

RECOMPOSITION OF RURAL SPACE IN LITHUANIA SINCE THE RESTORATION OF INDEPENDENCE

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Abstract. Since 1990, rural Lithuania has experienced a transformation due to a change in the agricultural model, when social and economic reforms were launched towards creating a market economy. Agricultural activity started concentrating in territories with the best social and physical conditions. A type of *latifundium* agrarian structure has formed in northern and central Lithuania. The transition from the collective model into the family farming model in western and south-western Lithuania developed faster than in other regions by the active formation of medium and large family farming. Small family farming has overtaken the collective agricultural exploitation in eastern, southern and coastal regions. Landscape structure analysis supported the results of socio-geographical research in rural spaces. During 1995–2009, the decline of the agrarian land area was the most intensive and an increase in the average size of land plot was the least visible in the morainic hill landscape (eastern Lithuania), the most unproductive compared to the other investigated landscape types: clayey plains and downy clayey plains (central and northern Lithuania).

Key words: socioeconomic transition, post-Soviet rural spaces, agrarian landscape, land-use change, Lithuania.

INTRODUCTION

The 20th century brought many social and economic changes to the rural area, which influenced the development of modern rural society. Between wars, the so-called “Danish rural economy” model was created, which was based on a small and medium family economy, integrated in a cooperative system. After Soviet occupation, it was changed into an antagonistic collective rural economy model, which was based on socializing the agrarian and other production equipment and on collective work in large agrarian companies. After the restoration of independence in 1990, Lithuania, as well as other post-communist countries, launched economic and social reforms oriented to the

market economy. These reforms made radical changes in macroeconomic space and the decollectivisation process in the rural economy through the introduction of private property of the agrarian and other production equipment and creating new social production structures to meet the standards of the market. After fifty years of collectivization, exogenous factors, such as land restitution, production equipment privatization and new national and EU agriculture politics fundamentally changed rural society. The change of socioeconomic context and the rise of new social subjects caused a shift in rural areas and their functioning. However, the modern rural changes are influenced by the previous social territorial “heritage”.

This paper is a hybrid work involving two study fields: human geography and landscape geography. In the first part, we analyse the effect of socioeconomic reforms on the rural territorial organization. The paper seeks to reveal the nature and the influence of the processes on which territorial changes depend and to evaluate the formation of new territorial system in post-collective rural space. Considering the longevity of territorial structures, it is necessary to assess the role of historical factors in the process of the changeover of the rural territories and to find how the character of new agrarian spatial structures depends on hereditary territorial structures. In the first section of the article, the new rural economy system is analysed, which is composed of regional land-use specialization, new agrarian structures and territorial formation.

The second part of the paper is devoted to an analysis of agricultural land changes from the point of view of landscape science and landscape structure monitoring. This approach independently describes land surface processes and forms the basis for deriving conclusions and recommendations for land management. Special attention is paid to the agrarian landscape and its land use as a wide overlay ground of natural and cultural components of living space. The research of the landscape, particularly the agricultural landscape, made extensive use of cartographic, satellite and aerial photography [Bibby 2009; Aaviksoo, Muru 2008; Ihse 1995]. This approach was often complemented by landscape historical investigations [Jansen et al 2009; Kavoliute 1997] as the current landscape structure is more or less influenced by the structural framework introduced in its past.

Landscape structure and land use changes have been investigated in Lithuania with growing intensity, starting from historical analysis [Kavoliute 1994; 2000] and followed by studies on the changes during the mapped period beginning in the Soviet-era [Kavoliute 1997; Bauža 2007]. Finally, fresh statistical data and aerial photography and satellite data were used for studies on land use change over the last two decades when Lithuanian regained its independence as a state [Ribokas, Milius 2007; Ribokas, Zlatkute 2009; Veteikis et al 2011].

The agricultural landscape is dominant in Lithuania, covering 61% of its territory according to the last CORINE land cover data of 2006 [Vaitkuviene, Dagys 2008]. It stands in between the two landscape variant polarities, namely natural areas (together with swamps making up 33% of Lithuanian territory) and urbanized areas (3.3%). Agrarian lands historically belong to the most fertile, or productive, landscape types whenever they became available as such. In Lithuania, these landscape types are

clayey plains, downy clayey plains and deltas. On the other hand, the mentioned landscapes became available to agriculture relatively late, when technology allowed the cultivation of heavy clay, composing their soils and managing the excess of water. Other types of landscapes, such as moraine hills and river valleys, play an important role in forming the country's natural and anthropogenic physiognomy, being not only quite frequent types, but also among the first landscape types to cultivate, starting from at least the Iron Age [Kavoliute 2000]. Therefore, taking into account the area and the importance to cultivation, three landscape types were analysed in regard to rural space recomposition, namely, clayey plains, moraine hills and clayey downy plateaus (the latter being intermediate between the first two in many aspects).

MATERIAL AND METHODS

To evaluate the multiplicity of the process, the rural territorial transformation was analysed at various territorial levels – national, regional and local. The analysis of data collected from the 2003 and 2010 general censuses of agriculture (Statistics Department) both at the national and district level, is combined with the results from a farmers' poll which was taken in local research. The poll was taken in 1997 and 2000 in three territorial areas which have different historical development of agriculture and rural society. These include the Skaistgiris territorial research area, which includes the territory of the former "Pergalės" kolchoz in Joniškis district in northern Lithuania, the Suginčiai and Čivyliai research areas (which include territories of former kolchozes in the Molėtai district in eastern Lithuania) as well as the Plungė district and Rietavas district in western Lithuania and the Samogitia ethnocultural region. The survey polled farmers who were employed in agricultural engineering and milk cooperatives.

In regard to landscape analysis, it is appropriate to mention that the available landscape survey material, namely, the CORINE Land Cover database of Lithuanian territory for 1995, 2000, and 2006, gives an overly-generalized evaluation of land use changes. According to it, between 1995 and 2000, there were only 49 areas (and between 2000 and 2006 – 143 areas) in Lithuania that underwent agricultural land conversion to more natural land use variants. These were (with few exceptions) larger than 5 ha, meaning that there was a predetermined lower limit of area (5 ha) for mapping land use plots. Although for a general overview of land use change in a landscape this may be acceptable, a more detailed evaluation requires use of uncompromised material. In addition, CORINE data end in 2006, and are already outdated for the quite rapidly changing situation in the current landscape. Therefore, the aerial photo-views of the years 1995, 2005 and 2009 (scale 1:10,000) were accepted as the more precise working material, although still requiring processing.

Eight 1.58 × 1.58 km (250 ha) sample squares were selected in three natural landscape types (clayey downy plateaus – 3 sample squares, clayey plains – 2 sample squares, and moraine hills – 3 sample squares) that are the most agriculturally cultivated in Lithuania. Sample squares were selected from the set of 100 landscape samples already distinguished in Lithuania for purposes of monitoring at the local level

[Jankauskaite, Veteikis 2010]. The selection was performed, keeping the evenness of their territorial distribution in mind. Using GIS software (ArcGis 9.3), the agricultural lands of all the three dates (1995, 2005 and 2009) were mapped, calculating their area and percentage in the sample squares. Later, the change of this data during the mentioned periods was tracked.

In the next step, we created a GIS database of the centres (middle points) of all the land plots in delineated agricultural areas. The vectorised boundaries of land plots could have constituted a more informative database, but for the current paper's aims, general statistics (derived from spatial analysis of land plot centres) are sufficient. The land plots were visually distinguished in agricultural areas that comprise arable land, meadows, and pastures. The middle points of each visually-distinguishable land plot were inserted manually using the GIS application. Later spatial distribution of the land plots' middle points was analysed, resulting in the average number and size of land plots in a specific landscape type for every date of observation (1995, 2005, 2009) and their change between these dates.

Finally, point spatial distribution gave additional information through calculation of the distances to the urban areas and between themselves. This allowed estimation of the approximate size (in the form of conditional diameter) of each land plot and thereafter, the possibilities to perform correlation analysis between data arrays of land plot size and distances of land plot middle points to the edge of urban area. Land plots that were inside the urban areas received a 0 distance value.

CHANGE IN THE RURAL SYSTEM

After restoration of independence, Lithuanian agriculture underwent a great decline in production and capital. The question arises as to how and in which forms this economic revolution was manifested in agrarian territories. How did systemic and structural reforms change the basis of agrarian production territorial organization formed in Soviet times? After two decades of agricultural reforms, we may identify a new agriculture production system which is based on two interconnected forms. The first is the formation of a new land-use system due to the shift from a planned to a market economy, and the second is the creation of new agrarian structures because of collective enterprise privatization and the entrenching of private land property.

Formation of the new regional land-use

Because of low agriculture productivity and the constant lack of food during the Soviet era, it was sought to maximize agricultural areas and to make use of lands not very suitable for agriculture. The land-use system changed after exiting from the planned centralized economic system and cancelling the exceptional agriculture support in the form of large subsidies for farmers and additional allowances for agricultural enterprises working in less-productive lands. The change in economic system led to the concentration of agriculture activity in territories with favourable social and natural

conditions. Territories with declining agriculture production also emerged. Since 1990, crop areas have expanded in central Lithuanian flatlands (clayey plains), which have good agronomic environment and in western regions where dynamic family farms have formed. At the same time, in eastern and southern Lithuanian regions, where there are no favourable agronomic environments and demographic structure, the crop areas have declined (fig. 1).

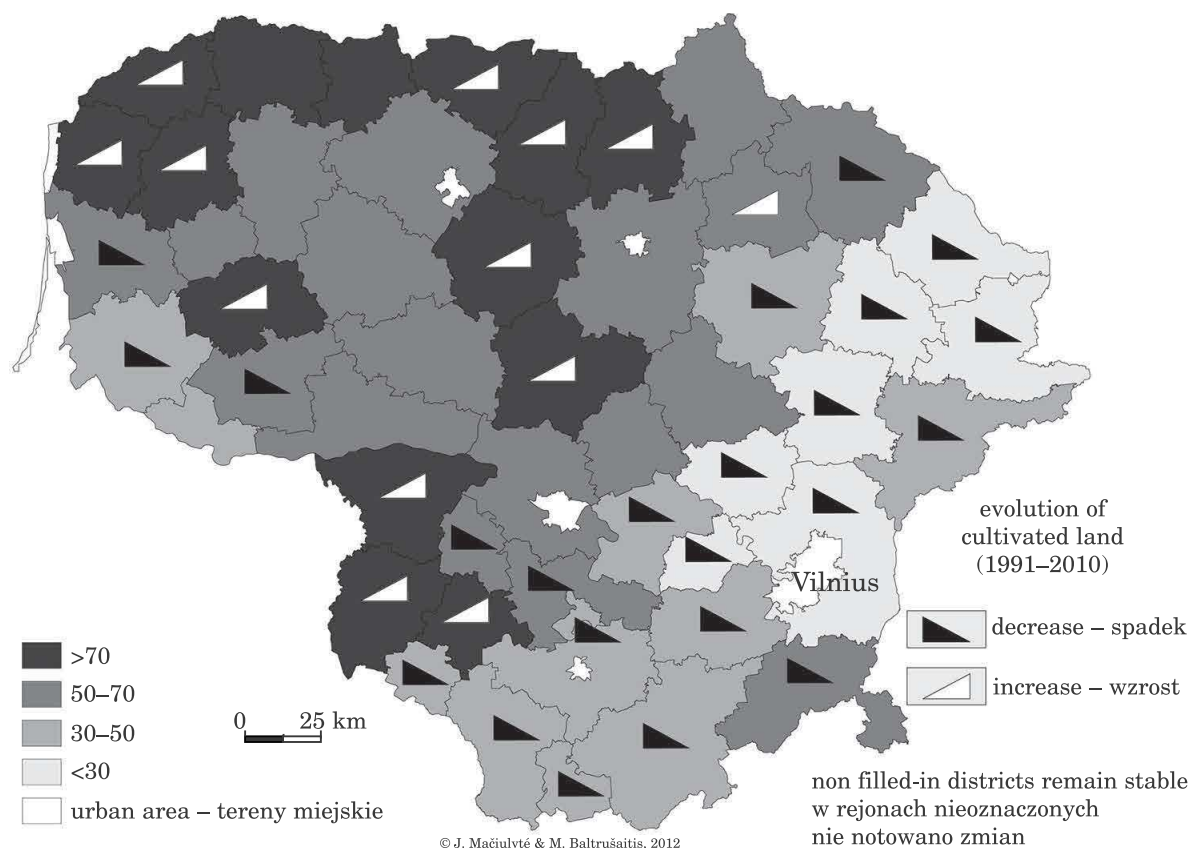


Fig. 1 Cultivated land as a % of the utilised agricultural area (UAA) in 2010
Rys. 1. Ziemia uprawna jako % gruntów wykorzystywanych rolniczo w 2010

In Soviet times in all agrarian territories of the country, the crop structure was homogeneous: forage and corn cultures for the development of milk cattle and pig meat sectors were grown in collective farms. Since 1990, the crop structure has changed due to the market demand and the state subsidies as well as through searching for optimal natural and social conditions for this activity. Even though the new crop structure is not yet fully formed, new regions with a predominant cultural system have become visible (fig. 2). In northern, central and south-western regions, a large crop farm system is emerging where large family farms and agriculture enterprises hire workers, rent most of the land they use and grow corn and technical cultures. The creation of a private enterprise network which services from the bottom (distribution of fertilizer and phytosanitary devises, consulting services) to the top (buying up agrarian production by advanced agreements) has encouraged specialised corn farms. Besides specialised crop farms, there are also small natural farms which develop livestock farming for their

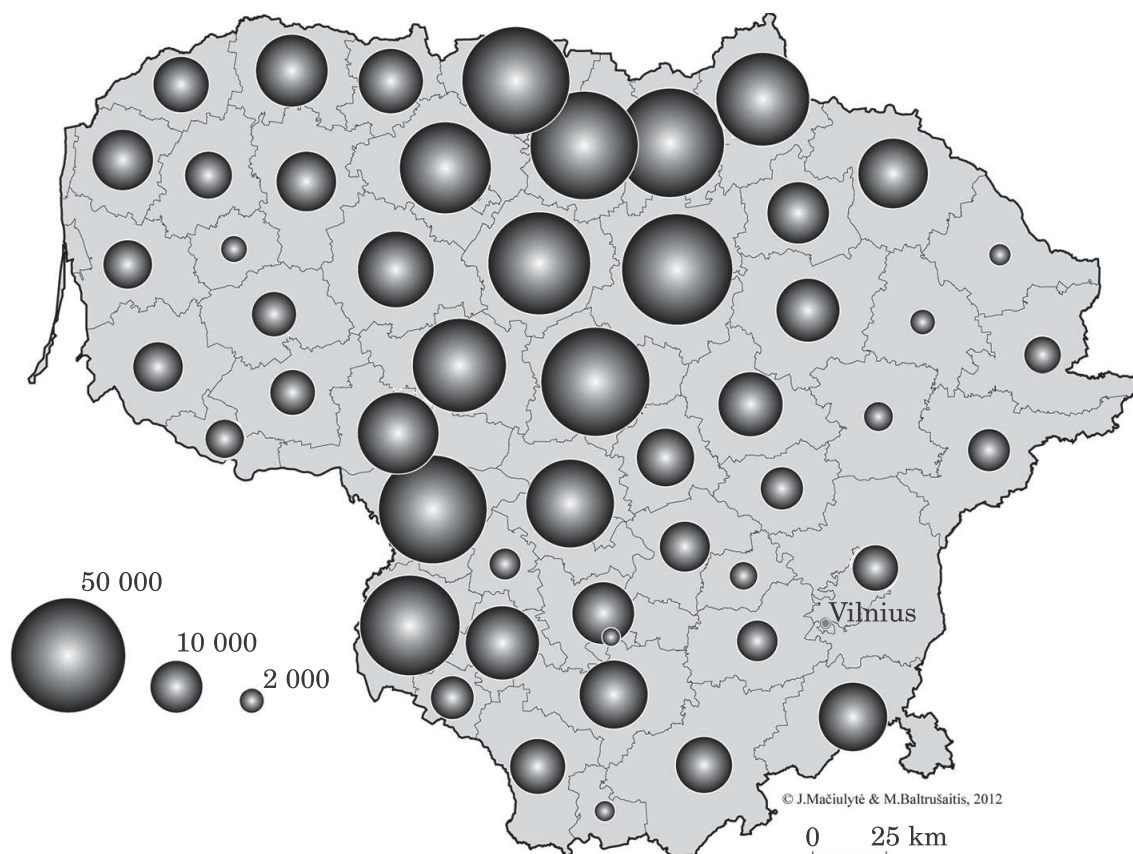


Fig. 2 Cereal cultivation land in 2010 (ha)

Rys. 2. Areal upraw zbóż w 2010 (ha)

own needs. In western and eastern regions, where farms are smaller and oriented to livestock, the forage cultures dominate in the crop structure. The formation of cooperatives of milk enterprises and producers makes good conditions for dairy development in Samogitia. In this western region, covering the Plungė, Telšiai, Rietavas, Šilalė, Tauragė, Pagėgiai districts, there is the highest number of cattle per agricultural area (37 cattle per 100 ha agricultural area, while the national average is 22). The other regions in the state inherited a post-Soviet land-use system with feed grains being grown together with forage grass cultures.

Territorial differences of agrarian structures

The first decade of transformation of rural territories saw a change in production units. Since 1991 the land restitution and privatization of collective enterprises has been one of the main factors in the functioning of the new rural territories. Land restitution and privatization of the means of production caused a change in the social relations in agriculture, which led to new means of production in rural areas. Two new agrarian structures replaced collective farms. Those are agriculture companies and enterprises which were established after the privatization of kolkhozes and collective farms, and the family farms, most of which were founded on restituted land or on the supporting farm

land provided by the state (3 ha). The territorial dispersion and relationship between the mentioned structures varied throughout decollectivisation.

At the beginning of decollectivisation, the predominant form of production was agricultural enterprises. However, the number of those enterprises rapidly declined during the reform. In 2003 there were only 610 agriculture enterprises and other agriculture companies, most of which were created when private entities bought out the property of members of agriculture enterprises (Lietuvos..., 2004). The last General Agricultural Census in 2010 revealed that there are 646 agriculture enterprises in Lithuania, working only 13.4 per cent of all agricultural land [www.stat.gov.lt]. This indicates that after fifty years of collective-agriculture, the family farming model in the Lithuanian country has recovered.

According to the General Agricultural Census in 2010 there were 199,434 family farms with more than one ha land, and 164,400 land users cultivating less than one ha land. All the family farms cultivated 89 per cent of the agricultural areas in the country. The analysis of farm size shows that the small farm model is prevailing. Farms which have less than 10 ha (excluding less than 1 ha farms) constitute 79% of all the family farms [www.stat.gov.lt]. However, the last General Agricultural Census in 2010 showed that family farms are getting larger. In 2003, the average size of a farm was 9.3 ha, while in 2010 it grew into 13.2 ha due to the withdrawal of small producers from agriculture production. In 2003 there were 271,501 family farms, and in 2010 – 199,434 family farms.

The territorial variety of new agrarian structures also shows the decline of the collective model. Data from statistics department and from polls help to characterize new agrarian structures and analyse the territorial differences of family farms (fig. 3). In northern regions (Skaistgiris territorial research standard) and in central regions, a latifundium-type agrarian structure is forming. This structure is characterized by a large number of small farms, most of which were founded on a 3 ha area provided by the state and by a small number of large family farms and agriculture companies (agricultural enterprises, individual enterprise, etc.). Family farm surveys confirm the agrarian dualism. In the Skaistgiris research area, the family farm model is characterized by a large number of small farms, cultivating less than 15 ha land (52% of all surveyed farms) and by a small number of large farms, cultivating more than 30 ha land (35%). Among the large farms, 25% of them cultivate more than 100 ha.

In Samogitia (western Lithuania) and in south-western Lithuania, the shift from the collective to family farm model was much faster than in other regions. This shift may be characterized as the formation of active medium and large family farms. By 2003 medium farms (from 15 to 30 ha) in western Lithuania cultivated 5.3% of agricultural land, in south-western Lithuania (Užnemunė region) 9.7%, while the average in the county was 4.3% (Pirmieji 2003). These regions also have more large family farms (with more than 30 ha land). For example, in the Plungė and Rietavas research areas, large and medium family farms comprised 82% of all the polled farms in the territory. However, large farms are smaller compared with northern Lithuanian farms: 75% of large farms cultivate less than 50 ha land, and in northern Lithuania farms like these make up 42% of all large farms surveyed in the region. The General Agricultural Census in 2010 shows that in the surveyed regions, medium and large family farms are still prevalent and the size

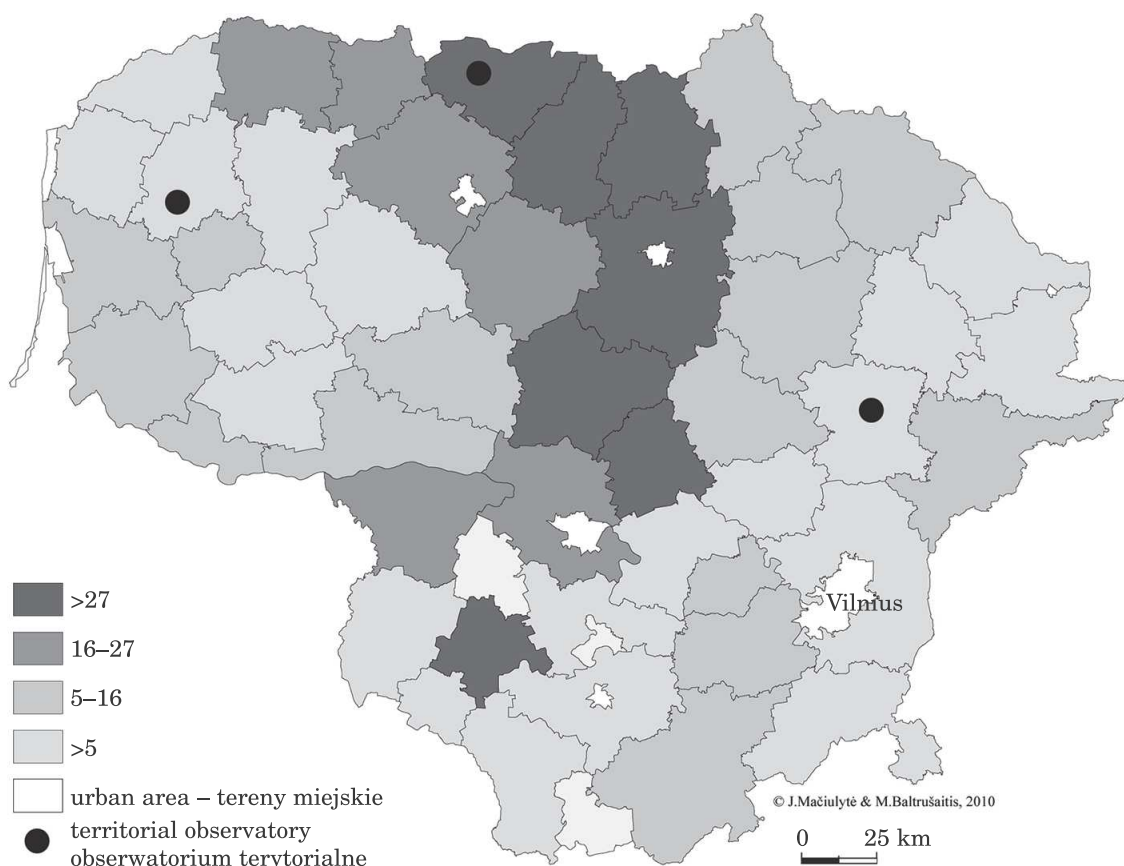


Fig. 3. Relative share of agricultural associations and enterprises as a % the UAA in 2010

Rys. 3. Względny udział ziemi we władaniu stowarzyszeń i przedsiębiorstw rolniczych jako % gruntów wykorzystywanych rolniczo w 2010

of cultivated land has increased (fig. 4). Restoration of medium and large family farming in these regions stems from a long free-farming tradition which formed in Samogitia in the Middle Ages and in Suvalkija in the 19th century. The peasantry of these regions suffered less from deportations than northern regions, and this was a key factor in restoring the family market farm.

In eastern (Suginčiai and Čivyliai local territorial research standards), southern and coastland regions, collective agriculture enterprises were replaced by small family farms (less than 15 ha). In these territories we may distinguish two zones for small farms in the agrarian structure. In Little Lithuania and in the south-eastern region (which belonged to Poland in the interwar period) some small farms are larger in agrarian structure than in other mentioned regions. This agrarian structure was determined by the lack of “old” land owners who left Lithuania after WWII, and by the giving of private property to incoming farmers during the Soviet era. In other eastern territories (Suginčiai and Čivyliai local territorial research areas), in addition to small farms, medium farms are also developing. Polls show that small farms make up 66%, and medium farms 28%, of the entire farm in the studied area. This research standard is also exceptional by the

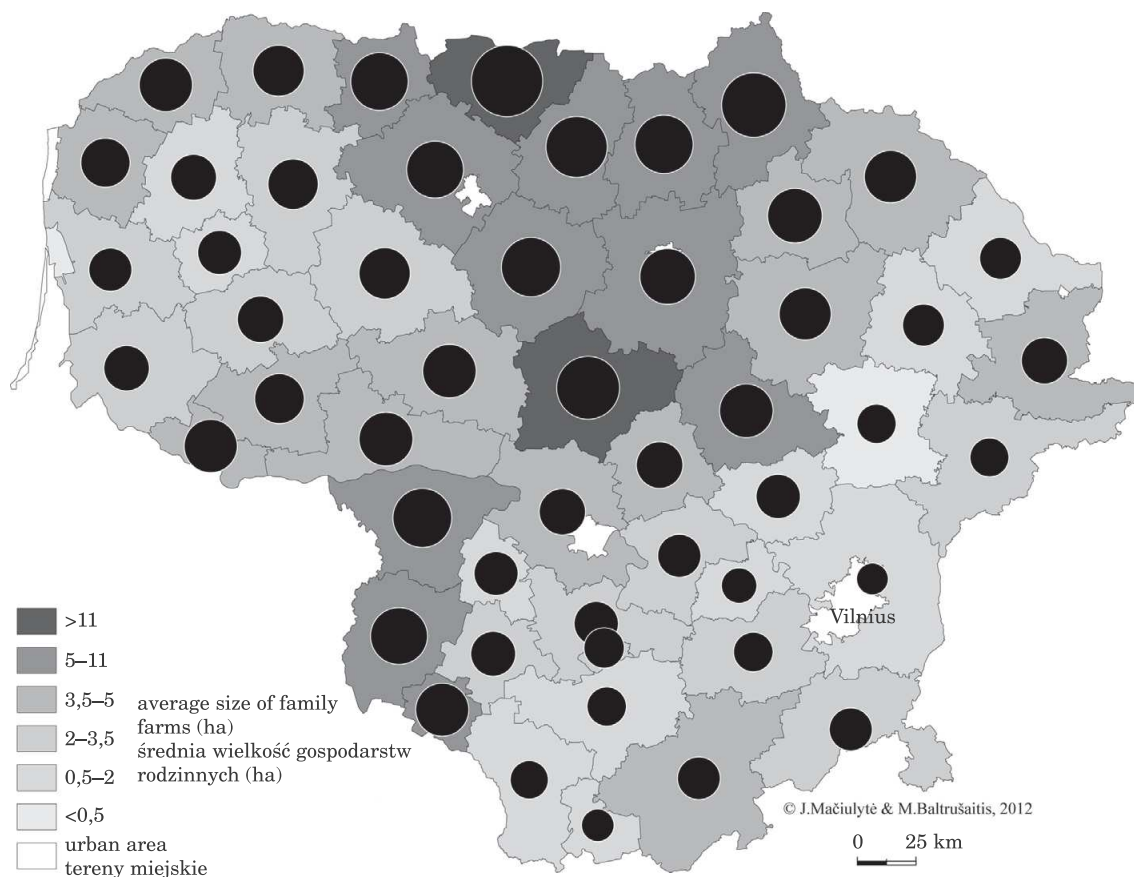


Fig. 4. Increasing the size of family farms 2003–2010 (ha)

Rys. 4. Wzrost wielkości gospodarstw rodzinnych w latach 2003–2010 (ha)

stability of farm sizes: every second polled farm had not increased its farm area since its foundation. There is also the largest number of farms which declined in area. In general, the importance of agriculture in these regions is decreasing, though diversification of economic activity in rural areas is slow.

CHANGES IN LANDSCAPE STRUCTURE

Generalized overview using CORINE data (1995–2006)

A general overview of land use changes in Lithuanian agricultural landscape can be obtained from an analysis of the CORINE Land Cover database from 1995, 2000 and 2006. According to the reports of CORINE database developers, the period of 1995 to 2000 could be characterized by two main processes in the Lithuanian landscape: 1) decline of forests and 2) intensification of agriculture (through pasture land cover type conversion to arable land and a remarkable increase of complex cultivation patterns. Over the next 6 years (between 2000 and 2006), the main trends of changes

remained almost the same, but were more intensive – a massive decline in forests occurred (0.77% of Lithuanian territory), and the large-scale interchange of agricultural types of land. It should be noted, that pastures became arable land more frequently than vice versa, etc. Large areas of agricultural land was abandoned and became “transitional woodland-scrub”. Although not so widespread, the urbanization process occupied a great variety of land cover types. The conversions from agricultural land and, consequently, their loss, is more frequent than the emergence of new agricultural areas, as observed by CORINE land cover analysis (tab. 1).

Table 1. Land cover type changes “around” the agricultural land: the left and the right columns show the non-agricultural land use types that were converted to agricultural land (the left column) or emerged out of agricultural land (the right column). Data prepared according to CORINE Land Cover database of Lithuania (1995, 2000, and 2006 years). Data in hectares is an absolute value for all of Lithuania.

Tabela 1. Zmiany klas pokrycia terenu w pobliżu obszarów rolniczych: lewa i prawa kolumna przedstawia typy gruntów użytkowanych nierolniczo, które zostały przekształcone w tereny rolnicze (lewa kolumna) lub powstały z terenów rolniczych (prawa kolumna). Dane opracowano na podstawie litewskiej bazach danych CORINE Land Cover (lata 1995, 2000 i 2006). Dane w hektarach stanowią wartość bezwzględną dla całego terytorium Litwy.

Between 1995 and 2000 W latach 1995–2000		
1	2	3
Natural grasslands Naturalne użytki zielone (147.4 ha)		Urbanization processes (discontinuous urban fabric, road and rail networks, construction sites) Procesy urbanizacyjne (przerywana tkanka miejska, sieć dróg i kolei, place budowy) (307.7 ha)
Transitional woodland-scrub Przejściowe tereny leśne/zakrzewienia (66.4 ha)	← Agricultural areas Tereny rolnicze →	Water bodies Zbiorniki wodne (283.0 ha)
Water bodies Zbiorniki wodne (64.1 ha)		Mineral extraction sites Kopalnie surowców mineralnych (281.9 ha)
Forests Lasy (61.2 ha)		Transitional woodland-scrub Przejściowe tereny leśne/zakrzewienia (229.2 ha)
		Coniferous forest Lasy iglaste (6.6 ha)

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1	2	3
	Between 2000 and 2006 W latach 2000–2006	
Water bodies Zbiorniki wodne (588.5 ha)		Urbanization processes (discontinuous urban fabric, road and rail networks, construction sites, etc.) Procesy urbanizacyjne (przerywana tkanka miejska, sieć dróg i kolei, place budowy) (2720.6 ha)
		Transitional woodland-scrub Przejściowe tereny leśne/zakrzewienia (2466.4 ha)
	← Agricultural areas Tereny rolnicze →	Mineral extraction sites Kopalnie surowców mineralnych (582.2 ha)
Other types Pozostałe typy gruntów (43.1 ha)		Water bodies Zbiorniki wodne (114.5 ha)
		Other types Pozostałe typy gruntów (57.6 ha)

Agricultural land re-composition by sample analysis (1995–2009)

Agricultural areas continuously diminished during the period from 1995 to 2009 according to our sample data analysis (the position of samples is shown in fig. 5). This happened in all of the three investigated most agriculturally cultivated landscape types – clayey downy plateaus, moraine hills and clayey plains, but to a different extent. Sample analysis showed that the steepest decline in agricultural area during 1995–2009 was observed in the moraine hills natural environment, while the most stable in this regard remained clayey plains (fig. 6).

Research shows that the economic disadvantage of the cultivation of hilly terrain becomes one of the most important reasons that this landscape is becoming continuously less agricultural and more natural. Spontaneous or deliberate forestation has become a characteristic trait of today's hilly landscape in Lithuania, especially in its eastern part [Ribokas, Milius 2007; Ribokas, Zlatkute 2009; Kavoliute 1993]

An analysis of the sample areas showed the main shifts in the inner structure of agricultural land during the studied periods. The inner structure comprises all land plots, both clearly delineated, geometric and randomly created by natural boundaries (rivers, forests, valleys) or artificial linear objects such as roads. The total number of land plots was diminishing continuously from 1995 to 2009 according to sample area analysis, in the following sequence: 2021 (in 1995), 1840 (in 2005), and 1543 (in 2009). This can be directly related to a decrease in the total area of agricultural lands.

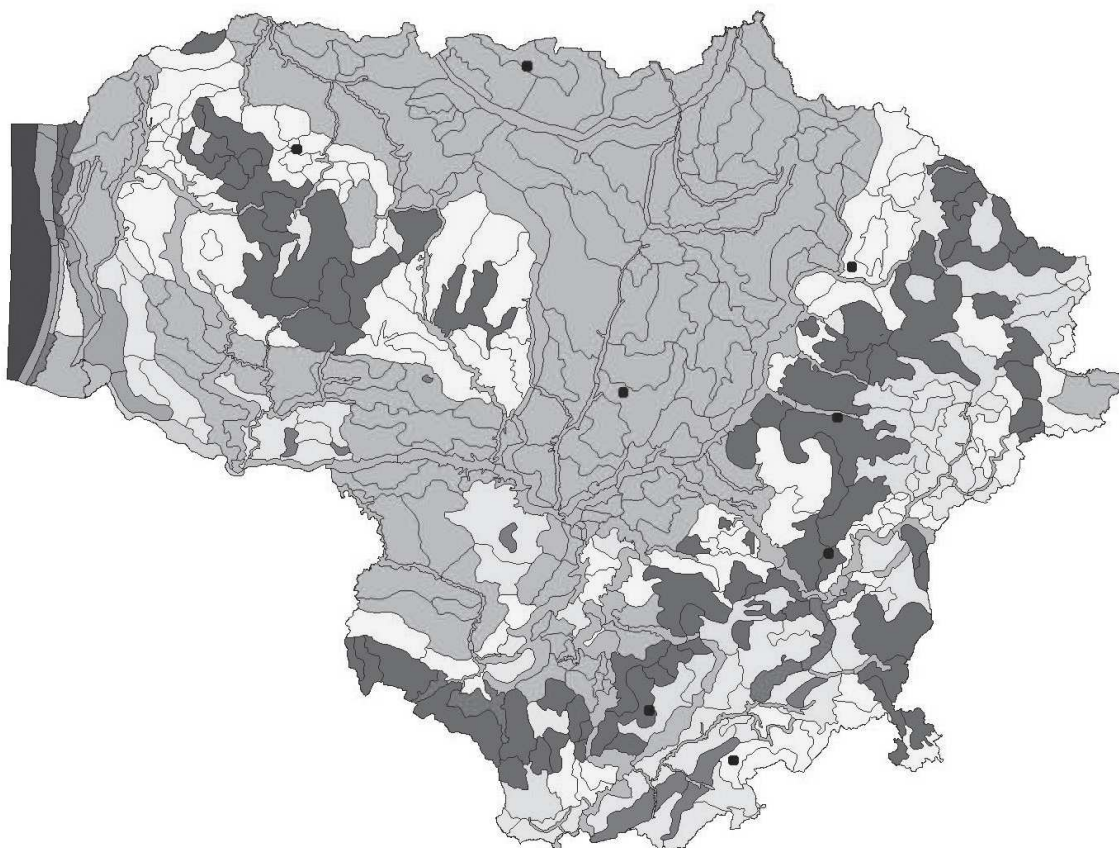


Fig. 5. Position of 8 sample areas (black dots). Dark grey areas – moraine hills, light grey areas – clayey downy plateaus, normal grey areas – clayey plains in the central and northern parts of Lithuania.

Rys. 5. Położenie 8 terenów badań (czarne punkty). Obszary ciemnoszare – wzgórza morenowe, obszary szare – równiny gliniaste w środkowej i północnej części Litwy.

In different landscape types, the land plot data behaved quite individually, but with a similar tendency – the number of land plots has been declining since 1995 faster than the area of agricultural land; indicating a growth in the average size of land plot. In the downy plateaus, a steady growth of land plot size was observed during the investigated period. Moraine hills manifested not so steep, but also steady growth of land plot size, which was the smallest among the other studied landscape types (0.57–0.63 ha). Clayey plains, with their extensive land plot fragmentation, showed the signs of land plot size fluctuations. After ten years of land plot size reduction (from 1.24 to 1.09 from 1995 to 2005), in 2009 there was a sudden jump up to 1.59 ha (fig. 7). These processes do not indicate natural processes, but rather follow the economic reality of the country.

The process of growth of average land plot size may be related to agricultural and urban area spatial interrelation. A correlation analysis was performed in order to reveal any regularity between the distance from the land plot to the urbanized area (city, town, village or homestead) and the estimated size of the land plot, expressed in its relative width (distance to the nearest centre of the neighbouring land plot).

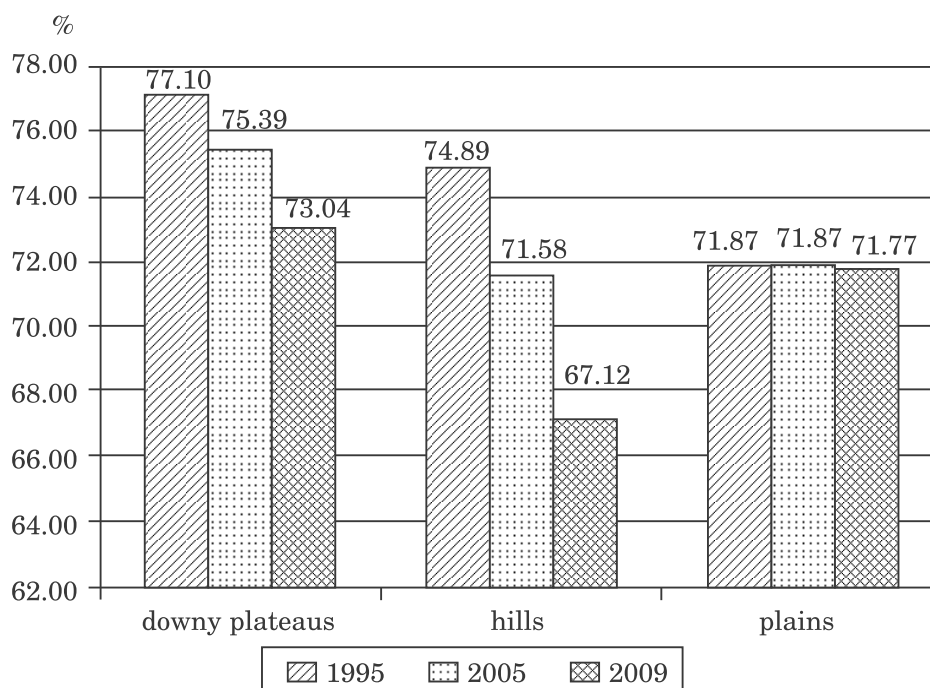


Fig. 6. Changes in agricultural land percentage in different landscape types (represented by sample data). The percentage is given from the total area of sample areas of respective landscape types

Rys. 6. Zmiany w procentowym udziale terenów rolniczych w różnych typach krajobrazu (reprezentowane przez dane dla obszarów badań). Udział procentowy obliczono z całkowitej powierzchni obszarów badań dla poszczególnych typów krajobrazu

The correlation between these two factors in the overall investigated area was not significant (the correlation coefficient remained between 0.28 and 0.33 during 1995 to 2009). In regard to individual landscape types, a quite undetermined situation in clayey downy plateaus (correlation coefficient (R) approaching 0) is contrasted by the situation in moraine hills and clayey plains. There, the dependence between the size of land plot and its distance to the built-up area showed a remarkably higher R, reaching 0.44–0.61 (fig. 8).

These structural features of agricultural land and their dynamics during 1995 to 2009, have several implications. First of all, it shows the fragmentation of the landscape, especially increasing near urbanized areas. In addition, it shows the economic and social situation in rural societies and people's adaptation to it. At the same time, this creates more questions about the development trends in the Lithuanian landscape.

CONCLUSIONS

1. After two decades of social and economic reforms, the change in post-Soviet rural territories is characterized by the changes in the agriculture system and by the foundation of new regional specializations. New social actors, which emerged after

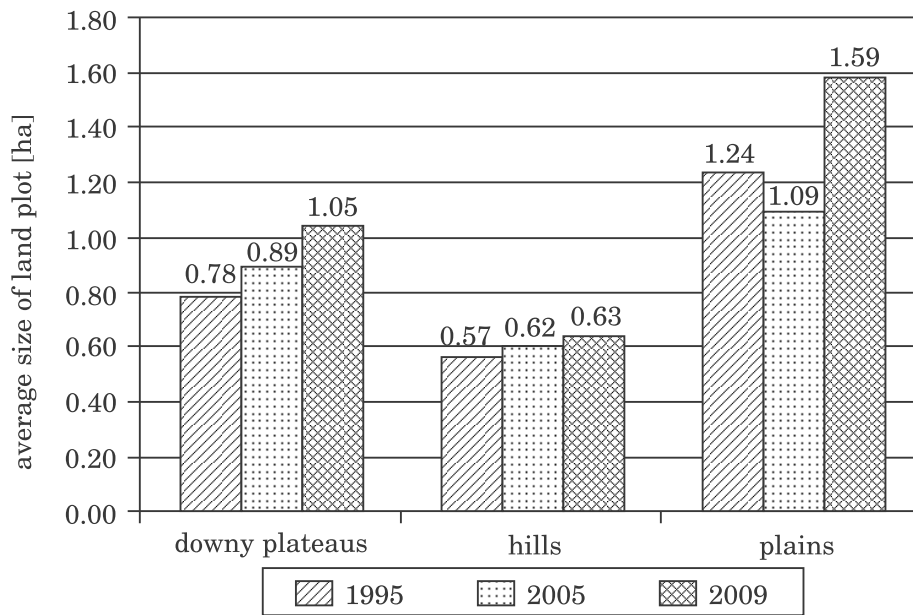


Fig. 7. Changes in average size of land plots in agricultural areas in different landscape types from 1995 to 2009 according to sample data

Rys. 7. Zmiany średniej wielkości działek gruntowych na terenach rolniczych w różnych typach krajobrazu w latach 1995–2009 na podstawie danych z obszarów badań

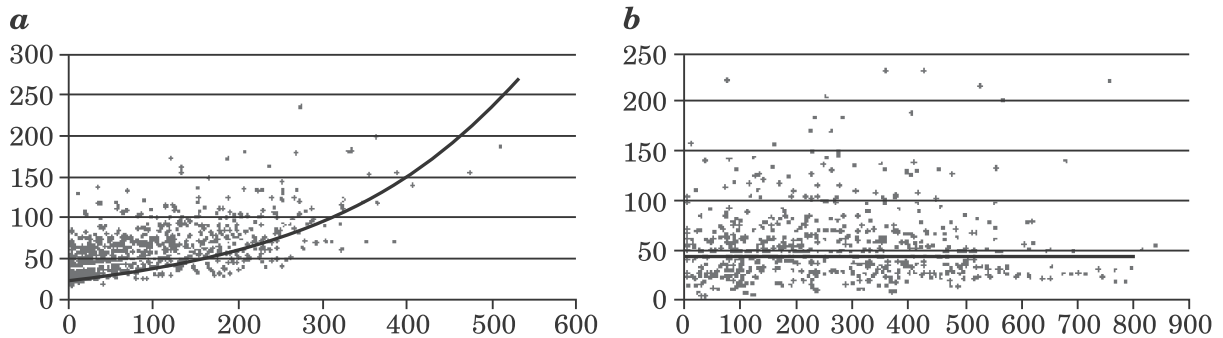


Fig. 8. Dependence of land plot estimated size (axis Y, in m) on land plot distance from built-up area (axis X, m) in moraine hills (A, $R=0.61$) and clayey downy plateaus (B, $R=0.01$) in 2005. Trends are exponential

Rys. 8. Zależność oszacowanej wielkości działki gruntowej od jej odległości od terenu zabudowanego – trendy eksponencjalne

the fall of the collective agriculture model, have sought to create a new agriculture system, considering their material and cultural powers, natural conditions and market needs. Historical heritage influenced the territorial differentiation of agricultural structures. This was shown by the restoration of family farms in the land owned before nationalization.

2. After Lithuania joined the EU, a new rural area change started. Social and territorial differentiation of agrarian structures was strengthened with the support for agriculture from the EU. Large market farms underwent modernization following decollectivisation and used the support to strengthen their production potential and to

stay in the market. However, a large share of family farms, which produce only for their own needs or to sell leftover production, began to disappear. Both general agricultural censuses show that family farms are getting larger while the number of farms is decreasing.

3. According to CORINE land cover data, using landscape data sets for 1995, 2000 and 2006, land cover changed; involving declining forests, agricultural land conversions and losses, as well as urbanization, which became several times more intensive after 2000.

4. According to the sample data, during the investigated period (between 1995 and 2009) agricultural land area was steadily diminishing, but at different rates in different landscape types: the most rapid process was observed in hilly landscapes, while the slowest was in clayey plains. An explanation of this process lies in the different land productivity and agriculture profitability in the modern Lithuanian economy.

5. The inner structure of agricultural lands, consisting of arable land and meadow plots, showed dynamic changes from 1995 to 2009, but mostly in a decline in land plot numbers and the growth of their average size (with the exception of clayey plains) where it showed some signs of land plot size declining in 2005. Such land structure changes can be explained only through socio-economic changes in the country.

6. In the inner structure of agricultural lands, a correlation between land plot size and its distance from built-up areas was observed in several cases, especially in hilly and plain landscapes, whereas downy plateaus showed no significant dependence of these factors. Together with the data on landscape fragmentation, this observation gives the possibility to look at the ways of how the rural population adapts to modern socio-economic conditions.

7. In general, the two different approaches (socio-economic and landscape analysis), appeared to support each other in a description of the same processes taking place in rural Lithuania. Such an interdisciplinary approach can serve as a methodological innovation and example for future research into the interrelations between society and the landscape in historical, as well as modern, dynamic aspects.

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REKOMPOZYCJA TERENÓW WIEJSKICH NA LITWIE PO ODZYSKANIU NIEPODLEGŁOŚCI

Streszczenie. Od roku 1990, gdy rozpoczęto realizację reform społecznych i ekonomicznych ukierunkowanych na gospodarkę rynkową, tereny wiejskie na Litwie podlegają transformacjom wynikającym ze zmiany modelu rolniczego użytkowania. Działalność rolnicza skupia się na obszarach charakteryzujących się najdogodniejszymi warunkami socjalnymi i fizycznymi. Struktura agrarna określana mianem *latifundium* uformowała się w północnej i centralnej części Litwy. Proces przemiany modelu kolektywnego w model rolnictwa rodzinnego nastąpił szybciej w zachodniej i południowo-zachodniej Litwie niż

w innych regionach kraju, w związku z aktywnym rozwojem średnich i dużych gospodarstw rodzinnych. Małe gospodarstwa rodzinne zdominowały rolnictwo kolektywne w regionach wschodnich, południowych i przybrzeżnych. Analiza struktury krajobrazu potwierdziła wyniki badań społeczno-geograficznych prowadzonych na obszarach wiejskich. W latach 1995–2009 obserwowano największy spadek powierzchni terenów wiejskich, a wzrost średniej wielkości parceli był najmniej widoczny na obszarach krajobrazu wzgórz morenowych (wschodnia Litwa) – najmniej produktywnego, w porównaniu z pozostałymi dwoma badanymi typami krajobrazu obejmującymi równiny gliniaste środkowej i północnej Litwy.

Słowa kluczowe: przemiany społeczno-gospodarcze, post-sowieckie tereny wiejskie, krajobraz rolniczy, zmiana użytkowania gruntów, Litwa.

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