

THE ANALYSIS OF THE IMPLEMENTATION OF THE LAND CONSOLIDATION PROJECT OF THE PARTS OF ALKSNĖNAI AND SŪDAVA CADASTRAL AREA

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Abstract

The land consolidation project of the parts of Vilkaviškis district municipality, Pilviškiai and Klausučiai elderates, Alksnėnai and Sūdava cadastral area is analysed in the article, the main indicators of the project, the meaning of land consolidation, the need to improve the order of the execution and implementation of these activities are described in the article. The survey was carried out to examine the opinion of the participants of the project regarding the advantages of the proceeding and results of the project as well as some of its drawbacks.

Keywords: Land consolidation, land parcel, agricultural land.

Introduction

One of the major tasks and aims of the European Union is sustainable rural and agricultural development (Backman, 2002), therefore in order to integrate into the economic system of the European Union and become an equal partner one of the priorities is to cultivate the competitiveness of farms (Aleknavičius, Augustienė, 2004).

When the independence of the Republic of Lithuania was restored, the collective farms (kolkhozes) were replaced by private ones, the land parcels which were expropriated during the occupation were returned to the citizens. A lot of small land parcels have appeared due to this; many owners have several land parcels in different locations and this becomes an obstacle in the development of the land market, the productivity of farms and competitiveness. Many post-communist countries face similar problems (Riddell, Rembold 2000; Hartvigsen, M. 2006). Small and non-competitive farms with the average size of 9,37 ha still prevail in our country, the size being too small in comparison to the farms of the European Union (Žemės ūkio..., 2016). The existing land management structure does not meet the needs of Lithuanian farming and its reorganization is necessary in order to be able to compete in the common market of the European Union.

Upon restoration of the property rights, the focus was drawn on the land restitution rather than formation of farms, therefore now one owner or tenant often farm in several small land parcels, having irregular shape and being apart from one another. It is uneconomic, uncomfortable and irrational to work in this way and it is problematic to use agricultural machinery to farm separate land parcels (Daugalienė, 2006). In order to ensure the conditions to the farmers to compete in the market of Lithuania and the European Union successfully, it is necessary to foresee new measures of the land restoration, which would re-shape small and scattered land parcels into rational land use suitable for more efficient farming (Daugalienė, 2006). In order to reach the aim, land consolidation is applied.

Land consolidation is a special process of land management, during which complex rearrangement of the boundaries of land parcels of the certain rural residence territory is performed by connecting them in order to form rationally managed agricultural holdings, to improve their structure, to create the necessary rural infrastructure and to implement other tasks and aims of agriculture, rural development and environmental policy (Žemės įstatymo..., 2004).

In 1987, a research was carried out by Soerensen in Denmark, the possibilities of the displacement and consolidation of land parcels and the main element in the process of land consolidation planning were examined, as appropriate land rearrangement is an important condition in the successful implementation of the consolidation project (Soerensen, 1987). It was proved that the three main factors influencing the success of consolidation projects are as follows:

1. Structure of local land parcels. This factor is important from the very beginning of the project because it partly leads to the potential of land parcel improvement. If land parcels are small, of irregular shape, the owners have more than one of them, then the potential of land parcel improvement is great, as well as the motivation of the owners of the land parcels to participate in the consolidation project is stronger rather than that of the owners of large land parcels of regular shape.
2. Existing land parcels. In the process of consolidation, free public land parcels can be used while consolidating private land parcels. Furthermore, land parcels can additionally increase if some owners

decide to sell their land parcels, particularly if they are the elder and do not plan to engage in any agricultural activity.

3. Possessed knowledge and skills. This is the third important factor because if the land owners have some knowledge about consolidation projects and successful experiences in applying the land consolidation in the neighbourhood, their motivation to participate in these projects increases. The success of consolidation projects also depends greatly on the knowledge of the people implementing the project, their personal skills, planning experience and sociability (Soerensen, 1987; Hartvigsen, 2014). There are different approaches to land consolidation projects being currently implemented in the Republic of Lithuania. Some authors consider this process as controversial and required to be improved (Pašakarnis, 2015, Katarsiekė, 2013), therefore the aim to carry out a survey of participants of the consolidation project and find out their opinion was raised during the research.

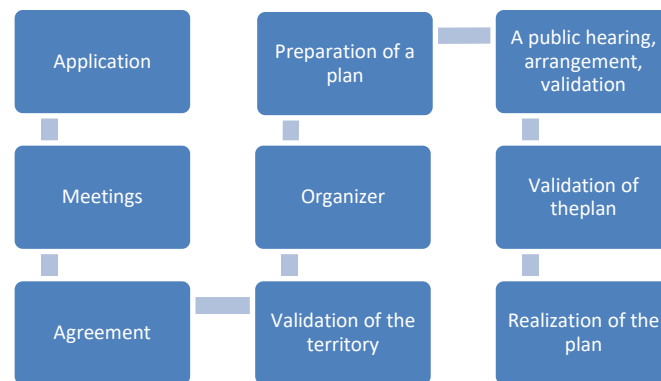


Fig. 1. Proceeding of land consolidation

The object of the work is the participants of the consolidation project and land parcels owned under their ownership.

The aim of the work is to analyse the land consolidation project of the parts of Alksnėnai and Sūdava cadastral area and to identify advantages and drawbacks of it; to carry out the analysis of the opinion of land owners regarding the applied consolidation.

The tasks of the work:

1. To analyse the proceeding, solutions and implementation of the project.
2. To carry out the survey of the participants of the project.
3. To form and present research conclusions and recommendations.

Methodology

When carrying out the research, the analysis of the land consolidation project (hereinafter – the Project) of the parts of Marijampolė district, Vilkaviškis district municipality, Pilviskiai and Klausučiai elderate, Alksnėnai and Sūdava cadastral area was performed. A detailed research of the changes of the land parcels before and after consolidation was performed by distinguishing out the advantages and drawbacks of the consolidation project.

In order to find out the opinion and approach of the participants of the project towards the project and its results, a survey-questionnaire to land owners was prepared in March 2015. 93 land owners, who participated in the Project, were interviewed. Questions related to the implementation of the Project were presented to the respondents.

Results and discussion

The basis to start organizing the consolidation project was 21 applications submitted to the State Enterprise “State Land Fund”, which indicated to start preparing the land consolidation project in the territory of 459,36 ha. The persons who submitted the applications to prepare the project requested:

- to form agricultural and forestry land parcels of rational size and form – 21 participants in the area of 443,03 ha;
- to consolidate land holdings and improve their adjacency – 4 participants in the area of 258.83 ha;
- to reduce the distance between land parcels in the land holding – 8 participants;
- to create the needed rural infrastructure – 6 participants;
- to establish land use restrictions regulated by law – 2 participants;

- to improve recreational, rural tourism and aesthetic resources of the territory – 2 participants. The plan of preliminary territory of the project is presented in Figure 2.



Fig. 2. Preliminary territory of the land consolidation project

Land parcels of the owners who have submitted the applications to participate in the project are marked in yellow, as well as other land parcels falling in the territory of the project selected according to the rules.

Since seized land parcels or land parcels which became the object of litigation could not be assigned to the territory of the project, the preliminary territory of the project is not continuous.

The territory of the project is located in the northern part of Vilkaviškis district municipality and cover Pilviškiai and Klausučiai elderates, Alksnėnai and Sūdava cadastral areas Smilgiai, Garsviniai, Mažučiai, Našiškiai, Alksnėnai, Starkai, Galiakiausiai, Čižiškiai, Mažieji Šelviai, Teiberiai, Augalai, Didieji Šelviai, Rementiškiai, Stimėnai villages and their parts, the area of the territory is 1404.9337 ha. The first meeting of the participants on 12 December 2015 is considered to be the beginning of the project. During the meeting it was stated that after the reorganization of the territory the average area of the land parcel would increase by about 3.74 ha. 279 land parcels were assigned to the territory of the project, 265 of them belonged to natural persons and their total area was 1387.8126 ha (98.78%), and one land parcel with the area of 2.69 ha (0.19%) belonged to legal persons by their ownership, as well as two land parcels with the area of 0.3819 ha (0.03%) owned by an agricultural cooperative. Eleven state land parcels were also included in the territory approved for the project preparation and they constituted only 14.0492 ha (1%) of the total area of the territory of the project. State lands were located through the entire territory of the project, the average area of the state land is 1.28 ha.

At the beginning of reorganization there were 269 land parcels in the territory of the Project, and after the reorganization of the Project territory there remained 26.77% less land parcels, i.e. 197. During the projection, land parcel boundaries were identified with the natural contours: trenches, existing ways, and new or proposed easements of ways were designed in the places where were not any, not infringing the interests of the owners and users of the adjacent land parcels.

The majority of land parcels assigned to the project territory were of irregular configuration, irrational size and form. The land parcels of one owner were scattered through the entire territory of the project, and this location of the land parcels interfered with efficient farming and achievement of optimal results in farming. The owners having one or several land parcels did not request to change the location of the land parcel, therefore only configuration of these land parcels has slightly changed, the boundaries of the land parcels were revised. Large farmers who participated in the project exchanged land parcels intensely and consolidated massifs of land parcels. The exchange of unequal land parcels by mutual

agreement between the participants of the project was carried out in the entire territory of the project, the boundaries of the land parcels were straightened and adjusted during the reorganization.

Two family farms participating in the land consolidation project had the greatest benefit. The members of one family owned 42 land parcels with the total area of 165.1979 ha before the reorganization of the project and this constituted 11.76% of the total area of the territory of the whole project. These land parcels were reformed into 13 land parcels of rational size and form.

The other family owned 45 land parcels in the territory of the Project with the total area of 165.1979 ha and this constituted 17.75% of the total area of the territory of the project. All land parcels were reorganized into 21 agricultural land massifs. The organizers of the project succeeded in finding the rational solutions regarding the land consolidation, one of them is that 8 land parcels were combined into 1 land parcel with the area of 21.9437 ha by mutual request of the owners (Fig. 3).

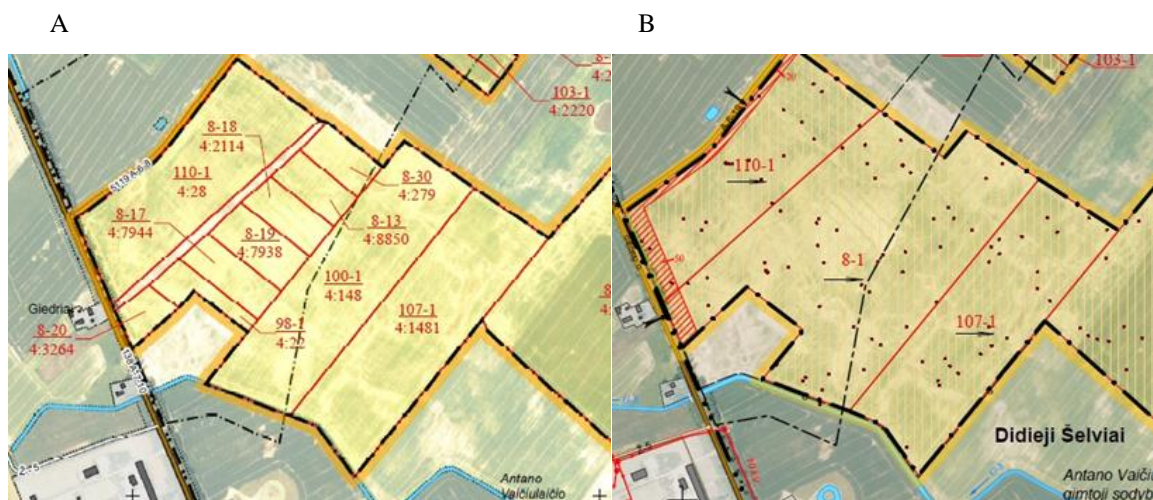


Fig. 3. Land parcel (A) before the projection (B) after the projection

After the reorganization of the territory of the project 193 land parcels designated for agricultural purposes were created. Three land parcels of other purpose as well as one aquacultural land parcel were also created. The total average area of all created land parcels after the reorganization of the project is 7.22 ha.

Even better results were not achieved due to local public roads which crossed 6 land parcels in the territory of the project during the projection. By the request of the owners, 3 land parcels were separated from the common partial ownership and 3 land parcels were divided into parts indicated by the owners of the land parcels.

Successful implementation of the planned reorganization of the territory was interfered by the fact that even 75 participants of the land consolidation project owning 72 land parcels with the area of 463.3732 ha wanted just to perform cadastral measurements during the consolidation project and this constituted only 30.7% of the entire territory.

In order to find out the opinion of the participants of the project about the proceeding of the project and its advantages 93 of 139 participants were interviewed; other participants were not willing answer the questions or there was no possibility to contact them.

The owners of the land parcels of the project territory are the elderly people. The majority falls into the age group from 40 to 75. It was identified that the average age is 59 years, the eldest participant is 86 years old and the youngest is 25 years old. Having analysed the results, it may be stated that the age of the participant has influence on the projection of the land parcels since 46 out of 75 project participants who were not willing to change the location or configuration of the land parcel, were older than 60 (Fig. 4).

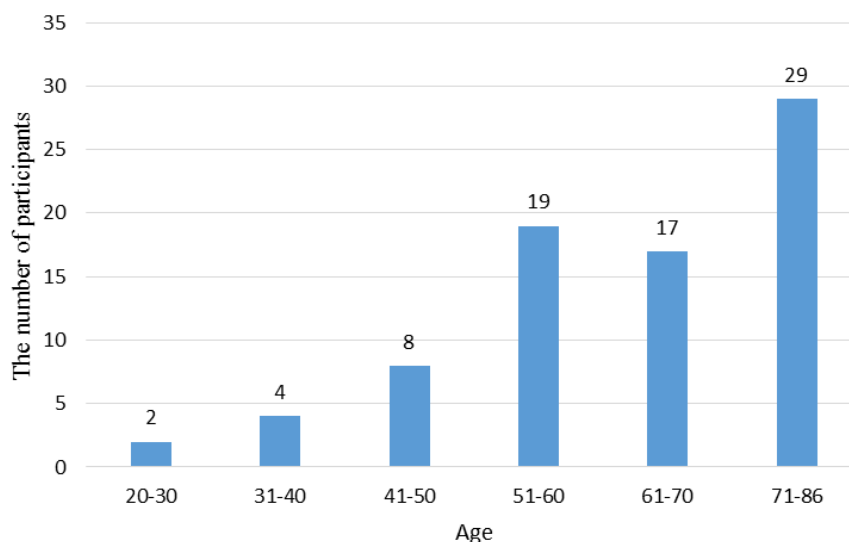


Fig. 4. Analysis of the age of the persons who were not willing to change the location of a land parcel

To the question if the land consolidation project satisfied their expectations, 75 participants answered 'yes', 10 participants answered 'partly' and 8 participants answered 'no' by reasoning that their requests were not fulfilled during the creation of the drawing of solutions and that the cadastral measurements were not performed qualitatively.

When carrying out the survey and asking what problems were faced during the preparation of the project, the participants mentioned two problems in most cases:

- the lack of information about the stage of the project;
- all wishes and requests were not taken into consideration during the creation of the drawing of solutions.

One of the aims of the land consolidation project is perceptible economic efficiency, therefore land owners were asked if they would have any economic benefits after the project implementation. All 93 respondents answered that they think they would. The farmers having the largest amount of land parcels reasoned that regarding the improved configuration of the land parcels and smaller distances between the land parcels, the rational level of the use of productive resources would allow increasing the income. Even the participants of the project having only the cadastral measurements performed to their land parcels think that they could have greater economic benefits while renting or selling their land parcel in the future.

To the question if they positively assessed the results of the project 75 (80.6% of all respondents) participants of the project answered 'yes'. 10 participants chose the answer 'partly' and 8 participants stated that they assessed the results of the project negatively.

The persons who assessed the results partly positively or negatively were asked to detail their answer and stated that their wishes and requests were not taken into consideration during the creation of the drawing of solutions, and they expressed their dissatisfaction with the organizers of the project regarding too complex formulation of informative papers. Dissatisfied with the results of the project were also the persons who were eliminated from the project not by their own choice. When one of the participants left the project after the projection of solutions when the land parcels were exchanged by mutual agreement, both land parcels were eliminated from the territory of the project.

To the question if they would recommend the other participants to take part in land consolidation projects, the answers of all respondents were similar. The majority think that these projects are beneficial only to large farmers or to the persons who have many land parcels. To the question if they would have participated in the project if they had been required to partly or completely contribute by their own funds, only several answered that 'probably yes' and the majority would not have participated in the project.

Conclusions

1. While implementing the land consolidation project, the number was decreased from 269 to 197 and this constituted 26.77%; the average land parcel size varied from 5.52 ha to 7.22 ha. It was hoped that

the average land parcel size would increase to 9.6 ha, however it failed to be implemented due to land owners who did not accept the proposed solutions of land reorganization and who wanted only cadastral measurements to be carried out.

2. More effective reorganization of the territory of the project was not achieved due to the following reasons: many participants of the project were not willing to change the location or configuration of the land parcel. Optimally designed solutions were not successfully realized due to the fact that the land owners left the land consolidation project regarding the documents not being submitted on time, the deaths or by their own choice.

3. The survey showed that the participants of the project are highly dissatisfied with the organizers of the project as not all of their expectations were fulfilled, however they think that the project will bring the financial benefit regarding the improved configuration of the land, diminished distance between the agricultural land parcels and performed cadastral measurements.

4. Taking the research results into consideration, it is proposed to make some changes in laws so that they would precisely regulate the actions which are performed when the shortage of the area is set by cadastral measurements and if the area of the land parcel exceeds the maximum permissible error.

5. Furthermore, it is suggested regulating that the land owners who participate in the project with one or several land parcels and do not agree with the correction of the land boundaries would cover 10% of the project outgoings by their own funds preserving the same area of the land parcel if it is necessary to the rational projection of the boundaries of other land parcels.

References

1. Aleknavičius A., Augustienė J. (2004). Žemės konsolidacija – konkurencingų ūkių formavimo būtinybė. *Žemės ūkio mokslai*. Volume 4., p. 114-119.
2. Backman M. (2002). Rural development by Land consolidation in Sweden. *Paper, FIG XXII International Congress*, April 19 – 26, 2002.
3. Daugalienė V. (2006). Žemės konsolidacija: poreikis, nauda ir galimybės [interactive]. [seen 16-11-2015]. Internet site: < http://www.manoukis.lt/print_forms/print_st_z.php?s=960&z=45>
4. Hartvigsen M. (2006). Land Consolidation in Central and Eastern European Countries. *Shaping the Change, XXIII FIG Congress*, Munich, Germany, October 8-13, 2006
5. Hartvigsen, M. (2014). Land Mobility in a Central and Eastern European Land Consolidation Context. *Nordic Journal of Surveying and Real Estate Research*, Volume 10, Number 1, 2014, p. 23–46
6. Katarskienė A. (2013). Žemės konsolidavimo projektų rengimo tvarką reikia tobulinti. *Žemėtvarka ir hidrotechnika*, Volume 2, p. 54-60.
7. Pašakarnis G. (2015). Ko verta Lietuvoje vykstanti žemės konsolidacija? *Žemėtvarka ir hidrotechnika*. Volume 4, p. 54-60.
8. Riddell J., Rembold F. (2000). Social and economic impact of land fragmentation on rural society in selected EU accession countries. [seen 20-06-2016]. Internet site: <<https://www.researchgate.net/file.PostFileLoader.html?id=54945b3bcf57d75c058b461b&assetKey=AS%3A273655244754944%401442255902398>>
9. Soerensen E. M. (1987). Lokal Landbrugsplanlægning – en undersøgelse af dansk jordfordelingspraksis 1979–84 og om forandring af landbrug og landskab. *Aalborg Universitetsforlag. Serie om offentlig planlægning Nr. 21*.
10. Žemės įstatymo pakeitimo įstatymas. 2004 m. sausio 27 d. Nr. IX-1983 [interactive]. [seen 15-11-2015]. Internet site:< <https://www.e-tar.lt/portal/lt/legalAct/TAR.7ED447C0D254>>
11. Žemės ūkio informacijos ir kaimo verslo centras. 2016 [seen 02-03-2016]. Internet site: < <https://www.vic.lt/?mid=213>>

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