ECONOMICS & Sociology

Bożena Karwat-Woźniak, Regional Differentiation in the Socio-economic Development Conditions of the Agriculture in Poland, *Economics & Sociology*, Vol. 4, No 2, 2011, pp. 11-25.

Bożena Karwat-Woźniak
Department of Social and Regional Policy, Institute of Agricultural and Food Economics
National Research Institute
E-mail: karwat@ierigz.waw.pl

REGIONAL DIFFERENTIATION IN THE SOCIO-ECONOMIC DEVELOPMENT CONDITIONS OF THE AGRICULTURE IN POLAND

Received: September, 2011
1st Revision: October, 2011
Accepted: November, 2011

ABSTRACT. Paper presents the results of the analysis of regional diversification of Polish agriculture. It analyses a set of selected factors, which mainly identify the potential economic and competitive ability of agricultural holdings. For this reason, the paper analysis the structure of the area of family farms, their equipment to the technical means of production, quality of the labour resources, the investment activity and the management performance.

JEL Classification: Q10, Q12, R14, R23

Keywords: regional differentiation, agricultural structures, economic potential, labour resources, Poland.

Introduction

Poland is a country of a significant production potential of the agriculture. In comparison with the European Union (EU) it has relatively large agricultural land resources since the area of agricultural land at disposal for farms constitutes approx 9% of the agricultural land of the EU and amounts to over 16 million ha[1]. Due to this fact it might become a significant producer of agricultural resources (Ziętara, 2009, p. 12). Majority of agricultural land in Poland – over 87% – is constituted by land forming individual farms.

The value of commodity production of the Polish agriculture amounted in 2009 to PLN 56,177.6 million and the value of products newly generated in farms amounted to PLN 27,446.6 million. Most agricultural production is generated in individual farms and it amounts to 85% of agricultural commodity production and 90% of added value (GUS, 2010, p. 230).

Huge regional differentiation in respect to the development level is a fixed characteristic of the Polish agriculture. Historically speaking the features of agriculture in particular regions of Poland are caused by natural conditions but have been shaped as a result of fundamental political and economic changes which in the recent time encompass primarily the political system transformations in Poland and geopolitical changes that occurred in Europe in the last decade of the 20th century. These circumstances completely changed the conditions of socio-economic development of Poland and agricultural sector which generated conditions for the occurrence of new inequities.

[1] The area of agricultural land in Poland is comparable to the acreage of agricultural land in Germany and Great Britain that have 17 million ha of agricultural land each. France and Spain had a definitely larger acreage of agricultural land amounting to approx 30 million ha each (GUS, 2010).

Poland's accession to the European Union provided opportunities for the use of a vast range of instruments of economic policy whose objective consists in elimination of regional disproportions. New conditions emerged for the creation of national structural policy towards agriculture . This provides an opportunity for the improvement of the condition of agriculture in regions with large development problems.

The main objective of the paper was to present the scale of regional differentiation of the Polish agriculture in given social and economic aspects, in particular regarding to the conditions determining the production of farms. The subject to analysis was a set of factors which define the economic potential and competitive skills of agricultural entities to a great extent. Hence the focus of this work is on the field and structure of farms and on the level of their equipment of fixed assets, on the resources and quality of the labour force factor, and on investment activity.

The characteristics of regional differentiation of agriculture have been presented in comparison with the country. Voivodship has been recognised in this work as the basic delimitation region. This level of territorial division is of principal importance for the regional development strategy and relevant programmes and constitutes the main recipient of the EU structural policy. An analysis in the voivodship system is enriched by the introduction of voivodship groups. The similarity of features of individual agriculture (Sikorska, 2001, p. 5, Szemberg, 1999, p. 6) constituting the predominant segment in the Polish agriculture (Sikorska, 2006, p. 6) has been recognised as the main criterion for selecting these groups (macroregions). In consequence five macroregions[2] have been selected for the needs of spatial differentiation research in the socio-economic situation of individual farms. Such a division reflects, to a relatively greater extent, the baggage of tradition and culture in the current development situation of particular areas (Chmieliński, 2006, p. 19). It should be also pointed out that in order to eliminate large differences in the size of particular regions, in order to get a possibly uniform and synthetic image of the scale of territorial differentiation, relative indicators have been used in the analysis.

The main subject of analysis was constituted by individual farms with an area above 1 ha of agricultural land i.e. individual farms representing in fact family farms (Zegar, 2008, p. 27).

The empirical basis for the compilation was constituted by CSO (Central Statistical Office) statistical data describing the agriculture of particular regions in comparison with the country, forming the reference system. The results of long-term field research of the IAFE-NRI conducted periodically in the permanent sample of 76 villages and all family farms located in these villages. The aim of selection of these villages was to represent various regions of Poland as far as socio-economic features of individual agriculture are concerned (Sikorska, 2006, Szemberg, 2001).

1. Size and local structure of family farms

The area of agricultural land represents an exceptional field in the analysis of agriculture development conditions although from the point of view of agricultural production the role of land resource decreases with the modernisation of production technologies and possibilities of use of "know-how" in the agricultural activity (Sikorska, 2006, p. 10). However, under the Polish conditions the farm area still defines both the scale of production and the income derived from agricultural activity to a great extent (Zegar, 2008, p. 19). It

[2] Particular macroregions encompass the following voivodships: **central-western (1)** – Kujawsko-Pomorskie and Wielkopolskie; **central-eastern (2)** – Lubelskie, Łódzkie, Mazowieckie and Podlaskie; **southeastern (3**) – Małopolskie, Podkarpackie, Śląskie and Świętokrzyskie; **southwestern (4)** – Dolnośląskie, Lubuskie and Opolskie; **northern (5)** – Pomorskie, Warmińsko-Mazurskie and Zachodniopomorskie.

results primarily from the production technologies applied in the majority of traditional farms (Woś, 2000, p. 8) and from the agricultural fragmentation occurring in the Polish agriculture, in the family agriculture in particular. Environmental circumstances and sustainable development circumstances create a new approach to the importance of farm areas in the economy of agricultural activity (Zegar, 2003, p. 11). It should be noted that the Common Agricultural Policy favours the entities with larger area e.g. through direct payments.

Table 1. Changes in the amount and structure of individual farms

Specification	Years	Total	Farm area groups of agricultural land in ha					
			1-5	5-10	10-15	15-20	20-50	50 and more
Number of farms (in thousand)	2002	1,951.7	1,146.3	426.5	182.5	83.8	95.5	17.1
	2009	1,766.0	1,009.9	390.5	166.4	77.4	97.4	24.4
Farm structure (per cent)	2002	100.0	58.7	21.8	9.4	4.3	4.9	0.9
	2009	100.0	57.2	22.1	9.4	4.34	5.5	1.4
Changes of the farm quantity in 2002-2007 (per cent)		-9.6	-11.9	-8.5	-8.9	-7.7	+2.0	+42.7

Source: compiled on the basis of the data of CSO 2002 and 2009.

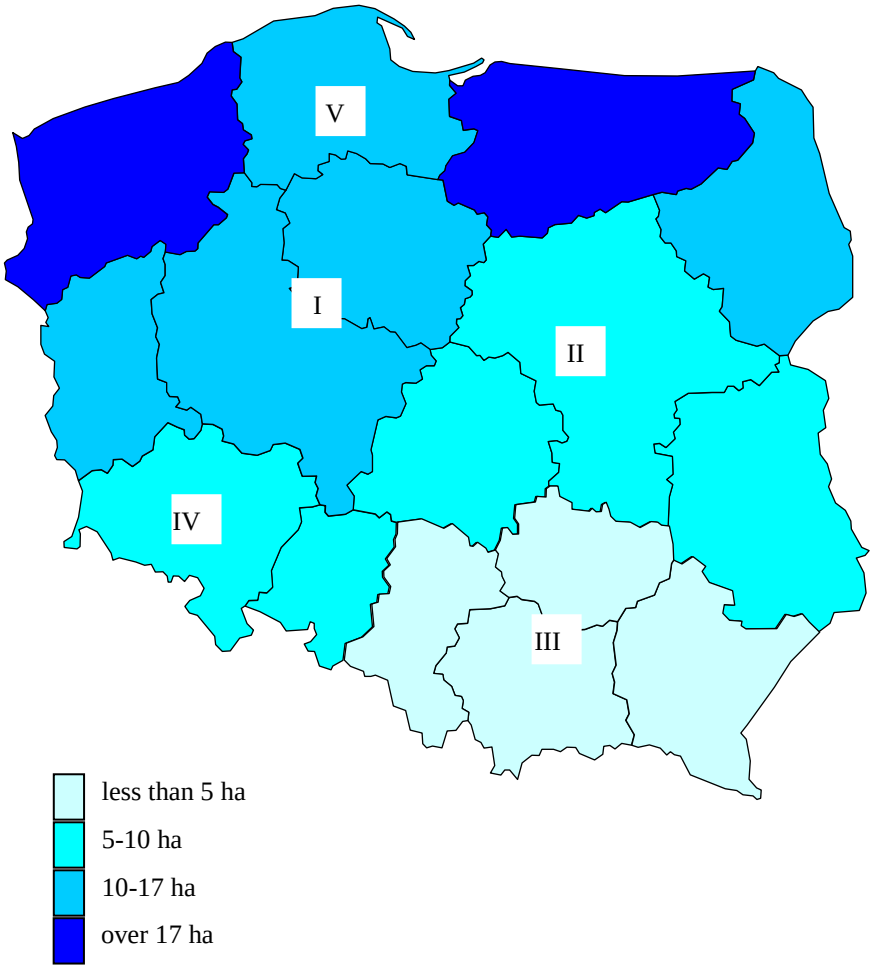
It results from the CSO data that the average area of an individual farm in 2009 amounted to 8.0 ha of agricultural land and was larger than five years earlier by 0.7 ha of agricultural land i.e. 10%. These changes were mainly a consequence of growth in the number of entities with relatively large area i.e. above 20 ha whose quantity increased by over 8%. These trends were accompanied by a decrease by over 10% in the number of entities with area up to 20 ha of agricultural land that recorded primarily among entities ranging from 1 to 5 ha of agricultural land (decrease by 12%).

Table 2. Changes in the structure of land area

Specification	Years	Total	Farm area groups of agricultural land in ha					
			1-5	5-10	10-15	15-20	20-50	50 and more
area of agricultural land (in thousands of ha)	2002	14 461.9	2 763.0	3 029.1	2 213.7	1 437.8	2 708.4	2 309.9
	2007	14 087.4	2 603.3	2 836.2	2 019.9	1 333.1	2 955.5	2 339.4
Land structure	2002	100.0	19.1	21.0	15.3	9.9	18.7	16.0
	2007	100.0	18.5	20.2	14.3	9.5	20.9	16.6
Changes of the land area in 2002-2007 (in thou. of ha)		- 374.6	- 159.7	-193.0	-193.9	-104.7	+247.2	+29.6
Changes of the land area in 2002-2007 (per cent)		-2.6	-5.8	-3.4	-8.8	-7.3	+9.1	+1.3

Source: compiled on the basis of the data of CSO 2002 and 2007.

Above presented processes of land concentration were also reflected in the increase of agricultural land area in a relatively large farms (of i.e. above 20 ha). In the years 2002-2007 the area of agricultural land in this group of agricultural holdings has increased by almost 6%. Consequently, in the use of individual farms of area of 20 or more ha is almost 38% of the agricultural land in Poland. At the same time almost 19% of agricultural land is at disposal of small farms (1-5 ha), producing mainly for self-supply.



Pic. 1. Regional differentiation of an average area of agricultural land of an individual farm
Source: compiled on the basis of the data of CSO for 2007.

Land concentration processes were of common nature with various intensity being marked within the area of particular regions of Poland. However, they did not contribute to significant transformations in the area structure, both on the national scale (*Table 1*) and within the area of particular regions. On the national scale small farms up to 5 ha of agricultural land were predominant and as a principle they were not able to provide jobs and livelihood for an average agricultural family, and the potential for further development (Woś, 1998, p. 38). In 2009 these stagnant entities constituted as much as over 57% of the individual farms in Poland with this share being slightly lower than five years earlier when such entities constituted 59% of such farms. In 2007, just as previously, such farms were predominant in the following voivodships: Małopolskie (85%), Podkarpackie (84%), Śląskie (78%) and Świętokrzyskie (68%). Therefore these regions featured the smallest area of a statistical farm that amounted to less than 5 ha of agricultural land (*Pic. 1*) as well as the largest share of agricultural land in small holdings. In use was from 61% (Dolnośląskie) to 36% (Śląskie and Świętokrzyskie) of agricultural land at the disposal of private farms in the voivodship. The

smallest percentage of small farms, yet significant as well, was recorded in the opposite corner of Poland i.e. in the following voivodships: Podlaskie (30%), Warmińsko-Mazurskie and Kujawsko-Pomorskie (approx. 33% each) and Zachodniopomorskie and Pomorskie (approx. 33% each) and they cultivated approx. 7% of agricultural land in the possession of family farming in each of these regions.

Medium farms (5-20 ha of agricultural land) constituted almost 36% of the total number of individual farms in Poland in 2009. They had almost 44% of agricultural land. Such entities were found relatively most often in the following voivodships: Podlaskie (54%), Kujawsko-Pomorskie (49%), Wielkopolskie (47%), Pomorskie (45%) and Mazowieckie (45%). At the same time it should be noted that, in the possession of this group of farms was at least half of the land cultivated by individual farmers in each of these areas.

Relatively large entities (20 ha and more of agricultural land) as for the Polish conditions (over 7% of the total number of family farms) were located in the following voivodships: Warmińsko-Mazurskie (24%) and Zachodniopomorskie (23%). In consequence these areas featured the largest size of a statistical family farm in Poland that exceeded 17 ha of agricultural land, as well as the most advanced process of land concentration in units that are likely to develop in future, for which in Polish conditions are holdings with area of at least 20 ha. Farms of this size had respectively 67 and 73% of agricultural land.

In the recent period *inter alia* the asymmetry in the spatial structure of land from the resources of Agricultural Property Agency contributed to the value of these differences and these resources were located primarily in the western and northern areas of Poland (Rynek ziemi, 2006, p. 11).

The negative effects of the farm area structure fragmentation in Poland are aggravated by the commonly existing scattered parcels despite the emerging trends towards agricultural land consolidation. According to the Report of the Agricultural Census in 1996-2002 the average number of plots falling within a single farm in Poland decreased by 10% but it was still high since it amounted to approx 4 plots with an average acreage amounting to 2.7 ha of agricultural land. Moreover, only 16% of farms had land within a single plot and in the case of 43% of entities there is a phenomenon of "arduous scattered parcels land"[3]. Scattered parcels are found exceptionally commonly in entities located within areas that already feature fragmented spatial structure, in particular in the following voivodships: Małopolskie, Podkarpackie, Świętokrzyskie and Śląskie, i.e. in the southeastern macroregion. Furthermore, this area is featured by narrow and long plots that simply make it impossible to mechanise the field works.

2. Jobs and employment

The volume of labour force and employment rate constitute an important factor of the socio-economic structure of a given region. It results from the CSO data that in 2007 the community contributing a workload in a family agricultural activity amounted to almost 3,935 thousand of agricultural family members and 23 thousand of permanent employed workers. The number of people involved in works in farms in 2002-2007 slightly decreased.

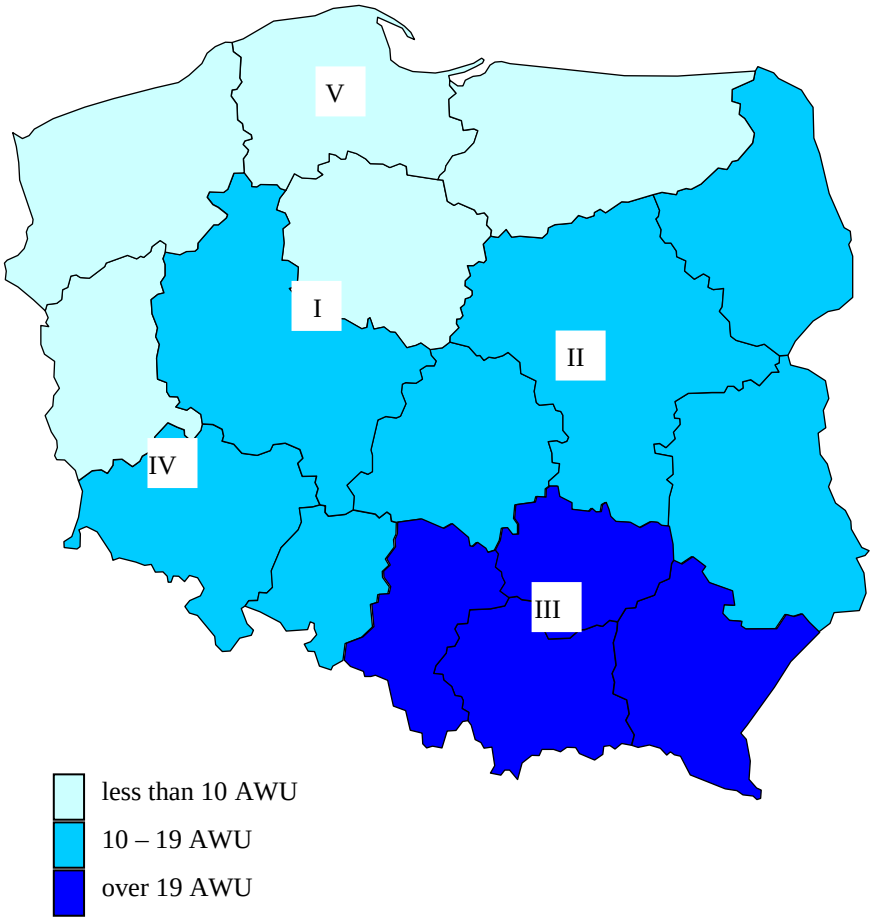
Labour expenditure of individuals was very diverse and hence the workload was expressed as a full-time job equivalent i.e. annual working unit (AWU) [4] After calculating the community of people contributing workload for "full-time jobs" the number of annual work

[3] A farm comprises at least 4 plots.

[4] Workload of employed temporary workers and neighbour assistance. For this category of labour resources CSO data on labor inputs are available only in annual work units (AWU). Annual work unit includes 1 full-time employee working at a farm 2120 hours in a year i.e. 265 work days and 8 hours daily.

units amounted to 2,045 thousand AWU and 95% thereof was constituted by the work of farming family members (1.17 AWU per 1 farm and 14.70 AWU per 100 ha of agricultural land). It should be pointed out at the same time that it was the level lower by 5% than in 2002. However, the employment in the sector of individual agriculture is still very high and decreases its competitiveness ability[5].

It results from the CSO data that employment in family farms featured a constant and substantial spatial differentiation. In 2007, just like in the previous years, the southern regions of Poland featured highest employment rate in the agricultural activity (*Pic. 2*). At the same time the exceptionally large workload in reference to 100 ha of agricultural land was found in the following voivodships: Małopolskie (34.89 AWU), Podkarpackie (27.70 AWU), Świętokrzyskie (23.58 AWU) and Śląskie (19.42 AWU) i.e. in the voivodships forming the south-eastern macroregion.



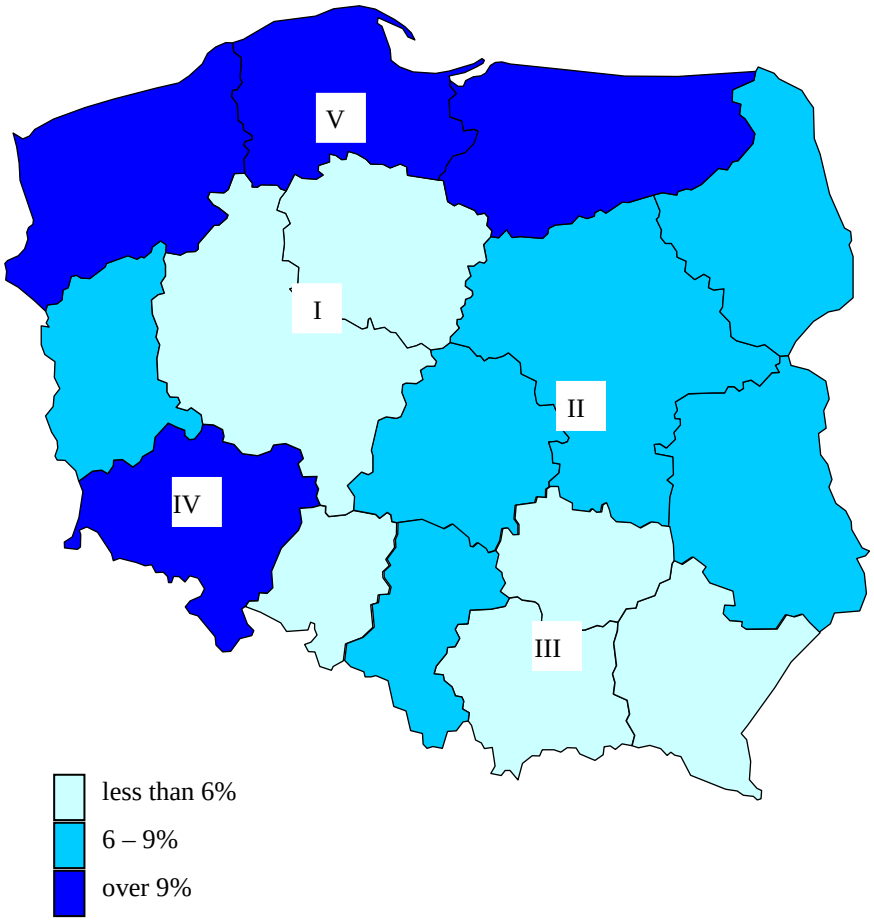
Pic. 2. Workload in individual agriculture according to macroregions in 2007
Source: compiled on the basis of unpublished CSO data.

The employment rate per 100 ha of agricultural land in the voivodships of northern and western Poland, which feature the largest farm area, was relatively low and its value can be perceived as satisfactory from the point of view of work performance and provision of satisfactory revenues from the employment in agricultural activity. An exceptionally beneficial situation in this regard, and comparable to the level of employment in EU-15 states,

[5] It results from comparable statistics that employment in the Polish individual agriculture in a calculation per 100 ha of agricultural land is 2.6 times larger than on average in EU-25.

occurred in the following voivodships: Zachodniopomorskie (5.12 AWU), Lubuskie (6.36 AWU), Warmińsko-Mazurskie (6.91 AWU) and Pomorskie (8.84 AWU) i.e. primarily in the northern macroregion. Therefore it should be recognised that the employment rate in family farms constitutes a peculiar reversal of the area structure (compare *Pic. 1* and *2*).

The potential of work in agriculture is determined not only by the number of the employed but also by the quality thereof. The features of the population (age, gender, education) may in some situations either hinder or stimulate the rate of pro-effective changes in agricultural activity where, just as in other sectors of agricultural activity, the intensification of the phenomenon of competitiveness causes the growth of relation between the economic condition of particular economies and the quality of labour factor. The qualifications level of the people managing the farm is exceptionally important (Klepacki, 2004, Wołoszyn, 2004, Ziętara, 2009) since it is them who make strategic economic and production decisions. The differences in the knowledge of managers influences the economic situation of particular entities (Józwiak, 2004, p. 70) and the possibilities of its improvement in a fundamental manner (Woś, 1998, pp. 54-62).

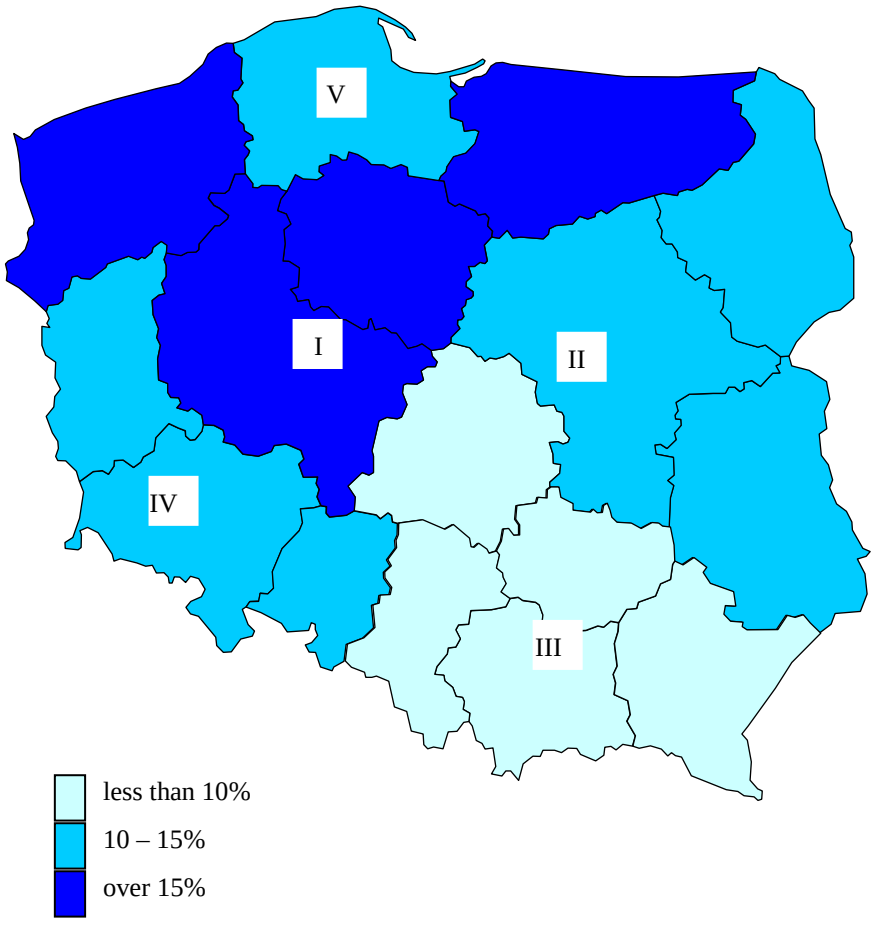


Pic. 3. The regional differentiation in the percentage of farmers with general higher education in 2007
Source: compiled on the basis of unpublished CSO data.

As far as general education of farmers is concerned, it results from the CSO data that in 2007 the predominant education was at the level of basic vocational education (39%), the second-ranked one was secondary education (29%), and elementary or middle school (Polish gymnasium) education was indicated by 22% of farmers. A university degree has been

achieved by 7% of farm managers and only 3% has no education, even at the level of elementary of middle school education. In reference to the education of farmers the most common ones have completed an agricultural course (25%) and have basic agricultural education (12%), secondary agricultural education (10%) while only 2% of farmers had higher agricultural education. At the same time it should be pointed out that over a half of total number of managers do not have any agricultural education.

It results from the analysis of data on the level of general and agricultural education of farmers that large regional differentiation is found also in this respect which is proved *inter alia* by large differences in the share of people with higher general education and at least secondary education among managers of individual farms (*Pic. 3* and *Pic. 4*). The largest share of managers with higher general education (9-10%) has been recorded in the following voivodships: Dolnośląskie, Pomorskie, Warmińsko-Mazurskie and Zachodnio-Pomorskie. Majority of farmers with agricultural education at least at the level of secondary education (above 15%) also lived in these voivodships. Furthermore, the regions that should be mentioned as the ones with good agricultural vocational training are the Wielkopolskie and Kujawsko-Pomorskie voivodships where admittedly 6% of managers had higher general education but at the same time 17% completed at least an agricultural secondary school. Moreover only 37% of managers did not have any agricultural qualification and this was the lowest percentage on the national scale. This is a distinct region as regards agricultural culture and the scale of existence of entities of good economic and production condition (Karwat-Woźniak, 2006, pp. 14-15).



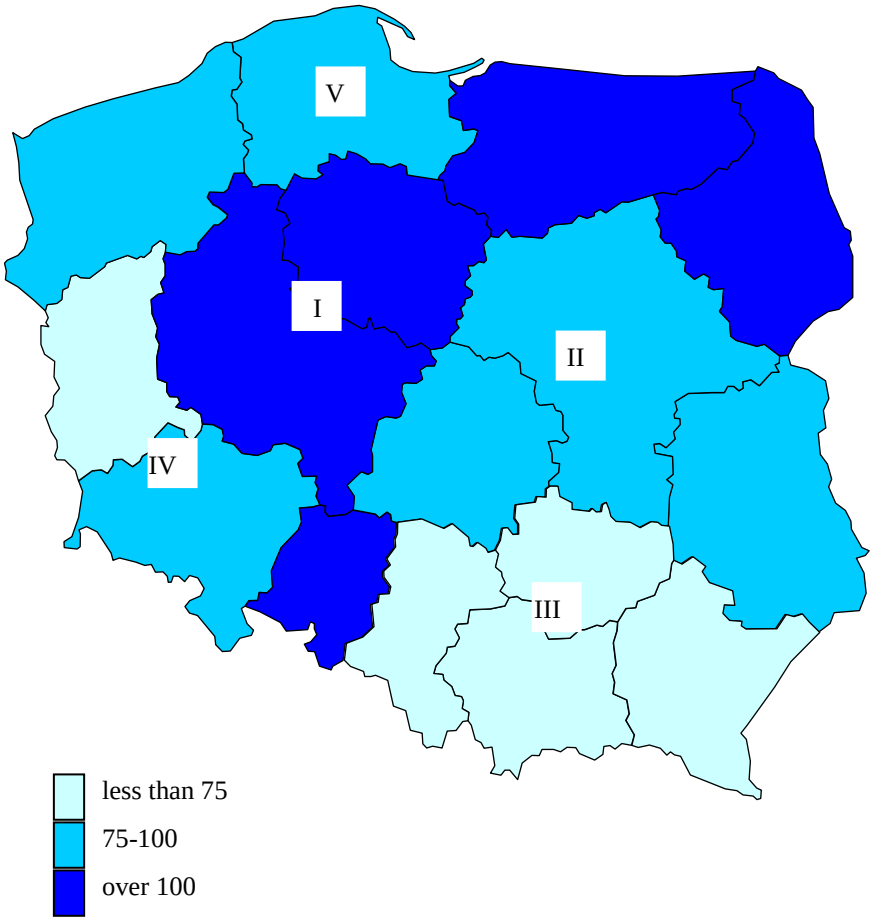
Pic. 4. Spatial differences in the share of managers with secondary and university agricultural education
Source: compiled on the basis of unpublished CSO data.

Extremely different situation, as regards agricultural education in particular, is found in the southern Poland which is indicated *inter alia* by the percentage of farmers lower than the national average who graduated from at least from secondary agricultural schools. At the same time such people are found least often in the following voivodships: Podkarpackie (6%), Śląskie (7%), Małopolskie and Świętokrzyskie (almost 8% each). Furthermore, over 60% of farmers in these voivodships did not have any agricultural education and at the same time 20-25% acquired their vocational education only at agricultural courses.

3. Technical equipment

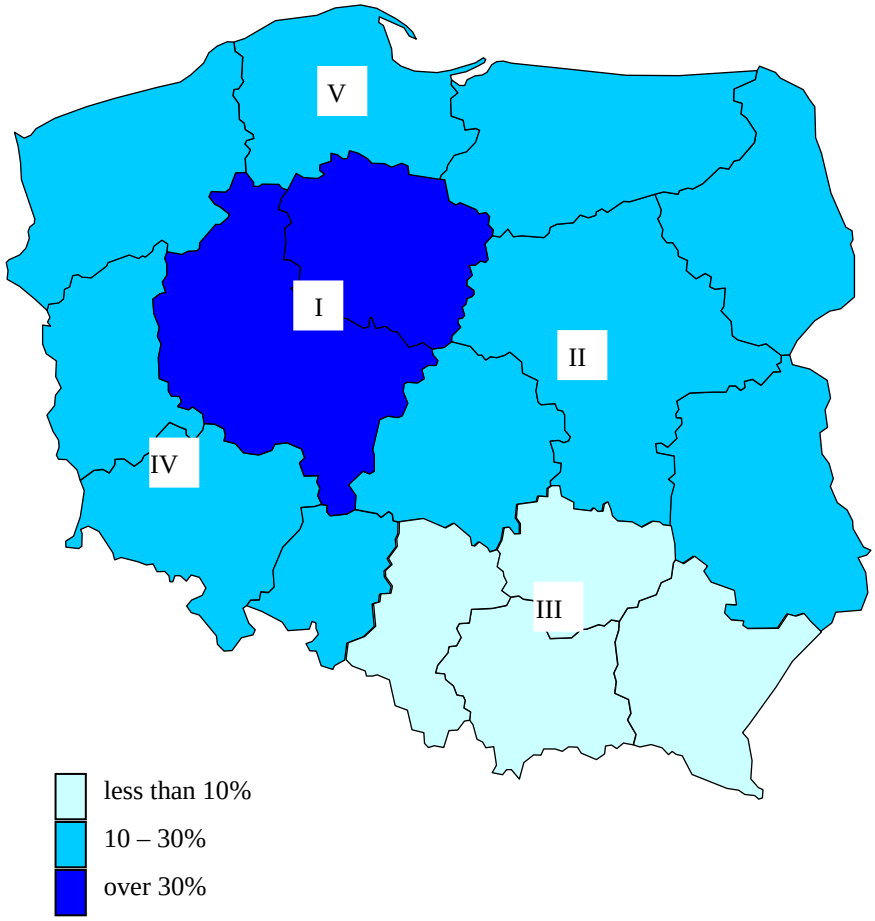
Technical equipment of farms constitutes an essential element of the production potential and is of key importance for the efficiency of farm management (Zegar, 2003, pp. 30-50). Improvement of the level and quality of technical equipment of particular entities is the basic factor determining the progress in the conducted agricultural activity in which the mechanisation of field works plays an exceptional role under the Polish conditions (Ziętara, 2009).

According to the CSO data in 2007 1,110.9 thousand (62%) individual farms possessed tractors. The number of entities with tractors increased by almost 12% in comparison with 2002 when 993.4 thousand farms (51%) had a tractor.



Pic. 5. Regional differentiation in the average number of tractors per 100 farms
Source: compiled on the basis of the data of CSO for 2007.

With the growth in the number of farms with tractors also the number of possessed tractors increased. In consequence in 2002-2007 the number of tractors per 100 entities increased by over 7% (from 78.5% to 84.2%). These changes were of common nature but have not affected on the regional differentiation of farm equipment of mechanical tractive force although they were recorded within areas relatively poorly equipped in this respect (*Pic. 5*). Traditionally the lowest indicators (per 100 farms) of tractor condensation have been recorded in the southern voivodships of Poland and in the Lubuskie voivodship. The following voivodships remained the leaders: Kujawsko-Pomorskie, Opolskie and Wielkopolskie and recently Podlaskie and Warmińsko-Mazurskie are one of the top ones.



Pic 6. Macroregional differentiation in the share of farms with good machine equipment[6]
Source: Compiled on the basis of IAFE-NRI 2005 survey data.

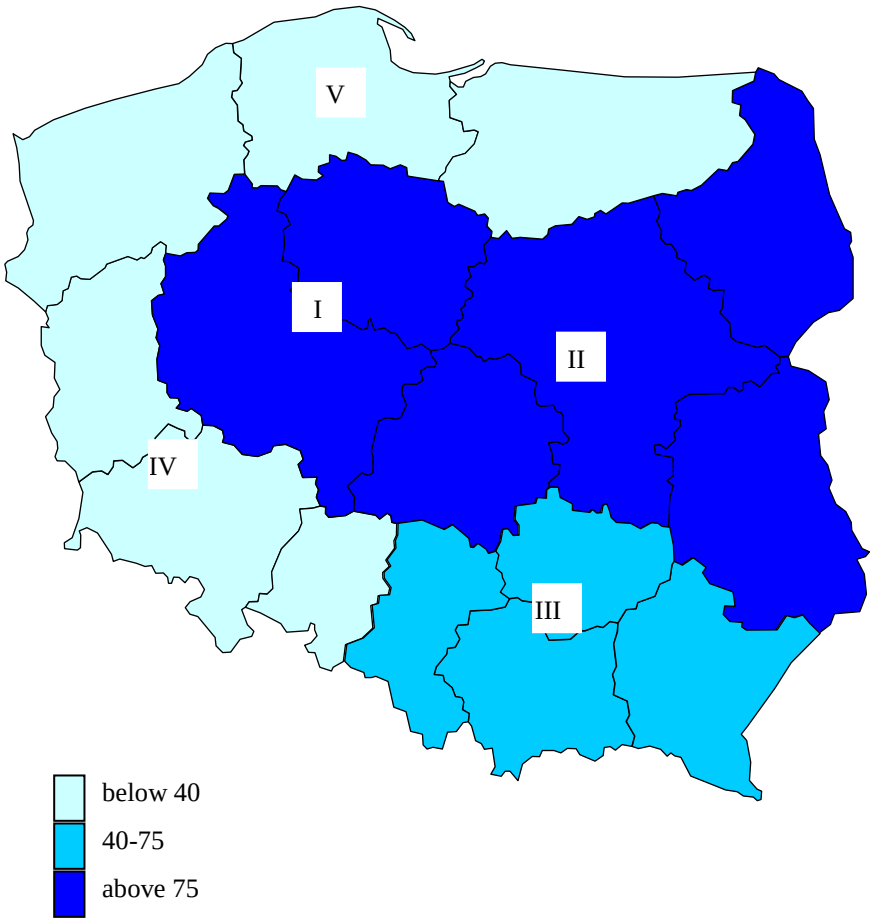
From the perspective of tractor and agricultural machines equipment, a clear image has been shaped presenting Polish farmers using technology (*Pic. 6*). Entities with good machine equipment were found mainly in the central-western macroregion (over 36%) i.e. where family farms distinguished themselves not only by a relatively good spatial structure but primarily by the good condition and efficiency of management. The percentage of individual farms with good mechanical equipment was lower by over a half in the following macroregions: southwestern and central-eastern (approx 17% each). Definitely the lowest

[6] Farms equipped with a tractor and at least 11 machines in total but at least 1 from each group i.e. fertilisation and plant protection, sowing and planting, harvest and transport (apart from the tractor) have been qualified to the category recognised as a well-equipped one (with machines).

number of such entities was found in the southeastern macroregion within which they constituted approx 5% of the total number of individual farms.

4. Livestock population

Apart from agricultural land also the state of livestock population[7] and the productivity thereof determine the production nature and capabilities of farms and the volume of livestock density defines the level of agricultural management intensity (Woś, 1998, p. 97). It results from the CSO data that animal production remains predominant in the commodity production structure of the Polish agriculture[8]. Furthermore, despite withdrawal from animal breeding almost 2/3 of individual farms still conducted animal production. At the same time the process of livestock concentration proceeded in farms where market products were being produced. In consequence not only the livestock density in entities with livestock grew but an increase in of this factor in the entire individual agriculture was also recorded.



Pic 7. Macroregional differentiation in livestock population (total average Livestock Unit per 100 ha of agricultural land)
Source: Compiled on the basis of IAFE-NRI 2005 survey data.

[7] In order to obtain a possibly uniform and synthetic situation as regards livestock resources, the population has been expressed as livestock units (LSU).

[8] In 2000-2007 the share of animal products in the value of agricultural commodity production amounted at least to approx 60% (CSO).

It results from the survey data that in 2005 the total animal population per 100 ha of agricultural land amounted to 62.4 units and this level was higher by 33% in comparison with 2000 when the corresponding indicator amounted to 46.9 units. Although these changes have been recorded with various intensity in particular areas of Poland, high macroregion differentiation from the point of view of the number of maintained livestock was preserved (*Pic. 2*). In 2005, just as in the previous years, the largest livestock number was found in the central-western macroregion that encompasses the following voivodships: Kujawsko-Pomorskie and amounted to 85.5 Livestock Unit (LSU) per 100 ha of agricultural land. A slightly smaller amount of bred animals has been recorded in the agriculture in the central-eastern macroregion (with voivodships: Lubelskie, Łódzkie, Mazowieckie and Podlaskie) and amounted to 76.8 LSU per 100 ha of agricultural land.

An extremely opposite situation as regards the state of livestock population is found in the following macroregions: southwestern and northern. Especially low livestock density is maintained in the former macroregion encompassing the following voivodships: Dolnośląskie, Lubuskie and Opolskie) and amounting to only 29.8 LSU per 100 ha of agricultural land.

It results from the analysis of spatial intensification of modification processes on the scale of maintained livestock that the trends towards concentration have been recorded within areas with relatively high breeding intensity in particular i.e. in the central-western and central-eastern macroregions. In consequence 3/4 of livestock population maintained by individual farmers were located within these areas in 2005 while in 2000 the corresponding factor amounted to 2/3 and in 1996 it was barely 1/2.

These trends were an indication of further actions towards simplification and specialisation of the production profile of agricultural activity within particular areas. Simultaneously, they included not only the macroregional differences in the agricultural structure but also production traditions (Karwat-Woźniak, 2006, p. 22). A clear predominance of animal production took place in the central-western and central-eastern macroregions (over 71%). At the same time it should be pointed out that an exceptionally strong increase in fatstock sale (65%) has been recorded in the commodity production in the former macroregion, fatstock pigs in particular and in the latter one – milk (42%). The value of agricultural production sold within the remaining areas of Poland was comprised mainly of plant products and in the southeastern macroregion these were vegetable, fruit and shielded products. This range of products constituted almost 2/3 of the plant commodity production value of farms within this area. On the other hand cereals and industry plants – primarily rape – constitute almost entire value of plant commodity production of entities in the northern macroregion whereas in the western one it amounts to approx 85%.

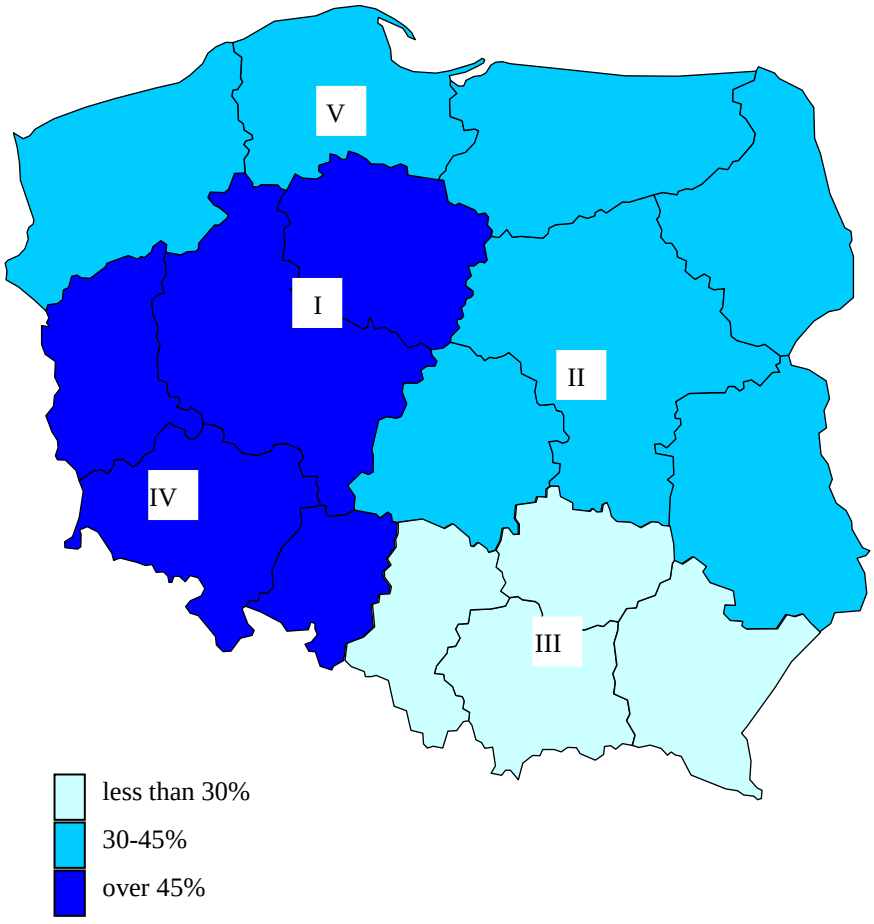
5. Investment activity

The characteristic of development conditions of family farms should also incorporate the farmers' activity in terms of investment operations within the production property since the maintenance of the market position and satisfactory income derived from activity in agriculture in the situation of intensified competition is related to the growth of capability to quickly adjust the production to the requirements imposed by the recipients of agricultural resources i.e. to the growth of organisational and production flexibility of particular entities. Fulfilment of these conditions is related as a principle to the necessity of constant modernisation and enlargement of production property (Kulawik, 2007, pp. 27-31).

Investment activity as a rule constitutes one of the most important methods of innovation and progress diffusion for the applied methods of agricultural resources

production. Therefore agricultural investments are one of the factors of constructing and maintaining the competitiveness (competitive advantage) (Gorynia, 2002, p. 69).

It results from the IAFE-NRI research that almost 39% of individual farms conducted agricultural investments in 2000-2005 and each of these entities spent PLN 42.1 thousand on average for this purpose. At the same time investment operation within the production property was featured by large macroregional differentiation (*Pic. 8*).



Pic. 8. Macroregional differentiation of agricultural investment activity in 2000-2005
Source: Compiled on the basis of IAFE-NRI 2005 survey data.

The lowest activity in this period, just as in the previous years, was featured by farmers in the southeastern macroregion that is agriculturally fragmented. Within these areas only 22% of farms conducted such activities and only PLN 25.7 thousand was assigned for this purpose per farm. Investment activity within the production property took place relatively most frequently in the farms in western and central Poland, in particular in the central-western macroregion that has been featuring the highest level of agricultural development for years. In this macroregion almost half of farms conducted investment works and PLN 43.3 thousand have been spent for this purpose.

Summary and conclusions

Economic reforms carried out in the period of transformation, improvement of the macro-economic situation, in particular the implementation of the agricultural policy with the

participation of the European Union resources provided an opportunity for pro-effective reconstruction of the Polish agricultural sector. The changes taking place in the socio-economic situation of farms should be regarded as positive and the nature of occurring transformation generally as increasing the production potential and competitive capabilities of family farms constituting a predominant segment of the Polish agriculture.

It results from the analysis of chosen economic and social features determining the production potential of farms in particular regions of Poland that the observed positive trends have been recorded in all the regions of Poland. This concerned both particular voivodships and the groups thereof i.e. macroregions. However, there were huge differences as regards the intensity of modernisation processes that have been recorded exceptionally intensively within the areas of traditionally strong agricultural function and expansive agricultural structures. Therefore they contributed to the improvement of their competitiveness. In consequence the historical shape of endogenic differentiation in the social and economic conditions of agricultural development have been aggravated. The distance in relation to the each analysed feature between the areas with expansive agricultural structures (the voivodships of the western and northern Poland, in particular the ones forming the central-western macroregion) and the southern areas of Poland, in particular in the southeastern macroregion (Podkarpackie, Małopolskie, Świętokrzyskie and Śląskie) practically increased.

Taking into consideration the scale of regional differentiation in overall conditions of functioning of the Polish agriculture should be considered (in author‘s opinion) that a certain reduction in the effective functioning of this sector of economy causes a number of social tensions and crises situations. In addition, the growth of regional differences in level of the agricultural sector development may lead to progressive deterioration of agriculture and rural areas. In conditions of the general lack of spatial planning, this threat is very real.

Formation of a national agricultural policy in conditions of regional disparities is a large problem in the market economy, this also applies to Polish.

Although large regional disparities in social and economic characteristics of individual farms can conduce to the specialisation of the profile of agricultural production in the specific area, but the use of the opportunities arising from the diversity of agricultural structures requires a large diversification in activities that stimulate the desired processes, while enabling the optimal use of the possibilities inherent in agriculture in the region.

References

Chmieliński, P. (2006), *Regionalne zróżnicowanie w rozwoju rolnictwa i obszarów wiejskich w Polsce a efektywność wykorzystania środków wsparcia Wspólnej Polityki Rolnej*, Studia i Monografie, z. 138, IERiGŻ-PIB, Warszawa, p. 19.

Gorynia, M. (2002), *Luka konkurencyjna na poziomie przedsiębiorstwa a przystąpienie Polski do Unii Europejskiej*, Akademia Ekonomiczna w Poznaniu, Poznań, p. 69.

GUS (2010), *Rocznik Statystyczny Rolnictwa i Obszarów Wiejskich*, Warszawa, pp. 230, 251, 253.

Józwiak, W. (2004), *Możliwości poprawy dochodowości gospodarstw chłopskich po przystąpieniu Polski do UE*, [w:] Wieś, rolnictwo i gospodarka żywnościowa po przystąpieniu Polski do Unii Europejskiej, Wyższa Szkoła Ekonomiczna, IERiGŻ, Warszawa, p. 70.

Karwat-Woźniak, B. (2006), *Zmiany aktywności rynkowej gospodarstw indywidualnych w latach 2000-2005*, Komunikaty, Raporty, Ekspertyzy, z. 519, IERiGŻ-PIB, Warszawa, pp. 14-15, 19, 22, 24-25, 30, 33.

Klepacki, B. (2004), Znaczenie wiedzy i wykształcenia w rozwoju rolnictwa, *Zagadnienia Ekonomiczne*, nr 2, Uniwersytet Warmińsko-Mazurski, Olsztyn, p. 48.

Kulawik, J. (2007), *Efektywność a konkurencyjność*, [w:] Analiza efektywności gospodarowania i funkcjonowania przedsiębiorstw rolnych powstałych na bazie majątku byłych PGR. Red. J. Kulawik, W. Józwiak, IERiGŻ-PIB, Warszawa, pp. 27-31.

Rynek ziemi rolniczej. Stan i perspektywy (2006), A. Sikorska (ed.), IERiGŻ-PIB, ANR, MRiRW, Warszawa, p. 1.

Sikorska, A. (2006), *Przemiany w strukturze agrarnej gospodarstw chłopskich*, IERiGŻ-PIB, Warszawa, pp. 5-6, 10.

Sikorska, A. (2001), *Zmiany strukturalne na wsi i w rolnictwie w latach 1996-2000 a wielofunkcyjny rozwój obszarów wiejskich*, Synteza IERiGŻ, Warszawa, pp. 5-7.

Stankiewicz, M. (2000), Istota i sposoby oceny konkurencyjności przedsiębiorstwa, *Gospodarka Narodowa*, nr 7/8, p. 79.

Szemberg, A. (2001), *Przemiany struktury agrarnej w rolnictwie chłopskim*, [w:] Rynki wiejskie: ziemia, kapitał, praca, IRWiR, Warszaw, pp. 14-15.

Szemberg, A. (1999), *Społeczno-ekonomiczne regiony rolnictwa i obszarów wiejskich*, Komunikaty, Raporty, Ekspertyzy, z. 453, Warszawa, pp. 5-6.

Wołoszyn, J. (2004), Wiedza czynnikiem poprawy konkurencyjności w UE, *Zeszyty Naukowe SGGW*, Warszawa, p. 5.

Woś, A. (2000), Układy strukturalne w rolnictwie chłopskim (w świetle danych rachunkowości rolnej), *Komunikaty, Raporty, Ekspertyzy*, nr 465, IERiGŻ, Warszawa, pp. 8, 12.

Woś, A. (2004), *W poszukiwaniu modelu rozwoju polskiego rolnictwa*, IERiGŻ, Warszawa, pp. 84 -92.

Woś, A. (1998), *Wzrost gospodarczy i strategie rozwoju polskiego rolnictwa*. Eseje 2, IERiGŻ, Warszawa, pp. 38, 54-62, 97.

Zegar, J. St. (2008), *Dochody w rolnictwie w okresie transformacji i integracji europejskiej*, IERiGŻ-PIB, Warszawa, pp. 27, 19.

Zegar, J. (2003), *Zróżnicowanie regionalne rolnictwa*, GUS, Warszawa, pp. 11, 30-50, 193.

Ziętara, W. (2009), *Model polskiego rolnictwa – wobec aktualnych wyzwań*, [w:] Ekonomika i organizacja gospodarki żywnościowej, *Zeszyty Naukowe SGGW*, nr 73, Warszawa, pp. 12.

Ziętara, W. (2008), Wewnętrzne uwarunkowania rozwoju polskiego rolnictwa, *Roczniki Nauk Rolniczych*, Seria G, t. 94, z. 2, Warszawa, pp. 87-88.