# PROBLEMS OF RURAL AREAS MANAGEMENT IN LITHUANIA

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#### Abstract

The article analyses the changes of agricultural production development and the demand of rural planning in the post-reform period. The main aim of the research is to identify the problems of land use and the formation of farms as the territorial-production structures in Lithuania as well as to analyse the possibilities of finding solutions to them. Tendencies of the decrease of the number of rural residents and farms were determined, the regulation of which is possible by improving working and living conditions in rural areas by means of public support measures. In order to form land holdings of rational farms, to coordinate the residential construction, farmlands and the local road network, to preserve efficient agricultural land, it is suggested preparing the documents of land management planning. The implementation of these documents is associated with the regulation of the land use provided for by legislation, formation of cultural landscape, as well as with the EU and public support for the development of production of viable farms and environmental protection. It is recommended to supplement the rules of the preparation of documents of land management planning with methodological requirements for the arrangement of land parcels and for their conversion into other agricultural areas.

**Keywords:** rural residential area, cultural landscape, lands, land holding of farm, documents of land management planning.

#### Introduction

After the Restoration of an Independent State of Lithuania in 1990, the reorganisation (return of private land, reorganisation of large agricultural companies, etc.) which started at that time had a great impact particularly on the territories used for agricultural activities. The management of these territories is associated with the development of farms which can function according to the conditions of market economy. However, due to various reasons the transition into the new structure of farms was not successful, as favourable conditions for efficient farming do not prevail everywhere. The main factor which is considered to halt the development of the sector of competitive agriculture is fragmented structure of farms, which is characterised by small farms and fragmented one-farm land parcels, as well as the lack of co-operation and the ageing of farmers (Nacionaline..., 2016). In order to support agriculture until accession to the European Union (hereinafter referred to as the EU), Lithuania was given support according to the Special Accession Programme for Agriculture and Rural Development (SAPARD). Later on, when Lithuania became a member of the EU, the opportunity to use the EU funds from the European Agricultural Guarantee Fund (EAGF) was created. The given funds were used purposefully according to the set priority directions. The majority of funds was designated for the funding of measures related to the competitiveness of agricultural products and forestry sectors, environmental protection and the preservation of biodiversity. The activity fulfilling these directions is also supported respectively during the funding period from 2014 to 2020. The EU Common Agricultural Policy provides the support according to the national programmes, which set out the following priorities for the strengthening of farm economy and management of rural areas: "to increase the viability and competitiveness of agriculture of all types...; to restore, preserve and improve ecosystems related to agriculture and forestry; to promote the efficient use of resources and support the transition to climateresilient low-carbon economy of technologies in agricultural, food and forestry sectors..." (Zemes ..., 2016).

Scholars who analyse problems of agricultural development and territorial land management stress out the positive influence of the EU and public financial support on the strengthening of farm economy and environmental protection. It is stated that direct payments constitute the greatest support to farms, though a greater flexibility is needed for their criteria of distribution (Jurkenaite, 2011). It is important to analyse the factors which have an influence on the economic viability of farms (currently it is mainly funded with public support), which is suitable for the use of land designated for agricultural purposes (Savickiene et al., 2012). Research conclusions suggest improving the spatial planning in the territories of municipalities indicating that these activities would create opportunities to improve the protection of biodiversity, also suggest ensuring the stability of landscape, applying the principles of sustainable development (Arimaviciute, 2011). The measures of the rural development programme to the multifunctional agricultural development, improvement of infrastructure, promotion of activities of communities and other measures can improve the image of rural areas, make them attractive to live in,

work and invest into (Atkociuniene et al., 2011). Furthermore, when it was found out that this farming method is relatively more effective in livestock farms, the policy of agriculture support was suggested to improve the attractiveness of livestock farming (Balezentis et al., 2014). It is noted that the equalisation of competitive conditions to all countries of the EU in the field of agriculture would allow to restore the previous livestock farming potential as well as to improve the farming culture, and the agrarian landscape in Lithuania (Pranckietis et al., 2010). However, some researches focus on the search of criteria of development of forest areas and other ecologically important areas rather than the investigation of possibilities to apply agrarian theories to intensive agricultural activities, or the analysis of problems of preservation and improvement of agricultural land. It is particularly relevant to the regions of infertile land. It is stated that in the most unproductive lands where the number of rural residents decreases rapidly, the traditional agricultural activity is not promising (Ribokas, 2013). It is recommended to prepare the documents of territory planning with regard to landscape reorganisation, in order to achieve such proportion of areas of lands so that natural lands would relatively constitute 60% of the territory of Lithuania, and anthropogenised land would constitute 40% (Kavaliauskas, 2014), even though this would reduce intensively used areas of arable land to a greater extent.

The majority of legislative requirements and scientific recommendations to the rational use of land designated for agricultural purposes can be introduced by preparing the rural development projects of land management to reorganise the land holdings of a farm (Aleknavicius et al., 2016). In order to set the most important tasks and conditions of the planning, a more detailed analysis of the problems to be solved is necessary.

The aim of the research is to set the problems of the formation of the territorial-production structures of agriculture and the use of land in Lithuania and to analyse possibilities of finding solutions to them. Research tasks:

- to analyse the development of land holdings of farms and the demand of their stabilisation;
- to investigate the structure of rural residential areas and present proposals for the planning of new homesteads as well as the arrangement of road network;
- to establish the changes of the structure of lands and prepare suggestions to the planning of their rational arrangement by preparing the documents of land management planning.

Research methods. Carrying out the research, the analysis and synthesis of documents as well as mathematical statistical methods were used. The legislation of the Republic of Lithuania, the sources of scientific literature as well as the data published by Statistics Lithuania, National Land Service under the Ministry of Agriculture of the Republic of Lithuania (hereinafter referred to as NLS), State Enterprise "Agricultural Information and Rural Business Centre", State Enterprise "Centre of Registers", State Enterprise "State Land Fund" were used in the research.

## Results and discussion

### 1. Stabilisation of land holdings of farms

One of the aims of the reconstruction of land relations initiated in 1991 and the restructuring of agricultural companies was the creation of the system of competitive farms functioning according to the market economy conditions. However, the area of privatised (returned) land for one farm of a natural person, who starts an individual activity under a business certificate, was approximately only 6 ha, and other manufacturing facilities were constituted mostly of a small part of privatised property of agriculture companies (buildings or agricultural machinery). The economic situation being difficult and the public support being limited, a lot of persons, who started farming, terminated their activity. This process is also related to the decrease of the number of rural residents (the migration of working-age people to cities and other states), as well as with the policy of the public support to the agriculture, which supports large farms, implementing an intensive agricultural production to a greater extent. For example, implementing the programme of Lithuanian rural development for 2007–2013 till the end of 2015 123.56 thousand persons received payments for the retirement (139.9 million Euros). However, this decrease in the number of families, participating in agricultural activity, had a particularly great impact on dairying: the number of cows in Lithuania decreased by 99.3 thousand (24.9%) in the period from 2007 to 2016.

Supporting the modernisation of agricultural production by the public and EU funds, the opportunities for farms to cultivate larger areas of lands are created in the country, however, some small farms become uncompetitive. As it can be seen in Table 1, during the period from 2007 to 2016, the number of farms

using up to 10 ha of agricultural land decreased in Lithuania by 57.5 thousand (37.6%), and the number of farms using more than 50 ha of agricultural land increased by 3.4 thousand (45.3%).

Table 1

Agricultural land in farms of natural persons and legal persons in Lithuania

Indicators	Declared area of agricultural land, ha						Total
	up to 3.0 ha	3.01–10.0 ha	10.01–50.0 ha	50.01–200.0 ha	200.01– 500 ha	> 500 ha	
Number of farms,	68.7	83.9	37.6	6.1	1.0	0.4	197.7
thousand: Year 2007 Year 2016	42.0	53.1	31.0	8.7	1.7	0.5	137.0
Declared area in	86.8	301.7	639.8	828.0	515.1	525.6	2897.0
2016:	3.0	10.4	22.1	28.6	17.8	18.1	100.0
thousand ha percent for one farm, ha	2.1	5.7	20.6	95.1	297.6	1070.6	21.2

Source: Agricultural Information and Rural Business Centre

From the data of Table 1 it can be stated that farms of unequal size will further exist in Lithuania, thus causing the diversity of specialisations of production and economic relations. From the perspective of these territorial-production structures as the formation of long-term economic units it is important to achieve the stability of land holdings of farms while preserving lively rural societies and activity of people living in villages. According to statistics, the number of rural residents in Lithuania approximately decreased per year as follows: during the period from 1989 to 2011 – by 14.6 thousand residents (1,2%), during the period from 2011 to 2016 by 13.4 thousand residents (1,2%). Under these tendencies of changes, there will be less than 900 thousand rural residents in Lithuania in the short term and up to 120–130 thousand farms of various size.

In order to solve the problems of the decrease of the number of rural residents and farms, it is suggested improving the laws in such a way that the support for the agricultural and rural development could be associated with the documents of land management planning. It is appropriate to support the economic activity of families living in a village by public economic and legal measures so that a sufficient amount of income would be ensured to promote co-operation. It is also necessary to control the development of land holdings of large farms as transport costs and the prime cost of production increase by using land parcels which are remote from the economic centres, and small farmers living in this area do not often have an opportunity to increase their land holdings. To optimise the land holdings of farms, it is appropriate to prepare land management schemes which would provide for the perspective boundaries of land holdings, and to specify the laws, regulating the provisions of land acquisition of agricultural land: according to those provisions, agricultural activity subjects would have the priority to purchase land parcels only in the perspective boundaries of land holdings of their farms.

# 2. Residential construction in rural areas

Reforms carried out by the government, i.e. the Volok Reform (16<sup>th</sup> century), the division of countries into granges in the first half of the 20<sup>th</sup> century, and the reconstruction of agrarian areas in the period from 1950 to 1989 (collectivisation of farms, large-scale complex land reclamation, the destruction of granges and the construction of settlements of large agricultural companies) were of the greatest influence on the structure of rural residential areas in Lithuania, Due to this reason, the complex system of the arrangement of homesteads is developed in village – from large towns to compact settlements of various sizes, grange-villages and granges, existing in former land holdings. According to the research data (Aleknavicius et al., 2014), in settlements having more than 100 residents there were 73.2 % rural residents and in smaller settlements and in grange-villages there were 26.8 % rural residents in 2011 (Table 2).

Arrangement of rural residential areas in Lithuania

The classification of	The number of	The nun	The average		
residential areas	residential	Year 2011 thousand	The changes during	size of residential area	
	areas (villages, towns)	residents	the period of 1989–2011	(the number of	
	·		per cent	residents)	
Suburban rural settlements (up	378	174.2	+18.7	461	
to 2-3 km from city or					
municipality centres)					
Towns and nearby large	682	287.8	-15,9	422	
villages					
Other separately located large	1447	279.9	-12.2	193	
villages - former central or					
auxiliary farm settlements >					
100 residents					
Small countries and hutors	14300	271.9	-28.5	19	
In total:	16707	1013.8	-14.7	61	

Sources: Statistics Lithuania, Aleknavicius et al., 2014.

The construction of new residential buildings has an influence on the stabilisation of the decrease of the number of rural residents. Persons, whose own land parcels are located in the territories designated for the urban development, have an opportunity to build homesteads in a rural area. They are planned by preparing general plans; mostly they are territories designated for the development of cities and large rural settlements and for the increase of the compactness of building of residential places, having an attraction of residents. Furthermore, for this aim the users of agricultural land designated for agricultural purposes, i.e. farmers can build residential buildings and agricultural factory buildings in the chosen locations according to land management projects of rural development. The residential construction, regulated by these documents of territories planning is based on the following arguments:

- the settlement of families in a rural area may retard the decrease of the number of rural residents and restore disappearing villages and granges;
- during construction, a part of the capital accumulated in cities will be used for the needs of rural residents, i.e. the improvement of roads, the increase of employment of residents of these areas;
- with more residents in village participating in agricultural activity, the intensity of the use of land would increase, more focus would be drawn on the improvement of economic characteristics of land;
- with more educated and initiative people and young families settling in, the rural societies would be strengthened.

The need to build homesteads in land designated for agricultural purposes situated in rural areas is illustrated by the fact that in the period from 2008 to 2015 there were approximately 1170 rural development projects of land management prepared per year in the country. The problems of the process which are needed to be solved: 1) the majority of homesteads are built not for permanent residency but for seasonal free time spending; 2) some new homesteads are arranged not coordinating them with other landscape components as they are planned only according to the arrangement of land parcels possessed by land owners. In some places, particularly in recreational areas, the concentration of homesteads may be very high; 3) rural development projects of land management are prepared in order to choose the place of farmer's homestead only for one land parcel, in which only a construction site and access road are provide for without analysing the questions of the development of production of the whole farm and the management of its territory.

From the perspective of the formation of cultural agrarian landscape (it is considered as a rural landscape, having the features of agricultural activity, the management of which is affected by human economic activity and measures of land improvement), the establishment of new residential homesteads should be solved by coordinating all long-term territorial elements: the network of roads and drainage systems, other engineering communications, territories which could be urbanised or used for agricultural or forestry purposes (arable land, forest and natural land). The problem would be solved if the arrangement of farmers' homesteads were envisaged during the preparation of documents of land management planning, in which all the most important questions regarding the coordination of territorial elements would be tackled in a comprehensive manner: by preparing the land management schemes of

municipalities or territories of their elderates as well as the rural development projects of land management to a land holding of a large farm or the territory of the whole village.

## 3. The improvement of road network

The length of road network in Lithuania was determined by dense arrangement of residential areas and the significant differentiation of lands. Until the land reform, the total length of all roads falling into 100 ha lands constituted 2.6–2.7 km in areas of plains, 3.1–4.6 km in hilly areas, approximately 3.5 km in lands designated for agricultural purposes. Out of them, public roads constituted 17%, local roads with a roadbed and road surface 28%, dirt roads 55%. The network of local roads was considerably changed by complex land reclamation performed in the period of 1950–1989, during which approximately 2.5 million ha of waterlogged lands were drained, 17.5 thousand km of intensively used local roads with a roadbed and a firm surface were improved or rebuilt. The density of these roads was planned to increase more as according to the data of projects of internal land management of farms, the length of intensively used roads should reach approximately 1.5 km in 100 ha of the total area. After analysing the land management schemes of the arrangement of local public road network of territories of municipalities, which were prepared in the period from 2006 to 2016, it was determined that in Lithuania approximately 8 km of local roads fall into 1000 ha of total area, however approximately 1/3 of these roads is dirt roads. There are only 5-25 per cent of roads in good condition. According to the solutions of schemes, administrations of municipalities are responsible for the management of roads of general use which are assigned to them. However, other local roads that are in need to be improved are not provided for in these schemes.

After the return of land when the private land ownership prevail, the total length of roads in agrarian territories should increase more due to accesses not only to residential areas but also to every separate land parcel (till the end of 2016 there were 1.3 million land parcels designated for agricultural purposes and 0.2 million designated for forestry purposes registered in the Register of Real Property). The majority of roads, particularly accesses to residential homesteads have to be appropriate to access in every season, and their duration of use should not be shorter than the duration of use of buildings or parcels of arable land, for which the roads are designated to serve. The precise planning of the arrangement of these local roads is necessary to separate public and local roads (including those assigned to municipalities) of the general use, which have to be in public land (it cannot be privatised or privatised stretches of road are redeemed from owners) and private roads, as well as to set easements necessary for the use of roads, which are in a private land.

The arrangement of local roads network planned in land management projects of land reform is not precise yet, there are a lot of litigations regarding the conditions of accessibility and land easements. In order to solve the problem, it is suggested designing the road network necessary for the activity of owners and users of real property objects in the land management schemes of the parts of territories of municipalities (elderates, cadastral areas) or in rural development projects of land management prepared to the reorganization of land holdings of large farms. Carrying out the analysis of the current state, public roads should be marked according to their categories in these planning documents, as well as roads of municipalities, other public roads which are in public lands, other roads which are necessary to access residential homesteads and economic objects, other roads necessary to access the areas of arable land, forests, meadows etc. only during the time of seasonal works. Out of them, to the intensively used stretches of road, the width of a road and roadbed as well as the necessary measurements of management should be indicated in the main drawings of plans. It should be necessary to guide by these documents of land management planning in all cases preparing projects of land holdings which envisage the formation of new land parcels as well as the division and amalgamation of existing land parcels.

# 4. Rational arrangement of agricultural land

Besides buildings, roads and hydrographical network, lands used for different purposes prevail in rural agrarian landscape, i.e. arable land areas, meadows, forests, trees and shrubs, marshes and other. The reorganisation of their arrangement depends on human economic activity and conditions of the land use regulated by a state. It is sought to form areas of arable land by conditions of an intensive agricultural production in such a way that they would be better adapted to mechanised agricultural works by their area and form. Furthermore, it is necessary to preserve parcels of natural or relatively natural lands important to soil, water and environmental protection in these territories. These parcels have to be protected by users of land as ecologically important elements of the landscape. After declaring that an appropriate use of land is the public interest and land designated for agricultural purposes is a limited

natural resource of an exceptional value (Lietuvos..., 2005; Lietuvos..., 2006a; Lietuvos..., 2006b), restrictions of the use of land which are imposed to private land owners also acquire a legal basis. In special conditions for land and forest use approved by the resolution of the Government of the Republic of Lithuania, it is established that it is forbidden 1) to drain and transform into agricultural lands and water: bogs and mires as well as their swamp areas; fens, whose area is more than 0.5 ha and the depth of peat is higher than 1 m, and their swamp areas; 2) to drain and plough up flooded or arid meadows and pastures if they have not been ploughed for at least 25 years and natural meadows prevail there (Lietuvos..., 1992). These and other restrictions as well as requirements not to reduce the area of efficient lands are legislated in the Republic of Lithuania Law on Land of (Lietuvos..., 2004b). According to Article 21 of the Law, land owners and other users must: "1) use land according to its proper purpose of use; 2) comply with the special conditions of land use established for the land plot, with requirements set in documents of territory planning or projects of land holding; 3) use the land rationally and preserve agricultural and recreational land, forest, water bodies, mineral resources and other natural resources the exploitation of which has been permitted as well as the landscape properties; 4) implement measures as provided by law and subordinate legislation for the protection of land, forest and water bodies from pollution, for the protection of soil of farming land from erosion and exhaustion, for environmental protection so as to put a stop to the deterioration of the ecological situation." Article 22 of the Law states that "the areas of lands consisting of ecologically valuable forests as well as trees and shrubs having the protective value of soil and water, also marshes, stony land, natural meadows and pastures which are marked in territory planning documents or land holding project have to be used with respect to the requirements of the formation of the landscape and environmental protection."

These provisions are practically implemented only when cartographical material with exact arrangement of lands and boundaries of land parcels used for various purposes are obtained. Cadastral data, in which the conditions of the use of special land and forest are entered, are prepared according to the documents of land management planning. During the formation of land parcels, land management projects of land reform were considered to be the documents of planning; during the reconstruction of private land parcels, plans of land holdings are prepared, and when the conditions of the land use and the composition of lands (their contours, type or the use) are changed, land management schemes and rural development projects of land management are prepared. It is most reasonable to prepare these projects not for a land parcel but for the whole land holding of farm as the territorial-production unit. Then the following questions listed in Article 39 of the Law on Land could be answered to this territory: the measures of landscape formation; the measures of the protection and improvement of agricultural land soil; the arrangement of the main inland roads which are necessary for agricultural activity; the construction, reconstruction and renovation of reclamation buildings; land areas which are appropriate to afforest; the formation of arable land parcels (agro-economic parcels) containing similar characteristics and the establishment of their recommended use. Law on Territorial Planning of the Republic of Lithuania (Lietuvos.., 2004a) regulates that land management documents of the special planning of territories are mandatory to owners and users of land parcels as well as to other persons (Article 22 of the Law).

Since these special plans/planning documents of land management have not been prepared so far, the unregulated change of the composition of lands is possible, which fails to meet the requirements of the protection of valuable agricultural land and the formation of cultural landscape. The analysis of the change of the structure of country's lands disclosed that the areas of meadows and natural pastures decreased and the areas of cultivated agricultural lands increased in the pre-reform period due to the great extent of reclamation works. In later period, the areas of agricultural lands decreased due to the lack of the necessary amount of funds for the reconstruction and new construction of drainage systems. Due to the afforestation of land designated for agricultural purposes promoted by the state (e.g. in the period from 2006 to 2014 the area of annually afforested areas of private land owners constituted approximately 2.7 thousand ha each) and due to the conversion of lands naturally overgrown with trees into forests, the area of forests approximately increases by 7.8 thousand ha per year (Table 3).

Changes of lands in Lithuania in the period from 1947 to 2016

Table 3

Lands	Area, thousand ha			Changes, approximately per year				
	1947 11 01	1985 11 01	2016 01 01	thousand ha		per cent		
				Year 1947– 1985	Year 1985– 2016	Year 1947– 1985	Year 1985– 2016	
Meadows and natural pastures	1262.2	560.0	320.1	-18.5	-7.7	-1.46	-1.38	
Arable land, gardens and other agricultural land	2757.4	3113.3	2983.2	+9.4	-4.2	+3.4	-1.35	
Forests	1234.1	1955.4	2198.5	+19.0	+7.8	+1.54	+0.40	
Trees and shrubs, marshes	338.1	222.9	229.5	-3.0	+0.2	-0.90	+0.01	
Roads and built- up areas	287.1	272.0	342.5	-0.4	+2.3	-0.01	+0.84	
Other land and water	591.1	406.5	413.8	-4.9	+0.2	-0.82	+0.01	
In total	6470.0	6530.1	6528.6	X	X	X	X	

Sources: National Land Service under the Ministry of Agriculture of the Republic of Lithuania; State Enterprise "State Land Fund", Land Cadastre 1989

The problem of management of agrarian landscape consists of the possible further decrease of the agricultural land area in territories necessary for the development of farm production, increasing the areas of forests respectively. According to the data of the declaration of agricultural lands and crops, in 2016 land to be used (i.e. excluding meadows and perennial pastures > 5 years) constituted 2190 thousand ha out of the declared area of 2897 thousand ha for corn, rapeseeds and other crops of annual plants, and this is even less than the area of forests in Lithuania established according to the land accounting. This further disproportionate change of the structure of land areas used for the activity of two main production branches, i.e. agriculture and forestry, has to be controlled by legal measures, i.e. by preparing documents of land management planning and by achieving solutions only on their basis regarding the permission for agricultural activity in a suitable area for afforestation or regarding the permission to transform other lands into arable land as well as into cultivated meadows. These planning documents are appropriate to be prepared for all administrative areas of the country; furthermore, one of the planning solutions in documents have to be the formation of boundaries (contours) of parcels of lands. The rules of the preparation of planning documents or other legislation have to be supplemented by methodical provisions, i.e. by requirements for the formation of cultural agrarian landscape.

Taking various conditions for the rational use of land provided by laws and scientific advice (Pauliukevicius, 1982; Pauliukevicius et al. 1995) into account, it is suggested adding the following requirements for the design of lands into the rules of the preparation of land management schemes and rural development projects of land management:

- 1. Meadows and natural pastures should be in areas of agriculture land if they have been natural meadows and pastures at least for 20–25 years or if they were situated in areas of drained land, the soil of which consists of peat or turf which tends to mould, or in areas of hilly lands, the soil of which is eroded averagely or heavily, and the inclination of slope is  $\geq 7^{\circ}$ .
- 2. Marshes as well as trees and shrubs are designed to remain according to the current state excluding the areas of these lands in drained land, in which the reconstruction of drainage systems is appropriate by restoring former agricultural lands.
- 3. Forests which naturally grew in former arable land or in former cultivated meadows as well as pastures formed in this land or in other agricultural land with drainage systems are designed to be transformed into arable land or cultivated meadows.
- 3. New forests are designed:
- 4.1. in an unused land, areas occupied with trees and shrubs and abandoned agricultural land, except for land areas with fertile soil which are envisaged to be used in order to establish arable land or cultivated meadows;

4.2. in other agricultural land if it is considered to be appropriate in terms of the formation of cultural rural landscape. Forest plantations are arranged in forest zones (of the width of 7–15 m) in land areas of flat and wavy terrain, and in groves of the area of 0.3–4.0 ha in land areas of hilly terrain as well as in river and creek valleys. When new forest land areas (forest zones and groves) are designed in other nonforest areas, it is necessary to ensure that the distance from the designed forest till the nearest existing (remaining) forests, trees and shrubs, marshes overgrown with shrubs and homesteads planted with trees would be: in hilly terrain at least 300 m and no more than 500 m, in sandy and sandy loam-based plains at least 800 m and no more than 800 m, in loamy plains at least 800 m and no more than 1000 m. The design of land parcels to be dedicated for the afforestation is coordinated with the arrangement of existing forests, trees and shrubs, marshes, meadows and natural pastures, waters as well as with the design of new meadows. Forests shall not be designed in land parcels suitable for agricultural crops and mechanised cultivation with average productivity score higher than 29–32.

### **Conclusions**

- 1. In Lithuania, the number of rural residents and farms participating in agricultural activity decreases gradually. The negative consequences of this process can be avoided by preparing documents of land management planning providing for the formation of rational holdings of farms and by expediently regulating public economic support to ensure viability of farms.
- 2. The system of rural residential areas of Lithuania consists of compactly built-up settlements of various size, villages and granges. Due to unequal conditions of social service, suburban and other large settlements, in the development areas of which new constructions are planned, are the most stable. However, from the perspective of the formation of efficient economic structures and the rational use of land, the construction of separate grange-homesteads in areas provided by territory planning documents is tolerated coordinating it together with other questions of territory management.
- 3. The main network of local roads with firm surface was formed in rural areas during reclamation works in the period from 1950 to 1989, currently their maintenance is carried out by municipalities. The road network is supplemented by necessary accesses to homesteads and land parcels when the land is privatised. While preparing documents of land management planning it is foremost necessary to solve the arrangement of structures as stable infrastructure objects, including all roads of general use as well as roads which are to be used by easement, and to determine the of the improvement of separate road stretches.
- 4. The conditions of the land use as provided for by legislation are specified by preparing special plans as well as plans of land holdings. Documents of land management planning should form long-term elements of cultural rural landscape, not to reduce the area of efficient agricultural land, identify ecologically valuable and protectable or relatively natural agricultural land parcels. Therefore, it is expedient to supplement the instructions of the preparation of documents of land management with methodical requirements to the planning of the arrangement of parcels of lands and their conversion into other agricultural areas.

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