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DYNAMICS OF ORGANIC FARMING DEVELOPMENT AND ITS SUBSIDIZING¹

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ABSTRACT

Development of the Polish organic farming is characterized with great dynamics in the increase of the number of farms operating in this production system (number of farms increased by 10 times within 2003-2012). Moreover, area of agricultural land designated for such crops increases. Number of agricultural food-processing plants of raw materials, which come from organic farming, increases in a slower pace. Nevertheless, the trend is constantly rising. Results of field research on the example of 100 farms confirmed a national trend of organic farms development. The fact, that respondents from the researched facilities declared additional income sources, adding that incomes from organic production do not cover living demands for maintaining a family, was an essential information.

Introduction

Organic farming is a management system, which is an alternative to conventional farming, which tends to the improvement of quality and wholesomeness of food products and other agricultural products, organically balanced and limiting human interference in a farm eco-system. According to a definition of the Commission of Food and Agriculture Organization (FAO) and the World Health Organization, organic farming means the entire farming system, which supports biological variety, ecological cycles and soil biological activity (Codex Alimentarius Commission of FAO/WHO). The principles of organic agricultural production referred to plant production include inter alia: minimum 5-years rotation, the use of companion crops, intercrops, own organic fertilizers, mechanical weeding, whereas chemical plant protection is limited. In case of animal production there are limitations as to the size of livestock per one hectare of agricultural land, i.e.: 2 LSU·ha⁻¹AL, thus it is assumed that it is equivalence of production up to 170 kg N·ha⁻¹·year⁻¹ (Cupiał and Szelaĝ-Sikora, 2014). The remaining rules which are binding in animal production include:

¹ The paper was carried out as a part of a development grant no NR 12-0165-10 titled: "Innovative influence of technology and information management supporting system on the production efficiency in organic farms"

a whole year access to yards, in summer – pasturage, a suitable size of stands, access to daily light in livestock, rich fresh bedding and permanent access to water and fodder (Kowalski et al., 2012). The above features which are characteristic for organic farms prove that organic production is a farm management and food production system, which combines the most favourable practices for environment, high degree of biological variety, protection of natural resources, use of high standards concerning welfare of animals and the production method corresponding to the requirements of consumers who prefer products manufactured with the use of natural substances and natural processes (Tyburski and Żakowska-Biemans, 2007).

The objective of the paper was to analyse dynamics of organic farms development in Poland within 10 years, including the period of accession of our country in the European Union. The scope of work included source data obtained from the "Report on the condition of organic farming 2012" developed by the Inspection of Commercial Quality of Agri-Food Products from Agency for Restructuring and Modernization of Agriculture, which determines the criteria of subsidizing organic farming. The study was carried out within the development subsidy no NR 12-0165-10 "Innovative impact of technology and IT support of management on efficiency of production in ecological farms".

Development of Polish organic farming

Literature states that the beginning of organic farming in Poland dates back to 1930, when the first biodynamic farm was established (Rolnictwo ekologiczne, on-line 2014). In 1972, International Federation of Organic Agriculture Movement (IFOAM) and in 1989 Association of Food Producers with Organic Methods EKOLAND were founded. Development of the first criteria and requirements for organic farming in Poland and granting first attestations to farms which meet the requirements is attributed to this association. Except for agricultural producers it associated also scientists and other representatives from the environment who act for the benefit of organic farming.

The newest data show that organic farming in Poland is still developing which may be proved by constantly increasing number of organic farms. According to data as on 31st December 2012 in Poland 26.5 thousand of organic producers, including 25.9 thousand of farms which operate on over 650 thousand of hectares were controlled by certifying units. It is approximately 10% increase of the area and number of farms in comparison to 2011. In 2012 the number of organic farms was 25 944, out of which the biggest number of organic farms was in the following voivodeships: Warmińsko-Mazurskie (3 793), Zachodniopomorskie (3 579) and Podlaskie (2,924). With regard to the number of food processing plants, Mazowieckie Voivodeship prevails (59), then Wielkopolskie Voivodeship (42) and Lubelskie Voivodeship (36). The biggest area organically used in 2012 was in Zachodniopomorskie Voivodeship (135 366.80 ha), Warmińsko-Mazurskie Voivodeship (112 945.30 ha) and Podlaskie (55 804.15 ha). The area of crops used pursuant to the provisions on organic agriculture in 2012 was in total over 661 687 ha. It is a 10% increase with reference to 2011. Within 2003-2012 the area of organic lands increased 11 times and presently constitutes approx. 3.4% of the total area used for agriculture in Poland. Average area of organic farms presently exceeds 26 ha at the national average which is approx. 10 ha for conventional farms (Raport o stanie rolnictwa ekologicznego, on-line, 2014).

Table 1

Area of agricultural crops, number of farms and organic food processing plants which are located within the system of organic agriculture as divided into voivodeships in 2012

Voivodeship	Area of agricultural crops (ha)	Number of organic farms	Number of organic food-processing plants
Dolnośląskie Voivodeship	44 304.12	1 312	13
Kujawsko-pomorskie Voivodeship	8 812.35	390	15
Lubelskie Voivodeship	37 466.45	2 174	36
Lubuskie Voivodeship	52 580.52	1 356	6
Łódzkie Voivodeship	9 908.72	518	15
Małopolskie Voivodeship	21 049.73	2 103	24
Mazowieckie Voivodeship	55 804.15	2 373	59
Opolskie Voivodeship	2 930.26	90	2
Podkarpackie Voivodeship	30 381.46	1 940	18
Podlaskie Voivodeship	56 367.30	2 924	5
Pomorskie Voivodeship	30 615.70	894	17
Śląskie Voivodeship	7 124.97	236	16
Świętokrzyskie Voivodeship	14 550.84	1 288	10
Warmińsko-Mazurskie Voivodeship	112 945.30	3 793	10
Wielkopolskie Voivodeship	41 478.58	974	42
Zachodniopomorskie Voivodeship	135 366.80	3 579	24
Total	661 687.30	25 944	312

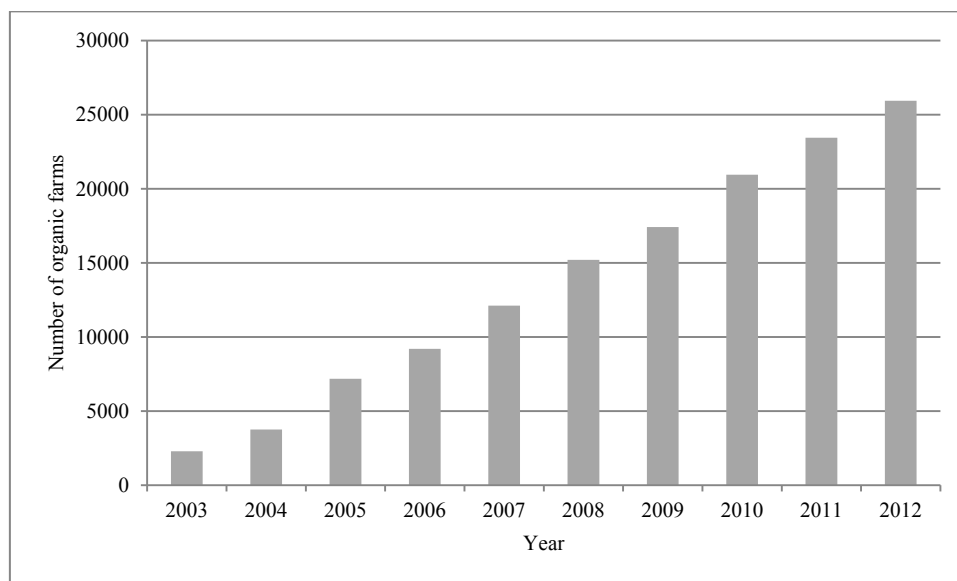
Source: Raport o stanie rolnictwa ekologicznego, on-line, 2014

The recent years in the development of organic farming in Poland characterize with a constant dynamics of the increase in the number of organic farms (fig. 1) as well as the area of crops, which are within the organic farming system (fig.2). Development of organic farming sector is reflected in the number of food-processing plants (fig. 3).

Figure 1 presents dynamic of increase of the number of organic farms within 10 years. When comparing the increasing number of farms in the time system, one may notice that within 2003-2012 the number of facilities increased by 10 times. However, when referring the reported changes to the period for which our country has been a member of the European Union, we can see that both in the first as well as the second accession period the dynamics of increase of the number of organic food producers, was significant and linear. In the first period of 2004-2006 this increase was 5 434 farms in comparison to the base year of 2004. In the second accession period from 2007 to 2012 (i.e. one year before a planned end of this period i.e. 2013) the number of organic farms increased as much as by 308%. The reported high dynamics of the increase of the number of organic farms is difficult to see among other farming systems (e.g. conventional, integrated, etc.).

When analysing the pace of changes directed to intensive increase of the number of organic farms for comparative purposes, research results from the executed research project no 12 0165 10 "Innovative influence of technology and information management supporting system on production efficiency in organic farms" were taken into consideration. Dur-

ing field research responders (100 agricultural producers) were asked about further plans for future concerning operation of organic farms. The obtained results may be recognized as concurring with the national area of organic farming development. 37% of the responders declare their desire to maintain the present state of their farms (table 1).



Source: Raport o stanie rolnictwa ekologicznego, on-line, 2014

Figure 1. Number of farms within the system of organic farming in Poland in 2003-2012

Table 2
Future plans of organic farms

Farm groups (ha)	Plans of organic farms			
	maintenance of the present state	development and investments	reduction of production	liquidation
1	2	3	4	5
Up to 3	58.8	29.4	11.8	–
3.01 to 5	35.7	57.1	7.1	–
5.01 to 7	43.8	50.0	6.3	–
7.01 to 10	43.8	56.3	–	–
10.01 to 15	35.7	57.1	7.1	–
15.01 to 20	12.5	87.5	–	–
20.01 to 40	11.1	77.8	11.1	–
Above 40	16.7	83.3	–	–
Total	37.0	57.0	6.0	–

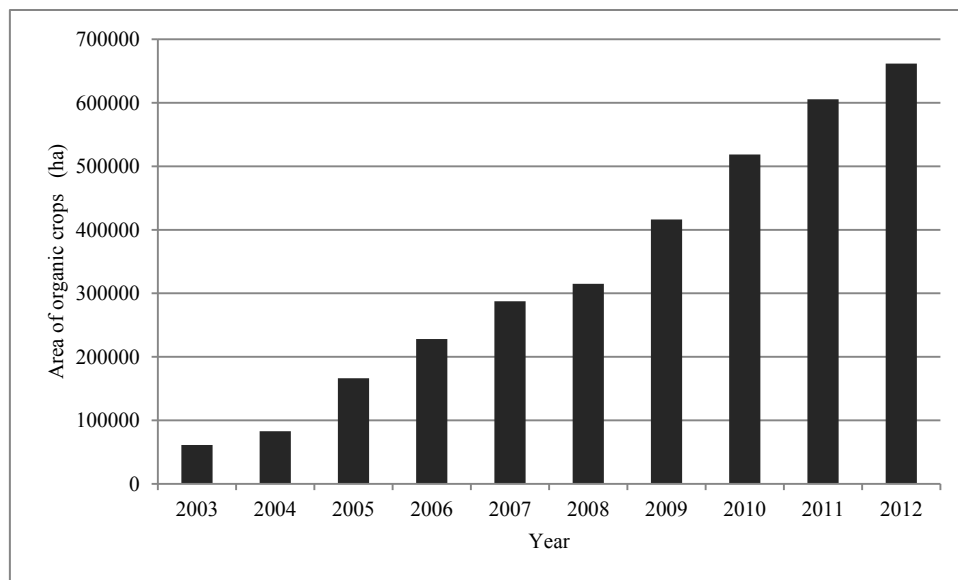
When assessing a population of farmers in the area groups system, their highest number was reported in the group of the smallest farms – as much as 58.8%. The biggest farms were characterised by low values of the assessed index. It is within 11.1% to 16.7%. As much as 57% of responders consider the perspective of development and new investments related therewith. It is particularly important, that from among the investigated groups in the biggest of them (above 15 ha) as much as approx. 87% and more plans development of a farm and investments. Only 6% of the investigated agricultural producers, who planned to decrease production, opposed. While, any of the investigated owners has not declared liquidation of his farm.

The professional activity of the questioned responders, which is not related to agriculture, is also noticeable. 2). From among the mentioned, also social benefits i.e. retirement pensions and pensions were reported. From among the mentioned additional sources of income, only a permanent job was reported in each of the listed area groups. In farms up to 5 ha (i.e. two first area groups) as much as over 50% responders declared simultaneous employment in a permanent job and in a farm. From among additional sources of income there were "Mechanization services" – 11% and "Agrotourism" – 8%. In both cases, the mentioned additional sources of income are related to the agricultural activity, which is carried out, the elements of which are used to render these services. According to data included in table 2, retirement pensions and pensions strengthen the budget of farms in 18%.

Table 3
Additional incomes in organic farms

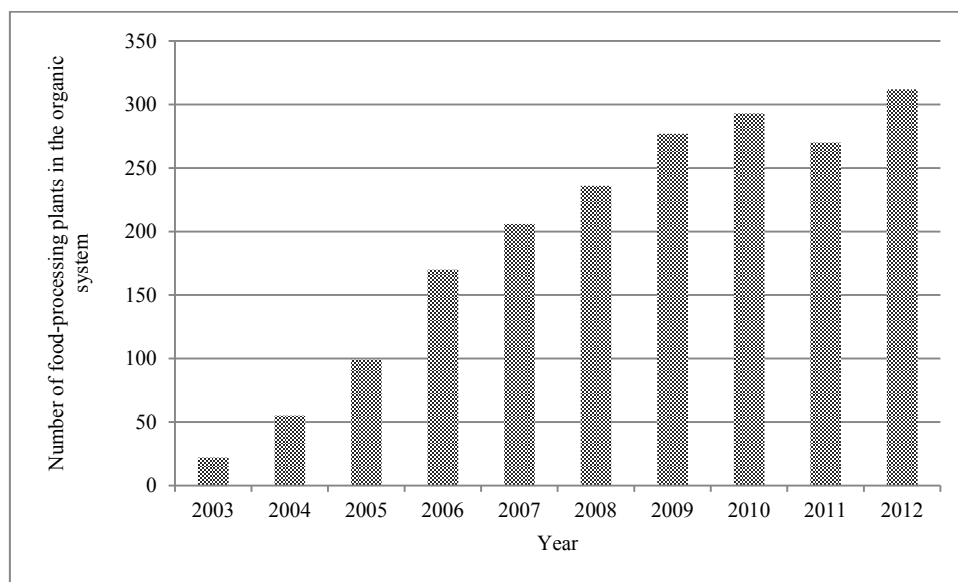
Farm groups (ha)	Type of income										
	Agrotourism	Mechanization services	Trade	Permanent job	Retirement pension, pension	Horse riding	Trainings	Goat cheese production	Other services	Beekeeping	Lease of ponds
1	2	3	4	5	6	7	8	9	10	11	12
Up to 3	–	11.8	5.9	58.8	17.6	11.8	–	–	–	–	–
3.01 to 5	–	14.3	7.1	50.0	28.6	–	7.1	–	–	–	–
5.01 to 7	12.5	12.5	6.3	18.8	37.5	–	–	–	–	–	–
7.01 to 10	6.3	–	–	37.5	12.5	–	–	6.3	6.3	25.0	–
10.01 to 15	14.3	7.1	7.1	28.6	7.1	–	–	–	14.3	7.1	–
15.01 to 20	12.5	25.0	12.5	12.5	–	–	–	–	25.0	–	–
20.01 to 40	11.1	22.2	11.1	22.2	22.2	–	–	–	–	–	–
Above 40	16.7	–	–	33.3	–	–	–	–	16.7	–	16.7
Total	8.0	11.0	6.0	35.0	18.0	2.0	1.0	1.0	6.0	5.0	1.0

The increase in the number of organic farms was accompanied by the increase of the crop area designated for crops in the organic system. From 2004 (EU accession) to 2012 this area increased by 578 957 ha (fig. 3).



Source: Raport o stanie rolnictwa ekologicznego, on-line, 2014

Figure 2. The area of crops carried out according to the provisions on organic farming in Poland in 2003-2012



Source: Raport o stanie rolnictwa ekologicznego, on-line, 2014

Figure 3. Number of food-processing plants within the system of organic farming in Poland in 2003-2012

Along with the increase of the number of organic farms, production potential of food organic raw materials rises. Such action urges the changes in the food processing sector. Also, in this scope in Poland, within the last 10 years we report the increase in the number of food-processing plants which open in the organic agriculture system. Thus, it is one of examples which confirm improvement within the scope of technical infrastructure level, which accompany development of agricultural sector, which is emphasised by Sikora (2009) in one of papers. When comparing the changes, we see that from 22 food-processing plants, their number increased to 312 in 2012. When comparing the number of organic farms and the number of food-processing plants in 2012, one may notice that per one food-processing plant, there are approx. 83 organic farms (fig. 1 and 3).

Subventions to organic farming within the accession period 2007-2013

Organic agriculture is one of agricultural-environmental packets carried out as a part of RADP 2007-2013 during realization of which, financial aid was granted. It was at the average of PLN 996 (Euro 255.1) per one year for five years. An agricultural producer received support based on costs, which he really incurred. Environmental management payment presently is also paid out in the flat-rate form and constitutes a compensation of the lost income, additional costs incurred and incurred transaction costs.

Table 4

Possibility of realization of environmental managements variants within the organic agriculture package pursuant to RADP 2007-2013

Environmental management variants for the organic agriculture package	The amount of payment
Variant 2.1. Agricultural crops (for which the period of conversion was finalized)	790 PLN·ha ⁻¹ (202.4 EURO·ha ⁻¹)
Variant 2.2. Agricultural crops (in the conversion period)	840 PLN·ha ⁻¹ (215.2 EURO·ha ⁻¹)
Variant 2.3. Permanent grasslands (for which the period of conversion was finalized)	260 PLN·ha ⁻¹ (66.6 EURO·ha ⁻¹)
Variant 2.4. Permanent grasslands (in the conversion period)	330 PLN·ha ⁻¹ (84.5 EURO·ha ⁻¹)
Variant 2.5. Vegetable crops (for which the period of conversion was finalized)	1,300 PLN·ha ⁻¹ (333 EURO·ha ⁻¹)
Variant 2.6. Vegetable crops (in the conversion period)	1,550 PLN·ha ⁻¹ (397 EURO·ha ⁻¹)
Variant 2.7. Herb crops (for which the conversion period was finalized)	1,050 PLN·ha ⁻¹ (269 EURO·ha ⁻¹)
Variant 2.8. Herb crops (in the conversion period)	1,150 PLN·ha ⁻¹ (294.6 EURO·ha ⁻¹)
Variant 2.9. Fruit farming + berry farming (for which the conversion period was finalised)	1,540 PLN·ha ⁻¹ (394.5 EURO·ha ⁻¹)
Variant 2.10. Fruit crops + berry crops (in the conversion period)	1,800 PLN·ha ⁻¹ (461.1 EURO·ha ⁻¹)
Variant 2.11. Remaining fruit crops + berry farming (for which the conversion period was finalised)	650 PLN·ha ⁻¹ (166.5 EURO·ha ⁻¹)
Not fructifying walnut crops (for which the conversion period was finalised)	160 PLN·ha ⁻¹ (41.0 EURO·ha ⁻¹)
Fructifying walnut crop (for which the conversion period was finalised)	650 PLN·ha ⁻¹ (166.5 EURO·ha ⁻¹)

Environmental management variants for the organic agriculture package	The amount of payment
Variant 2.12. The remaining fruit crops + berry crops (in the conversion period)	800 PLN·ha ⁻¹ (204.9 EURO·ha ⁻¹)
Not fructifying walnut crop (in the conversion period)	160 PLN·ha ⁻¹ (41.0 EURO·ha ⁻¹)
Not fructifying walnut crop (in the conversion period)	800 PLN·ha ⁻¹ (204.9 EURO·ha ⁻¹)

Source: *Rolnictwo ekologiczne, on-line, 2014*

Simultaneously for subsidies to the organic agriculture package, degresiveness is binding – the amount of aid depends on the area of the agricultural land covered by aid (Szelaż-Sikora, 2011). One should also remember that participating in the Organic farming package, may not be combined within one farm with an environmental management package Sustainable agriculture and Soils and water protection. Moreover, beneficiary of package 2. Organic farming may not combine this package within variants 2.3 and 2.4 (table 3) on the same area with:

- package 4. Protection of endangered birds species and natural habitats outside Natura 200 area
- package 5. Protection of endangered bird species and natural habitats on Natura 2000 areas.
- Requirements, which should have been met in order to receive subsidy in the accession period 2007-2013:
 - to have a farm of the area min. 1 ha of agricultural land and identification number given by the Agency for Restructuring and Modernisation of Agriculture;
 - to prepare an environmental management plan (with an environmental management advisor - a person, who is properly certified) which includes an organic farming packet and execute its assumptions for five years. The plan includes the list of tasks and recommendations, which should be executed by a farmer in his farm as a part of this packet. This document constitutes also essential source of information on the realization of the environmental management programme for control services;
 - to have a certificate of conformity required by the provisions on organic farming or a document which certifies that a farm is in the conversion period into agricultural production with organic methods as of 1st March;
 - to obey basic legal requirements, which refer to application of natural and mineral fertilizers, maintenance of cleanliness and order in a farm and protection of habitats;
 - to maintain permanent agricultural lands and elements of landscape, not used for agricultural purposes at the moment realization of environmental management obligation begins at the territory of entire farm;
 - to submit an application for granting payment for realization of environmental management undertakings and improvement of animals welfare in the Provincial Office of the Agency for Restructuring and Modernisation of Agriculture.

Conclusion

General economic state of the country and the number of consumers which are eager to pay more for better food products, related thereto is an essential limitation for development of organic farming. Interest in products from organic farms in our country may not achieve such a big scale as in the western Europe also on account of good values of traditional produce from conventional Polish farms. Conducting organic farms is for their owners an attractive form of economic activity. Thus, despite existing barriers, development of the Polish organic farming is characterized by great dynamics of the increase in the number of farms with this production system (number of this type of farms increased by 10 times) and thus the area of agricultural land designated for this type of crops, rises. Number of agricultural food-processing plants of raw materials, which come from organic farming increases slower. Nevertheless, the trend is constantly rising. Results of field research on the example of 100 farms confirmed a national trend in the development of farms. Available union funds, inter alia, determine the persisting developmental trend of organic farming. Financial aid for subsidizing organic farming within 2007-2013 was at the average of PLN 996 (EURO 255.1) per a year for five years.

However, the issue of not sufficient incomes from conducting only agricultural activity concerns also organic farms. The accepted strategy of the sustainable development of rural areas in its assumptions includes inter alia, diversification of agricultural producers' incomes. The observed agrarian overpopulation is a factor, which induces the rural society to increase its activity within the scope of conducting non-agricultural activity.

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DYNAMIKA ROZWOJU ROLNICTWA EKOLOGICZNEGO ORAZ JEGO SUBWENCJONOWANIE

Streszczenie. Rozwój polskiego rolnictwa ekologicznego cechuje duża dynamika wzrostu liczby gospodarstw o tym systemie produkcji (liczba gospodarstw zwiększyła się 10-okrotnie na przełomie 2003-2012 r). Rośnie również powierzchnia użytków rolnych przeznaczanych pod tego typu uprawy. W znacznie wolniejszym tempie wrasta liczba przetwórci rolniczych surowców pochodzących z ekologicznych upraw, niemniej jednak tendencja jest stale wzrostowa. Wyniki badań terenowych na próbie 100 gospodarstw rolnych potwierdziły ogólnokrajowy trend rozwoju gospodarstw ekologicznych. Istotną informacją jest również fakt, że respondenci z badanych obiektów deklarowali posiadanie dodatkowych źródeł dochodów, zaznaczając przy tym, iż dochody tylko z produkcji ekologicznej nie pokrywają potrzeb bytowych utrzymania rodziny.

Słowa kluczowe: gospodarstwo, ekologia, dopłaty, produkcja, źródło utrzymania