International strategic documents predict the need for the rational use and protection of natural resources, among them — arable land, increasing its productivity. According to the interpretation of Lithuanian Constitutional Court, the rational use of the land, as outstanding natural resource, is the public interest. It requires the State to take steps to legally regulate private and public land use. Lithuanian Long-Term Development Strategy [16] predicts that in the field of the rural and agricultural development public policy will ensure the economic, ecological and social sustainable development, legal and economic assumptions of natural resource use will be created. Prospective guidelines of the development of the agricultural industry, which consumes more than 60 per cent of the country’s territory, — market-oriented, competitive agriculture; state support for agriculture; environmental protection; sustainable, soil improving, biodiversity and landscape nurturing farming; equivalent rural economic and social development of the corresponding peculiarities of regions. In terms of the country’s total land fund, public land policies in the country needed to define the long-term land-use policies, set priorities, to provide the most effective means of land use objectives.

When administrating land use, it is necessary to know how to combine public and private interests, and to plan foreseeable measures assessing specific properties of the land, as a component of economic structures and natural environment. Agricultural and forest land used for agricultural activity — is a unique natural resource, characterized by fertile soil layer. This is the main means of production, accumulated capital, built up, and is required to be kept by the previous, current and future generations of people. This land, if properly used, does not lose its value. Land use long-term goal — to improve the economic performance of land, preserve agricultural land, forests and other natural resources. To achieve this it is necessary to prepare planning documents reconciling natural systems, and provide economic and legal basis of these documents and the cost to regulate the growth of production.

Agricultural enterprise asset privatization and reorganization to smaller unit, restoration of property rights to land as well as a change in market economy conditions, the limited availability of the national budget to the reconstruction of drainage systems, and other worsening agricultural land improvement works, targeted EU funding instruments for financial support had a substantial impact on the efficiency of agricultural land use.

Developing proposals for further agricultural and rural development planning, it is necessary to take into account options for the regulation of the rational use of agricultural land. The aim of the research of this article — to explore the country’s agricultural land use trends and identify key rational land-use poli-
cies. To achieve the aim the following tasks are raised:

• to analyze the strategic documents, laws, regulations of land management issues;
• to explore the basic statistical indicators of the country, describing land use and agricultural systems in the evolution since 2003;
• Proposals of agrarian land-use problems.

Research methods. In studies, the use of mathematical statistical methods, legislation and literature analysis, statistical data analysis and abstraction have been used.

The strategic documents, laws of the Republic of Lithuania and government resolutions, the General Agricultural Census data, agricultural land and crop reporting data and other statistical data on land, population and agricultural production of rural municipalities were used for studies.

The existing trend. In Lithuania, Land Fund is governed by demand for land for the development of various economic sectors, agricultural land users’ activity, the tax laws of EU funds and national budget support certain activities, and other economic and social reasons, as well as spatial planning documents and site management works conducted on their basis. These reasons have an impact on certain adverse trends in land use: agricultural land abandonment and inefficient use of spontaneous urban development, unwanted rural landscape changes.

Negative changes in land use: 1) agricultural land area decreases due to urban development, afforestation of agricultural land, abandonment and extensive use of funds, lack of land reclamation works; 2) a large number of small farmers who do not have technical capacity, efficient use of land and only limited access to the financial support of EU funds; 3) scatted plots of the used farm land, when they do not form compact arrays, — this increases the time and cost of expenditure on agricultural crops as well as transport costs; 4) severe agricultural production losses.

The area of the used agricultural land in Lithuania decreased by 62.4 thousand ha during 1970–1989 and during the 1990–2010 year period — by 766.1 thousand hectares. The main reserve for the increase of agricultural land area — abandoned lands. Following the dismissal of community gardeners and the smallest unreported farm land, the statistical area of agricultural land under the Land records makes up about 3.300 thousand hectares. Declared agricultural activities of agricultural land for the year 2004 — 2572 thousand ha, in 2008 — 2615 thousand ha, in 2009 — 2636 thousand ha, in 2010 — 2677 thousand ha, in 2011 — 2715 thousand ha, in 2012 — 2763 thousand ha, in 2013 — 2803 thousand hectares. Thus, a relatively neglected area of agricultural land during the period of 2005-2008 decreased by 64 thousand ha, during the period of 2009-2013 — by 167 thousand ha, and currently consists of about 500 thousand hectares. It is desirable that the further incorporation of abandoned farmland into the declared land would increase (restore) the used farming land areas in such places where the soils are more productive and drainage system are installed, at least in 250–300 thousand hectares.

The country has developed three major farm groups: non-commercial family farms, farms of farmers and other physical persons growing commercial agricultural production and farms of legal persons (companies and agricultural companies) growing commercial agricultural production. Because of the ongoing farm restructuring process the number of farms decreases and increases in average farm size. Over the period of 2003-2010 period, small farms with less than 5 ha of agricultural land (an average of 2.7 ha) decreased from 168.9 thousand to 117.5 thousand, farms with 5–20 ha (average 9.3 ha) decreased from 85.4 thousand to 61.4 thousand, and the number of personal and corporate farms with more than 20 hectares, increased from 17.5 thousand to 20.0 thousand, their average farm area has increased from 70 ha to 88 ha. However, only about 45 percent of the used land holdings have acquired for ownership, the remaining land is rented.

Agricultural land is used in varying degrees. Per capita productivity score, in the farms of Central Lithuanian region, the value of general crop produce is 42 Lt/ha, while in the eastern and western Lithuanian regions — only 28–29 Lt/ha. Corn and other commodity crop area from the total utilized agricultural area in separate areas of Central Lithuania reaches 70–88 percent and in some eastern districts of Lithuania — only
9–13 percent. This indicates that the structure of agricultural land and crops not in all districts corresponds to the recommended farm specialization, taking into account soil characteristics. These differences depend on a variety of reasons, among them major reorganization of farm characteristics, differences in population density and rural residential areas of distribution, created social and agricultural infrastructure, income, state aid volumes.

Extensive land use and urban development are changing the traditional rural landscape. The greatest impact on this landscape have new residential dwellings and other buildings, afforestation of agricultural land, agricultural land fragmentation, land abandonment, self farmland conversion to plantations of trees and shrubs, or unused land areas. Landscaping is being solved in the general plans of municipalities and multi-purpose special plans. They lay down the land use and building regulations, restrictions in protected areas assigned for nature frame or management zones.

However, it should be noted that legal and methodological provisions of land-use planning and spatial planning documents permit to plan new constructions and afforestation in the productive arable land. Conversion of forest land into other agricultural land is possible only in exceptional cases, by offsetting for the State forest growing and other expenses. Meanwhile, the use of agricultural land with rich soil for urbanization (since 2000) is possible by not offsetting the state for agricultural production losses. This encourages land shredding and their non-use according their intended purposes. The most active urban development is close to the major towns and recreational areas. It was found that over one year the area of agricultural land has decreased by three thousand ha due to urban development. This is affected by the fact that the majority of new constructions go on in the former arable land, and in most cases, the planning of construction in agricultural and forest land is prohibited.

377.1 million Lt are assigned in the Lithuanian Rural Development Programme 2007–2013 for the land reclamation works forming cultural landscapes and for the land consolidation, while for the afforestation of abandoned and used agricultural land — 381.4 million Lt. Support for the modernization of agricultural holdings receive only about 16 percent of farms growing agricultural production, they will be paid 1517.1 million, but the agri-environmental measures, which only encourage extensive farming, will be provided during this period — with the amount of 1195.7 million Lt.

Quite an important problem is the reclamations facilities and agricultural activities used in road deterioration. According to Reclamation program an annual requirement of funds for reconstruction of drainage systems is about 130 million, but the funding provides only about one third of the demand, acid soils are not limed at all. For 100 hectares of land area fall an average of 0.7–1.0 km of local public roads, of which 64.7 percent are covered with gravel, dirt road — 29.9 percent. Only 5–25 percent of roads are in good condition, the rest — satisfactory and bad. In addition to these roads, yet up to 50 percent of the total road network of local internal roads is used for the approach to industrial sites, small villages and homesteads groups. The need to improve the roads there is even greater.

While crop production figures in Lithuania are not worse than they were before 1990, the number of animals during the period of agrarian reform in Lithuania decreased by 2–3 times: in comparison with 1989, the number of cows in the country’s farms in 2012 made up 39 percent, pig — 30 percent. It is not only the result of the large farms liquidation, but the lack of support for small (family) farm conservation as well. For example, the Lithuanian Rural Development Plan for 2007–2013 program for young farmers — 294.9 million Lt, support for small-scale (semi-subsistence) households — 98.2 million Lt, while for the early retirement of the owners of the farms of agricultural production — 467.3 million Lt. For this reason, as well as for the worsening of the demographic situation during the period of 2003-2010, farms with cows decreased from 193.4 thousand to 85.0 thousand, farm contractual number of cattle decreased by 21.9 percent, pigs — 21.0 percent. The problems of this uneven development of agriculture are raised in many research papers.

Analysis of the literature. In the adopted document «Agenda 21: Sustainable Development Action Programme» of the United
Nations Conference on Environment and Development held in Rio de Janeiro (June 3–14, 1992) the need of harmonious, sustainable land resources planning and use was highlighted. The document states that: 1) in order to rationally plan the use of land resources, a reliable information system and land records are necessary; 2) land use is to be determined in such a way that its use would bring the greatest benefit, however, must ensure the balance of interests must be ensured; 3) the role of territory planning and the need to develop land management plans for the sustainable use of land resources are crucial; 4) it is necessary to maintain and improve lands suitable for agriculture to ensure the protection of soil plentiful features: «10.6. A certain level of government organizations... should ensure that policies and measures will support the best possible land use and sustainable management of land resources. Particular attention should be paid to the agricultural land. This requires: (c) to study the structure of care — the laws, regulations and enforcement procedures to define the innovation needed to support sustainable land use and land resource management, as well as to limit the transfer of productive arable land for other purposes [6].

The Torremolinos (in Spain) Charter (European regions (areas) planning charter), adopted at the conference held in May 20, 1983, by European ministers responsible for regional planning, has identified the principles and objectives that have an impact on land administration policy. It was found that the key planning objectives — a balanced social and economic development of neighborhoods, quality of life, reliable, natural resources management and environmental protection, rational use of land. It is very important to create an acceptable living conditions in rural areas, in terms of all economic, social, cultural and environmental aspects, as well as infrastructure and facilities [22].

In the Charter of European rural areas, adopted by the Parliamentary Assembly of the Council of Europe in July 28, 1995, it was found that the main features of rural areas — economic (the growing of raw materials for food and industry), social (preservation of human connection with the natural environment) and organic (natural resources, rational use and protection). It is noted that it is necessary to avoid the negative trend that started — rural depopulation and loss of traditional farming method. This document contains the general provisions for the development of the rural areas of European countries. It specifies that the regional (rural development), and tillage policy must be combined with the integrated social and economic policies. States should promote the rational size of farms, whose performance would be economically beneficial. It is also necessary to ensure the rational and equitable use of natural resources, to preserve the living environment, its biodiversity, protecting the valuable landscape, conserving forests and planted areas used for agriculture. Village will remain attractive and safe place to live, if it will have a good infrastructure, viable agriculture and forestry, will be handy for non-agricultural economic activities to develop, will have a healthy and comfortable environment [8].

The resolution of the Constitutional Court of the Republic of Lithuania of March 30, 2006, clarified that: the land is an important part of the ecosystem, determining the existence and change of other natural resources (inter alia water, vegetation, wildlife). Land is a special natural resource in the sense that it can not be replaced by something else, re-created or otherwise increased. The appropriate use of land, as a limited resource, is a condition for human and social survival and development, the nation’s well-being; the guarantee of its sustainable use, as a natural resource, is the public interest. It should be noted that the rational use of land is an integral part of its protection, inter alia, of the fertile farmland, landscape maintenance [13].

Resolutions of the Constitutional Court of the Republic of Lithuania adopted in May 13, 2005, and March 14, 2006, stated that the land is a special object of the property right. Legally regulating the relations between the use of land for business and economic activities, it is necessary to respect the land as a natural resource, and as a real estate specifics. In the Constitution, there is the possibility and necessity of the acquisition and management of the land as a special object, as well as to legally regulate the transfer of the relations so as not to undermine the preconditions of the land as a value specially protected by the Constitution. It is especially emphasized that such legal regulation of the land must be established that land plots, if they are not as-
signed to agricultural land, should be used by owners and (or) the users in particular for agricultural activities [11; 12].

Laws imposing restrictions must be proportionate to the benefits, that is, the balance of public and private interests. When changing the laws, the European Union agreement conditions requiring to eliminate provisions that would discriminate investors from EU countries and would prevent their establishment and the free movement of capital, must be taken into account. The Case 055/94 of the order (Gebhard) (adopted on November 30, 1995) of the European Court of Justice, four principles of justifying restrictive measures were formulated: a) the non-discriminatory application b) consideration of the public interest, c) measures orientation for the attainment of the purpose for which they are introduced d) the choice of the at least restricted means to achieve [2].

In support of the state land use regulatory tools and the need for land-use planning legislation, academician S. N. Volkov from the Russian Federation said: «Most of the scientists and experts believe that state regulation of land relations in foreign countries should not be seen as a state intervention in land and real estate market processes, but as the domestic social and economic policy component of ensuring a balanced development of the territory. As a result, along with a variety of financial-economic regulatory measures, the territorial development planning and zoning mechanism as well as other land use restrictions are being applied. Practice has shown that countries with increased public impact on the land market have achieved substantial progress in the development of land use in comparison with those, which reduced the impact of state regulation on land relations, as the result of the land reform. Countries, which have strengthened their recent state regulation of land relations by means of land management, preserved the optimum balance of different groups of land (agricultural, forestry, protected areas, residential areas)» [21].

The territory of the Republic of Lithuania has different natural and economic land features. This leads to the differences of the development of individual regions of the country, particularly in the use of land for agricultural purposes. In order to reach the balanced and sustainable development, strategic documents provide the objectives and measures to reduce regional disparities. In the General Plan of the Republic of Lithuania the country’s regional policy framework, that would not only make full use of the local specific characteristics, but also improve the quality of life and reduce generated disproportions, is being formulated [15].

Key provisions of Agricultural policy. Considering the given general requirements for the rational use of the land, as an exceptional natural resource value, the Lithuanian state policy in the field of rural land use should be guided by the following land management and use principles:

1. Conservation of the fertile soil, as a non-renewable natural resource, for agriculture and forestry activities.

2. The preservation and improvement of economic performance of agricultural land, as an exceptional interest in the limited space areas, the use of derelict lands with productive soil for agricultural purposes. The utilized agricultural area of Lithuania should increase to at least 3 million ha and should remain stable, not lowered.

3. Preservation of forests and the land of ecological significance (wetlands, ponds, trees and shrubs plantations), increase of forest areas up to the recommended volumes. Average Lithuania forest area should be increased to 2.3 million ha to remain stable, without encroaching on land areas used for agricultural activity.

4. Sustainable urban development, with minimal damage to agricultural structures and valuable agricultural land and forest use.

5. Intensive farming on agricultural land, the cultivation of soil best suited for plants assimilating conditions of sustainable agriculture.

6. Landscape ecological diversity and cultural landscaping requirements for ensuring an orderly setting out buildings in rural areas of arable land and grassland plots, forests and fields of protective plantations, natural land use.

7. Long-term economic structures with stable land and ensuing effective agricultural and forestry land use and development.

8. Permanent rural residential areas to ensure viable farm operation, conservation and restoration.
9. Creation of infrastructure necessary for agriculture, forestry, and other activities (good road network, drainage facilities, office services to the population, etc.).

10. Alignment of the income (by means of economic incentives) from agricultural activities in unequal favored regions of the country.

The ability to regulate land use by the state administrative means. These measures include the territorial planning and implementation, legal and economic protection of valuable land, differentiated state support for land users, targeted land administration institutions.

*Spatial planning documents and their use in promoting or restricting certain activities.* Preparation of general and specific plans, the available legislation and methodical documents currently does not provide fertile farmland protection of legal and economic measures, not sufficiently protects agricultural land in the interests of users. The necessary legislative amendments to the agricultural land and forest management priorities, the specific requirements of cultivated fields, roads, built-up areas, forests and other vegetation layout planning of land use and farm structure optimization. The country’s long-term use of the land fund should be regulated according to the prepared planning documents of the existing land-use changes addressed in the context of the population and the various sectors of the balance of interests. In the plans approved for agrarian areas are to be noted farmland and grassland plots used for agricultural activities, village boundaries, specific areas of planned urbanization as well as the land which will be used for forestry activities. In accordance with the methodological requirements of cultural rural landscaping, it could be ensured that the transformed landscape should be in line with scientific advice requirements of land use functionality, the ecological stability of the landscape and aesthetic point of view. For the improvement of the quality of planning documents it is necessary to prepare the layout of urbanized areas (including homesteads and other individually planned buildings), forest and tree and shrub planting layout and land use change in the composition of the planning guidelines and methodological recommendations. After the revision of legal provisions, construction plans could be developed for agricultural land use for other purposes by linking the planning agent’s commitment to compensate the state (public) fertile soil and agricultural land loss reduction.

The proposed methodological requirements must be based on scientific advice for the guarantee of landscape’s ecological stability. However, this requirement should not violate the condition of the need to preserve valuable agricultural land for agricultural purposes. The increase of the ecological diversity of the arable land in the fields can be achieved not only by the creation of new homesteads and fields, buffer zones and planting groves, but also because of the increasing number of grassland area when installing them in lower, more wet or eroded soils — as well as by turning off the reclaimed land the newly formed swamps and tree and shrub planting plots from farmland areas of ecological and landscaping valuable perspective due to the process of renaturalization. In addition, the ecological diversity can be increased by the proof of other landscape-changing work: remediation of abandoned quarries situated in the agrarian landscape, renaturalization of depleted peatlands, isolation of reclaimed river stretches, leaving them for renaturalization, as well as retaining the remaining existing relatively natural land use as local natural frame and the agrarian landscape of the historic heritage items.

*The legal protection of valuable agricultural land against the reduction of their area.* Considering the provisions of international instruments, national strategies of the Constitution of the Republic of Lithuania, the rational use of the land is the public interest. Agricultural land, forests, water, and other particularly valuable natural resources should be properly, sustainably used, protected and restored. In order to protect non-regenerative resources — fertile soil, amendments for the law of the land [18] are necessary to legitimize the fertile soil layer as landowner’s property only if the land has been or may be used for agricultural crops, forest plantations and other cultivation. Then, changing the land use or using agricultural land for buildings, not the owner of the land but the state (the public) would be required to pay for damages caused due the reduction of agricultural area. The analogical principle of the protection of the forest land was adapted in the adopted amendments.
to the Forest Act in 2011 [14]. The main essence of the proposed changes: compensation, the amount of which depends on the productivity of land, soil replacement value, payback for land reclamation, agricultural productivity, should be paid for agricultural land allowed to be used for non-agricultural activities. The paid cash compensation is included into the state budget revenues, they shall be treated in a special agricultural land improvement financing program and used for the financing of land reclamation works (including the design and execution). In order to save the wastage of agricultural land, it is recommended to legislate a provision stating that the transfer of productive agricultural land and drained agricultural land for afforestation is possible only in exceptional cases.

**Derelict land problem.** It is appropriate to carry out the assessment of the abandoned agricultural land condition in the country: to map the former agricultural land of 1990, currently not used for agricultural purposes (or which do not comply with good agricultural and environmental condition), except in accordance with the permitted use to another use or afforestation. Work on the spot to determine the contours of land use (land) to give a further exploitation. All abandoned agricultural lands should be used for agricultural activities and forestry activities, and in the places determined in the planning documents — for other purposes or for the increase of landscape ecological diversity. In lands, which should be returned to use for agricultural purposes, sped the extra set of features and capabilities. For example, the following is recommended during the preparation of legislative amendments:

- to determine the preferential treatment of abandoned agricultural land plots purchase by selling their agricultural entities, if the compactness of land will be improved;
- to provide state support to agriculture in acquiring abandoned private land (eg, the purchase of land taken for credit interest payments) if compactness of land will be improved;
- to determine benefits for derelict land (eg, exemption from land tax of up to 3 years) in Land Tax Act [19], if the owner of the land improves and restores the former farmland measures. The law also appropriates to point out that for the private landowners, who did not start improving derelict land available for agricultural purposes, the land tax is increased by an amount equal to derelict land restoration of the former farm properties — the replacement of reclamation activities;
- to provide the resources (from the budget or the establishment of the proposed Special farmland improvement funding program) to cover part of the holdings of funds spent on derelict land reclamation works.

**Supply of land users with information about land and natural economic performance.** Land Information System data, prepared on the basis of soil properties, land reclamation status and land use research, is stored in the GIS database, these works in the whole territory of the country are scheduled to be completed in 2014. It is necessary to carry out soil and other soil properties tests required to ensure the actualization of periodical data and reliability, as well as to have reliable information on the status of land reclamation and other land natural and economic performance [20]. Since the GIS data must be quickly updated, they should be linked to the land in the state accounting. The laws should be supplemented by a provision of the periodical land use accounting using ortho-photo maps while using the state budget. The introduction of the Land Law of the Land Information System [18] the GIS database will gather data on the formation of land use, soil agrochemical properties, land reclamation condition, special land use and forest conditions, cultivated fields classification the suitability of agricultural crops, land productivity assessment. These data are accessible and in the most convenient form should be given to agricultural land users, local administration, agricultural advisory services, agricultural and rural development institutions administering planning documents.

**Differentiation of the support for agricultural and rural development.** It is appropriate to link it to the territorial planning documents, published guidelines on agricultural production and land information system data. State measures to promote efficient agricultural use of the land, should be designed to encourage farms:

- to buy or rent abandoned public and private lands with productive soils and drainage systems required to perform the repair and reconstruction;
• to better use the areas of existing grasslands for the increase of cattle and sheep numbers and plow up and use the ware production for arable crop production in the former meadows and pastures, where their area is larger than required by the standards of farm animal feed supply;
• to make sure that the agricultural land is not left unused and all agricultural land is used at levels that allow you to get maximum crop production without violating agro-technical requirements without interchanging crop rotations, soil structure improvement, humus content retention and increase, balanced fertilization with mineral and organic fertilizers, crop protection from weeds, pests and diseases. Such sustainable farming measures can only be implemented on the basis of GIS data on land underlying properties and the complex according to the agricultural and rural development projects, establishing a separate land-use perspective.

Control functions of institutions, intensification of management of land management tools. Main features — the issuance of the authorization for the afforestation of agricultural land, preparation of the conditions to prepare the planning documents providing for the use of property development areas or planting forest, land use state control. The need to make these works to be carried out in accordance with clearly formulated methodological instructions, provisions to ensure valuable farmland, forests, and natural features of the landscape protection.

At this time the land use state control works are not of such scale, which would allow the authorities to have no significant impact on the ongoing land-use changes. The legislative amendments are necessary in order to include not only the penalties for violations of the law, but public policy measures to promote better use of land. It is also appropriate that land use controls enforcement agency have the right to hear cases of administrative offenses related to the fertile soil and the sustainability of land resources, to enable the state to take over temporary management of unused land for its intended purpose, if their owners can not be found.

The activity of the land administration institutions can be improved by the law of a specific normative and regulations governing productive farmland protection areas and re-

duction conditions of reasonable size and shape of the land requirements for the design, stable landscape elements the replacement of a binding planning document coordination with the Authority, responsible for public land policies — the National land Service under the Ministry of Agriculture. This office should control the use of land and will improve conditions and access road network to preserve arable land and natural landscapes. The organized planning documents provide for the existing land use changes and should be based on the legal requirements of land the size and limits of agricultural land and forestry plots of the formation of non-agricultural land conversion of agricultural land, agricultural land into forest, built-up area, or other uses.

CONCLUSIONS

I. The main agrarian land use state of the adjustments the Republic of Lithuania to be considered:

1. Sustainable use of land resources among different intended use planning and management, ensuring productive farmland preservation.
2. Reasonable size, a stable and compact land holdings of agricultural production for raising farms.
3. Rural cultural landscape formation, comprehensively addressing the residential areas of construction, infrastructure elements, cultivated fields, forests and natural land use layout.
4. The increase of agricultural production while including potentially fertile farmsteads and inefficiently utilized agricultural area into intensive agricultural activities.
5. The improvement of agricultural land valuable features using the soil testing and other land information system data.

II. In order to increase the efficiency of agrarian areas, it is necessary to be done in the Republic of Lithuania:
1. To improve regulatory laws governing territorial planning and implementation of agricultural land as an exceptional value of natural resource protection.
2. To strengthen the functions of land administration institutions that more attention should be paid in their activities to rural areas planning and management, to dissolution of abandoned lands as well as to the state land-use control.
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