
Opportunities and Barriers to the Development of Organic Farming from the Perspective of Conventional Farms

Submitted 08/09/24, 1st revision 20/10/24, 2nd revision 06/11/24, accepted 10/12/24

Władysława Łuczka¹, Joanna Smoluk-Sikorska²,
Julia Wojciechowska-Solis³

Abstract:

Purpose: The aim of this study was to identify the motives that guide farmers in running a farm, their intentions, and to assess the policy of developing organic farming. The aim of the study was to answer the following questions: what is the significance of environmental motives among conventional farms, to what extent are conventional farms interested in switching to organic farming methods, and what are the main reasons for the decision not to adopt an organic production system.

Design/Methodology/Approach: The study applied a diagnostic survey method using a survey questionnaire conducted directly among 164 farmers running conventional farms. The survey questionnaire distinguished two types of conventional farmers, assuming the preferred motives and goals of choosing a farming system as the division criterion. The research results underwent statistical analysis.

Findings: As a result of the research conducted, the most important motives for running a farm as well as the differences and similarities in assigning specific meaning to them, were determined. The research shows that the group of pragmatic farmers differs only slightly from the pragmatic-committed group in motives, as well as in the assessment of agricultural policy and the identification of the most important barriers to the development of organic farming. In the decision-making process regarding the choice of management method, the studied groups of conventional farmers are driven mainly by economic motives and, to a small extent, by environmental and social motives. In this respect, they are a uniform group. In identifying barriers to the development of organic farming, it is worth noting the great importance assigned by pragmatic farmers to the burdensome bureaucracy and control related to organic farming and frequent changes in legal regulations in this area.

Practical Implications: The results of the study may be useful for developing a more effective policy for the development of organic farming by public administration entities involved in its implementation. In the future, this policy should be directed more towards stimulating the pro-environmental orientation of conventional farmers, which may increase the chances of converting some farms to the principles of organic farming.

¹Department of Economics Faculty of Economics Poznan University of Life Sciences, Poland, e-mail: wladyslawa.luczka@up.poznan.pl;

²Department of Economics Faculty of Economics Poznan University of Life Sciences, Poland, e-mail: joanna.smoluk@up.poznan.pl;

³University of Life Sciences in Lublin, Poland, e-mail: julia.wojciechowska@up.lublin.pl;

Originality/Value: *The research provided new knowledge about the reasons for the low interest in organic farming among conventional farms. It may provide valuable information about the possibilities of increasing the number of organic farms.*

Keywords: *Organic agriculture, conventional farming, farmers' opinion, farmers' motives.*

JEL codes: Q12, Q15.

Paper type: *Research article.*

Funding: *The publication was financed by the Polish Minister of Science and Higher Education as part of the Strategy of the Poznan University of Life Sciences for 2024-2026 in the field of improving scientific research and development work in priority research areas.*

1. Introduction

Organic farming plays an important role among many currently developing agricultural systems. It has significant potential to adapt to the complex interdependencies between agricultural production and the natural environment, as well as new trends in consumption and the growing demand for high-quality food. Many studies indicate that organic farming is, on the one hand, a source of many public goods, such as biodiversity, animal welfare, energy and climate, and ecosystem services (Jespersen *et al.*, 2017; Cristache *et al.*, 2018; Meemkena and Qaim 2018; Stolze *et al.*, 2016).

On the other hand, it contributes to meeting the needs of consumers who appreciate the health benefits of organic products (Bryła 2016; McEachern and Mcclean, 2002; Shepherd *et al.*, 2005; Kushwah *et al.*, 2019) and are driven by environmental motives in their purchasing decisions (Magnusson *et al.*, 2003). This is due to the growing awareness of consumers who appreciate the social and environmental benefits of developing organic farming and the market for its products.

Many studies predict further development of organic farming, especially in areas with unfavorable conditions for the development of conventional farming and with extensive possibilities of providing environmental public goods. Some studies indicate threats that may result from the popularization of organic farming since it is characterized by lower efficiency per unit of production produced compared to conventional farming (Tal, 2018). A threat to ensuring global food security could appear if the share of organic land was large. Meanwhile, the current share of this area is small both at the global level (2%) and in the European Union (10.4%).

Organic farming has been given special importance in the European Union (EU) countries since the MacSharry reform was initiated in 1992. This is also evidenced by a number of political decisions reforming the common agricultural policy to focus more than before on achieving environmental objectives. For many years, organic farming in the EU has shown high growth dynamics, but it is insufficient from the point of view of the quantitative objectives adopted in the European Green Deal strategy (EC, 2020). The organic agricultural land in the EU in 2022 amounted to 16.9 million ha, constituting 10.4% of the total agricultural land (worldwide, it was 96.4 million ha - 2% of the total agricultural land). In the last decade (2013-2022), the area of agricultural land under organic crops in the EU countries increased by 76.1% (Willer *et al.*, 2024).

The share of organic land has increased in most countries, but there are large differences between Member States. In some countries with a strong tradition of organic farming, the share is significant and reaches 27.5% (Austria) (Willer *et al.*, 2024).

Poland's position in the EU in terms of the area and share of organic agricultural land has undergone significant changes over the last two decades (Łuczka, 2024). After a period of dynamic organic farming in 2004-2013, there was a significant decline in 2014-2019. During this period, the organic land area decreased from 670,000 to 484.7 thousand ha, and the number of organic farms by over 30% (from 26.5 thousand to 18.5 thousand).

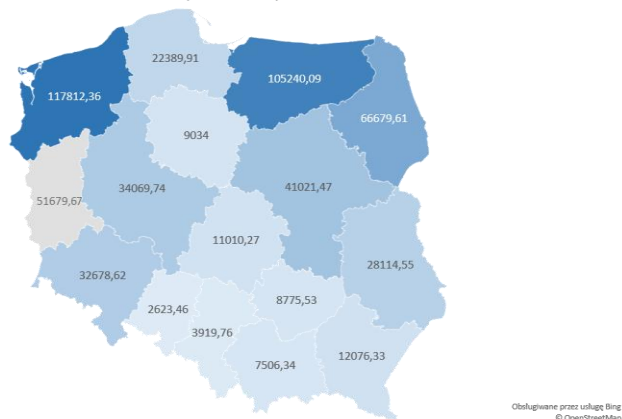
Organic farming is currently rebuilding its position, but it has not reached the state since the period of peak growth recorded in 2013. There has been a very small increase in the number of organic farms since 2020 (in 2020-2022, their number increased by 2.6 thousand). For many years, Poland has had problems adapting domestic supply to the demand for organic food reported on the market. Organic farming is characterized by a low level of production and marketability (Łuczka and Kalinowski, 2020).

Positive phenomena that strengthen this agricultural system include the increase in the average area of organic farms to 27.4 ha and the initiation of processes linking financial support for organic farms with the size of organic production and sales to the market. However, it is estimated that achieving a significant increase in the share of organic agricultural land by 2030 will be difficult (Ziętara and Mirkowska, 2021).

In 2022, the share of organic agricultural land was 3.5%, while the target for increasing the organic area in Poland was set at 7%. This means doubling the area of organic crops by 2030. Activities towards the development possibilities of organic farming in Poland in the coming years will aim to increase the area indicator, which depends on direct support for organic agriculture and the increase in the marketability of farms (Wrzaszcz and Prandecki, 2021).

The largest area of organic agricultural land (over 100 thousand ha) is located in two voivodeships in Poland's northern regions (Figure 1). In several voivodeships, it does not even exceed 10 thousand ha.

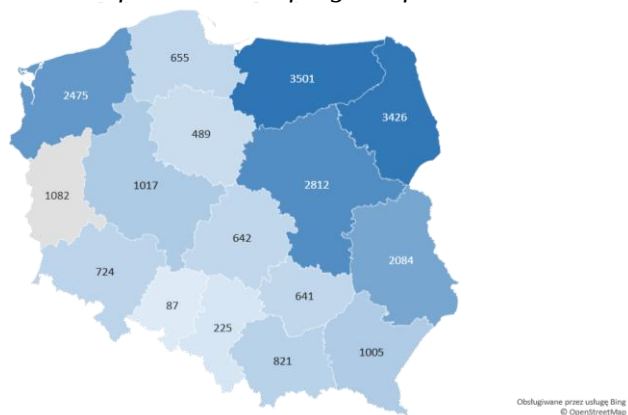
Figure 1. Spatial distribution of organic agricultural land areas in Poland in 2022



Source: Own study based on: *Raport o stanie rolnictwa ... (2023)*.

The largest number of organic farms, from 2 to 3 thousand, is located in northern and eastern Poland (Figure 2). In every second province, their number is very small and does not exceed 1,000 farms. The large dispersion of these farms and weak network ties between farmers and their surrounding entities is one of the main barriers to the demand-supply mismatch in the organic food market. As a result, supply shortages and high prices limit consumer demand satisfaction and growth (Rödiger and Hamm, 2015).

Figure 2. Spatial distribution of the number of organic farms in Poland in 2022



Source: Own study based on: *Raport o stanie rolnictwa ... (2023)*.

Currently, the organic products market in Poland is one of the most dynamically developing and promising food production sectors. The Polish agri-food sector has enormous potential in the production of organic food. These products are valued for their quality, naturalness, traditional composition, unique taste and aroma (Bryła, 2016; Shafie and Rennie, 2012; Smoluk-Sikorska *et al.*, 2024, Nestorowicz *et al.*, 2016). Their consumption is one of the most important elements of a healthy lifestyle.

By 2030, this market is likely to grow at approximately a rate of 20% per year. Despite very good prospects, the organic food industry faces major challenges. The most important of them include: an increase in the number of organic farms and the scale of production, strengthening the market power of farmers, improving the availability of products and sales profitability, and creating a network of relationships between producers, processors, and sellers. It is expected that the new regulations in force in organic farming from 1 January 2022 should result in positive changes in the number of farms and simplify the functioning of small organic farms.

Due to the challenges facing organic farming, aimed at significantly increasing the number of farms and the share of agricultural land, research was undertaken among conventional farms to identify the motives for running farms and the opportunities and barriers to developing organic farming. The research results are to provide answers to the following questions:

- what is the significance of environmental motives among conventional farms,
- to what extent are conventional farms interested in switching to organic farming methods,
- what are the main reasons for the decision not to adopt an organic production system,
- what barriers to the development of organic farming are identified by conventional farmers.

2. Material and Methods

The research covered conventional farms. In the first stage of the study, interviews were conducted with a group of non-randomly selected 21 farmers running a farm in the conventional system. The aim of the interviews was to initially identify the farmers' opinions on the questions formulated in the survey and the level of their understanding. The information obtained was the starting material for preparing the final survey questionnaire. In the second stage of the research, a diagnostic survey was conducted using an original survey questionnaire addressed to farmers on paper.

The survey lasted from May to July 2024. The research was conducted as a direct interview, which allowed for obtaining additional information and opinions from

farmers. 164 farmers took part in the study. The survey questionnaire contained 17 closed questions.

In several questions regarding the strength of importance of certain factors/phenomena, a 5-point Likert scale was used (1 – no importance, 5 - very important).

The SPSS program was used to analyze the results obtained, including descriptive statistics tools and ANOVA test. The survey consisted of three parts. The first part contained questions about the socio-demographic characteristics of the surveyed farms (age, gender, education, period of running a farm, farm size). The second part referred to the economic and production situation of the farms (method of land acquisition, crop structure, breeding structure). The third part consisted of questions about connections with the market, farmers' identification of the most important motives for running a farm, connections with the market, opinions on the prospects for the development of organic farming, and future decisions in the context of continuing conventional production or switching to organic production.

In the survey questionnaire, two types of conventional farmers were distinguished, assuming the preferred motives and goals of choosing the farm system in agriculture as the division criterion. The division was partially based on the one used by Fairweather (1999) and Darnhofer *et al.* (2005). A group of pragmatic and pragmatic-committed farmers was distinguished.

The survey included an explanation of the criteria adopted to distinguish the groups of farmers, based on which the farmers defined their affiliation to one of them. The pragmatic group could include farmers who, in choosing the farming method, prefer economic motivations, such as: level of support, profitability of production, level of costs and yields, and income. On the other hand, the second group, pragmatic-committed, could include farmers for whom environmental and economic goals are simultaneously important in their economic activity. These farmers' choice of farming methods is dictated by the need to balance both goals.

3. Results

The socio-demographic characteristics of the surveyed farmers show that men dominated among them (86%). More than half were men aged 29 and over (Table 1). The largest percentage of men was in the pragmatic group. The vast majority of the farmers surveyed had secondary education (58.5%). Every third farmer had higher education (29.3%). The farmers owned farms with a relatively large area compared to the average size of farms in Poland.

The pragmatic group included 60.4% of the surveyed, and the pragmatic-committed group included 39.6%.

Table 1. Selected characteristics of the surveyed farmers

Specification	Feature	Share (%)	Pragmatic group	Pragmatic-committed group
Gender	Women	4.0	16.2	10.8
	Men	6.0	83.8	89.2
Age (years)	< 29	5.5	59.6	49.2
	30-39	2.2	13.1	10.8
	40-49	7.0	15.2	20.0
	50-59	0.4	9.1	12.3
	≥ 60	.9	3.0	7.7
Education	Elementary/Junior high school	.6	1.0	-
	Vocational	1.6	11.1	12.3
	Secondary	8.5	54.6	64.6
	Higher	9.3	33.3	23.0
Farm area (ha)	< 5	.0	4.0	1.5
	5-10	.5	5.1	6.2
	10-20	7.1	17.2	16.9
	20-50	7.8	34.3	43.1
	50 -100	7.7	18.2	16.9
	>100	8.9	21.2	15.4

Source: Own study based on survey research.

The analysis of the motives that drove farmers in running their farms shows that the most important, with a rank of 4 and above on the Likert scale from 1 to 5, were four motives: production profitability (4.56), raw material prices (4.14), production costs (4.13) and one's own and family's health (4.06) (Table 2).

The group of pragmatic farmers assigned high importance above the average result of production profitability (4.65). On the other hand, the group of pragmatic-committed farmers was distinguished by a relatively high importance of the motive of one's own and family's health (4.22). For this group of farmers, motives such as the system of beliefs and values and pro-environmental philosophy and lifestyle were also more important, i.e. motives that can be classified as social and environmental, related to the perception of the importance of agriculture not only in the economic aspect, but also in a broader sense, as a specific form of management.

Table 2. Motives for running a farm in a conventional system

Motives for running a farm	Mean	Pragmatic group	Pragmatic-committed group
Profitability/profitability of production	4.56	4.65	4.41
Prices of raw materials/products	4.14	4.18	4.10
Production costs	4.13	4.11	4.16

The health of oneself and one's family	4.06	3.96	4.22
Resources (land, labor)	3.78	3.77	3.80
Level of subsidies	3.19	3.29	3.05
System of beliefs and values	3.19	2.97	3.54
Proenvironmental philosophy and lifestyle	3.00	2.91	3.13

Source: Own calculations (Likert scale, where 1 - no importance, 5 - very important).

The study aimed to learn about the opinions of conventional farmers on the development opportunities of Polish organic farming. The study assumed that some conventional farmers are considering switching to organic farming in the near or distant future, especially since Poland has a problem with an excessive number of farms. Learning about this opinion can be a source of information that can help formulate a strategy for developing organic farming.

More than half of the farmers surveyed (54%) described the development opportunities for organic agriculture as medium, and every third farmer (35.7%) as small. The smallest percentage of respondents (2%) described them as very high, while in the pragmatic-committed group, this percentage was 4.5%, and in the group of pragmatic farmers, there was no such responses. A small percentage of respondents described these opportunities as large (11.3%).

Table 3. Opportunities for the development of organic farming in the future (% of responses)

Opportunities for the development of organic farming	Mean	Pragmatic group	Pragmatic-committed group
Very high	2.0	-	4.5
High	11.3	11.1	11.4
Medium	54.0	53.7	47.7
Low	35.7	35.2	36.4

Source: Own calculations.

The distribution of answers to this question about the chances of developing organic farming closely corresponds to the distribution of answers to the question about future intentions to switch to organic farming methods. The vast majority of farmers surveyed (95%) do not intend to undertake organic farming activities in the near future. Among the reasons for not undertaking organic farming activities, economic factors were mentioned, as well as non-economic factors (Table 4).

Among the economic factors, farmers attributed the greatest importance to high labour intensity (4.38) while also drawing attention to the rising labor prices and the possible deterioration of the conditions for running an organic farm in the future. In second place in terms of importance were two factors of a different nature: an

economic factor - low yields (4.21) and a non-economic factor - excessive level of regulation (4.21).

On the Likert scale at a level of 4 and more, the following reasons for not switching to organic farming were also indicated: low profitability of production (4.20), high risk (4.14), and high environmental standards (4.14). Low yields and low profitability of production were of greater importance for the group of pragmatic farmers than the average level of indications, while for the pragmatic-committed group, high labor intensity and high risk were of greater importance. The respondents were generally dominated by a critical attitude towards organic farming and the ineffectiveness of agricultural policy aimed at its development.

Table 4. *Reasons for not switching to organic farming*

Reasons	Mean	Pragmatic group	Pragmatic-committed group
High labor intensity	4.38	4.27	4.54
Low yields	4.21	4.30	3.56
Excessive level of regulation	4.21	4.18	4.25
Low profitability of production	4.20	4.24	4.13
High risk	4.14	4.14	4.21
High environmental standards (requirements)	4.14	4.14	3.84
Insufficient demand	3.74	3.78	3.69
The complicated process of transition to the organic system	3.71	3.73	3.67
Organic farming is too complex and difficult	3.60	3.58	3.62
Low support	3.46	3.38	3.57

Source: Own calculations (Likert scale, where 1 - no importance, 5 - very important).

The aim of the conducted research was also to learn about the opinions of conventional farmers on the barriers to the development of farms in the organic system. Recognising this opinion is of great cognitive importance due to the large-scale phenomenon of abandoning organic farms in Poland in recent years.

It is also of great practical importance because the identification of these causes by farmers may result in taking preventive measures aimed at limiting and eliminating potential barriers to the development of organic farming (Łuczka and Kalinowski 2020). Most of the farmers surveyed attributed high importance to many factors limiting the growth of organic production (Table 5).

These were both technical, market, legal, and administrative factors. The highest rank, with a value of 4 and on a scale from 1 to 5, was assigned to problems related to weed infestation of cultivated fields (4.35), excessive bureaucracy and control

(4.31), low profitability of production (4.28), high labor intensity (4.17), frequent changes in legal regulations (4.16), low yields (4.12) and low financial support (4.01). In identifying barriers to the development of organic farming, the greatest importance was assigned to cultivation restrictions (problems with weed infestation), bureaucratic (burdensome bureaucracy and controls), and economic (low profitability of production and high labor intensity).

The responses to the question about barriers to the development of organic farming were partially differentiated between the two distinguished groups of farmers. In the group of pragmatic farmers, the greatest importance in the first place was assigned to burdensome bureaucracy and control (4.42) and problems with weed infestation of fields (4.40). In this group, significant importance was also attributed to frequent changes in legal regulations regarding organic farming (4.29), which was a common practice in the past in the legislation related to organic farming (Łuczka, 2024).

Table 5. *Barriers to the development of organic farming*

Barriers to the development of organic farming	Mean	Pragmatic group	Pragmatic-committed group
Problems with weed infestation of arable fields	4.35	4.40	4.27
Troublesome bureaucracy and controls	4.31	4.42	4.14
Low profitability of organic production	4.28	4.32	4.20
High labour intensity	4.17	4.18	4.17
Frequent changes in legal regulations	4.16	4.29	3.98
Low yields	4.12	4.18	4.03
Low financial support	4.01	4.00	4.03
End of the 5-year support period	3.86	3.89	3.81
Low price premiums for organic products	3.78	3.92	3.59
Dispersed farms and too great a distance from sales markets	3.78	3.67	3.52
Problems with the sale of organic products	3.62	3.37	3.52
Deficit of specialist knowledge	3.41	3.39	3.43
Low advisory support	3.21	3.31	3.08
Limited access to training	3.11	3.16	3.05

Source: Own calculations (Likert scale, where 1 - no importance, 5 - very important).

In the final part of the study, farmers were asked to provide their opinions on certain statements concerning economic and environmental problems and dilemmas related to running a farm and its simultaneous impact on the natural environment (Table 6).

The distribution of responses allows for drawing two key conclusions. First, the study indicates a strong impact of an economized approach to contemporary agricultural problems, especially in terms of production profitability. Second,

farmers' awareness of the effects of using chemicals in agriculture is relatively low, or it can be assumed that they are deliberately downplayed.

This is partly justified by the fact that most surveyed farmers do not see the need to convert their farms to an organic farming system. Farmers see more problems and development barriers in the potential transition, limiting achieving a satisfactory income compared to a conventional farm.

Table 6. *Farmers' attitudes towards economic and environmental statements*

Specification	Yes	No
The use of chemicals in agriculture has a negative impact on health	41.6	58.4
The impact of artificial fertilizers on the environment is greater than is commonly believed	29.2	70.8
It is important to cultivate the land in an environmentally friendly way	89.4	10.6
Organic farming is less burdensome for the environment than conventional farming	64.1	35.9
The use of chemicals in agriculture makes sense as long as it leads to increased production profitability	84.9	15.1
Profitability of production is more important in agriculture than pro-environmental activities	67.9	32.1
It is important to achieve the highest possible profitability in agriculture	82.6	17.4
To protect the environment, farmers must use alternative production systems	69.0	31.0
Reducing greenhouse effects requires a change in behavior in agriculture	43.0	57.0

Source: *Own study.*

4. Conclusions

The research has shown that the group of pragmatic farmers differs to some extent from the pragmatic-committed group in terms of motives, as well as in assessing agricultural policy and identifying the main barriers to the development of organic farming. In the decision-making process regarding the choice of farming method, the groups of farmers studied are mainly driven by economic motives.

In this respect, they are a fairly uniform population. However, certain differences were noted in the approach to environmental and social motivations. For the pragmatic-committed group, the motive of a pro-environmental philosophy and lifestyle, as well as a system of beliefs and values, was more important than for the pragmatic group.

In identifying barriers to the development of organic farming, it is worth noting the great importance attributed by pragmatic farmers to the burdensome bureaucracy and control associated with organic farming and frequent changes in legal

regulations in this area. This indicates the need for legislative institutions and certification organizations to take action to reduce or at least simplify the procedures used. In order to reduce supply-side constraints, it is also advisable to support activities for the association of organic farmers, which can contribute to strengthening their bargaining power and participation in food supply chains. Activities that shorten supply chains, thanks to the sale of products on the local market, are also important.

The effectiveness of actions aimed at stimulating the supply side of the organic food market depends largely on the long-term strategy for developing organic farming and defining its place in the currently diversifying food systems.

At the level of agricultural policy, there is a need to increase the institutional and legal efficiency in the field of organic farming. Research can be used to develop a more effective policy for developing organic farming by public administration entities involved in its implementation.

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