
- high attention to children and young people mainly in terms of education;
- attachment to traditions: local, multi-generational family, agricultural, Catholic and patriotic;
- belief in one's abilities.

#### **(b) weaknesses of the orchard community**

- extensive individualism;
- they don't care what's on the other side of their fence;
- submission to extremes between pessimism and optimism;
- lack of desire to build a civil society;
- low level of knowledge about contemporary development trends in economies and societies around the world;
- low social sensitivity;
- lack of alternative jobs outside of one's own economy locally;
- departure from tradition;
- looking for easy money.

#### **(c) opportunities for the orchard community**

- further material and social development of family orchard farms in the Municipality of Błędów;

- development of municipal infrastructure;
- development of groups of agricultural producers by joining the unaffiliated;
- building new economic organizations associating groups of fruit growers with science, innovative processing, modern trade and the local economy;
- using EU subsidies to develop in such a way as to increase the region's security during the long-term fruit crisis.

**(d) threats to the orchardists community.**

- the following property, technical, cultural stratification of the residents of the Municipality;
- the impoverishment of residents as a result of the reduction in income from the fruits sold;
- the slow pace of infrastructure investment in the Municipality;
- lack of wider interest of residents in social activities;
- departure from traditional values of family life and attachment to the land;
- migration of talented young people to big cities;
- lack of mutual trust among residents in each other;
- a growing group of people addicted to various stimulants, drugs, games and entertainment and, above all, alcohol.

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