

## IMPACT ASSESSMENT OF THE URBAN DEVELOPMENT AND THE NATURE FRAME UPON THE USE OF THE LAND DESIGNATED FOR AGRICULTURAL PURPOSES

Pranas Aleknavicius<sup>1</sup>, Audrius Aleknavicius<sup>2</sup>, Jelena Liaskovskaja<sup>3</sup>

<sup>1,2</sup>*Department of Land Management, Lithuanian University of Agriculture, Universiteto 10, LT-53361 Kaunas, Akademija, Lithuania. E-mails: <sup>1</sup>pranas.aleknavicius@lzuu.lt; <sup>2</sup>audrius.aleknavicius@lzuu.lt*

<sup>3</sup>*Department of Environmental Policy Mykolas Romeris University, Ateities g. 20, LT-08303 Vilnius; National land service under the Ministry of Agriculture, Gedimino pr. 19, LT-01103 Vilnius, Lithuania. E-mail: <sup>3</sup>jelenal@zum.lt*

**Abstract.** The necessity to limit the transfer of productive arable land for other purposes, to adjust economical measures assigned for the maintenance of the optimal land use is emphasized in international strategic documents. The Constitutional Court of the Republic of Lithuania noted that the rational use of land is public interest protected by the Constitution. However, after the fulfillment of the analysis of the master plans of the chosen districts the cases, when the priority of the territory use in valuable agricultural farming lands and drained arable lands is defined not for agriculture, but for the fulfillment of other activity, were determined. Therefore, in order to coordinate interests of various fields of activity as well as to optimise the composition of farming lands and the intensity of land use, clear principles of territory planning and particular assessment of the impact of solutions upon the environment are necessary. The following factors, such as urbanisation of the territory with non-agricultural buildings, forest planting as well as the restrictions of intensive cultivation of land, have the main influence upon the activity of agricultural land users.

The aim of the research was to analyze the possible influence of the restrictions of the economic activity planned in the territory of urban development and nature frame upon the agricultural production. While preparing the substantiation of the territorial planning documents, it is suggested to assess losses concerning the possible reduction of the farming lands' area, the loss of fertile soil and shrinkage of the amounts and value of agricultural production. The calculated losses should be compared with the indicators of the positive influence of solutions upon the environment while evaluating it in legal, economic and ecological aspects.

**Keywords:** urban development, nature frame, farming lands, fertile soil, land designated for agricultural purposes.

### 1. Introduction

The land designated for agricultural purposes denotes land areas suitable for agricultural production. These territories are particular for the fact that the most part of them are occupied by farming lands, i.e. by the improved land areas (due to the activity of natural forces and human economic activity) with fertile soil layer and suitable for the growing of agricultural plants. It is the main measure of the production in agriculture. However, the area of farming lands is limited, their productivity depends upon the soil characteristics of the locality, therefore this land should be protected in the same way as other non-renewable natural resources. The necessity to conserve and suitably use land as an important component of natural environment is emphasized in international as well as national strategic documents. The European Charter for Rural Areas declares that it is necessary to preserve land and other components of the environment as well as to single out fields where any construction is limited or is strictly prohibited. In the program (published in Rio de Janeiro) for the activities of Balanced develop-

ment it was emphasized that it is necessary to limit the transfer of productive arable land for other purposes, to apply economic measures designed for the maintenance of the optimal land use. In the Johannesburg Harmonious Development Declaration it is planned to stimulate programs designed for the increase of land productivity. New constructions in arable lands reduce areas used for agricultural activity and limit possibilities of the development of this economic branch. Farming lands are non-renewable natural resources for the improvement of which many human generations had worked. According to the solution of the Constitutional Court of the Republic of Lithuania, preservation of this area is a public interest and on the basis of such provision various restrictions can be defined by law: "According to Article 54 of the Constitution the state should define such legal regulation and should act in such way as the natural environment should be protected as well as its separate objects, that the rational use, regeneration and increase of natural resources should be secured. <...>. The appropriate use and protection of our land, forests and water bodies is the medium

for the existence and maintenance of public relations and dispersion for human as biological and social living being, the condition for the survival and development for humans and society, the base for our national prosperity. <..>. Their proper and rational use and protection is the public interest protected by the Constitution.“ (Lietuvos..., 2005). „It should be noted that the rational land use is inseparable from its protection, inter alia from the fertile cultivated land, landscape maintenance, land protection from pollution, unsuitable use, other negative factors as well as from the security and agricultural business freedom. <..>. It should be noted in this context that agricultural land is a limited natural resource of particular value, its quality and the areas of fertile soil are constantly decreasing due to the industrial production impact, urban development and other factors. In order to preserve valuable features of the agricultural land, legislators must define clear criteria of the transfer of the agricultural land into some other land. Public interests should be taken into account when changing land purpose (Lietuvos..., 2006).

When planning the use of agricultural land, the interests of various economic branches (for the activity of which land is necessary), land users and society should be coordinated. The most suitable measure for this is the preparation of the territorial planning documents when carrying out the assessment of the impact of planning solutions upon the environment and the public discussion of the prepared projects with the society. One ought to follow the solutions of master plans when giving planning conditions for the preparation of special and detailed plans, therefore their influence isn't very important for the character of further land use and management. The most actual thing is to substantiate solutions predicting the long-term perspective connected with the use of the agricultural territories for other purposes, i.e. for the layout of constructions, afforestation, etc., because these land management actions basically change the landscape and the living conditions for human beings. In this aspect, the master plans of the municipality territories and the possible influence of their solutions upon the decrease of the area of farming lands or the intensity of agricultural production were analysed. P.Kavaliauskas and M.Dumbliauskienė wrote, emphasizing the demand for the agricultural territories' planning carried out on scientific basis „One of the main tasks of the agrarian landscape or land management is the rational organization of agricultural production activity. <..>. It is essential to prepare scientifically substantiated territorial planning (land management) schemes at regional and district levels. Economic activity should be regulated in these schemes, i.e. the nature frame of protective forests, afforestation, soil protection systems are applied, transformation of farming lands is carried out and urbanized territories are deliberately expanded.“ (Kavaliauskas, Dumbliauskienė, 1999).

The concept „urban development“ used during the analysis – it is the increase of urbanized territories while decreasing the areas of mostly non-urbanised and non-overgrown with forests agricultural territories. Land plots

used for other purposes predominate in urbanised territories and priorities conditions are created in the territories planned for urban development for the preparation of detailed plans as well as for the planning of the use of territories for non-agricultural activity; on the basis of these plans solutions over the land use change are accepted. Besides the reduction of agricultural territories, the planned territory management regulations limiting the intensive economic activity in the territories of the nature frame have negative influence upon agricultural activity. The nature frame is an integral network of territories of natural ecological compensation, which ensures the ecological landscape balance, natural relationships between the protected areas, other areas or habitats important to the environment, as well as migration of plants and animals among them (Lietuvos..., 2004a). It should be noted that protected areas occupy 15.6 per cent of the total area of Lithuania, whereas the area of the nature frame (according to the master plans of the municipality territories) occupies up to 50-70 per cent of the total area. Investigations show that territory planning specialists attribute to the nature frame about 15-25 per cent of the agricultural land (Aleknavičius P., Aleknavičius M., 2010). The primary afforestation of less productive or ecologically sensitive land areas as well as more extensive agricultural activity (in comparison with other territories) allowing increasing naturalness of the landscape is recommended in these territories.

In the master plan of the territory of the Republic of Lithuania (Lietuvos..., 2002) it is noted that one of the strategic aims of the territorial development is to ensure the long-term land ownership priorities and the rational land use. In order to determine how this provision is being kept to while detailing solutions of the master plan, the aim of the investigations was to analyse the possible influence of the restrictions of the economic activity planned in the territory of urban development and nature frame upon the agricultural production. The following tasks were raised for the implementation of this purpose:

- to analyse legal acts regulating the use of agricultural land designated for forestry activity or for other purposes;
- to analyse methodical provisions of master and special plans concerning land use priorities and the planning of territory management regime;
- to suggest methods when calculating possible losses of the fertile soil and agricultural production concerning the use of the cultivated land for non-agricultural activity as well as concerning restrictions of economic activity;
- to formulate requirements for the rational use of agricultural land and protection requirements when preparing territorial planning documents.

Research methods: analysis of international and national strategic documents and legal acts; analysis of prepared master plans and special plans of protected territories of Lithuanian counties and municipalities.

## 2. Results of research

**The planning of urban development.** The planning of constructions and not the planning of agricultural or forestry activity predominates while preparing master plans. This was noted in the works of the specialists, who had investigated the territorial planning process in Lithuania. It is noted that after the reestablishment of the Independence the almost unregulated urban expansion created pre-conditions for the chaotic development of towns in rural areas. Low-rise constructions are developing while usurping new agricultural territories (Bučas, 2010). It is stated that the rapid urbanization of rural and natural areas around Lithuanian towns is substantiated neither from social nor economical point of view. Master plans insufficiently balance demographic tendencies and objectives of municipalities to obtain new areas for investments (Bardauskienė, Pakalnis, 2010). An idea is raised that institutions regulating urban development should not tolerate the origin of new urban spawns in non-urbanized areas. New construction works ought to be carried out in old settlements while recreating them (Bučas, 2010). Small towns should be developed when looking for the compactness, harmony and life quality of the urbanization. They should be evenly dislocated and should be provided with facilities (Burinskienė, Lazauskaitė, 2010). It can be achieved when preparing master plans, however, there are no clear methodical provisions for the planning of rational system of rural inhabited localities and the statistical data analysis of 3 years (noted in the planning regulations) is not enough for the determination of the territorial development perspectives (Juškevičius, Gaučė, 2010). Besides, it is purposeful to create possibilities for the more flexible land perspective use order. However, in all cases, territorial planning documents should define regulations with the following content: regime (storage, modernization, conversion, improvement of new territo-

ries, compulsory planning specification, etc.); restrictions; conditions for construction works, etc. (Juškevičius, Jauneikaitė, 2008).

Having carried out the analysis of the master plans of the territories of some rural municipalities it was established that the conversion of agricultural territories into the land designated for other purposes is being solved while defining land use regulations and conditions for the preparation of detailed plans. In the drawings of the master plans of rural municipalities, urban development territories, in which the priority is given to the formation of urban frame, are defined. Usually such territories are formed in land areas suitable for construction avoiding forests, marshy places and ecologically sensitive localities. Since the most favorable conditions for the construction are in arable lands, solutions of the master plans create possibility to develop land used for other purposes while reducing the areas of agricultural land. The defined urban influence zones, the territories planned for the development of small towns and perspective compact villages, the zones of urban integration axis (up to 1 km from main and local roads), the territories chosen for the construction of industry and storage objects as well as the territories planned for intense recreation can be attributed to the territories of urban development.

The layout of the territories of urban development is connected with the determination of the demand for the areas necessary to these aims. Without normatives, boundaries of these territories are defined following the opinion coordinated by planning specialists and municipality administration. Some specialists preparing master plans had planned urban development zones as territories used for entirely other purpose. Therefore, logically non-grounded and non-corresponding to actual tendencies planned indicators are presented in the text parts of master plans (Table 1).

**Table 1.** Comparison of the land use changes (planned in the solutions of master plans (MP)) and existing tendencies

Indicators	Districts (municipalities)				
	Elektrėnai	Marijampolė	Pakruojis	Šakiai	Širvintos
Reduction of the area of agricultural land, in ha/per cent from the area of the district's territory:					
- during the period of 2001-2009**	3432/6.4	970/1.3	393/0.3	1360/0.9	1441/1.6
- is planned following MP solutions	9949/19.5	8380/11.1	17610/13.4	22030/15.2	16745/18.5
De jure registered the change of the purpose of the land plot use from the agricultural purpose, on average per year *, in ha	12.1	29.2	35.2	25.3	38.5
Increase of the land used for other purposes, in ha/per cent from the area of the district's territory:					
- during the period of 2001-2009**	474/0.88	597/0.79	147/0.11	523/0.36	137/0.15
- is planned following MP solutions	5000/9.8	3310/4.4	6130/4.7	7110/4.9	5404/6.0

\* the data of 2005-2007

\*\* State land registry data

Source: the data from the State enterprise Centre of Registers

As one can see from the data of Table 1, master plans of some districts plan the groundlessly large increase of urbanized territories without insufficient attention for the preservation of the land designated for agricultural purposes. Applying the same calculations to the entire territory of Lithuania (including even towns), the areas of the land designated for other purposes should increase by 120-150 thousand ha during the validity period of master plans (10 years), whereas during 2000-2009 they increased only by 18.3 thousand ha. Therefore, the majority of the specialists preparing master plans had planned land use regulations in urban development zones considering that not entire territory of the zone will be used for other purposes. The significant part of the territory should be left for agricultural activity or assigned for forest plantations used for conservation purposes or left as the element of natural landscape. In the text part of master plans it is noted that exact territories, which are suitable for construction or agricultural activity, should be defined while preparing special or detailed plans. Besides, some master plans determine land use regulations, which define planning and construction regulations necessary for the preparation of the lower level territorial planning documents. The particularity of conditions is defined by the purpose of the zone (range). For example, it is planned that in the urban development territories (while preparing detailed plans), besides the construction of residential houses could be and must be formed plots for the construction of mixed residential, small business, trade, service objects, for the construction of hostels, hotels, foster homes, children's homes, pensions, for the formation of public-use plantations, squares, protective plantations, for the construction of public-use social objects, small business objects, communication corridors (streets, approach roads, engineering networks and constructions), etc. (Jonavos..., 2008). In the territories designed for residential construction common-use plantations should make up not less than 10% of the territory area, and the plot of new premise in rural locality should be not less than 0.15 ha, the plot of the rural tourism homestead should be not less than 0.50 ha (Pakruojis..., 2008).

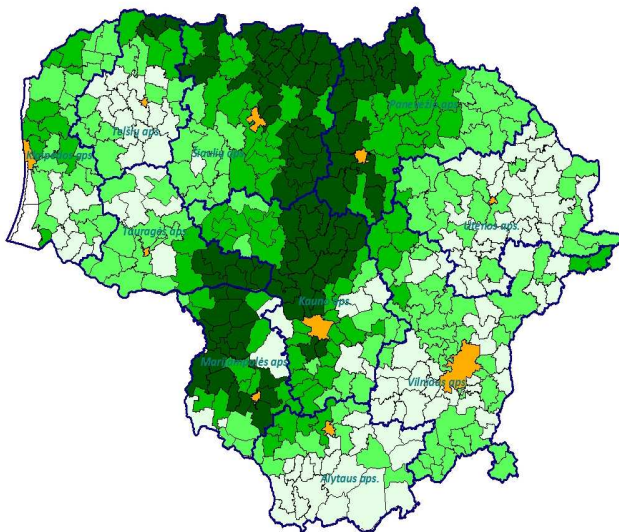
Special plans are necessary when the detailed plan is prepared in the land plot situated near roads or electric lines or if it neighbors upon the existing land plot of the premise. Besides the territories chosen for the construction, the dense network of farms is recommended in these zones while coordinating the place of their farmsteads (economic centers) and the planned constructions with the territorial planning documents predicting the development of towns. The agricultural activity in this zone should be developed while orienting economic subjects to create farms of intense production, but not of large area, which should specialize in the meeting of the requirements of the citizens from towns and larger settlements (Utenos..., 2008). For the urbanisation (when preparing special and detailed plans) it is possible to plan land plots designated for other purposes, land plots designated for agricultural purposes (firstly – land plots of low eco-

nomical value with no land reclamation facilities in them) and class III-IV not valuable forests (except forests situated in reserves). Agricultural industrial buildings can be built in the land plots where farmers' farmsteads are situated or in such land plots where industrial buildings are situated as well as after the choosing of the layout of such buildings in the land management project or in other special territory planning documents. In the zones of recreational localities it is possible to prepare special and (or) detailed plans, which should predict the density of the layout of recreational objects, the layout of forests and natural farming lands, territories used for agricultural activity, recreational infrastructure following landscape formation principles as well as conditions issued by environmental institutions. In the areas of the zone it is purposeful to build rest-houses, constructions for tourism and sport purposes, encampments, trading enterprises and other structures used for various services and recreation. In order to avoid the motiveless urbanization of recreational territories in the zones of the protection of water bodies additional conditions for the construction of various buildings are determined. In the areas planned for intense recreation it is possible to plan the construction of uninhabitable structures designed for recreational purposes. Construction of the new residential house with pertinents is possible only in the places of former farmsteads not exceeding the former urbanized area in the land plots designated for agricultural or other purposes, not in the forest, after the determination of the fact of their existence following old maps or photo plans and when the commission made by the municipality administration chooses the place of the construction. In the land plots designated for forestry purposes and situated in the zone, detailed plans (predicting the construction of structures in the zones of recreational localities) can be prepared only for the land plots not less than 0.5 ha using natural fields and other areas not overgrown with forests for the layout of structures. The rest territory of this zone, which is not planned for recreational constructions, should be used for agricultural or forestry purposes (Lazdiju..., 2008).

The layout of the planned zones most often is conditioned by the urbanized territory situated nearby or by the infrastructure suitable for the construction of structures, and in the recreational territories – by aesthetic characteristics of the locality. In the legal acts regulating the preparation of the territory planning documents there are no methodical requirements for the planning of non-agricultural activity only minimally necessary land plots avoiding urbanization of productive arable land areas, and failing other possibility – to compensate losses (which occurred as a result of that) to the subjects of agricultural activity and the state. However, specialists ought to take into account the provisions of Article 21 of the Law on Land, requiring “to use the land rationally and preserve agricultural and recreational land” as well as the provisions of Article 22 planning that “the arable land, the soil productivity of which is higher than the average

in Lithuania, as well as the land in which land reclamation systems are exploited, should be used in such way that its area should not be reduced (except ecologically impoverished territories) and soil characteristics should not worsen” (Lietuvos..., 2004b). Following the 3<sup>rd</sup> part of Article 4.40 of the Civil Code, saying that “the owner of a land parcel shall have ownership right to the topsoil of the parcel <...> in so far as this does not contradict the law and as is necessary for the intended use of the parcel” (Lietuvos..., 2000), it is possible to draw a conclusion that the fertile layer of the soil becomes the ownership of the land owner only then when it is used for agricultural production or forest growing. When the purpose of the land use is changed the state has right to define economic conditions to pay an appropriate tax, as for the use of other state-owned non-renewable resources, f.e., minerals. However, law amendments are necessary for that.

Territories, in which the predominating fertility grade for the soils of agricultural farming lands is higher than the average one in Lithuania (41.85 point), are presented in Fig 1 (prepared following the information received from the State Enterprise Centre of Registers generalizing statistical data of January 1, 2011 over the 1056 thousand land plots of the land designated for agricultural purposes with 2927 thousand ha of agricultural farming lands).



**Fig 1.** The average fertility grade of agricultural farming lands in sub-districts (*VI Registrų centras*)

Since the provisions of the legal acts regulating land relations are realized by the solutions of the territorial planning documents, it is purposeful to improve the legal and methodical base of planning. It is necessary to achieve that in the prepared reports on the impact of the territorial planning documents upon the environment particular indices should be reflected characterizing not only positive impact of the solutions for different economic branches, social environment and the landscape, but economic losses (because of lost possibilities to develop agriculture) as well. The comparison of variants should enable to find more optimal solutions over the planning of

only minimally necessary farming land areas when choosing for the construction less productive land plots. It would enable stabilizing the decrease of the area of the land designated for agricultural purposes, which started in the second half of the 20<sup>th</sup> century: in 1949 the area of the land designated for agricultural purposes made up 4124.7 thousand ha, in 1989 – 3373.0 thousand ha, in 2009 – 2641.0 thousand ha (Aleknavičius P., Aleknavičius A., 2009). Changing the purpose of land use into another one, laws should plan liability to land owner or manger for losses over the fertile soil, which was removed and was not used for agricultural or forestry activity. Therefore, when preparing the assessment of the strategic impact of master plans upon the environment agricultural production losses as well as losses to society over the important national valuable – farming lands and the fertile soil, should be evaluated. The comparison of the economic indices of the planned benefit of the master plan solutions and possible losses would enable to better assess existing resources, to find optimal variants and to prepare more clear information to society.

In order to achieve the balance between various economic branches (for the activity of which the larger territory, than is designated for non-agricultural purposes at present, is necessary) in the territorial planning documents, it is suggested that specialists preparing plans should carry out more circumstantial analysis of the present situation and land use tendencies, and when preparing the assessment of the results of the planning solutions (or the impact upon the environment) they should present economic indicators grounded by normative values. It should be applied both for the preparation of master plans and for the preparation of the special plans of larger territories. Calculating the amount of losses that agriculture could experience because of the reduction of farming lands, it is necessary to assess the value of agricultural production that could be grown in lost areas (when there is recommended crop structure, soil characteristics corresponding to productivity and normative prices) during the period of at least 15 years. (The legal acts of the European Union, which predict compensations to agriculturalists for un-received income from agricultural activity when land is afforested, were prepared on the same principle). Besides, the areas of farming lands, in which the fertile soil will be removed and used for other purposes because of the construction works, should be assessed; not the income approach method but the replacement cost method should be applied for that purpose. At present, expenses of the damaged land recultivation on average make up 60-100 thousand Lt./ha, however, the value of humus layer in work estimate is only conditional, because the dozed soil is being used. Calculations over the amount of expenses necessary for the improvement of the area of unused land, when cultivating land and when introducing organic fertilizers, are necessary. When setting the price of the soil from particular localities, it must be differentiated subject to soil productivity and the carried out soil improvement measures. It is purposeful to add to the value of soil the value of infrastructure developed by

the finances of the state and applied for the proper use of this land (these are roads and drainage systems with mechanisms built during land reclamation works). The state (society) loses such capital when people are allowed to urbanize the cultivated land. However, in such places even the more valuable capital can be created. It should be substantiated by the specialists preparing territorial planning documents. The calculated value of natural resource, i.e. the value of the land designated for agricultural purposes should be compared to the market value for land, when land is sold to persons seeking to use it for other purposes. If the market value for land is smaller than the land value (agricultural production losses) in the urban development zone formed according to the territorial planning documents, the possibility for the further development of agricultural activity (when coordinating it with other activity allowable in separate parts of the territory according to the planned layout) should be planned. Proportions of the urbanization of land areas should be determined by normatives, and in the absence of them – by the territorial planning documents, following scientific recommendations. Comparing the variants one should take into consideration the impact of infrastructure created in the urban development zones upon the sustention of farms vitality and the increase of the intensity of agricultural production. An optimal solution is considered the one the demand for urban development of which is ensured by least losses of agricultural production and farming lands as well as the fertile soil.

**Restrictions of agricultural activity in the territories of the nature frame.** Formation of the nature frame is a compulsory part of the solutions of every master plan; it is the balance of urban frame and it ensures the general stability of the landscape and the continuity of migration relations. From the point of view of agricultural production development it is very important to know how the master plan solutions influence the preservation of farming lands situated in the territories designated for the nature frame and the character of land use. The analysis of master plans showed that in all components of the nature frame (geo-ecological watersheds, geo-ecosystem stabilization centers and gridlines of geo-systems, migration corridors) the return and increase of the elements re-establishing the naturality of the landscape is recommended. On that basis it is recommended to increase the woodenness of the territories designated for agricultural purposes. Practically in all cases the solutions of special plans (prepared by the State Land Management Institute) over the forest layout land management schemes of the territory of every district are used. In some districts these solutions are legitimated to all extent, i.e. that areas (in which it is possible (not restricted) to plan forest planting in farming lands) marked in schemes, in the drawings of master plans are marked as land areas where afforestation is recommended. Such solutions do not correspond to present tendencies as well as to the practice of the implementation of measures for the EU financial support for afforestation (Table 2).

**Table 2.** Comparison of afforestation changes planned in the solutions of master plans (MP) and the solutions over the forest layout land management schemes

Indicators	Districts (municipalities)				
	Elektrėnai	Marijampolė	Pakruojis	Šakiai	Širvintos
Increase of the area of forests situated in the municipality territory during 2001-2009, on average per year, in ha*	166	250	69	279	215
Land area having permissions for the afforestation of farming lands in 2006-2009, on average per year, in ha*	18.8	11.8	14.6	27.4	76.4
Realistically prospective increase of forests in the land designated for forestry purposes during the period of 20 years, in ha**	1200	1600	2000	2200	5500
Land areas defined according to the forest layout land management schemes, where afforestation is possible, in ha	2912	3258	7361	9336	17758
Increase of the land designated for forestry purposes, In ha/per cent from the area of the district's territory:					
- during the period of 2001-2009	1027/1.9	672/0.9	336/0.3	767/0.5	1335/1.5
- is planned following MP solutions	1551/3.0	2790/3.7	11560/8.8	8700/6.0	11337/12.5

\* State land registry data

\*\* When calculating it was admitted that self-afforestation will make up 50-100 percent from the newly afforested area

Source: the data from the National Land Service under the Ministry of Agriculture

The improper solution over the coordination of the territories designated for agriculture and forestry can have negative impact upon the works of farmers' farms development and land improvement. After the generalization of the data over the land management schemes it was established that on the whole in Lithuania there is a possibility to afforest the area of 757.5 thousand ha or 22.7 percent of all farming lands, to increase the area of economic forests up to 3.8 times and to increase the general woodenness of our country up to 44 percent (Aleknavičius, Liaskovskaja, 2009). However, the legitimization of the solutions of these schemes in master plans should contradict valuable farming lands' conservation requirements. Besides, the planning of the development of one economic branch (when reducing agricultural activity possibilities) is intolerant from the point of view of the balanced development, because it does not correspond to one of the main aims of the territorial planning – i.e. to maintain the balance of social, economic and ecological development of our state's territory (Lietuvos..., 2004a). Therefore, in the solutions of the majority of master plans of the districts the increase of forest area is planned. Such increase is regulated using the forest layout land management schemes, which are recommended with reservations predicting that it is more purposeful to plant forest in larger, not drained, deserted and situated far from roads land areas as well as in the recultivated areas of already exploited gravel and sand deposits. The afforestation of the land designated for agricultural purposes should be carried out following the laws of the Ministers of Agriculture and The Environment setting the order of the afforestation in the land for non-forestry purposes and main attitudes towards the increase of Lithuanian woodenness and the layout of forest plots. When giving permissions for afforestation priority should be given to the areas of unused lands as well as to the areas of the soils of farming lands affected by erosion and situated in the territories of the nature frame. When keeping to these recommendations the general woodenness of the country could increase by 1.8-2.0 percent in 10 years and could reach 34 percent.

Beside the afforestation, the increase of natural elements of the landscape in the territories of the nature frame (including agricultural zones of state parks and reserves) would increase the segmentation of farming lands corresponding to morphological and economic peculiarities of soils. It could be reached by the expansion of the areas of meadows and pastures while laying out them in the places more preferable to the growing of cultivated grasslands and while coordinating them with the recommended specialization of farms. However, the stimulation of ecological as well as sustainable farming in the territories of the nature frame is purposeful by priority state support measures and not by setting compulsory requirements for the structure of crops and fertilization or by restricting works over the reconstruction of drainage systems and reclamation of deserted lands.

Taking into account all this the solutions of master plans in agrarian parts of the nature frame can be detailed

not by unilateral special plans designated mostly for the formation of the landscape, but by rural development land management projects predicting the complex solution over the perspective use of all farming lands and the activity of land users. When rendering these projects for the public consideration of the society, the concretisation of the impact of the solutions upon the environment is necessary. It should reflect the following items:

- the influence of solutions upon social environment and rural development: the way it is planned to improve the living conditions of people, to reduce the disappearance of villages, to keep inhabitants in rural areas in comparison to other localities where intense agricultural activity is possible;

- the influence of solutions upon agricultural economics: the way the incomes of farms will change after the reduction of the areas of farming lands and while growing more feeding plants. It is purposeful to use (while calculating) normative indicators of the productivity of agricultural plants, prices of production and input of production. It is necessary as well to recalculate direct payments paid to farmers and the value of the afforestation in agricultural farming lands;

- the influence of solutions upon the improvement of the ecological characteristics of the landscape while presenting the substantiation of the changes of the area of natural farming lands and ecological variety over the correspondence to normative indicators.

### 3. Conclusions

1. In order to coordinate interests of various fields of activity and optimise composition of farming lands as well as land use intensity, clear territorial planning principles and particular assessment of the impact of solutions upon the environment are necessary.
2. The urbanization of the territory with non-agricultural structures, afforestation as well as restrictions for intense land cultivation have the main influence upon the activity of the owners of the land designated for agricultural purposes.
3. Preparing the substantiation of the territorial planning documents, it is suggested to assess losses concerning the possible reduction of the area of agricultural farming lands, the loss of the fertile soil and the decrease of the amounts and value of agricultural production. The calculated losses must be compared to the indicators of the positive impact of solutions upon the environment by evaluating it in legal, economic and ecological aspects.
4. It is necessary to solve the management of the land designated for agricultural purposes (when preparing territorial planning documents) in a complex way evaluating tasks connected with agriculture, rural development and environment protection and predicting measures for the preservation of productive agricultural farming lands.

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