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CONDITIONS UNDERLYING THE DEVELOPMENT OF ORGANIC FARMING IN THE PROVINCE OF WARMIA AND MAZURY

Key words: organic farming, organizational networks, concentration of production, Warmian-Masurian Voivodship

ABSTRACT. The main purpose of the research was to attempt to diagnose the potential and determine the conditions for the development of organic agricultural production in the Warmian-Masurian Voivodship. The survey was conducted in 2018 and covered organic farms and processing plants. The main problem of the development of agriculture and processing of organic agricultural products is a lack of adequate production scale that would enable the organization of the organic food market. What is disturbing is the fact that the market, considered to be growing and defined as niche, in the analysis of the production sector, is, unfortunately, indicating a downward trend. It is, therefore, necessary to cooperate between the representatives of links in the scope of support and development of joint production, promotional and distribution initiatives. It is also necessary to adapt information to various target markets covered by the common brand. In assessing the development prospects for the production and market of organic food, it is necessary to monitor production, build the infrastructure to support the sales organization and indicate the target market for consumers of this specific category of products.

INTRODUCTION

For several years now, the discussion among researchers and food producers as well as interest in research as well as promotional and operational programmes have touched upon the question concerning the creation of conditions suitable for the development of the organic food market in Poland. As an alternative to the conventional system of food production, organic farming generates numerous benefits. Among the most important ones, its positive influence on the environment and ecosystems as well as the production of high quality foodstuff are mentioned most often. The policy to support organic farming, implemented in Poland for several years, accompanied by the growing demand for organic food, stimulated by the consumers' greater awareness of organic food qualities as well as the higher income of households have triggered more interest among farmers in organic production.

Unfortunately, successful solutions to effectively stimulate the growth of this market and strengthen its position relative to the market of conventional foods are yet to be elabo-

rated on. Greater awareness and wealth of societies stimulate an interest in regional and organic food products, thereby creating opportunities for the development of European and global markets of these products. The market of organic food in Poland is niche, especially with respect to domestic demand, which makes up just a fraction of the entire food market. Annual spending per capita on organic food in Poland equals ca. PLN 30. Meanwhile, the Polish organic food market, in retail gross prices, reached the net sum of around PLN 1.1 billion in 2017, and has been seen to be growing dynamically over the past five years [Brągiel, Ślusarczyk 2017].

The conditions underlying the development of the organic food market comprise both opportunities, including the considerable competitive potential of raw food producers and food processing companies, as well as barriers, such as a lack of well-organised distribution channels and high costs generated by particular links in food production and distribution chains, largely prohibiting the transformation of the said potential capacity into a strong competitive position. For a market of organic food products to develop, it is necessary to support demand and supply sides by organising effective distribution channels and taking the specific nature of these channels among a defined segment of consumers into account [Grzybowska-Brzezińska 2013, p. 53]. An excessively fragmented supply of products from organic farms, a lack of concentration of food processing facilities, limited access to raw food produce (due to logistic, quantitative, or qualitative problems), limited supply (or lack of supply) of large uniform batches of products from plant or animal production farms, an insufficient number of organised groups of entities which could, for example, bear the costs of storage or transport of products, sometimes by necessity to very distant places as well as no plans for the development of the distribution and trade of organic foodstuff – these are the major obstacles to securing economic stability in this sector [Przybylak 2015, p. 3, Grzybowska-Brzezińska 2018, p. 40]. A barrier to opening and operating organic food processing plants is the extensive scattering of organic farms. Other manifestations of the poor development of organic food processing companies in Poland are: a low level of processing of organic food exported from Poland, which translates into a rather monotonous range of food products on offer, and the fact that many companies are solely engaged in food export [Zuba 2011, p. 270].

The production side is represented by farms possessing rather weak market power. The dispersion of production leads to numerous problems in selling products, which is the most common reason why farmers abandon organic farming. On the other hand, it is the fundamental cause of poorly developed wholesale trade in organic food, which not only plays an essential role in supplying the domestic market but also creates chances for larger organic food exports [Łuczka 2016, p. 599]. A weakness of the supply side in organic food production lies in the absence of an information system providing data about demand divided into types of organic food, quantities, destination sites, prices, dates of deliveries, etc., that is the information needed to create, in the long term, effective distribution systems, where manufacturers' offers are smoothly and efficiently linked with consumer expectations [Zuba 2011, p. 273]. The high degree of fragmentation in the organic food sector and the lack of large and uniform batches of raw products prohibit the operation of short distribution channels, whose buyers are institutional clients, such as food processing plants or hypermarkets. Solutions, which are too elaborate in food

processing and sales, especially in areas with considerable organic food production, for example in the province of Kuyavia and Pomerania [Grzybowska-Brzezińska 2013, p. 54] constitute further challenges. The organic food market can function effectively and develop further if, and only if, the supply of raw and processed products grows, while organic food trade organisations receive institutional support [Grzybowska-Brzezińska, Rudzewicz 2015, p. 308].

The region of Warmia and Mazury is an area with huge potential for organic and regional food production and trade. This is a region with own traditions, endowed with excellent conditions for making food products of high quality and unique flavours. The countryside, cultural assets, tourist attractions, as well as biodiversity of Warmia and Mazury create an ideal basis for the development of food products with regional or organic character. Unfortunately, this potential is not fully exploited. Organic farming in Warmia and Mazury, owing to specific conditions (including land resources, soil quality), can become one of the major driving forces in the region. The purpose of this article was to determine the existing potential and identify conditions underlying the development of organic farming in the province of Warmia and Mazury. More detailed goals were to determine:

– the potential of organic farming in the province of Warmia and Mazury in the context of production concentration in particular parts of Poland;
– the degree of regional concentration of supply on the organic food market (production and food processing);
– the level of development of agriculture in the whole province.

RESEARCH METHODS

The study into the potential for the growth of organic food production and processing in the province was conducted using secondary and primary data, employing research and analytical tools typical of economic and social research. Data for analyses were acquired from:

– secondary sources – data aggregated by the Agricultural and Food Quality Inspection in Poland (IJHARS) and Central Statistical Office (GUS),
– primary sources – own questionnaire-based research.

Analysis of secondary data enabled the following to be presented:

– the number of organic farms in provinces, with special attention paid to the province of Warmia and Mazury, in the following years: 2008, 2014, 2016, and 2018,
– the type and scale of production on organic farms every year with respect to farms registered in the province of Warmia and Mazury.

The measure applied to identify the degree of concentration of the supply of organic food production was the location quotient (LQ). It is useful in research on regional concentration of economic activity, where the focus is on confronting data describing territorial units. With the location quotient, it is possible to compare local characteristics with those describing what is assumed to be a reference area, used to refer to the contribution of a given part to the entire area [Moineddin et al. 2003, p. 3]. *LQ* serves to measure the degree of relative concentration of a specific type of activity, which enables the comparison of its

share in a specific area to its share in a certain base aggregate [Thrall et al. 1995, p. 19]. Most often, researchers using this calculation methodology interpret the occurrence of a given phenomenon as above average if the *LQ* exceeds the level of 1.00. However, its value below this ceiling signifies a "deficit" of the analyzed phenomenon [Stryjakiewicz, 1999, p. 177]. The classic formula of the location quotient is the following:

$$LQ = \frac{x_{ij}}{x_j} \div \frac{x_{in}}{x_n}$$

where: x_{ij} – value of the partial variable in area j; x_j – total value of the analysed variable in area j; x_{in} – value of the partial variable in area i in reference area n; x_n – total value of the analysed variable in reference area n.

The formula was used to determine regional differences in the concentration of organic food markets with regard to two marketing chain links, such as agricultural organic production and organic food processing [Kuberska, Grzybowska-Brzezińska 2017, p. 58].

The author's own research was accomplished with the help of a diagnostic survey method using a questionnaire. The research questionnaire, designed by the author, contained a set of questions pertaining to the current situation and prospects for the development of farms with respect to organic farming, according to farm owners and food processing entities. The questionnaire was submitted to expert evaluation made by other researchers dealing with the issues of organic agriculture, followed by a pilot study.

The research covered two groups of subjects: organic producers (farms) and food processors. The research methods were composed of structured interviews applied to investigate the group of producers, and in-depth structured interviews aimed at collecting opinions of processors. The territorial scope comprised the province of Warmia and Mazury. The number of samples in each group of respondents was estimated according to the register of organic farms and food processors published by IJHARS, as of 2016. The study was carried out in 2018, and comprised 65 organic producers (farms) and 20 organic food processors [Grzybowska-Brzezińska, Gorlowa 2019, p. 39].

RESEARCH RESULTS

The organic food market is growing continuously around the world. In 2015, there were 2.4 million organic food producers globally, and total farmland under organic agriculture covered 50.9 million ha (including conversion land), which corresponded to 1.1% of all global farmland (12.7 mln ha and 2.5% in Europe, respectively) [Willer, Lernoud 2017, p. 35].

From analyses carried out, it emerged that, in 2018, the highest share of organic farms in the total number of farmsteads (with cropped farmland) in Poland was in the province of Warmia and Mazury ($LQ_{NUMBER} = 5.93$) and West Pomerania ($LQ_{NUMBER} = 5.11$) (Table 1). The location of the enterprises processing organic raw materials from farms over the analysed period changed, and the values of the location quotient do not give rise to optimism as the condition of $LQ \geq 1$ was slightly satisfied in just eight provinces. Noteworthy is the fact that the co-occurrence of clusters of both organic agricultural producers and organic food processors only appeared in three provinces: Podlasie, Warmia and Mazury, and West Pomerania. Organic agricultural production and organic food processing in Poland, both

Table 1. Location quotients for organic agricultural producers and organic food processors, divided by province in 2008, 2014, 2016 and 2018

Province	Agricultural producers								Food processors			
	LQ_{NUMBER}*				LQ_{AREA}				LQ_{NUMBER}			
	2008	2014	2016	2018	2008	2014	2016	2018	2009**	2014	2016	2018
Lower Silesia	1.29	1.03	0.89	0.93	1.51	0.88	0.88	0.97	0.61	0.64	0.63	0.72
Kuyavia and Pomerania	0.44	0.34	0.46	0.46	0.28	0.24	0.24	0.21	0.89	0.77	0.68	0.79
Lublin	0.95	0.63	0.70	0.86	0.87	0.61	0.59	0.61	2.59	2.01	1.87	1.73
Lubuskie	1.73	3.72	3.57	3.12	1.87	2.69	2.93	2.90	0.59	0.81	0.98	0.78
Łódź	0.28	0.23	0.25	0.29	0.22	0.26	0.28	0.27	0.72	0.91	0.81	0.90
Małopolska	1.16	0.57	0.50	0.40	1.61	0.64	0.60	0.48	0.82	0.81	0.97	0.87
Masovia	0.78	0.64	0.72	0.72	0.67	0.71	0.70	0.59	1.13	1.36	1.48	1.40
Opolske	0.16	0.16	0.16	0.17	0.14	0.15	0.17	0.22	0.25	0.37	0.26	0.28
Podkarpackie	1.08	0.63	0.60	0.65	1.90	0.91	0.71	0.75	1.79	1.43	1.26	1.08
Podlasie	1.81	2.44	2.64	2.91	0.93	1.33	1.37	1.46	0.73	1.19	1.43	1.03
Pomorania	1.12	1.21	1.08	1.00	0.76	0.88	0.87	0.81	0.75	1.00	0.92	0.97
Silesia	0.17	0.24	0.20	0.19	0.45	0.47	0.39	0.24	0.37	0.38	0.42	0.43
Świętokrzyskie	1.31	0.67	0.62	0.60	0.96	0.60	0.59	0.58	0.90	0.83	0.92	1.02
Warmia and Mazury	2.78	5.43	6.04	5.93	1.51	2.60	2.88	3.34	1.28	0.93	0.85	1.09
Wielkopolska	0.47	0.45	0.44	0.43	0.58	0.52	0.47	0.45	1.15	1.08	1.04	1.19
West Pomerania	4.03	6.35	5.42	5.11	2.88	3.44	3.21	3.41	1.88	1.40	1.10	1.20

* calculations for 2008 take the total number of farms into account and for 2014, 2016 and 2018 the total number of farms with arable lands,
** calculations for 2008 have been replaced by calculations for 2009 due to changes in PKD – the Polish Classification of Economic Activities
Source: own study based on CSO (GUS) and AFQI (IJHARS) data

as links in a marketing chain on the organic food market, are distinguished by regional spatial concentration.

Regions are characterised by high potential, which – if exploited properly – may be a starting point for building a stronger competitive position. The driving power behind this process comes from a greater intensity of market competition achieved by forming clusters and starting cooperation, which can also occur within a marketing chain. The collaboration and construction of infrastructure for the organic food market in order to establish a local production and processing marketing chain could be two solutions contributing to gaining a competitive advantage by the entire region.

As regards the dynamics of changes in the number of registered organic farms both in Poland and the Warmia and Mazury Province, a decrease was noticed in 2016 both in the number of such farmsteads and total area (Table 2).

Table 2. Number and area of organic farms as well as the number of organic food processing plan ts in Poland and the Warmia and Mazury Province in 2008, 2014, 2016 and 2018

Region	Number of farms				Area [ha]				Number of food processing plants			
	2008	2014	2016	2018	2008	2014	2016	2018	2008	2014	2016	2018
Poland	14,896	24,829	22,435	21,400	314,921	657,902	536,579	495,000	236	484	705	795
Warmia and Mazury	1,059	4,234	4,142	3,393	28,828	117,097	108,667	104,573	9	12	16	25

Source: own study based on AFQI (IJHARS) data

In comparison with 2014, the number of organic agricultural producers in Poland declined by 10% in 2016, and by 16% in 2018. In the Warmia and Mazury Province, the analogous decrease was by 3% in 2016 and as much as 20% in 2018. As for the area of organic farms in Poland, it was noted to have decreased in both 2016 and 2018, by 19% and 25%, respectively, whereas in the Warmia and Mazury Province the decline was about 10%. In contrast, the number of organic food processing plants increased over the years in Poland and the Warmia and Mazury Province.

The structure of production in organic farms located in the Warmia and Mazury Province was dominated by plant production for animal fodder (Table 3). The potential of organic farm plant production is not fully exploited and the small share of vegetables, fruits and potatoes slows down any possible development of the organic food production market.

In the analysed period, the area of farmland dedicated to organic plant production increased for wheat, rye, oat and other cereals grown for grain. The total area of pastures and meadows decreased, and the area of fields cropped with spelt wheat decreased drastically in 2018 (Table 4). The reasons for the variability of crop areas are changes in subsidy policy, a decrease in the number of farms, and conditions related to the reduction of processing and sale of spelt flour.

Horticultural plantations may constitute the Warmia and Mazury Province's potential, both by acreage and volume of organic production. However, the area of horticultural plantations decreased by over 60% in 2016 and by 80% in 2018 in comparison with plantations

Table 3. Structure and area of selected plant production in organic farms in the Warmia and Mazury Province in 2008, 2014, 2016 and 2018

Year	Number of farms	Wheat	Spelt wheat	Rye	Oat	Other cereals for grain	Pastures and meadows
		area [ha]					
2008	1,059	790.32	120.50	2,039.09	984.43	1,227.00	15,566.38
2014	4,234	1,297.98	175.43	2,106.02	2,298.10	1,563.48	40,239.23
2016	4,142	1,288.10	542.90	2037.50	2,173.10	2,672.20	28,685.10
2018	3,393	1,555.75	59.60	5,014.84	5,204.90	16,262.80	22,012.80

Source: own study based on AFQI (IJHARS) data

Table 4. Structure and area of selected plant production in the Warmia and Mazury Province in 2008, 2014, 2016 and 2018

Year	Number of farms	Horticulture: apple trees and pear trees	Soft fruits	Potato	Carrot	Cabbage	Leguminous plants
		area [ha]					
2008	1,059	288.08	12.73	128.29	4.41	0.75	135.71
2014	4,234	3,241.23	794.90	333.23	124.60	41.70	1,472.62
2016	4,142	1,283.00	414.20	320.18	112.72	23.90	2,442.90
2018	3,393	528.67	328.03	189.13	59.80	5.59	4,423.80

Source: own study based on AFQI (IJHARS) data

in 2014. Diminishing area was also noted in the case of growing soft fruits, potatoes and cabbage. It was only the organic cultivation of legumes that an increase of area was observed, whereby it doubled in 2018 relative to 2014 by almost 3,000 ha. The decisions of producers regarding acreage and crops are determined by the amount of subsidies and restrictions on the development of the market for organic products. In this situation, it is difficult to indicate positive premises for the development of the scale and structure of organic food production, despite the large number and area of organic farms in the province.

Analysis of the production area and harvested yields from organic farms shows that the largest production scale is achieved by cereals grown for grain. In addition, the quantities of harvested rye and wheat increased in 2018 (Table 5).

Despite a decrease in the scale of production, the supply potential of organic food products in the Warmia and Mazury Province is large. However, the possibilities are not fullt taken advantage of both due to the limited range of crops and food processing plant availability. The volume of plant production yield, in the analysed years, in the analysed province, decreased. The supply of organic soft fruits, potatoes and vegetables diminished. It was only the production of leguminous plants that increased its scale, however this fails improve the situation on the organic food market (Table 6).

Due to restrictions related to market turnover, as well as lack of infrastructure and veterinary restrictions on organic farms in the Warmia and Mazury province, the breeding

Table 5. Structure of selected plant production in organic farms in the Warmia and Mazury Province in 2008, 2014, 2016 and 2018

Year	Number of farms	Wheat	Spelt wheat	Rye	Oat	Other cereals for grain	Pastures and meadows
		tonnes					
2008	1,059	725.80	272.60	2,086.97	545.57	240.95	7,238.57
2014	4,234	2,791.50	493.80	4,419.71	4,165.54	1,385.07	140,634.90
2016	4,142	2,360.50	1,912.60	4,389.80	4,346.60	4,312.30	149,302.90
2018	3,393	3,587.80	533.70	10,011.06	10,595.50	136,602.30	117,838.00

Source: own study based on AFQI (IJHARS) data

Table 6. Structure of selected plant production in organic farms in the Warmia and Mazury Province in 2008, 2014, 2016 and 2018

Year	Number of farms	Horticultural plantations: apples and pears	Soft fruits	Potatoes	Carrot	Cabbage	Leguminous plants
		tonnes					
2008	1,059	42.72	3.65	464.84	40.20	2.00	128.40
2014	4,234	558.40	314.50	3,228.09	344.80	97.20	1,459.37
2016	4,142	606.52	215.96	3,485.23	282.02	22.20	2,618.30
2018	3,393	598.90	215.11	2,685.90	311.87	4.61	7918.80

Source: own study based on AFQI (IJHARS) data

of fattening pigs has decreased, thus translating into noticeable limited access to organic pork meat. The disturbing phenomenon of unstable cattle production and cow or sheep milk also fail to indicate any prospects for the development of this market (Table 7).

Organic farms in the Warmia and Mazury Province have experienced the phenomenon of instability of plant and animal production over the last 10 years. A consequence of this situation is the destabilization of the functioning of the organic food market, because the lack of stability in the volume of raw material production limits the possibilities of the processing sector and destabilizes the market offer. Organic milk and meat production should be a bargaining power among processors of organic products. In the analysed period, in organic farms in the province, cropped farmland and the yields of crops in many categories of production decreased. This is often due to weather conditions, reduced acreage and the number of organic farms, as well as the condition of processors or the possibility of selling final products.

The conditions underlying the development of the organic food production market are composed of both opportunities, including the considerable competitive potential of producers and processors operating on this market, and barriers, such as the missing organisation of distribution channels and high costs generated by all links of the chain, largely prohibiting the transformation of the above potential into a strong competitive position [Grzybowska-Brzezińska 2013, s. 56]. Major obstacles to the growth of the or-

Table 7. Structure of selected animal production in organic farms in the Warmia and Mazury Province in the years 2008, 2014, 2016 and 2018

Year	Number of farms	Cattle [heads]	Fattening pigs [heads]	Sheep [heads]	Cow milk [liters]
2008	1,059	134	1,641	17	234,111
2014	4,234	2,455	38	1,685	2,228,900
2016	4,142	1,488	60	1,613	1,915,500
2018	3,393	1,571	34	1,777	2,234,200

Source: own study based on AFQI (IJHARS) data

ganic food market indicated by producers and processors are a lack of organised selling markets and high production costs. Another problem is an excessively small production scale, which does not allow production units to compete successfully with producers of so-called conventional food [Grzybowska-Brzezińska, Gorlowa 2019, p. 42].

Other obstacles for the proper functioning of the market are a small number of organic food processing entities and a high degree of dispersion of organic farms that both limit the flow of supplies. Other manifestations of the poor standing of domestic organic food processing plants are: the low degree of organic food processing and a poor range of final products. The infrastructural shortages of the organic food market are visible along the entire length of the organic production chain. Above all, there are no lasting links between producers, processors, brokers and traders. Channels for selling final organic food products are poorly developed and are accompanied by an underdeveloped organisation of supplies, wholesale, storage, and food processing. Among the most significant causes of limited cooperation on the organic food market, the following can be mentioned: lack of trust for partners and contractors, lack of experience, lack of good examples of cooperation or initiative on behalf of both farmers and brokers, lack of relations, communication, as well as ties among entities on local, regional and domestic markets [Grzybowska-Brzezińska, Gorlowa 2019, p. 43].

The dispersion of production and a large number of small organic farms result in the limited scale of production, which in turn causes problems in communication between farmers and is a barrier in business contacts with processors or retailers. Hence, it is necessary to take care of building positive relationships between these entities.

Around 90% of respondents in each group imply that a major form of support comes from the possibility of being granted funds for creating organisational networks (Figure 1). Respondents perceive cooperation as a high-risk expense and do not want to allocate private funds to create its foundation. In addition to financial support they expect help in

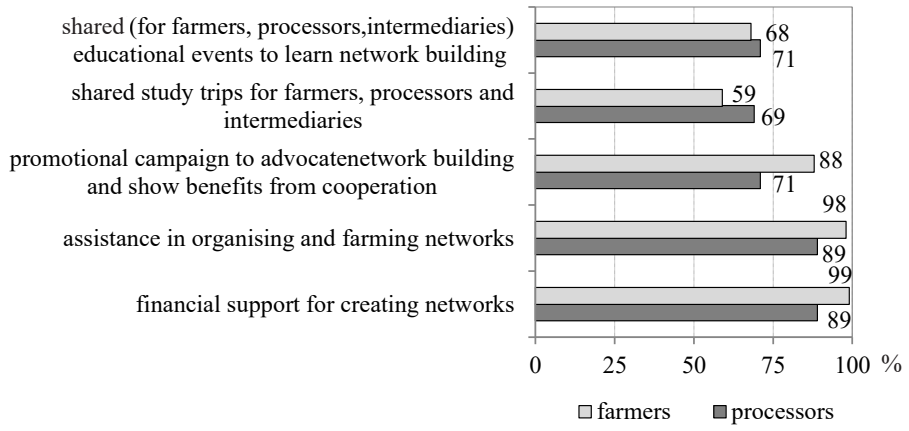

Figure 1. Types of measures which should be undertaken to build cooperation and create organisational networks according to groups of respondents

Source: own research

creating a network. In their opinion, there is insufficient information as to the essence of a network. Promotional campaigns regarding the benefits of this form of cooperation are indicated as an effective awareness building tool.

An organizational network, due to the specific characteristics of connecting participants in a chain, enables cooperation and helps create relationships between network participants. This form of market organization has an edge over a single company in terms of potential opportunities for a much stronger and more comprehensive impact on the customer. The concept of integrated marketing can be effective in creating a new marketing model in organizational networks on the organic food market [Skowron 2015, p. 239]. A solution to problems in the growth of the organic food market is to create a network of organisations operating within particular links of the marketing chain, and thus to achieve a network effect, which creates the chance to improve the efficiency and effectiveness of the organic food market [Grzybowska-Brzezińska, Gorlowa 2019, p. 45].

Implementing measures based on integration and cooperation in networks functioning within the marketing chain links is possible, if relationships are built among participants of individual stages and between organisational networks operating in this sector. An efficiently working marketing chain should create opportunity for the growth of the organic food market, which would benefit all participants.

Measures worth implementing in order to build cooperation can be undertaken in various areas, including:

– cooperation among producers – creating one, shared offer to strengthen the bargaining power of producers (uniformity of raw produce, large batches, fluency of supplies, lower costs of buying the means of production, transport, contracts, a chance to secure a selling market),
– cooperation in terms of creating a shared offer of products – a common brand,
– cooperation to create shared forms and points of sale – organising an online shop (shared offer), conventional shops under the same logo (selling products with the producer's label), participating in food fairs and exhibitions (lower costs of participation, transport), selling packages of products, contracting sales of raw produce and final food products,
– cooperation with restaurants,
– cooperation in the scope of promotional campaigns, press releases, marketing campaigns.

For the growth of production on organic farms, it is also necessary to gain the support of the government of the Warmia and Mazury Province in organising events promoting high quality regional and organic food products, organising points of sale, organising institutions supporting the market trade of organic food, organising the market and infrastructure for trade.

The implementation of activities based on integration and cooperation in the fields of production, processing and sales on the organic food market should translate into the growth of this market, which will be beneficial to all participants, especially consumers and producers. Among the principal benefits, it is worth mentioning lower marketing costs, the concentration of points of sale and shared transport. This creates a chance to achieve

a higher turnover, decrease costs and raise profit. Innovative forms of marketing as well as the establishment of a strong brand can even lead to gaining a group of loyal customers on various geographical markets, making the brand no longer a purely regional one [McFadden, Huffman 2017, p. 117]. Infrastructural shortages in the organic food market can be seen along the entire length of the organic food production chain – from the farm through processing and distribution up to the consumer. Above all, there are no permanent bonds between chain links. Sales channels for ready-to-eat organic food products are underdeveloped, while the organisation of supplies, purchases, storage and processing is still incomplete [Michalczyk 2016, p. 180].

SUMMARY

Despite numerous stimulating and diagnostic measures undertaken with the aim of growth, the market of organic food production remains niche. This market can develop with an increased scale of production of raw materials and final products, taking the expectations of consumers into account and organizing effective distribution channels.

One of the major obstacles to the development of organic agriculture and processing of organic farm produce is the lack of an appropriate production scale, which could enable the organization of the organic food market. It is worrying that a market considered to be developing and identified as niche demonstrates decreasing tendencies both in Poland and the analysed province, thought as one of the major players on the market. A decrease in the number of organic farms as well as production scale and volume, observed for three years now, does not justify optimistic forecasts for the growth of the organic food market. Unfortunately, producers are often neglected in the search for opportunities to build the infrastructure of this market, even though they are the ones looking for solutions and making attempts to improve the effectiveness of their farms by diversifying plant or animal production, which results in a lack of stability on the organic food market.

The Warmia and Mazury Province has huge potential in the scope of organic farm produce production. The opportunities enabling the development of organic farming in this province arise mainly from the creation of networks of cooperating farms, which can gain a competitive advantage in price negotiations and end up earning a higher income by selling organic than conventional farm produce. The suggested measures should enlarge the offer of organic farm production in the Warmia and Mazury Province. Both growing interest among consumers in organic food and the developing export of food and raw produce from organic farms are prospects that producers and processors should take advantage of. Cooperation is therefore necessary between representatives of chain links to support and develop mutual production, promotional and distribution initiatives. It is also essential to adjust information set to various target markets where products are sold under a shared brand.

The assessment of prospects for the development of the organic food market requires production monitoring, building infrastructure supporting the organisation of sale, and finding the target consumer market for this specific category of products.

BIBLIOGRAPHY

Brągiel Elżbieta, Bogusław Ślusarczyk. 2017. Tendencje na europejskim rynku żywności ekologicznej (Tendencies on the European organic food market). *Zeszyty Naukowe Szkoły Głównej Gospodarstwa Wiejskiego w Warszawie. Problemy Rolnictwa Światowego*, 17 (3): 29-38. DOI: 0.22630/PRS.2017.17.3.50.

Grzybowska-Brzezińska Mariola. 2013. Wpływ instrumentów marketingu ekologicznego na zachowania konsumentów na rynku produktów spożywczych (The impact of ecological marketing instruments on consumer behavior on the food market). *Zeszyty Naukowe Uniwersytetu Szczecińskiego. Problemy Zarzadzania, Finansów i Marketingu* 775 (30): 47-58. DOI: article--e51db789-9aaf-4f84-9e74-950061a09806.

Grzybowska-Brzezińska Mariola. 2018. Organic food market in Poland: insights, opportunities and challenges. [In] *Relationships on food markets – consumers' perspective,* ed. M. Gozdecki, E. Goryńska-Goldman, 27-45. Poznań: Wydawnictwo Uniwersytetu Przyrodniczego w Poznaniu.

Grzybowska-Brzezińska Mariola, Olena Gorlowa. 2019. Conditions for the establishment of distribution channels in the organic food market. *Journal of Agribusiness and Rual Develepment* 1 (51): 35-42. DOI: 10.17306/J.JARD.2019.01121.

Grzybowska-Brzezińska Mariola, Adam Rudzewicz. 2015. Environmental management systems in food processing and production as a source of product value for the customer on the organic food market. *International Journal Business Performance Management* 16 (2/3): 304-320. DOI: 10.1504/IJBPM.2015.068727.

Kuberska Dominika, Mariola Grzybowska-Brzezińska. 2017. A retrospective approach to cluster development in the context of the marketing chain in the polish organic food market. *Journal of Agribusiness and Rural Development* 3 (45): 591-599. DOI: 10.17306/J.JARD.2017.00371.

Łuczka Władysława. 2016. The changes on the organic food market. *Journal of Agribusiness and Rural Development* 4 (42): 597-605. DOI: 10.17306/J.JARD.2016.086.

McFadden Jonathan R., Huffman Wallace E. 2017. Willingness-to-pay for natural, organic, and conventional foods: The effect of information and meaningful labels. *Food Policy* 68: 214-232.

Michalczyk Joanna. 2016. Rynek żywności ekologicznej w warunkach członkostwa Polski w Unii Europejskiej (Organic food market in the conditions of Poland`s membership in the European Union). *Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu* 448: 178-192. DOI: 10.15611/2016.448.14.

Moineddin Rahim, Joseph Beyene, Eleanor Boyle. 2003. On the location quotient confidence interval. *Geographical Analysis* 35: 3.

Przybylak Katarzyna. 2015. *Rynek żywności ekologicznej w Polsce w 2015 roku. Najnowsze dane w pigułce* (The organic food market in Poland in 2015. The latest data at a glance). Biokurier.pl, 24.09.2015, http://biokurier.pl/aktualnosci/3350-rynek-zywnosci-ekologicznej-w-polsce-w-2015-rokunajnowsze-dane-w-pigulce, access: 30.102019.

Skowron Stanisław. 2015. Marketing zintegrowany w sieciach organizacyjnych (Integrated marketing in organizational networks). *Zeszyty Naukowe Uniwersytetu Szczecińskiego. Studia i Prace Wydziału Nauk Ekonomicznych i Zarządzania* 39 (2): 221-233.

Stryjakiewicz Tadeusz. 1999. Adaptacja przestrzenna przemysłu w Polsce w warunkach transformacji, 177. Poznań: Wydawnictwo Uniwersytetu Przyrodniczego w Poznaniu.

Thrall Grant Ian, Judy Fandrich, Susan Elshaw-Thrall. 1995. Location quotient: Descriptive geography for the community reinvestment Act. *Geo Info Systems* 5 (6): 18-22.

Willer Helga, Julia Lernoud. 2017. *The world of organic agriculture. Statistics and Emerging Trends 2017*. FiBL, IFOAM, Frick.

Zuba Maria. 2011. Szanse i bariery w integracji łańcucha żywności ekologicznej w Polsce (Opportunities and barriers to the integration of the organic food chain in Poland). *Zeszyty Naukowe WSEI. Seria Ekonomia* 3 (1): 261-288.

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UWARUNKOWANIA ROZWOJU ROLNICTWA EKOLOGICZNEGO W WOJEWÓDZTWIE WARMIŃSKO-MAZURSKIM

Słowa kluczowe: rolnictwo ekologiczne, sieci organizacyjne, koncentracja produkcji, województwo warmińsko-mazurskie

ABSTRAKT

Głównym celem badań była próba zdiagnozowania i oceny potencjału oraz określenie uwarunkowań rozwoju ekologicznej produkcji rolniczej w województwie warmińsko-mazurskim. Badanie przeprowadzono w 2018 roku i obejmowało ono gospodarstwa ekologiczne i przetwórnie w województwie warmińsko-mazurskim. Głównym problemem rozwoju rolnictwa i przetwórstwa ekologicznych płodów rolnych jest brak odpowiedniej skali produkcji, która umożliwi organizację rynku żywności ekologicznej. Niepokojące są fakty, że rynek uznawany za rozwijający się i określany jako niszowy, w analizie sektora produkcji wskazuje na tendencje spadkowe. Konieczna jest zatem współpraca pomiędzy przedstawicielami ogniw w zakresie wsparcia i rozwoju wspólnych inicjatyw produkcyjnych, promocyjnych i dystrybucyjnych. Niezbędne jest również dopasowanie informacji do różnych rynków docelowych objętych wspólną marką. W ocenie perspektyw rozwoju produkcji i rynku żywności ekologicznej konieczny jest monitoring produkcji, zbudowanie infrastruktury wspierającej organizację sprzedaży oraz wskazanie rynku docelowego konsumentów tej specyficznej kategorii produktów.

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