

## THE IMPORTANCE OF LAND CONSOLIDATION IN POLAND FOR THE PROCESSES OF SHAPING AGRARIAN STRUCTURE

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**Abstract.** The paper presents the problematic of the merge and exchange processes of land under the following programmes of agricultural land consolidation. By consolidating of land, there was activity for better creation of rural space in order to achieve comprehensive improvement of conditions for farming. According to the Act (1982) there were taken activities to shape the structure of the area, the rational design of land distribution, adjust the boundaries of the property to the system of water management facilities, construction of roads and terrain.

After the Polish accession to the EU, there was created a possibility of co-financing of agricultural land consolidation under the three successive EU programmes. The volume of these actions was defined by the level of support, thus in 2004-2006 there were 31 projects realized for the amount of 15.1 million EUR, and in 2007-2013 another 109 consolidation projects were completed - for a total amount of 93.9 million EUR. In the current financial perspective, the indicative budget of the RDP foresees 139.0 million EUR for land consolidation, including 88.4 million EUR from EAFRD means.

The analysis of changes of the number of agricultural parcels, which were recorded between agricultural censuses of 2002 and 2010, shows that consolidation of farms was noticed during that time. In 2010, the total number of agricultural parcels dropped from 2,916.3 thousand in 2002 to 2264.6 thousand (22.3 %). The biggest decrease of farms was noticed in the group of holdings with one parcel (44.5 %) and holdings with 2-3 parcels (28.1 %). In the group of holdings having 6-9 parcels, their number increased by 26.8 % and in the group of 10 or more parcels we noticed the increase of 94.4 %

**Key words:** land consolidation, program of rural development, agricultural parcel, union fund.

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### Introduction

The development of rural areas through land consolidation took place in many countries in Europe. Land consolidation projects were carried out mainly in Germany, the Netherlands, France, Belgium, Luxembourg, Austria, Switzerland as well as Finland, Norway and Sweden. The reason behind the demand for land consolidation was similar in all countries and it was the need to adjust unfavourable division of land and promote the appropriate use of the property, without changing the ownership status. Depending on the country, there were some differences in the objectives and procedures of land consolidation, e.g. in each country procedure development was under the influence of historical trends, culture, tradition and law. A joint initiative to consolidate lands in different countries aimed at adopting well-proven solutions and functions developed in Europe in the process of land consolidation (Sabates-Wheeler, 2002).

Land consolidation is not regulated by one European act, but it is based on the legislation of

individual countries. The general objective of land consolidation is to improve production factors through land exchange in order to obtain the shape that meets the users' needs. Apart from the actual function of land exchange, the aim of consolidation is to improve road networks, enable the drainage of agricultural wasteland, improve landscape architecture as well as to protect the environment or manage rural areas in a more effective way. The procedure of land consolidation involves making administrative decisions and in most countries they are made by administrative bodies. The owners of lands in the area of consolidation usually form relevant associations which, depending on the country, have a weaker or stronger position in the process of projects' implementation. Such associations have strong legislative power, for instance in France, Germany and the Netherlands, where they can participate in valuation, planning and realization of the project (Pasakomis, Maliene, 2010).

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Land consolidation in all countries is one of the most fundamental management and agricultural devices, which comprehensively improves the organization of agricultural production area. It aims at converting the arrangement of fragmented, excessively long or arranged in a chequered pattern lands into possibly large and regular plots. The necessity to perform land consolidation is indicated by detailed analyses of parameters determining the need to consolidate lands that are carried out during the development of management and agricultural plans. Comprehensive land consolidation is regarded as the activity closely related to post-consolidation management processes. In accordance with the principle of equivalence, the participants of land consolidation or exchange receive lands of the equal estimated value in exchange for their previously owned areas (Vitikainen, 2004).

The performance of land consolidation works was regulated in accordance with the Act from 1982 on land consolidation and exchange. The purpose of land consolidation was the creation of more favourable management conditions in agriculture through the improvement of the area structure of farms, rational land expanse configuration, adjustment of property borders to the system of water melioration tools, construction of roads as well as terrain adjustment (The Act, 1982). The Polish accession to the European Union created the possibility to co-finance agricultural land consolidation within the framework of three consecutive EU programmes, including: 1. in the Sectoral Operational Programme "Restructuring and Modernisation of the Food Sector and Rural Development 2004–2006", priority "The Sustainable Development of Rural Areas", measure "Land consolidation"; 2. in the Rural Development Programme for the years 2007 – 2013, measure "Improving and developing infrastructure related to the development and adaptation of agriculture and forestry", scheme I

"Land consolidation" as well as in the RDP (Rural Development Programme) 2014 – 2020 in the measure "Investments in tangible assets", sub-measure "Land consolidation". The financial support for land consolidation was aimed at facilitating plots' exchange on arable land and establishment of economically viable holdings. The support could have been awarded solely for covering legal and administrative expenses related to land consolidation in the amount up to one hundred percent of the costs actually incurred.

The fundamental purpose of the research was to identify and compare actions between three indicated programming periods as well as to confront the obtained results with the data from the Agricultural Census in 2002 and 2010. The authors assumed that Poland belongs to the countries that are characterized with the highest level of land fragmentation on account of historical determinants of the conducted agricultural reforms, traditions resulting from inheritance and succession, socio-economic policy as well as other factors. Therefore the main hypothesis of the research is that agriculture bears specific economic costs, which impede competitiveness on the common European agricultural market. The studies related to the whole country were based on the rural development programmes, reporting data of the ARMA (the Agency for Restructuring and Modernisation of Agriculture), results from the Central Statistical Office (GUS) as well as other documents.

### **Consolidation of lands in the Sectoral Operational Programme 2004–2006**

The Sectoral Operational Programme entitled "Restructuring and Modernisation of the Food Sector and Rural Development" defined the strategy and directions of actions in the scope of agricultural and rural development. The land consolidation measure was conducted on the areas characterized by considerable land fragmentation. Therefore, the support in the

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scope of consolidation procedure was mainly aimed at improving land expanse within individual agricultural holdings. As a result of the decrease in the number of agricultural parcels in holdings, the improvement in the management effectiveness was expected by reducing the costs of transport and facilitating mechanization of field crops. Moreover, within the project of consolidation, the works were conducted in the scope of post-consolidation land use, taking into account the requirements of natural environment protection. Financial support provided within this measure was supposed to lead to the improvement of the area structure in agricultural holdings, the reduction in the number of parcels in individual holdings, division of equivalent lands for farmers within a short distance from the seat of the farm or to delineation and arrangement of functional access roads to lands adjusted to the currently used agricultural machinery (ARMA Regulation, 2004).

Activities in the scope of land consolidation were part of the obligations of people delegated to Marshal's Offices. However, the beneficiaries were district starosts, who were responsible for the preparation of the whole complicated procedure of inducing farmers to agree to begin consolidation works. Consolidation works could have been initiated at the request of the owners of agricultural holdings, located in the designed area of consolidation and whose total area exceeded half of the designed consolidation area. Consolidation procedures could have also been initiated ex officio in some cases, after the prior opinion obtained from the solectwo<sup>1</sup> council as well as socio-professional farmers' organizations acting on the area of a given village.

According to the data of ex-post evaluation of the Sectoral Operational Programme 2004 – 2006, consolidation procedures were not undertaken in four provinces, that is, in the

Kuyavian-Pomeranian province, the Warmia-Masuria province, the Wielkopolska province as well as in the West Pomeranian province due to the lack of interest from potential beneficiaries. 45 applications came from starosts, from which 32 applications (71.1 %) were approved for realization in twelve provinces. On average, 154 agricultural holdings participated in one project. In the country, there were few projects but they were extensive in terms of the number of farmers participating in the project. The area under the process of consolidation within all realized projects was 20.4 thousand hectares of agricultural land. It was specified in the Programme that as a result of the initiation of projects in the scope of land consolidation, agrarian structure will be improved on the area of over 42.0 thousand hectares and this indicator was realized at the level of 49 %. The areas covered with land consolidation were situated in one or several villages or in their parts. These lands created a new area of consolidation. If there was a need to change the location of the lands constituting parts of agricultural holdings, for the rational land arrangement, it took place by mutual exchange. Such an exchange could be made at the joint request of the owners of these lands, and in the case of the lands owned by the Treasury Agricultural Property Stock – with the consent of the Agricultural Property Agency. The exchange could also cover lands with buildings (Ex-post evaluation, 2009).

In the Sectoral Operational Programme 2004 – 2006, the amount of 21.2 million euro was earmarked for agricultural land consolidation, including 17.0 million euro from the EU financial support and 4.3 million euro from the national support. In general, 31 projects were implemented as part of the measure for which the EU aid amounted to 16.5 million euro, which constituted 77.8 % of the EU financial means disbursed for the implementation of this measure. Considerable decline in the euro resulted in the failure to reach the full rate, which

<sup>1</sup> Solectwo - an administrative unit in Poland, a subdivision of a gmina; it is usually one village, but sometimes large villages may be divided into several solectwos, while in other cases one solectwo may consist of several villages (translator's note).

had an impact on the actual amount of financial means in PLN earmarked for this measure. Moreover, it was difficult to implement all projects within three years as consolidation works are characterized by a long period of projects' realization and it resulted in the need to extend the programme until 2008.

### **The issues related to land consolidation in the RDP 2007 – 2013**

In the Council Regulation (EC) from 2005, it was stated that in order to ensure the sustainable development of rural areas, it is necessary to focus on the limited number of fundamental aims related mainly to the competitiveness of the agricultural sector and diversification of activities in rural areas. Particular support should be provided for the methods of land management leading to the application of appropriate methods of land use, which will be in line with the need to preserve the natural environment and landscape as well as the need to protect and improve natural resources. Further issues included biological diversity, the management of the Natura 2000 site, the protection of water and soil as well as mitigation of climate change. Agricultural land consolidation was identified as part of the measure "Infrastructure related to the development and adaptation of agriculture and forestry". Financial support was provided for the operations related to the access to farm and forest land, land consolidation and improvement, energy supply as well as water management (Council Regulation (EC), 2005).

Under the Rural Development Programme for 2007 – 2013, projects were realized in the scope of consolidation works and post-consolidation land use. The support was provided under the measure "Improving and developing infrastructure related to the development and adaptation of agriculture and forestry through land consolidation" and its aim was to improve the area structure of individual agricultural holdings. It was expected that as a result of reducing the number of plots, the improvement

in the management effectiveness can be achieved by reducing transport costs and facilitating the mechanization of field crops. In turn, post-consolidation works provided each plot with the access to technical infrastructure facilities. Post-consolidation works involved the construction of essential access roads to agricultural areas constituting the property of gminas as well as the improvement of technical parameters of melioration devices (ARMA Regulation, 2008).

Land consolidation processes play a vital role in the arrangement of rural areas as they make the functioning in the economic, social and environmental spheres more effective. Rural areas still have unclear and complicated legal situation. In many cases, agricultural parcels do not have direct access to a road. Apart from roads, also the melioration system was neglected, left without conservation and not adjusted to the realities of land farming. Defective spatial structure of a farm was also a certain obstacle to obtaining financial support in the form of direct payments for agricultural areas. In principle, the number of owners and property right should not be changed in the process of land consolidation. However, the process of consolidation changes the arrangement of land borders. Each participant of the consolidation received lands of the equal estimated value in exchange for the lands possessed before consolidation. The decision about the approval of the land consolidation project constituted the legal title to reveal the new state of the property in the land and mortgage register.

The measure in question was implemented under two schemes: scheme I – Land consolidation; and scheme II – Management of agricultural water resources. The measure under scheme I aimed at improving the area structure of agricultural holdings through consolidation works, delineation and construction of functional network of access roads to agricultural and forest

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lands as well as access ways to farm buildings and allocation of necessary lands for technical and social infrastructure within the scope of consolidation works. It was expected that 346 projects will be initiated with the average number of 70 agricultural holdings involved in one project. The total area of lands under the consolidation process was supposed to amount to 207 thousand hectares, whereas the average area of a farm subject to consolidation – about 8 hectares. In reality, the number of the realized consolidation projects was considerably lower compared to the assumptions.

The largest number of consolidation works, out of 109 issued decisions, were performed on the area of the Lublin province – 39 (35.8 %), the Podlasie province – 13 (11.9 %), the Lower Silesia province – 11 (10.1 %) and the Silesia province – 9 (8.2 %). These four provinces absorbed 70.4 % (64,8 million EUR) of the means earmarked for this aim.

### **The characteristics of ARMA Regulation from 2016 in the issue of land consolidation**

The Regulation of the Minister of Agriculture is based on the EU and national legislation. In accordance with the EU legislation, the measure related to investments in fixed assets includes tangible or intangible investments, which improve the overall performance of the farm and concern infrastructure related to the development, modernization and adaptation of agriculture and forestry, including the access to farm and forest land, land consolidation and improvement as well as the supply and saving of energy and water.

In the new RDP 2014 – 2020, the operations like "Land consolidation" are part of the sub-measure "The support for investments related to the development, modernization and adaptation of agriculture and forestry". The objective of the sub-measure is to support the improvement of agricultural holdings' area structure in order to maintain and increase the competitiveness of the Polish agricultural sector. It is expected that this operation will facilitate the management of

agricultural production and will reduce the costs borne by agricultural holdings. Moreover, it should have the impact on the rational use of agricultural land resources through the adaptation of land expanses and existing infrastructure to the needs of agriculture. The process of land consolidation can be initiated at the request of the majority of owners of holdings, located on the designed area of consolidation or upon the request of the owners of lands, whose total area exceeds half of the area for consolidation (ARMA Regulation, 2015).

According to the provisions of the programme, the amount of support has been set at the level of 100 % of eligible costs and the maximum amount of money has been determined for the consolidation project and post-consolidation land use for 1 ha of lands covered with the consolidation process. The maximum levels of aid have been diversified for provinces in the mountainous and lowland regions. Controls in respect of refundable costs cover, in particular, verification of the reasonableness of the costs proposed. Costs are evaluated using the appropriate evaluation system, such as reference costs, a comparison of different offers or an evaluation committee. Under the act from 1982 on land consolidation and exchange, consolidation works are coordinated and implemented by a province self-government with organizational units established for the realization of such tasks in the form of the Regional Offices of Surveying and Agricultural Land (ARMA Regulation, 2016).

Land consolidation processes have been categorized as undertakings that can have a potentially significant impact on the environment. Therefore, preference shall be given to operations, which will have a positive influence on the environment, resulting from decisions about environmental conditions, as well as operations affecting the improvement of landscape values that are regarded as ecological, aesthetic and cultural values of the given region.

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In addition, such operations will be supported that will have a direct impact on the improvement of water relations in the scope of water retention. Separation of necessary lands for the purposes related to water relations improvement in the scope of water retention will also have the positive influence on natural water relations. Moreover, support will be provided for such measures that will aim at the allocation of lands for the local public benefit.

On account of the huge significance of the agrarian structure reconstruction in the relatively small area and within a short period of time, there was a need to secure the interests of all the parties involved. Therefore, the regulation includes the rules related to the provisions of the agreement in the scope of the rights and obligations of the parties, adopted safeguarding procedures of the proper performance of the obligation by the beneficiary as well as general conditions of financial means payment. The beneficiaries of the financial support specified in the regulation are starosts being the authorities carrying out and implementing the procedure of consolidation as well as post-consolidation land management processes (ARMA Regulation, 2015).

In accordance with the principle of providing financial support that is divided between the EU and member states, the current contribution of the EAFRD (the European Agricultural Fund for Rural Development) has been reduced to 63.6 %, which requires greater involvement of the State Treasury in the amount of 36.4 %. In the current financial perspective for the years 2014 – 2020, the amount of 139.0 million euro has been earmarked for the operations related to agricultural land consolidation, including the contribution from the EAFRD at the level of 88.4 million euro.

#### **The characteristics of agricultural farms according to the number of plots and area groups of agricultural land**

Historically, first consolidation processes were undertaken already in the 19th century, mainly in

the territory of the former Prussian sector. That is why the largest agricultural parcels in Poland are still located in the areas of Western provinces. After Poland regained its independence, one of the first laws was the Act from 1923 on land consolidation. At that time, farmers already wanted to possess huge and well-organized farms consisting of the smallest possible number of plots. Nowadays, consolidation is performed with particular consideration given to the improvement of farming conditions in agriculture (The Act, 1982). Since 2011, post-consolidation management has been involved in the consolidation process, including for instance construction and reconstruction of roads or the correction of drainage ditches' networks together with the improvement of their parameters. The idea of agricultural land consolidation aimed at the reduction in the number of parcels in the holding by joining the plots of one farm into bigger areas. During the previous period, the division of agricultural holdings among numerous heirs resulted in the arrangement of farms in a checkerboard pattern, which should disappear following the consolidation process. Thus, the improvement in the shape of plots should take place as well as the creation of more favourable conditions for mechanical field works. Moreover, consolidation works aimed at adjusting the boundaries of parcels to water courses, whereas roads width was adjusted to modern agricultural machinery.

When analysing the number of parcels in the agricultural holding, the definition of an agricultural parcel should be specified in the first place. According to the Central Statistical Office, the definition of an agricultural parcel provided in the Act from 26 January 2007 on payments in the framework of direct support system – "an agricultural parcel shall mean a continuous area of land, on which a single crop group with the area not smaller than 0.1 ha is cultivated by a single farmer" shall be used for census

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operations, and according to the ARMA, it shall be used to calculate area payments. In the case when a lot of various crops are cultivated in relatively small areas, the number of parcels increases. In this context, the analysis of the number of plots should be performed in individual groups of holdings. A good example of agricultural land consolidation are the results of the agricultural census from 2002, carried out just before the Polish accession to the European Union, in relation to the agricultural census from 2010, which covered the operations related to the realization of financial support for these measures and, in particular, the implementation of the principles and rules of the Common Agricultural Policy. In the context of restructuring and modernization of agricultural holdings, a favourable tendency towards the reduction in the number of farms was observed, at the same time with the process of land concentration, that is, the increase in their areas. In this sense, the positive result was the increase in the average area per one holding. Farmers aiming at extending their areas decided to intensify the process of specialization, which enabled them to obtain additional value and increase income. On the other hand, in some farms the extensification of production took place that aimed at the development of organic farms. These changes resulted from the redefinition of the objective of carrying out an agricultural activity, which consisted in maintaining lands in good agricultural condition without the need to realize production function, however, with the preservation of requirements concerning the natural environment protection. At a national scale, we can observe two tendencies in the scope of the average area of agricultural holdings according to area groups. One of them consisted in the tendency of farmers to increase the area of small (1-5 ha) and medium (5-10 ha) farms, but also those larger ones (10-20 ha). On the other hand, however, the number of large agricultural holdings started to decrease. The largest

decrease related to the holdings of 50 and more ha (of about 50.6 %). This phenomenon should be associated with the regulatory function of the Act on the Formation of the Agricultural System (2003), followed by the Act from 2011, in which the maximum area of one holding was determined at 300 ha.

It is considered an unfavourable phenomenon in the Polish agriculture that there are a lot of parcels within one agricultural holding. It is frequently associated with a problem that plots lie too far apart and far from the farms' headquarters. It follows from the data presented in the Agricultural Census from 2002 and 2010 that in the period under consideration, the number of small holdings of the size up to 1 ha decreased from 960.1 thousand to 702.0 thousand (of 26.9 %). However, the number of agricultural holdings with the area over 1 ha fell from 1956.1 thousand in 2010 to 1562.6 thousand in 2002. The Agricultural Census data indicate that out of 1562.6 thousand agricultural holdings with the area over 1 ha, only 201.9 thousand (12.9 %) units had a continuous area consisting of one parcel of agricultural land. It was the decrease equal to the results of the census from 2002, when such a situation related to 487.7 thousand of farms (24.9 %). As many as 504.3 thousand of agricultural holdings (32.3 %) had 2-3 parcels (previously 38.5 %), 334.7 thousand (21.4 %) had 4-5 parcels (in the previous census 18.5 %) and 297.5 thousand of farms (19.0 %) had 6-9 parcels (previously 12.2 %). 224.1 thousand farms (14.3 %) had ten and more parcels with agricultural lands in the area of the holding which, in comparison with the previous census, indicated the increase in the number of parcels and fragmentation of land expanse (previously 5.9 %). When taking this phenomenon into consideration within the framework of area groups, we can observe the process of the rise in the number of parcels that was reported in the period between agricultural censuses in 2002 and 2010.

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When interpreting the issue of the rise in the number of plots in one agricultural holding, it can be indicated that following the purchase of land, it did not undergo the consolidation process because of high costs of such an undertaking. Farmers were satisfied with the sole fact that the area of a farm was larger and they left the procedures related to land integration within a holding to be carried out later. In the regions, where the operations associated with agricultural land consolidation were performed within the framework of the Rural Development Programme, farmers were willing to participate in such undertakings. This level of interest was not shared by the areas, which were not financed from the EU funds. The previous programmes of land consolidation related only to the selected towns and, therefore, they were not practises of a common character.

When analysing the above data in terms of the number of agricultural parcels in individual provinces, we can conclude that agricultural holdings have undergone the process of a huge consolidation as a result of establishing a smaller number of units realizing the production on the same area of agricultural land. The overall number of agricultural parcels fell in the period between the censuses from 2916.3 thousand in 2002 to 2264.6 thousand in 2010 (of 22.3 %). There was considerably the largest number of agricultural holdings with one parcel (decrease of 44.5 %) and holdings with 2-3 parcels (decrease of 28.1 %). It means that there was a significant decrease in the number of farms under 1 ha, whose owners decided to finish the production or leave only the parcel near home. Agricultural holdings under 1 ha were excluded from direct payments. In the group of holdings having 6-9 parcels, their number increased by 26.8 %. However, the largest increase in the number of plots was reported in the group with 10 or more plots (of 94.4 %), which is reflected in the process of land concentration. The process of increasing the area of farms without regulating

the formal status of plots means that new and previous owners of the land accept the transfer of land.

When analysing the problem in terms of the number and structure of agricultural holdings in 2010, it is worth emphasizing two extreme phenomena, that is, the number of farms, which are characterized with possessing land expanse concentrated on one parcel as well as on holdings with 10 or more parcels. The largest number of holdings with one parcel were in the Malopolska province – 93.4 thousand (13.7 %), the Podkarpackie province – 71.6 thousand (10.5 %), the Lublin province 63.5 thousand (9.3 %) as well as the Mazovia province – 62.8 thousand (9.2 %). At the same time, they are provinces with the largest agrarian fragmentation; and frequently one parcel is, in fact, a small agricultural holding. In turn, on a national scale the largest number of farms, consisting of 10 and more parcels, was in the Mazovia province – 34.8 thousand (15.3 %), the Lublin province – 32.0 thousand (14.0 %) and the Małopolska province – 30.9 thousand (13.5 %). The evaluation of the above data indicates the need of specific concentration of the problem of land consolidation, which should have been conducted mainly in the Lublin, Malopolska, Mazovia und Podkarpackie province.

## Conclusions

Rural development through land consolidation occurred in numerous European countries. Land consolidation resulted from similar needs in all countries, that is, from the need to adjust unfavourable land division and promote the appropriate shape of the agricultural property regarded as a uniform and compact unit. The fundamental rule was not to make any changes of the ownership status and when such a situation took place, changes were introduced on the basis of the principle of equivalence. In the EU, depending on the country, there were differences in the aims and procedures of land consolidation. The costs and ways of financing

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the consolidation were also different. Procedures were usually developed under the influence of historical trends, culture, tradition and law in each of the country.

Authors' research let to formulate the following conclusions:

- 1) In Poland, the consolidation process took place under the influence of the Act from 1982 as amended. Land consolidation consisted in the subdivision of new plots with a shape different from the original ones. Land consolidation was aimed at reducing the number of small and fragmented plots constituting an agricultural holding as well as at increasing their average size. Consolidation projects also involved works in the scope of managing post-consolidation lands that particularly consisted in the construction of functional access roads to agricultural areas as well as the performance of tasks affecting the regulation of water relations on the area of consolidation.
- 2) The study has shown that the process of land consolidation was completed in only a few villages due to high costs and the need to

obtain consent from most farmers. In the process of land consolidation and exchange, we are only at the beginning of the project leading to regulate this problem. The size of consolidation works should be considered through the prism of the number of villages (42.8 thousand) or communes (40.3 thousand), which are appropriate areas to carry out land consolidation.

- 3) In the past, agrarian changes in our country consisted in adopting the land reform (1944), as a result of which large landed properties were parcelled out. What is more, Poland belonged to the group of South-Eastern European countries, which opposed to the process of establishing agricultural production cooperatives. Therefore, in Poland the process of land consolidation had a different character and socio-economic conditions compared to other countries which resulted in the fragmented agriculture and the establishment of a large number of agricultural parcels. In this process, the appropriate land expanse can be achieved through land consolidation and exchange.

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