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FACTORS LIMITING DEVELOPMENT AND MANAGEMENT IN MODERN FARMS: CASE STUDY IN SOUTH-EAST POLAND

OGRANICZENIA ROZWOJOWE W NOWOCZESNYM ZARZĄDZANIU GOSPODARSTWEM ROLNYM NA TERENIE POŁUDNIOWO-WSCHODNIEJ POLSKI

Key words: competency, management, innovation, development
Słowa kluczowe*: zarządzanie, rozwój, kompetencje, innowacje*
JEL codes: Q1, M5

Abstract. Contemporary farms are enterprises that operate according to market principles, the development of which is influenced by a number of factors. The aim of the paper was to identify factors that inhibit the development of farms located in south-eastern Poland. The study made use of findings obtained in research by the Central Office of Statistics (GUS) concerning the structure of agricultural farm holdings in 2016. Factors inhibiting the development of agricultural farms located in south-eastern Poland include, first and foremost, unfavourable agrarian patterns, few farm owners with agricultural training as well as lack of appropriate managerial skills needed for effective management in modern agricultural enterprises. Only about 20% of farm managers were below 40 years of age. About 15% of owners indicated that over 50% of farm incomes were from non-agricultural activities.

Introduction

The greatest challenge for modern farms is to meet the competitive requirements of globalization. Socio-economic transformations that provoke on-farm changes, transform them into family enterprises. Farm enterprises, by definition, produce agricultural products or offer services for the needs of a larger market. Family farms that are purposely oriented towards commodity production can be considered enterprises [Ziętara 2008]. They are autonomous entities with its own leadership, a function that is most commonly performed by its owner. The development of such farms depends, besides education, on a number of individual features [Gwiaździńska-Goraj, Rudnicki 2015]. An important factor of managerial success, including in farms is the manager, since the pace and direction of change depend on him [Rola-Jarzębowska, Malinowska 2011]. Decisions made by the manager are crucial for the cost-effectiveness and profitability of farms. Agricultural farms in Poland were, according to data provided by GUS [2017], responsible for providing employment for 1 675 800 people in 2016, using the annual work unit (AWU) indicator.

Socio-economic requisitions often compel the implementation of various on-farm solutions to improve their profitability [van der Ploeg 2000, Man et al. 2002]. The manager's entrepreneurial skills, his ability to anticipate, plan and make the right decisions is crucial in such cases due to the complexity of agricultural production as well as the activities of agro-allied institutions. Anticipated on-farm changes mainly include increased intensity or specialization and diversification of production [McElwee, Robson 2005]. Smaller farms, on the other hand, often broaden their offers, for example, by engaging in agritourism services or other forms of non-agricultural activities, which require the possession of additional skills. An alternative approach is the integration of farmers into producer-groups. Small farms with their limited access to production resources are in more difficult positions.

The aim of the paper was to identify limiting factors that are crucial for the development of farm holdings in south-eastern Poland as well as the managerial competencies that farm-owner managers should be identified with, using the following research questions:

1. Does educational level of farm-owners affect their entrepreneurship abilities?
2. Does age of farm--owners affect their entrepreneurship abilities?
3. Does gender of farm-owners affect their entrepreneurship abilities?

Material and methods

In order to accomplish the objectives of the study an analysis of the education, age, gender and source of incomes of private farm owners in south-eastern Poland was undertaken in 2016. Consequently, the paper adopted the following hypothesis: that educational level, age and gender are determining factors in farm owners entrepreneurial development. The findings were presented in the form of percentages. Data, sourced from the Central Office of Statistics (GUS), concerning the pattern of farm holdings were used. An analysis of the literature on the subject was also undertaken.

Research findings

There were 1 406 575 private farms in Poland in 2016. Data sourced from the Polish Central Office of Statistics indicated that 95.5% farm owners also performed managerial functions. The education of the farm manager is significant for the efficient functioning and management of farms. Only about 10% of farm owners in Podkarpackie province had higher education similar to Małopolskie province (tab. 1) but lower than the average for Poland (13.1%). This is significant since Zachodniopomorskie province, for example, has 19.3% of farm owners with higher education [GUS 2017]. The highest percentage of those with no agricultural education was noted in Podkarpackie province, reaching as much as 65.4%. Table 1 indicates that only 1.2% of farm owners from Podkarpacie admitted possessing tertiary agricultural qualification compared to the average for Poland (2.7%) and 5.7% for Zachodniopomorskie [GUS 2017]. The fact that only 17.3% of farm owners admitted to having completed agricultural courses (tab. 1) signals the worrying state of the region's agriculture. This argument is supported by Marek Kłodziński [2001], who asserted that farmers' level of education was a barrier to their professional development and readiness to engage in networking. Gerard McElwee and Alan Robson [2008] adds

Table 1. Level of education attained by farm managers

Province	Farms in which the manager has general education [%]						
	higher	post-secondary	vocational secondary	secondary schools	basic vocational	junior secondary, primary	primary education not completed
Poland	13.1	1.4	30.5	5.2	37.1	11.9	0.8
Małopolskie	9.7	1.5	25.2	5.3	41.4	15.9	1.1
Podkarpackie	9.7	0.8	28.7	4.4	39.8	15.5	0.9
	farms in which the manager has agricultural education [%]					farms whose managers have no agricultural education [%]	
	higher	post-secondary	vocational secondary	basic vocational	agricultural science course		
Poland	2.7	0.3	12.2	12.1	17.3	55.3	
Małopolskie	1.3	0.2	7.2	9.8	17.0	64.5	
Podkarpackie	1.2	0.1	6.1	7.1	20.2	65.4	

Source: own study

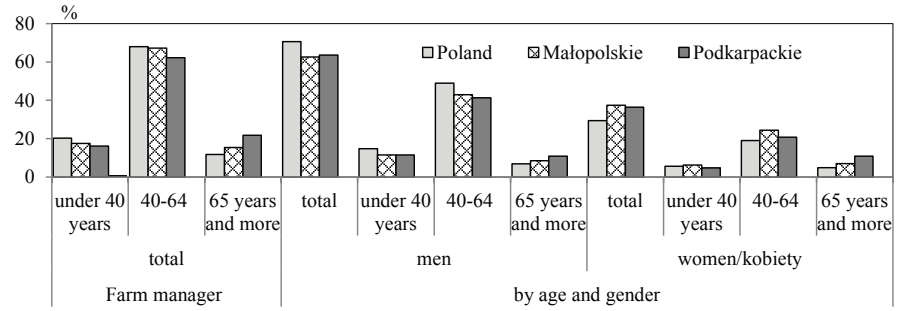

Figure 1. Percentage of farm managers in south-eastern Poland by age and sex
Source: own study

that better educated farmers seek information more readily by participating in advisory and training programs, including schemes organized by national and EU institutions. They easily adapt to evolving business environments, a common feature of contemporary markets.

It does seem that the young are more open to acquiring new skills through lifelong learning or introducing innovative solutions. However, only about 16% of farm owners in Podkarparcie were under 40 years of age, comparable to the Polish average. In contrast, Podkarpacie seems to have the oldest category of farmers (21.7%) – figure 1. Studies conducted by de Wolf and Hermann Schoorlemmer [2008] indicated that although respondents cited age, gender, experience, education as factors significant for agricultural entrepreneurship, age was not found to be directly correlated with farmers' entrepreneurial qualities. Aged farmers, according to literature, are less likely to invest in knowledge development activities, but they have a wealth of experienced to rely on. This notwithstanding, Christine Rudmann [2008] stresses that female farm owners engage more readily in networking and cooperation due to their openness. About 3% of private farm owners asserted that they run business activities other than farming, relying on their existing farm holdings. Such activities include agritourism services, handicrafts, and agricultural product processing [GUS 2017].

Similar trends in farm sizes, farmers' age and level of education were observable both in Podkarpackie and Małopolskie provinces. Only 13.6% and 18.7%, respectively of farming activities were responsible for generating over 50% of incomes from private farm holdings. Incomes from hired labour, pensions and annuities dominated these sources (tab. 2). This observation can be considered detrimental, as it may not only indicate that farm owners have little interest in running such farms but also the progressive aging of farmers. The percentage of farm managers below the age of 40 was only 16.1% and 17.5%, respectively. A similar tendency was demonstrated regarding the gender of agricultural farm managers.

Table 2. Sources of incomes for farm holdings in south-eastern Poland

Province	Farms in which more than 50% of income were from [%]							
	farming activity	farming activity and wage labour	wage labour	wage labour and farming activity	non-farming activities	pension and annuity	non-income based sources of living *nia*	others
Poland	34.2	1.0	31.8	3.2	7.5	13.6	2.5	6.2
Małopolskie	18.7	1.4	36.5	5.1	7.6	18.3	3.1	9.4
Podkarpackie	13.6	0.8	32.9	5.5	8.3	28.3	3.7	7.0

Source: own study

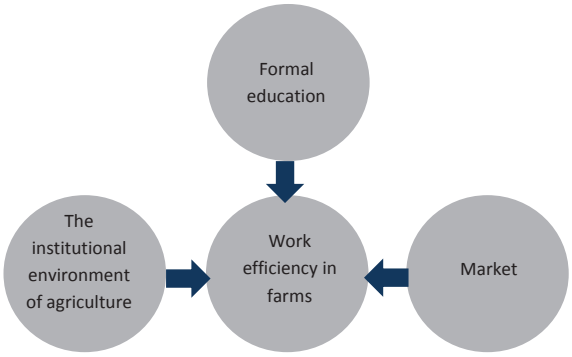

Figure 2. Determinants of work efficiency in farms/ agricultural enterprises
Source: own study

Farmers in Podkarpackie province that benefit from financial support under the sectoral Operational Program have, according to Dariusz Kusz [2014], increased their cultivable land area, although the agrarian pattern can still be considered discouraging. As the average size of private farms in Podkarpackie province is about 4.23 ha [GUS 2017], they cannot be assumed to be workplaces with satisfactory income levels.

A modern farm is an enterprise whose success is determined by its efficient management. The owner, who is responsible for making production decisions ought to, similarly to managers in any other enterprise, possess appropriate competences. Enterprise management requires that managers have specific predispositions. It is important, in the case of managers of agricultural holdings, to be able to cooperate with local businesses and institutions as well as be skilled to capture market signals and analyze them to enhance the taking of appropriate decisions. Agricultural production has its specific attributes that bring with it the burden of economic and production risks, which in itself constitutes additional challenges for the manager [Kalinowski, Gonet 2014]. Young farmers have, according to Barbara Kiełbasa [2016], suggested the fragmented agrarian pattern the most important limitation in management. The author cited, on the other hand, have suggested entrepreneurship, agility, creativity, knowledge in the field of management as well as the furtherance of education as factors enhancing the development of agricultural farms. Young farmers are, according to B. Kiełbasa and Jacek Puchała [2015], more open to changes and new solutions.

The scope of managerial competences is subject to evolutionary changes, a consequence of the developmental character of modern agriculture as well as the fact that any knowledge acquired must be skillfully put to practice (fig. 2). Managers of farm holdings ought to have the education that allows them to properly plan, organize, anticipate risks and make decisions, appropriate to the changing conditions of markets. The lowest percentage of agricultural managers with tertiary agricultural education noticeable in Podkarpackie province, combined with the very low percentage of young people in general could be the factors inhibiting effective farm management. Anna Nowak et al. [2016] postulate that the level of education of an agricultural farm manager has a significant impact on the efficiency of management. Such a group of (educated) people is also more aware of the need to improve their qualifications. A huge potential, according to Kiełbasa and Knapik [2017], resides in the knowledge management concept. It was demonstrated, using a producers' group as an example, that both knowledge and experience are significant not only at an individual level, but also at group and organizational levels. A farm manager's level of entrepreneurship can also be deduced from the extent to which they benefit from EU funds.

Conclusions

Factors that inhibit development in farm holdings in south-eastern Poland are, first and foremost, unfavourable agrarian patterns, too small percentage of farm owners with agricultural vocational education. Moreover, small farms, very often, do not have possibilities of introducing modern methods of improving production efficiency. Common alternative sources of incomes are seasonal engagements that do not, however, guarantee financial stability. It is worth emphasizing, though that there is a shortage of information concerning farmers' awareness in

areas of lifelong learning. Further direct studies concerning farmers needs in this aspect are recommended. Only the possession of such attitude can serve as a pointer to their interest in scientific achievements and the implementation of innovative solutions. Meaningful development in modern farm enterprises is hugely limited without the acquisition and implementation of novel scientific findings. The results also call for further co-operation between science and practitioners for effective knowledge transfer and sharing. Universities would also need to develop curricula that prepare future farmers for the challenges of modern agricultural business. Since only about 20% of farm managers were below the age of 40, it can equally be considered a factor inhibiting the transformation of farm holdings.

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Streszczenie

Celem pracy było wskazanie ograniczeń rozwojowych gospodarstw zlokalizowanych na terenie południowo-wschodniej Polski. W badaniach wykorzystano wyniki badań GUS dotyczące struktury gospodarstw rolnych w 2016 roku. Czynnikami ograniczającymi rozwój gospodarstw rolnych na terenie południowo-wschodniej Polski była przede wszystkim niekorzystna struktura agrarna, zbyt mały udział właścicieli mających wykształcenie kierunkowe rolnicze oraz brak odpowiednich kompetencji menadżerskich, potrzebnych do skutecznego zarządzania nowoczesnym przedsiębiorstwem rolnym. Tylko około 20% kierujących było w wieku poniżej 40 lat. Około 15% właścicieli wskazywało, że ponad 50% dochodów gospodarstwa stanowią te z działalności rolniczej.

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