

SWOT ANALYSIS OF LAND CONSOLIDATION PROJECTS IN WESTERN LITHUANIA

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Abstract

The aim of this article is to distinguish strengths and weaknesses of land consolidation process, as well as to find out the opportunities of this process, and the threats which prevent the successful development of land consolidation process.

With the purpose to achieve the goal, the SWOT analysis of five land consolidation projects in Western Lithuania was carried out. It was determined that the main weaknesses of the projects examined are as follows: land consolidation process involves only planning, and not the final clearing-up work of a territory; low activity of landowners; limited opportunities of some interested persons, who wish to participate in the process. Strengths are distinguished as follows: better conditions for the development of rural infrastructure; competitive agricultures are being formed; new jobs; a system of rational land use is being created; sustainable development is being planned. The majority of opportunities are linked with the influence of land consolidation project on other areas, i.e. areas that are not directly related to the result that land consolidation project aims at. Threats occur due to the fact that the authors of projects only copy the regulating provisions of land consolidation projects and do not get into a more comprehensive interpretation of norms of these provisions. Moreover, they do not give details on their analysis, interpretation, or at least their preliminary assessment. In a SWOT context, land consolidation projects prepared in Western Lithuania, are analogous to other land consolidation projects carried out in Lithuania.

Key words – land consolidation, SWOT.

Introduction

Scientific resources describe land consolidation as an instrument which ensures the development of rural areas and increases the efficiency of land use (Sklenicka, 2006). Land consolidation is important in the fight against erosion of rural landscape (Mihara, 1996), in the rationalisation of urban development (Gonzales et al., 2004), and in solving various social and economic development problems of rural areas (Sklenicka, 2006).

In many European countries, land consolidation has been carried out for a long time. Western European countries are counted for almost 200 years of experience, and there is no need to prove the benefits of land consolidation any more. The experience of old European countries has shown that every land consolidation project is closely linked to the rural development and usually combines the following key aspects: reduces land fragmentation, improves their form and location in the area, expands the size of the area itself, improves protection of the environment, development of infrastructure, and appeasement of public interests. However, land consolidation projects in Western European countries were in progress for different reasons (Vitikainen, 2004), using different techniques, thus, different results were achieved.

The conveyance of experience acquired in Western countries to Eastern and Central European countries is not that simple, and sometimes even impossible (Van Dijk, 2007).

Land consolidation issues in Eastern and Central European countries cause more problems, because they are affected not only by naturally occurring land use changes and changing land ownership forms. The most important problem identified is ideological processes (collectivization, development of planned agriculture, etc.) (Roose et al., 2013; DiFalco et al., 2010; Sklenicka, 2006; Sklenicka et al., 2014; Lisec et al., 2014). In the beginning of the reconstruction of Eastern and Central European countries, the entire existing legal framework had to be changed, and land consolidation regulation had to be introduced in the first place.

Land consolidation is beneficial not only to farmers, but also to sustainable development of rural regions. Lithuania is an agricultural region, in which long-standing agricultural traditions have been long valued and cherished. In addition to social problems (unemployment, migration, education, and a lack of necessary skills), there are many other phenomena hindering the competitive ability and efficient agricultural formation of rural regions. First of all, it is an inappropriate landholding structure, prevailing small, scattered and badly structured farms, unsuitable infrastructure for agriculture.

The restitution of land ownership that started after the Restoration of Independence, has led to the problems of land fragmentation. The average size (12 ha) of farms restored in the restitution process, is below the average of the size of the farm of pre-war in 1939 (Pasakarnis and Maliene, 2010).

However, the problems were addressed only in around 2000, and the first legal steps were taken only in 2004 when the Seimas of the Republic of Lithuania adopted amendments to the Law on Land.

The first land consolidation projects in Lithuania were launched in accordance with a Danish - Lithuanian pilot bilateral project in Dotnuva (Kedainiai district) in the period from 2000 to 2002. In 2005, based on this experience, Lithuania launched a national land consolidation programme, during which 14 land consolidation projects, financed by the European Union Structural Funds were carried out since 2006.

After 2010, land consolidation preparation procedures, which even to this day cause a number of problems, were significantly changed. The reformed laws of the period from 2010 to 2013 contain a lot of changes, however, a number of problems still exist (Gulevičienė, 2006). The experience of already drafted projects has a significant influence, however, miscommunication and hostility between professionals and people, cause a number of problems.

It is important to consider not only the theoretical model of land consolidation project implementation, but also the main aspects related to the practical implementation of these projects, which on the one hand pose difficulties to persons drafting and implementing projects, and on the other hand, may be considered to be the positive elements of such projects.

The aim of the work is to carry out the strengths, weaknesses, opportunities and threats (SWOT) analysis of selected land consolidation project training in Western Lithuania.

Methodology of research

The implementation of land consolidation projects is a complex instrument, and in order it to be implemented, it is necessary to evaluate a number of important elements, such as: legal regulation, infrastructure development and its development plans, many of the environmental, cultural, and landscape protection elements, and thus it is necessary to achieve that the practicable project will meet the aim of land consolidation project, i.e. plots of land will be consolidated in a way to satisfy interests of land owners (mostly farmers). Such land consolidation should increase the productivity of landed property, improve the quality of farming, and make these processes more efficient, requiring low cost, but at the same time providing more benefits.

The strengths, weaknesses, opportunities and threats (hereinafter SWOT) analysis of five land consolidation projects in Western Lithuania was carried out. The aim of the analysis was to distinguish strengths and weaknesses of land consolidation process, as well as to find out the opportunities of this process, and the threats which prevent the successful development of land consolidation process. The analysis was carried out in accordance with the classical SWOT analysis model, which distinguished the criteria mentioned above (i.e. strengths, weaknesses, opportunities, and threats). However, it is done depending on specifics of a particular project and if necessary, highlighting and emphasizing such project elements, which, although not fully correspond to the classical SWOT analysis model (i.e. presumably, “misfits” to those four mentioned criteria), however, are still important in regard to the particular project and must be at least briefly discussed in this work. Several specific land consolidation projects carried out/being carried out in different regions of Western Lithuania were selected. This is done in order for the analysis to reflect the results in the most comprehensive and widest scale way and would let to have a maximum objective overview of how particularly land consolidation projects are carried out in Lithuania.

Considering each of the selected projects, it was analysed how these projects would presumably affect the rationality of plots of land in the project's area, as well as how the implementation of particular projects will affect elements (environment protection, cultural heritage, infrastructure, and other objects) associated with the project's area. Also, it was analysed what kind of changes of legislation of land consolidation projects there could be in order for the implementation of the process of land consolidation projects in Lithuania to be smoother and more efficient.

Five land consolidation projects analysed in this work are as follow:

- The first project – land consolidation project in Upyna and Luokė subdistricts. This is the land consolidation project of Telsiai County, Telsiai district municipality, Upyna and Luoke subdistricts, Kaunatava, Dirovenai and Upyna cadastral areas, villages (and their parts) of Kaunatava, Padvarninkai, Mantvydas, Degučiai, Verteliai, Pakalniskiai, Dirovenai, Užvedare, Naujikai, Zalione, Paskuvenai, Petrikai, and Tetervine.
- The second project – land consolidation project in Saukotas subdistrict. This is the land consolidation project of Sauliai County, Radviliskis district municipality, Saukotas subdistrict, Saukotas cadastral area.

- The third project – land consolidation project in Sidabravas subdistrict. This is the land consolidation project of Sauliai County, Radviliskis district municipality, Sidabravas subdistrict, Vadaktai cadastral area.
- The fourth project – land consolidation project in Skuodas and Mosedis subdistricts. This is the land consolidation project of Klaipeda County, Skuodas district municipality, Skuodas and Mosedis subdistricts, cadastral areas of Lukniai, Dauksiai and Mosedis, villages (and their parts) of Puodkaliai, Kernai, Kulai I, Kulai II, Kubiliskis, Skuodas suburb, Dauksiai, and Virbalai.
- The fifth project – land consolidation project in Zemaičių Kalvarija subdistrict. This is the land consolidation project of Telsiai County, Plunge district municipality, Zemaiciu Kalvarija district, Zemaiciu Kalvarija cadastral areas, villages (and their parts) of Rotinenai, Kubakiai, Bertuliai, Degučiai, Galvyčiai, Zemaiciu Kalvarija.

Key data of projects are presented in Table 1.

Table 1

Land consolidation projects

Data	Projects			
	Upyna and Luoke subdistricts	Sidabravas subdistrict	Skuodas and Mosedis subdistrict	Saukotas subdistrict
Total area of the project (ha)	1698.75	1815.67	985,36	1414.04
The number of participants in the project (pcs)	116	145	227	136
The average size of the plots (ha)	5.23	5.35	5.00	4.25
Plots of land ascribable to the project's area (pcs)	325	337	432	333
Area of agricultural land (ha)	1344.26	1572.27	922.20	1367.69
Land of other purposes (ha)	8.86	5.71	17.75	42.08
Plot of land of forestry (ha)	345.64	237.69	35.97	4.04
<i>The average score of agricultural land productivity</i>	38.10	47.20	43.50	40.80
Preliminary measurements performed (pcs)	292	288	356	234
Cadastral measurement performed (pcs)	33	49	76	99

Results and discussion of the analysis

After analysing five general characteristics (a number of participants in the project, plots of land ascribable to the project's area, total area of the project, the average size of land after land consolidation projects, and so on) of already examined land consolidation projects in Western Lithuania, the textual part of the projects was consistently explored and the SWOT analysis of these projects was prepared.

Table 2

SWOT analysis of land consolidation projects held/being held in Western Lithuania

Project	Project strengths	Project weaknesses	Project opportunities	Project threats
Land consolidation project of Upyna and Luoke subdistricts	In respect of all areas possibly affecting the project, the impact will be either neutral, or long-term positive.	No assessment about how the preparation and implementation of the project will affect areas indicated in the project regarding the planned tourism	The properly planned construction of power lines and the land consolidation may allow achieving the lowest costs for both processes and the most effective use of the created infrastructure.	In absence of a detailed discussion of the project with interested persons, the implementation of the project (even after completing the process) may be challenged on procedural grounds that the principle of information of interested parties was not followed.

Project	Project strengths	Project weaknesses	Project opportunities	Project threats
		development of Telsiai region in long term.		The failure to comprehensively assess the project impact on the infrastructure related to the power system and telecommunications imposes the risk of the suspension of the project implementation due the negative effect.
Land consolidation on project of Saukotas subdistrict	A comprehensive assessment of the possible impact on all areas indicated in the project.	After the implementation of the land consolidation project, the number of road easements will increase almost five times, therefore it is necessary to reconsider the need of these easements.	The properly planned construction of power lines and the land consolidation may allow achieving the lowest costs for both processes and the most effective use of the created infrastructure.	The failure to coordinate the construction of power lines with the land consolidation project imposes the threat of negative consequences to the interested parties.
Land consolidation on project of Sidabravas subdistrict	No plans to create energy or telecommunication infrastructure objects in the project area, no plans of urbanization process, no cultural heritage or environmental objects, therefore successful implementation of the project can be expected.	Large area (1815,7 ha) potentially influenced the performance of work, boundaries of the area were changed five times.	It was evaluated and discussed how the implementation of the project will affect the area, i. e. how the land consolidation will potentially affect the priority areas of crop production and sustainable farming.	A part of the project area (Sulneliai, Kaspariskiai) falls into the local geosystem internal stabilization habitats and local migration corridors at river valleys (from Sulneliai through Rudeliai village).
Land consolidation on project of Skuodas and Mosedis subdistricts	In the project area it is planned to create only a very localized infrastructure, it is likely that the infrastructure will not adversely affect the land consolidation process and will allow to smoothly implement the project.	There are mounds in the area, which causes difficulty to rationally design land plots near them. Public roads under cadastral regulations divide land plots into separate areas.	No natural heritage objects – possibly will not affect design work and farming efficiency.	Natural frame areas occupy one third of the designed area (geo-ecological divide, geosystem internal stabilization habitats and axles, migratory corridors), and only individual farms are possible in such areas, cases of agricultural conversion are possible only for individual homesteads but not for quarters.

Project	Project strengths	Project weaknesses	Project opportunities	Project threats
	A relatively small number of newly emerging farmsteads will ensure a more efficient asset management and will not cause a negative impact on the project area. In the project area there are no territories reserved for public needs, which reduces the risk of unsuccessful implementation of the project.			
Land consolidation project of Zemaiciu Kalvarija subdistrict	The majority of persons (86.5%) involved in the project live in Plunge district municipality, therefore effective meeting can be arranged. Because of the terrain the area is favourable for farming.	A number of specific conditions for the use of land and forest occurred during the implementation of the project, which is likely to affect sustainable farming.	Main persons involved in the project – large farmers – will create better conditions to achieve the goals set.	A part of the designed area fall into the buffer zone, which is likely to affect farming. In Plunge district the system of protected areas (reserves, nature reserves, national parks) occupies 24.3% and more than twice exceeds the average rate of Lithuania, which is likely to affect farming.

Considering the first land consolidation project in Upyna and Luoke subdistricts, it is reasonable to distinguish its positive aspects, which in comparison with others are an advantage to this project and can be viewed as a positive practice. While describing the project's impact on various areas, authors of the project indicated that in principle it will be positive: for the territory development coherence and (or) the planned field of activities; for economic, social and natural environment, landscape and immovable cultural values. However, summing up the evaluation results of the project in SWOT context, it could be stated that it is also reasonable to evaluate the project in the following aspects:

- To assess the rationality of land plots after the implementation of the project, i. e. how farming efficiency will change after the consolidation of land plots.
- To determine whether preparation and execution of the project (in absence of a detailed discussion of the project with interested persons) could be challenged on procedural grounds (i. e. due to the absence of the public consideration of the draft project).
- To analyse whether the planned impact on areas indicated in Telsiai land consolidation project will be positive in all cases (with particular reference to the tourism development in Telsiai region in the long run).
- To fully assess whether the implementation of the project will actually not affect the infrastructure relating to the energy system and telecommunications in the project area. In absence of a more detailed analysis, there is the risk that the disruption of this infrastructure may violate the interests of not only controlling entities or land owners but also of residents of other territories.

Considering the evaluation results of the second land consolidation project in Saukotas subdistrict, it can be stated that some of the statements assessing the impact of solutions are not fully grounded. For instance, the project indicates that:

- “Agricultural activities are being developed in the territory, therefore the implementation of solutions in the planned territory will not cause inconvenience to the residents of the surrounding areas”. In this case, it is uncertain how the agricultural development process is directly related to potential inconveniences to the residents of the surrounding areas.
- “The solutions will have a positive impact on the current ambient air pollution level which will not exceed the permissible limit values for the living environment. The land amalgamation will make the land work more convenient”. It is incomprehensible how air pollution level is directly related to the possibility “to make the land work more convenient”.

The project also stipulates that thirty five road easements were registered prior to the rearrangement of the project area and another six new road easements were designed. It is believed that in the land consolidation projects it is necessary to seek for the relevant constraints (such as easements) to be determined as few as possible.

It can be stated that the third land consolidation project in Sidabravas subdistrict poses the least problems concerning potential threats for its implementation as in the planned area of the land consolidation project in Sidabravas subdistrict the landed property productivity rate is high enough, the area does not contain any cultural heritage or environmental objects, there are no plans to develop the telecommunications and energy infrastructures.

The fourth project in Skuodas and Mosedis subdistricts is assessed as the most comprehensively prepared project out of all projects under investigation. Such conclusion is drawn not only due to the completeness and rather detailed assessment of individual segments discussed in the project, but also due to the fact that it covers the segments which are not taken into account in other projects. For instance, the land consolidation project in Skuodas and Mosedis subdistricts provides a detailed consideration of the composition of the natural frame – geo-ecological divide, internal stabilization habitats and axes of geosystems, migratory corridors, etc., the assessment of the project's impact on these constituents.

The analysis of the fourth land consolidation project in Zemaiciu Kalvarija subdistrict revealed that it does not cover the change in the farming productivity after the implementation of this land consolidation project. Taking into account the fact that such projects mainly aim at amalgamating land plots and thus making farming more efficient, the absence of a more detailed assessment is to be corrected. However, the land consolidation project in Zemaiciu Kalvarija subdistrict is also viewed as positive since it contains a rather detailed explication of the data, the consideration of the land consolidation impact and the features of individual segments of the project area. This project, along with the Skuodas and Mosedis land consolidation project, is considered to be exemplary and should be regarded when preparing other land consolidation projects.

The results of the analysis of the land consolidation projects in Western Lithuania can be compared with basic SWOT analysis parameters established in other land consolidation projects carried out in Lithuania (Gilvickienė, 2009). Gilvickienė (2009) has indicated the following weaknesses of the land consolidation projects:

- The land consolidation process must include the final clean-up work. If roads are only designed but not installed, the formed situation will be demolished, the expectations of landowners will not be met.
- Low activeness of landowners. Complex preparation and implementation procedures for land consolidation projects.
- Land consolidation projects must provide funding for infrastructure development, environmental protection and other measures.
- The lack of public information system about the land consolidation process.
- Land consolidation projects may be initiated by landowners, public land trustees and county governor. This limits the opportunity for other persons who are not entitled to initiate, however, are interested in the land consolidation project (local action group, Forest Management, Protected Area Management, etc.) to participate in the land consolidation processes.

These weaknesses (although in a slightly different form) are also relevant in land consolidation projects carried out in Western Lithuania. For instance, the analysis of both Uplyna and Luoke land consolidation project and Saukotas land consolidation project revealed that many aspects relating to the installation and development of infrastructure were not assessed, the awareness of interested

persons about the preparation and the implementation process of the project was not systematically held.

It can be stated that projects under investigation (as the overall land consolidation process in Lithuania) lack systematicity, consideration of the infrastructure development plans and their possible impact on the land consolidation. It is the aspect which is the most important in the event of land consolidation projects as it is related not only to the interests of landowners, but also to the fact that entities under the authority of the state are required to ensure the smooth development of such infrastructure (in order to meet the consumers' needs of energy and telecommunications). In this regard, it is appropriate to involve persons related to the relevant infrastructure (the construction of roads, telecommunications and communications facilities, energy equipment) in preparation and implementation process of the land consolidation project, to assess their plans in the field. This would ensure a more successful implementation of land consolidation projects not only at the time of their development and implementation but also in the future, as such compatibility with the infrastructure development plans, on the one hand, would meet the needs of landowners (to produce the electricity, telecommunications, communication, etc.), on the other hand, would allow to avoid future disputes on the incompatibility of the project with the infrastructure development plans.

After the assessment of general weaknesses of land consolidation projects, positive aspects of such projects were also reviewed. V. Gilvickienė (2009) presents the following strengths of land consolidation projects held in Lithuania:

- The implementation of pilot projects for land consolidation lead to the development of the legal framework of land consolidation.
- The increase of productivity, efficiency and competitiveness in the agricultural sector.
- Formation of rational land use, its structural improvements.
- Creating conditions for the development of rural infrastructure.
- Goals and objectives of environmental policy are implemented during the consolidation process.
- Formation of competitive farms capable of competing with EU farms.
- Creation of new jobs as the result of the formation of competitive farms.
- Sustainable development of Lithuanian rural regions.

Taking into account these observations, it appears that the analysed Western Lithuanian projects meet the strengths of land consolidation projects indicated by V. Gilvickienė not only in the sense of achieving the aim (i. e. not only in respect of the result, which is sought while implementing land consolidation projects) but also in respect of the process itself.

In other words, the specified strengths are identified in respect of the result (i. e. what is the benefit of land consolidation projects for their implementation), while the present paper discusses the benefits and the positive aspects, which become apparent prior to the implementation of a land consolidation project (i. e. what benefit is gain already during the project preparation).

Attention should be drawn to the fact that in respect of the analyzed projects (as opposed to the general characteristics of land consolidation projects) it was not identified that the legal framework for land consolidation was developed. In this case the analysed land consolidation projects in Western Lithuania are considered as not contributing to the basis of the legal framework since all of them basically follow the same regulation (which is usually copy-pasted to the relevant parts of the project) without a more detailed assessment of legal provisions and possible reading and interpretation of such provisions. Although project developers should not be viewed as specialists interpreting relevant legal provisions, however, their professional attitude (in each case of formation of a relevant land consolidation project) and possible recommendations on legal regulation in projects could contribute to the improvement of the legal framework. It is believed that such a position is based on the fact that the legal regulation of land consolidation projects has been developed on abstract grounds (i. e. the main applicable pattern has been created, which should suit for all consolidation projects). However, many regulatory shortcomings and advantages become apparent at the time of specific land consolidation projects and in such cases it is appropriate to make recommendations on the improvement of legal regulation.

The interpretation of legal provisions presented by project authors (not necessarily applying to the implementation of a specific land consolidation project) could contribute to the adequate interpretation of legal rules governing land consolidation projects and the improvement of legal regulation. Without any analysis and assessment of this kind in the project documentation (even a brief review distinguishing main features), legislative bodies, on the one hand, may be unaware of relevant drawbacks of legal regulation, on the other hand, may not be interested in changing the existing

regulation since without drawbacks expressed in projects legislative bodies may argue that the regulation is appropriate and there is no need to change it.

In this regard it is advisable for authors of land consolidation projects while preparing relevant projects to not only automatically transfer (i. e. *copy-paste*) references to legal provisions governing land consolidation projects and specific provisions but also to provide a brief assessment of such provisions and their impact on a specific land consolidation project. As mentioned before, this could contribute to the improvement of the legal framework regulating land consolidation projects and certainly to its advanced application.

Another SWOT segment under investigation was opportunities of land consolidation projects. The most relevant opportunities of land consolidation projects in Lithuania are the following (Gilvickienė, 2009):

- The European Union provides funding and allows the development of land consolidation process in Lithuania.
- Possibility to clean up the abandoned, unused, however, fertile land.
- Possibility to diversify economic activity.
- Possibility to rearrange small, scattered land plots into rational land suitable for effective use.
- Afforestation of inefficient land plots, park planting.
- Creation of new jobs.

Most of the listed opportunities are mainly concerned with the influence of land consolidation projects on other areas directly unrelated to the intended outcome (to amalgamate land plots and thereby increase the agricultural efficiency and productivity in the project territory) of land consolidation projects (such as the creation of new jobs, improvement of landscape, preservation of natural and cultural heritage).

The analysis of land consolidation projects in Western Lithuania leads to the similar conclusion since almost all land consolidation projects under investigation include at least a brief assessment and impact of these projects on the aforementioned areas. It is mostly noticeable in solutions impact assessment, which specified how the implementation of land consolidation projects will contribute to areas directly unrelated to the amalgamation of land plots. Thus, in this respect, the analysed land consolidation projects in Western Lithuania are regarded as complying with general trends of such projects.

Threats of land consolidation projects in Lithuania are the following (Gilvickienė, 2009):

- There are no safeguards protecting consolidated land plots against the reverse process – splitting.
- Notwithstanding the ecological, cultural aspects but only seeking to increase agricultural production, the threat is imposed to the preservation of biodiversity, soil erosion, landscape changes.
- If land consolidation projects do not provided sources of funding for infrastructure development and environmental protection in advance, land consolidation solutions will not be fully implemented.
- The imperfection of legislation governing land consolidation process may have a negative impact on further development of land consolidation process in Lithuania.
- Low activeness and sceptical attitude of landowners to this process.

As previously stated, one of the drawbacks revealed during the analysis is the fact that authors of land consolidation projects basically only copy-paste legal provisions governing land consolidation projects but fail to get into a more detailed interpretation of such legislation, avoid to provide a more detailed analysis, interpretation and at least a preliminary assessment of these provisions. It can also be viewed as a threat of such projects in SWOT context since in absence of a more detailed interpretation of legislation, its proper reading and application is threatened, which may lead to disputes on the implementation of the project in the future as well as the violation of interests of relevant persons involved in the implementation process. The results of the completed analysis show that one of the threats is a passive participation of persons possibly interested in the relevant land consolidation project (i. e. the avoidance to make observations, written comments, to discuss individual elements of the project, etc.). This constitutes one of the most serious threats of such projects because if these individuals later made their comments and tried to challenge the specific land consolidation project, their rights possibly would not be defended as these persons failed to make any comments about their interests and possible infringement of their rights during the project coordination phase. Taking it into account, it is advisable for residents of related areas (or persons otherwise relating to the land

consolidation project) to always actively and promptly make comments on the project, its individual elements, the project implementation process as well as other project-related aspects. This would allow eliminating the risk of possibly unsuccessful project implementation process (to avoid the risk of challenging the project).

To sum up, the land consolidation projects held in Western Lithuania and discussed in the present paper in SWOT context are basically analogous to other land consolidation projects in Lithuania. The analysis of individual projects revealed that the developed projects lack the systemic approach and assessment, i. e. lack the analysis of individual project area-related aspects and the interface identification of the results. Only the land consolidation project in Skuodas and Mosedis subdistricts can be distinguished as presenting a rather detailed assessment of many aspects (providing not only the impact analysis on individual segments but also the overall context of such an impact).

Conclusions and recommendations

1. After the analysis of five land consolidation projects in Western Lithuania, it was determined that projects lack systemic approach and assessment, i. e. lack the analysis of individual project area-related aspects and the interface identification of the results. The projects also fail to evaluate how their implementation will affect not only the farming productivity but also the nature of the land-related infrastructure, landscape and other elements in the future.
2. The SWOT analysis of land consolidation projects held in Western Lithuania lead to the conclusion that these projects are basically analogous to other land consolidation projects in Lithuania. The main weaknesses are the following: the land consolidation process includes only the design work but not the final clean-up work of the area; low activeness of landowners; limited opportunities of some interested persons willing to take part in the process. The following strengths have been distinguished: better conditions for the development of rural infrastructure; formation of competitive farms; creation of new jobs; development of the rational land use system; planned sustainable development. Most of the opportunities are related to the impact of land consolidation projects on other areas directly unrelated to the intended outcome of the land consolidation project. Threats arise from the fact that authors of land consolidation projects basically only copy-paste legal provisions governing land consolidation projects but fail to get into a more detailed interpretation of such legislation, avoid to provide a more detailed analysis, interpretation and at least a preliminary assessment of these provisions.
3. It is recommended in the land consolidation project documentation to indicate what will be the change in the farming efficiency after the implementation of the land consolidation project and how it will be implemented at the end of the project.
4. It is advisable for authors of land consolidation projects while preparing relevant projects not to automatically transfer references to legal provisions governing land consolidation projects and specific provisions but rather to provide a brief assessment of such provisions and their impact on a specific land consolidation project. This could contribute to the improvement of the legal framework regulating land consolidation projects and its targeted application.

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