

# Urbanization Influence on the Relicts of Soviet Rural Landscape: Case of Lithuania

SAGE Open  
July-September 2015: 1–18  
© The Author(s) 2015  
DOI: 10.1177/2158244015601718  
sgo.sagepub.com  


Indre Grazuleviciute-Vileniske<sup>1</sup>, Erika Zaleskiene<sup>1</sup>,  
Gintare Baltrusaityte<sup>2</sup>, and Lauryna Rubikaite<sup>1</sup>

## Abstract

The article deals with the possible reuse of the relicts of the Soviet rural landscapes in the areas of rural–urban interface of a postcommunist country using the Lithuanian example. It presents the short review of the development and features of the Soviet rural landscape in Lithuania; the analysis of the sociocultural, economic, ecological, and aesthetic issues related to the relicts of this type of landscape under the pressures of urbanization; and the discussion of the potential of the relicts of the Soviet rural landscape in the areas of rural–urban interface. The analysis of potential includes the discussion of the premises of integration of these landscape relicts in the development of the areas of rural–urban interface; formulation of seven integration scenarios—from renaturalization to urbanization; and the identification of the conditions for their implementation, their possible strengths, weaknesses, opportunities, and threats, and the possibilities to develop the types of sustainable landscape distinguished by Nohl with corresponding aesthetic character in these areas.

## Keywords

relicts of Soviet rural landscape, abandoned buildings, urbanization, rural–urban interface, Lithuania

## Introduction

The problem of abandoned buildings and areas is usually confronted while planning and managing urban, rural, and rural–urban interface areas. With reference to Antuchevičienė (2005), it can be stated that the main reasons why the abandoned buildings and areas emerge are the changes in the political, social, and economic systems that are usually followed by the decline of the usual economic activities, the decline in the number of jobs, and the consequent degradation of the entire areas. Lithuania and other postcommunist countries in Central and Eastern Europe are the relevant examples of this case.

This article concentrates on the relicts of the Soviet rural landscape, especially the agricultural areas with the extant farm buildings (as far as the residential buildings related with the collective farms usually maintain their original function, especially in the proximity to the urban centers), in the areas of rural–urban interface in Lithuania. The aim of the research was to highlight the sociocultural, economic, ecological, and aesthetic problems related with the relicts of the Soviet rural landscapes in the areas of rural–urban interface and to demonstrate their redevelopment potential by formulating the scenarios for integrating these areas and buildings into urban development using the case of Lithuania.

The methodologies applied for research include the review of literature, the preliminary surveys on site and recording in

photographs of the landscapes in the areas of rural–urban interface surrounding the largest cities and particularly the city of Kaunas in Lithuania, and construction of the hypothetical scenarios. To understand better the sociocultural, socioeconomic, and ecoaesthetic aspects related with abandoned agricultural properties of the Soviet era in Lithuania, the sociological research was necessary. To our knowledge, no sociological research had fully addressed this sociocultural aspect regarding Lithuanian landscape. To provide the preliminary answers to relevant questions, here we use the results of the pilot surveys of the farmers and general society of Lithuania regarding the possibilities of reuse of agricultural complexes carried out by Rubikaite (2013) in the frame of this research. Fifty farmers and 100 respondents reflecting general sociodemographic composition of the society were surveyed using written questionnaires.

The contributions to new knowledge of this research consist in the following:

<sup>1</sup>Kaunas University of Technology, Lithuania

<sup>2</sup>UAB “Betonika,” Kaunas, Lithuania

## Corresponding Author:

Erika Zaleskiene, Faculty of Civil Engineering and Architecture,  
Department of Architecture and Urbanism, Kaunas University of  
Technology, Studentu St. 48, LT-51367 Kaunas, Lithuania.  
Email: erika.zaleskiene@gmail.com



- the focus on the relicts of the Soviet rural landscapes (territories and buildings) located in the “marginal” (Kavaliauskas, 2011) complex landscapes at the urban fringe;
- analysis of the interaction of urbanization with the specific type of rural landscape, addressing the problems of the relicts of the Soviet rural landscapes in the areas of rural–urban interface comprehensively: from social, cultural, economic, aesthetic, and ecological points of view;
- formulating the spectrum of hypothetical scenarios that demonstrate the potentials of reuse of the areas and buildings under consideration systematically, which is rarely done in the postcommunist space.

The research outcomes, though mainly related with the Lithuanian case, can be useful for other postcommunist states and especially for the Central and Eastern European countries.

## Rural Landscape of the Soviet Period and Its Contemporary Relicts in Lithuania

In the Central and Eastern European region, in general, and in Lithuania, in particular, the rural landscapes and the marks of different transformations in them play an important part in local identity and distinctiveness (Bučas, 1988, 2001; Palang et al., 2006). For example, today rural landscapes of different qualities embodying different historical transformations constitute the largest part of the territory of Lithuania (Bukantis et al., 2008). As a contrast to landscapes shaped by the coherent evolution, these landscapes still bear the significant marks of countryside transformations caused by the subsequent land reforms and the collective efforts of the population. According to the researchers, this type of landscape character causes the landscape perception difficulties and creates specific management and planning challenges. For example, Palang et al. (2006) in their research on “The Forgotten Rural Landscapes of Central and Eastern Europe” concluded that

quickly changing socioeconomic formations have encouraged alienation, as people are not able to identify themselves with too-rapidly-changing postmodern landscapes. The time barriers between the formations are so thick that people do not understand the context of the former formations; meanwhile, the time layers are also so thin that new landscapes (both material and mental) have had no time to become traditional. (p. 355)

This is particularly true with the Lithuanian rural landscapes, especially those that are the object of our research: related with the complex and ambiguous Soviet period and currently experiencing the pressure of urbanization and the rapid change.

For the better understanding of the dynamics in the of Lithuanian rural landscape, based on the analysis of development of Lithuanian rural landscape and the crucial points of its change, Bučas (1988, 2001) had distinguished four historic Lithuanian rural landscape types, the relicts of which can be seen in the country’s landscape of today (Figure 1): *ikivalakinis* (landscape developed before the land reform of the 16th century), *valakinis* (landscape developed after the land reform of the 16th century), *vienkieminis* (landscape of the interwar period), and *kolukinis* (landscape of the Soviet period). He notes that although *ikivalakinis*, *valakinis*, and *vienkieminis* landscapes have taken over and integrated many features of preexisting landscape types and simultaneously acquired new features depending on the circumstances of the era, during the Soviet period, when the land was nationalized and large collective farms were created, the most drastic landscape changes took place, and the landscape character and functioning were strongly altered.

To understand better the reasons and the nature of the changes of rural landscape and the peculiarities of the rural–urban interface of the Soviet period, it is necessary to look at the ideological, economic, and social transformations of that era and the value system and historical conditions underlying the radical changes in lifestyle and in the construction and farming practices in the Soviet era. The still traditional society with the continuous agricultural practices and the economics of the early capitalism of the pre–World War II Lithuania were drastically replaced with the society shaped by the ideology of socialism, where the collective values were given the priority at the expense of individualism with the attempt to create the just and classless society (Gentile, Tammaru, & van Kempen, 2012) and with the centrally planned economy and the fast modernization of agriculture and production and rapid industrialization and urbanization of the country.

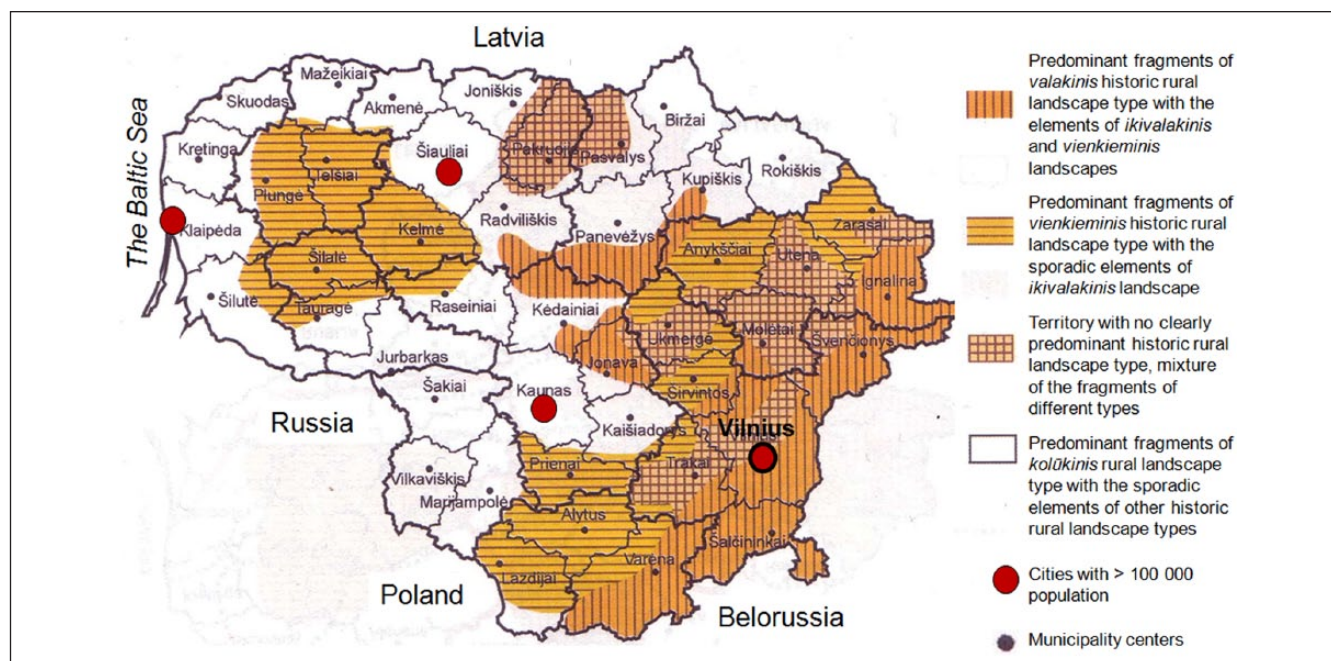
Bučas (1988, 2001) has described in detail the structural, functional, aesthetic, and sociocultural features of the rural landscape of the Soviet period. Based on his analysis, here we distinguish the main aspects important to this research:

### Industrial Scale

The Soviet period was characterized by the intensive development of industrial agricultural production in the rural areas. Growing crop and livestock on the industrial scale required building the large agricultural complexes and the specialized farms with corresponding infrastructure.

### Radical Reorganization of the Settlements System

The structure and network of residential settlements in rural areas were altered accordingly: The functions of the settlements have been changed; part of the existing historic settlements were strongly modified and expanded, thus losing authenticity; the others were declared as nonperspective, and



**Figure 1.** Territorial fragments of historic types of rural landscapes in the contemporary territory of Lithuania.

Source. Adapted from Bučas (2001).

Note. The relicts of the Soviet rural landscape, predominant in the large part of country's territory and in the surrounding areas of large cities, justify the relevance of this research.

their development was not encouraged; many historic homesteads strongly interconnected with the landscape were simply eliminated; and new concentrated settlements emerged.

### *Interrupted Buildings and Planting Traditions*

New building materials, such as silicate bricks, sharply contrasted both with traditional architecture and the green structures. Numerous orchards and natural greenery were destroyed. Even if development of new rural settlements included parks and other public greenery, there were many cases when settlements were built in the open fields without any green areas with trees and shrubs. New settlements were not created in harmony with the existing landscape forms, but on the contrary, based on the Soviet ideology, expressed the efficiency and standardization of the living environment.

### *Radical Change in the Landscape's Structure and Character*

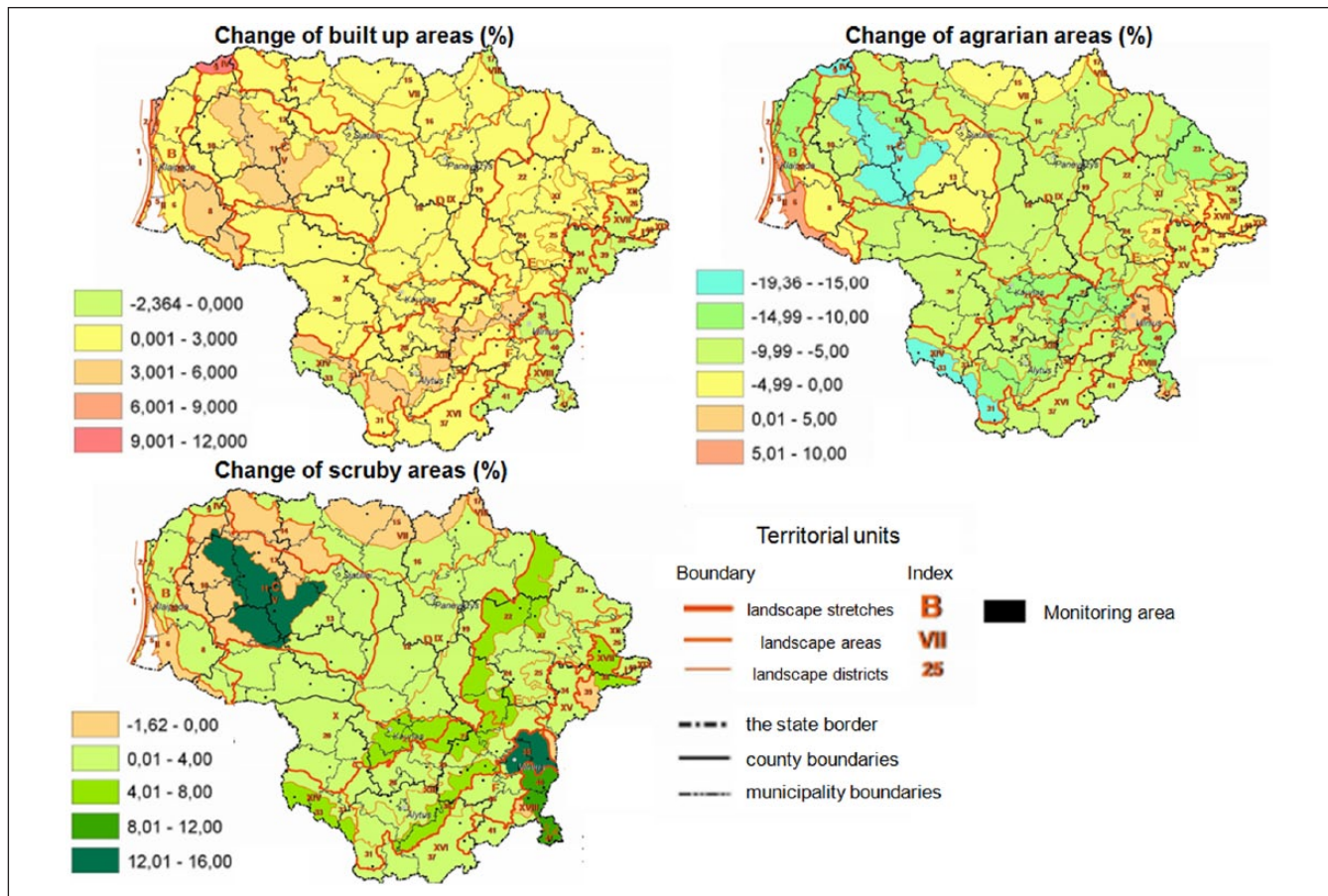
After cutting down trees and shrubs and implementing the large melioration projects, the large, regular, and uniform open areas with sparsely located tracts of wood were created. Even if economically and technically effective, these spaces were both disorientating for the observer and aesthetically unattractive and ecologically unsustainable, creating monocultural fields and causing land degradation. The industrial agricultural production complexes of unusual shapes, materials and large

volumes, engineering infrastructure (roads, electricity transmission lines), melioration and irrigation equipment, and other interventions had radically transformed Lithuanian landscape into the plain agricultural and industrial environments. Restructuring of the landscapes and the settlement system caused the decline of regional ethnographic identities and distinctiveness.

Some features of urbanization and the transformations of rural–urban interface of the Soviet era have to be mentioned as well. The gradual, compact, and moderate in size and pace urban growth and the insignificant or moderate visual rural–urban interface and clear visual, social, cultural, and economic limits between the urban settlements and the countryside of the interwar Lithuania were replaced with the rapid and large scale, centrally planned and nondemocratic urban growth, based on the industrialization of the construction sector, the strict functional zoning, and “standardized housing estates, whose ubiquitousness is one of the most striking visual features of the Central and Eastern European city” (Gentile et al., 2012, p. 291). The radical visual contrast between the fringe of the city, characterized by the strict lines and brutal aesthetics of the concrete blocks of flats and the industrial areas, and the open agricultural areas or natural landscape had emerged at that time in the country's landscape.

The interventions of the Soviet period failed to harmonize the economic, cultural, and aesthetic needs of the society and to achieve the environmental sustainability. Moreover, the restoration of country's independence in 1990 and the related





**Figure 2.** The changes in the Lithuanian landscape in the period of the postcommunist transformations (from 1974-1993 to 2006) according to the data of the Institute of Geology and Geography from the landscape monitoring (local level) areas.

Source. Adapted from "Kraštovaizdis" (2008).

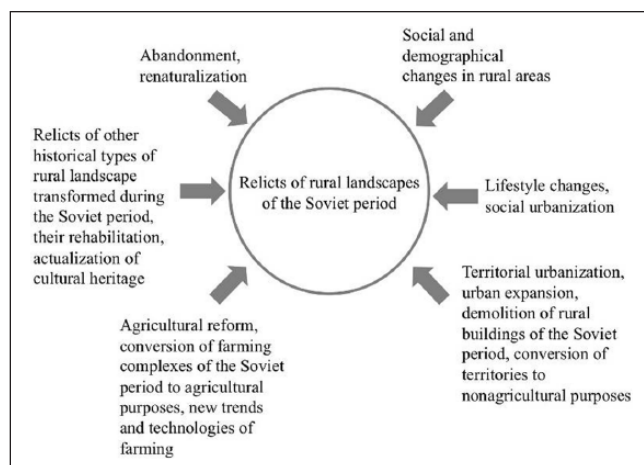
Note. The negative percentage value indicates the decrease, and the positive indicates the increase of the areas under consideration.

political and economic reforms had again strongly altered the situation. Similar changes had occurred in many countries that were a part of the former Soviet bloc: The socialism with its relative equality and the centrally planned economy were rapidly replaced with capitalism, the ideology of neo-liberalism, and the subsequent social stratification (Gentile et al., 2012). The influence of these changes on landscape was not envisaged or even considered (Bučas, 2001). Some effects of this shift on the rural areas can be mentioned: the return of land to the owners, the privatization of property, the abandonment of surplus farmland, the expansion of forests, the migration of young people to the cities, the aging population, the collapse of the rural infrastructure, and the decay of old houses and rural buildings (Bell, Penēze, Nikodemus, & Montarzino, 2008; Kuemmerle et al., 2011).

For example, in Lithuania in the initial years of independence from 1990 to 2004, the proportion of cultivated agricultural land had decreased by 10% to 12% (Lygis, 2000). The urban reality and the expression of rural-urban interface have changed considerably as well. Contemporary trends can be described as the demographically shrinking and territorially

expanding cities (Čereškevičius, 2012) and the suburbanization or the urban sprawl (Gentile et al., 2012), resulting in virtually unregulated spot-like urban expansion to the countryside and natural areas. The research carried out by the Institute of Geology and Geography ("Kraštovaizdis," 2008) identified landscape changes in the territory of the country based on the selected landscape monitoring areas at the local level in the period between 1974-1993 and 2006. The research results reflect the above-mentioned trends (Figure 2): the decline of the agrarian areas, the processes of landscape renaturalization reflected in the increase of the scrubby areas in almost all the territory of the country, and the intensification of the construction activities. The landscape change trends remain similar during the period of 2006-2013 as the analysis of land cover (Aplinkos apsaugos agentūra, 2014) demonstrates: the decrease of pastures, mainly due to renaturalization and the expansion of construction activities at the expense of agricultural areas.

This research mainly focuses on the relicts of the Soviet rural landscape in the zones of influence of the largest Lithuanian cities as demonstrated in Figure 1. As the territories



**Figure 3.** The factors influencing the relicts of the Soviet rural landscapes.

of these cities had expanded due to the recent real estate boom (Pakalnis & Bardauskienė, 2012) and continue to grow, the increasing number of the relicts of historic rural landscapes, including landscapes shaped during the Soviet period, will experience the pressure for urbanization. The abandonment and renaturalization of these areas also take place simultaneously. Figure 3 shows the main factors influencing the relicts of the Soviet rural landscapes. This paradoxical situation of simultaneous abandonment and pressure for development and the three of four major Lithuanian cities located in the landscapes with predominant relicts of the Soviet rural landscapes demonstrate the relevance of this research.

### The Significance and Possible Transformations of the Relicts of Soviet Rural Landscape Under Influence of Urbanization

The landscape itself has a multifunctional character; it performs ecological function, aesthetic function, cultural–historical function, functions of tourism and information, and functions of resources and land use (Rasa & Nikodemus, 2008). Bučas (1988) has distinguished three basic functions of landscape in society's life: residential (sociobiological space for human existence), production (area and resources for agricultural production), and recreational (areas for rest of rural and urban residents). Thus, analyzing the possibilities of development of the relicts of the Soviet rural landscape in the areas of rural–urban interface, all these functional and perceptual aspects—sociocultural, economic, ecological, and aesthetic—should be considered and none of them treated in isolation.

#### Sociocultural Aspects

From the ecological point of view, the cause of degradation of the landscapes under consideration is the removal of woodlots and traditional green structures, the industrial farming

techniques, and the soil loss during the Soviet era. The agricultural buildings may be seen as the secondary issue in this problem. However, the buildings of the collective farms and other agricultural complexes (piggeries, cowsheds, hatcheries, silo storages, agrotechnical garage buildings, grain, fertilizer and pesticide storage buildings, grain elevators, administrative buildings, etc.) are the most characteristic objects that allow recognizing the relicts of the rural landscape of the Soviet period and cause different reactions of professionals and society. The abandoned, derelict buildings shape the image of such landscapes and may cause cultural biases against such environments. Moreover, the Program of Liquidation of Abandoned Buildings (State Protected Areas Service Under the Ministry of the Environment, 2008) prepared under the commission of the State Protected Areas Service under the Ministry of the Environment of the Republic of Lithuania indicates that inappropriately maintained or abandoned buildings increase the social tensions and shape the opinion that the authorities fail to properly manage the country.

In the areas of rural–urban interface, where the density of residents and the prices of land are higher than in the average rural areas (Aleknavičius & Valčiukienė, 2011), these buildings present particular functional and aesthetic challenge. It is generally considered that the historic rural buildings, such as the manor houses or homesteads, can be used for tourism or adapted to the needs of communities. However, the relicts of the Soviet period farming are the ambiguous and contradictory legacy, which may be valued more negatively than positively by the society both from aesthetic and cultural–historical points of view. For example, the survey carried out in Latvia has demonstrated that the majority of the respondents saw the changes of country's landscape of the Soviet period and the subsequent transformations as negative (Bell et al., 2008). The questions may be asked: Can contemporary society appreciate the relicts of the Soviet rural landscape with corresponding buildings as cultural legacy, and how society would view the reuse of abandoned farm buildings to other needs than the agricultural production?

In the sociological survey (Rubikaitė, 2013), the members of the society were asked to express their opinions about the benefits of adaptive reuse, about cultural value of historic agricultural buildings and the need to preserve them, and about the emotional effects of abandoned farm buildings and the possibilities to adapt them to the residential, commercial, educational needs, and even to the function of public catering. Farmers were also asked about the possibilities of reconstruction and reuse of such buildings.

The results show that the surveyed individuals seem to view farm building reconstruction positively: 88% of the respondents see the adaptive reuse as positive in general, and 62% of them agree that the abandoned agricultural complexes in Lithuania can be successfully converted to different nonagricultural functions. The answers concerning the heritage value were much more ambiguous and reveal more

skeptical attitude toward the Soviet farm buildings: 65% of the respondents agree that farm buildings of different historical periods may have historical, cultural, and aesthetic value; however, 55% of the surveyed individuals agree that there are many agricultural buildings that are not worth preserving. Only 18% of the respondents agreed that the agricultural buildings of the Soviet period are worthy to preserve as cultural heritage. The emotional impact of the abandoned agricultural complexes on the respondents is mainly negative: 75% of the respondents stated that these buildings cause negative emotions, 43% of the respondents noted that these buildings negatively affect landscapes, and 32% noted that the abandoned agricultural buildings negatively affect general image of the country. The respondents were presented with several examples of farm building adaptive reuse in different European countries. The answers show that the respondents value positively different conversion possibilities: conversion into residential building (59% view very positively, 25% view positively), conversion into hotel (45% view very positively, 41% view positively), and conversion into children and youth center (88% view positively). Eighty-four percent of the respondents would use themselves and recommend to other the children and youth center instituted in the converted farm building. Twenty-two percent of the respondents would consider living in a house or flat in a reconstructed farm building, and 58 percent of the respondents would consider this possibility only if the residential unit would perfectly correspond to their needs. Seventy-two percent of the respondents positively view the possibility to adapt the abandoned farm buildings to leisure and entertainment functions including catering. Ninety-one percent of the respondents view reconstructed farm buildings as their possible working environment.

The surveyed farmers also do not reject the idea of reconstruction of the existing abandoned agricultural buildings; however, they view the idea of building reuse for nonfarming purposes more skeptically. Only 12% of them agreed that in cases when farming is impossible, the agricultural buildings should be adapted to other functions. The most appropriate nonagricultural functions for such buildings according to the farmers would be commercial, services, sports, administrative, and other special needs. The surveys show that although the heritage value of agricultural complexes raises the doubts in the society, their reuse possibilities are viewed positively and a wide spectrum of socially acceptable new functions can be seen. The lack of social infrastructure in peri-urban areas, the lack of jobs, the lack of public spaces, the lack of identity, and the lack of visual distinctiveness, on one hand, and the historical significance of the relicts of rural landscape of the Soviet period, the higher density of residents in the influence zone of the city, and the higher potential for various kinds of uses (Figure 4), on the other hand, demonstrate the feasibility of both agricultural and nonagricultural uses of these landscape relicts.



**Figure 4.** Spontaneous reuse of the buildings of the former farming complex of the Soviet period at the fringe of Kaunas (Lithuania) demonstrates the potential of such derelict objects.

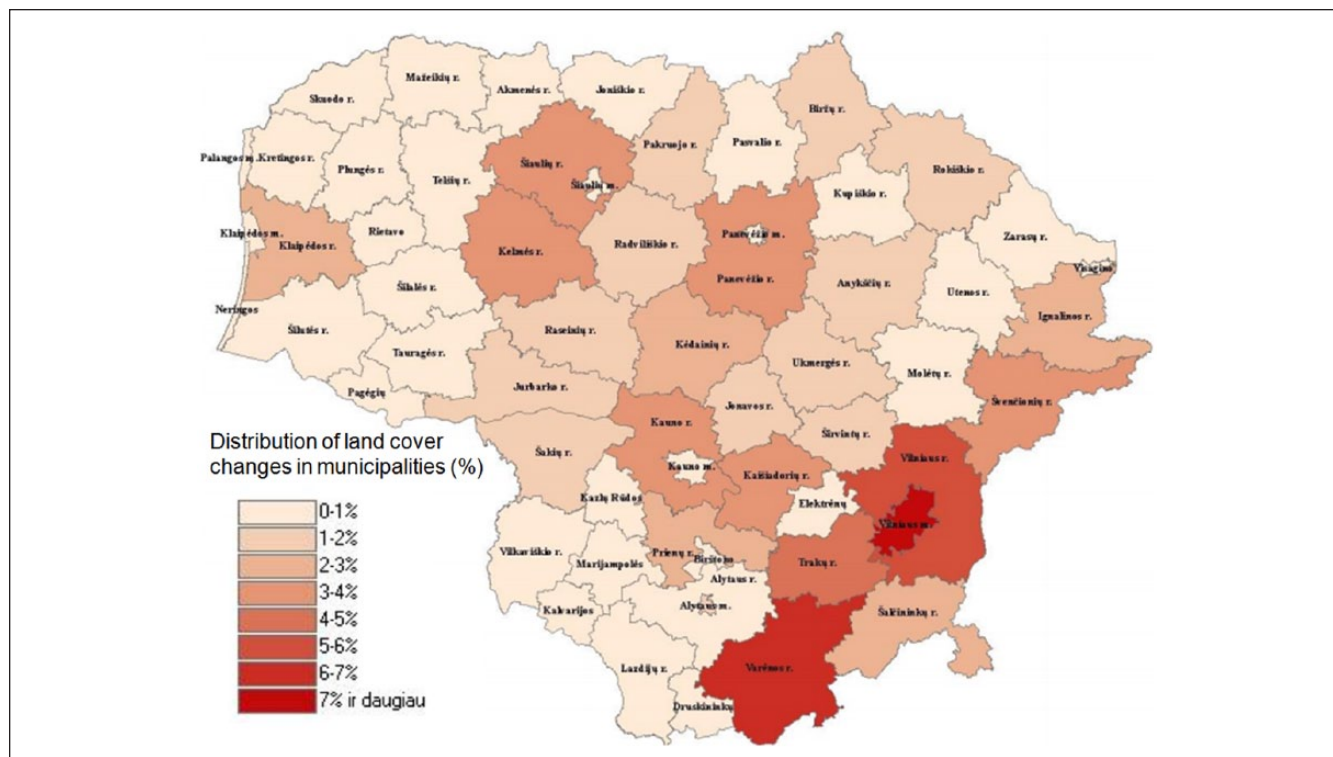
### *Economic Aspects*

It is generally acknowledged that the adaptive reuse of abandoned buildings and territories can have a positive economic influence as it diminishes the demolition costs, creates new jobs in building reconstruction and repair and in other directly and indirectly related sectors, and increases tax revenue; recreated landscape complexes can be adapted to tourism (Baltrušaitytė, 2013). However, both the relicts of the rural landscape of the Soviet period, especially buildings, and the areas of rural–urban interface surrounding the largest cities in Lithuania, including Vilnius, Kaunas, and Klaipėda, have certain peculiarities that should be addressed in the context of building and territory reuse.

*The economic pressures for development* in the zone of influence of the city should be mentioned. For example, the research by Aleknavičius and Valčiukienė (2011) has demonstrated the higher density of population and the higher prices of agricultural land in the influence zone of Vilnius. They had determined the radius of urban influence of 25 kilometers. They have founded that in this territory surrounding Vilnius, the density of residents is 10 times higher than in average in the rural areas in Lithuania. The territories in this zone are attractive for the real estate market, especially for building individual houses and small residential quarters, for commercial and logistics development. Thus, the research of Aleknavičius and Valčiukienė demonstrates that the average market price of agricultural land amounts to the average price of residential land in the influence zone of Vilnius. The analysis of land cover changes also demonstrates the constant change in the zones of influence of large cities (Aplinkos apsaugos agentūra, 2014; Figure 5).

The administrative boundaries of Lithuanian cities also comprise the open areas, natural, agricultural land, and the fragments of historic rural landscape. The current territorial planning documents—the city master plans and city district master plans—do not envision the sustainable development of peri-urban areas. According to Cirtautas (2012), these municipalities often perceive the territory planning process





**Figure 5.** Land cover changes, 2006–2013.

Source. Modified from Aplinkos apsaugos agentūra (2014).

as the routine survey of the existing situation and the meeting of the private interests instead of the complex decision making having the long-term consequences. As it was mentioned above, the relicts of the rural landscape of the Soviet period are characterized by the vast open agricultural fields and large building complexes. The open agricultural areas without characteristic natural features are convenient and economically efficient for planning and building the suburban middle class housing. Thus, during the second decade of the country's independence (Cirtautas, 2012), large parcels of agricultural land surrounding the major cities were turned into the territories for housing development. However, as the present economic slowdown and general sociodemographic trends of the country (Čereškevičius, 2012) suggest, the development of housing in the peri-urban areas based solely on the short-term economic interests may be detrimental not only from ecological, social, and aesthetic but also from the economic points of view.

The uniform houses monotonously arranged in the open fields without any greenery or other distinctive features together with the relatively large commuting distances and the dependence on the automobile may not be so attractive and affordable in the future. Meanwhile, the derelict farm buildings and other equipment of the Soviet period constitute an eyesore near newly developed residential areas (Figure 6). Thus, not only the sociocultural but also the economic argument encourages thinking of the sustainable planning of the



**Figure 6.** The uncomfortable neighborhood of suburban housing and farm ruins at the fringe of Kaunas (Lithuania).

areas of rural–urban interface and sustainable reuse of the relicts of the Soviet rural landscapes.

**Agriculture in the peri-urban zone.** The pressures for development of housing in the areas of rural–urban interface should not overshadow the importance of agriculture in these areas. According to Aleknavičius and Valčiukienė (2011), in the zone of influence of the city of Vilnius, agricultural land constitutes 51.3% of the total 29,869 hectares. This rate is very similar to the average in the rural areas of the country, which is 53.8%. According to them, in the zone of influence of Kaunas city, residents keep even more livestock for 1 hectare of agricultural land and more intensively cultivate horticulture, potatoes, and vegetables than in the rest of the rural



**Figure 7.** Contemporary large-scale agricultural practices in the agricultural landscape of the Soviet period at the fringe of Kaunas (Lithuania).

areas of the Kaunas district. Aleknavičius and Valčiukienė underlined the possibilities to develop agriculture in the zones of influence of the large Lithuanian cities and to specialize farms for producing the agricultural goods for the city including fruits, berries, vegetables, milk, and poultry.

According to Aleknavičius and Valčiukienė (2011), the percentage of the agricultural land in the zones of influence of large cities will decrease because of urbanization and afforestation and spontaneous renaturalization of agricultural land; thus, the rest of agricultural land will be used more rationally and intensively. This shows that some structural elements of agricultural landscapes created during the Soviet period can be maintained in the areas of rural–urban interface simultaneously continuing their agricultural function (Figure 7).

The results of the sociological survey of farmers carried out by Rubikaitė (2013) also confirm this possibility. Forty-one of 50 surveyed farmers still use the agricultural complexes that were built during the Soviet period. The majority of the surveyed farmers agreed that although new agricultural complexes better correspond with animal welfare requirements, provide better working environment, and look more attractive, the reuse and reconstruction of agricultural complexes of the Soviet period require much less investments. Farmers value not only the buildings but also other infrastructure including foundations and roads. The proximity of the city and contemporary trends of sustainability and ecological lifestyles may also influence the agriculture in the areas of rural–urban interface with the relicts of the Soviet rural landscape. The trend of sustainable farming aimed at producing locally for the city and minimizing the transportation costs, sometimes referred to as “bioregionalism” as a part of much broader movement of “reconnecting the socially-just human cultures in a sustainable manner to the region-scale ecosystems in which they are irrevocably embedded” (Aberley, 1999, p. 13) becomes increasingly popular. Moreover, the large farm buildings of the Soviet period can be reused for unusual farming activities: mushroom growing, snails, earthworms’ farms, harvesting of solar energy on the rooftops. Peri-urban farms can also be visited



**Figure 8.** Continuous agricultural use and maintenance of the buildings of the Soviet period at the fringe of Kaunas (Lithuania).

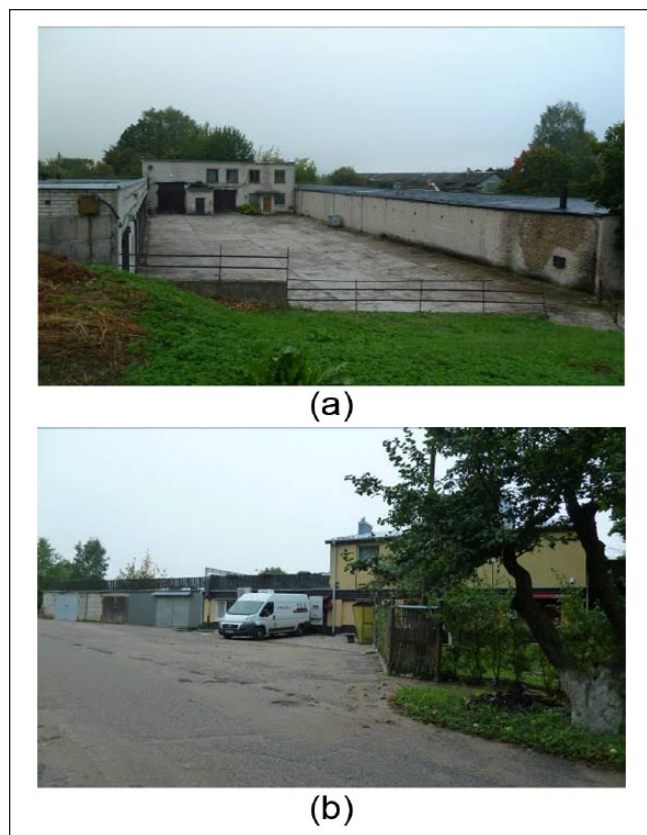
by the urban population for the educational purposes. A joint form of peri-urban farming and agricultural tourism can be developed.

**Buildings.** The state of the agricultural buildings of the Soviet period is an important economic factor influencing the reuse of the relicts of rural landscapes of this era. The common characteristics of these buildings—simple utilitarian, functional architectural form, large volumes, mundane white silicate bricks and concrete, asbestos slate roof covers, rapid and often hasty construction quality, and so on (Figures 8-10)—determine that the buildings themselves have no particular architectural or aesthetic values. Hypothetically, they can be valued from the cultural point of view only as the parts of their context—landscape—and as the reminders, witnesses of the particular historical period. This means that the most probably derelict and damaged agricultural buildings of the Soviet period would not be restored or reconstructed because of their cultural value. Consequently, the fate of these buildings is much more often determined by their economic value, required expenditures and investments, usability (a way out looking for affordable space for various commercial, manufacturing activities), and so on, than by the cultural aspects. Thus, the physical state and function of these buildings are very important for their future especially in the areas of rural–urban interface. According to these, three categories of the agricultural buildings of the Soviet period can be distinguished:

*Buildings with continuous agricultural use, visually and functionally linked with the surrounding agricultural landscape.* With continuous maintenance, repair, and minimal investments, the physical state of these buildings can be maintained from satisfactory to good (Figure 8). The maintenance costs of privatized buildings usually fall on the shoulders of their owners.

*Buildings reused for other purposes (sawmills, garages, small-scale manufacturing, storage).* The spontaneous processes of reuse of the agricultural buildings of the Soviet period are especially visible in the zones of influence of the larger cities with the greater concentration of economic activities. These new functions do not mean the rapid improvement of the





**Figure 9.** Reuse of agricultural buildings of the Soviet period at the fringe of Kaunas (Lithuania): (a) garages reused as a car repair workshops and (b) garages and workshop reconstructed into a bakery and the house with small orchard and terrace.

physical state or aesthetic quality of these buildings and their surroundings; reuse conditions only minimal repair and maintenance of satisfactory physical state as these buildings are viewed as an opportunity of cheap space not as valuable objects themselves (Figure 9).

**Abandoned buildings.** As the Program of Liquidation of Abandoned Buildings indicates, the problem of abandoned buildings was raised only a decade ago in Lithuania, when it became clear that many inappropriately privatized buildings will not be used according to their function, their technical state deteriorates rapidly (Figure 10), and derelict building complexes raise the threats to country's residents and environment. According to the data of the Informational System of Derelict Buildings, 9,312 such buildings exist in the territory of the country (Figure 11), although this number is not exact or final. The majority of these abandoned buildings according to the Program are nonresidential buildings of the Soviet period mainly related with the former collective farms. These abandoned buildings can be classified according to their physical state: the buildings of emergency state, the buildings of satisfactory physical state, and the buildings in good conditions.

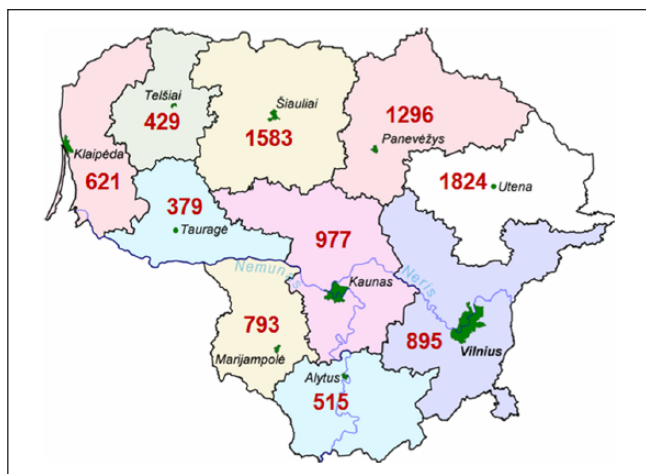


**Figure 10.** Remains of the abandoned agricultural buildings of the Soviet era at the fringe of Kaunas (Lithuania).

The poor quality and absence of maintenance mean rapid decay for the agricultural buildings of the Soviet period, and many of those abandoned after the restoration of the independence of the country are already in ruins. According to the data of the Informational System of Derelict Buildings, about 60% of the registered abandoned buildings should be demolished, the others can be repaired or reused. The liquidation of these buildings also involves the economic costs calculated in the Program of Liquidation of Abandoned Buildings (State Protected Areas Service Under the Ministry of the Environment, 2008). Thus, this group of the agricultural buildings of the Soviet period constitutes the major challenge: The specific ways of their liquidation or reuse in the context of rural–urban interface should be developed.

### *Ecological and Aesthetic Aspects*

Aesthetics and ecology are strongly interlined in landscapes and should not be dealt with separately. The interdisciplinary attempts to analyze the links between the ecology, aesthetics, and even artistic creation engendered the discipline of eco-aesthetics (Araeen, 2009). At the first glance, the ecological and aesthetic states of landscapes directly correlate. For example, maintaining the valuable plants would have the



**Figure 11.** The distribution of abandoned buildings in the territory of Lithuania according to counties.  
Source. Adapted and modified from Apskritis (2009) and State Protected Areas Service Under the Ministry of the Environment (2008).

high aesthetical potential, not only the ecological one (Jankevica, 2012); the less ecologically viable and diverse landscape should be less aesthetically pleasing as well. Many practical examples of direct links between the ecology and aesthetics can be seen in the Lithuanian landscape. For example, analyzing the aesthetic potential of Lithuanian landscape, Kavaliauskas (2011) indicated that the agricultural plains, which constitute more than a half (51.3%) of the country's landscape, were acknowledged by the Lithuanian landscape researchers Budriūnas and Ėringis as having the lowest aesthetic value. The harmony between the high aesthetic quality of environment and its ecological health is desirable for cultural landscapes. Nevertheless, the ecological health and balance are not always associated with the high aesthetic quality: The ecologically healthy landscapes may not be aesthetically pleasing and vice versa (Kučinskienė, 2009). The close interrelations in landscapes between the anthropogenic elements, such as architectural and urban structures, which require constant maintenance, and the natural elements, which flourish undisturbed by the human activities, create the ecoaesthetic complexities, which can be seen in the former Soviet rural landscapes. The two main directions of changes of the rural landscape of Soviet period after the restoration of the independence can be distinguished: In the less fertile and difficult to access marshy or hilly terrains, the process of renaturalization is leading to the formation of woody and scrubby areas, and abandoned farm buildings (Figure 12) negatively affect the local identity; in the fertile plains, the large and strong farms are intensively exploiting the territorial resources, thus diminishing the biodiversity and recreational potential.

In the areas of the rural–urban interface, the links between the aesthetics and ecology related to the relicts of the Soviet rural landscape become even more complicated: These



**Figure 12.** Renaturalization and abandonment at the fringe of Kaunas (Lithuania).

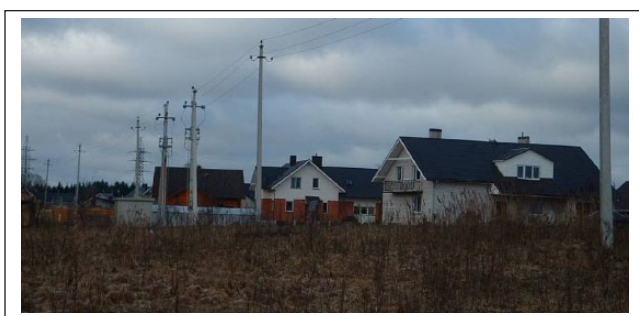
landscapes are affected by such contradictory trends as abandonment, the decline of buildings of rural origination, the renaturalization of the abandoned agricultural areas, the fragmentation of natural and agricultural land, the intensive cultivation, the new construction, the radical changes of functions, and the advent of suburban and urban aesthetics. The ecological–aesthetic congruencies and contradictions in the relicts of the Soviet rural landscape under the influence of urbanization are shortly described below:

**Ecological priority.** As the nature reclaims the abandoned agricultural land, the ecological viability and diversity increase. The natural ecosystems in urbanized, densely inhabited environment though are desirable from the point of view of environmental sustainability (Jorgensen, 2011); however, according to the opinion of some researchers (Nassauer, 1995), they create the sense of abandonment and unsafety. According to Nassauer (1995), many natural ecosystems do not correspond to the aesthetic norms prevalent in the society. In the case of the former Soviet agricultural landscape, this abandonment happens on the large scale. Large derelict farm buildings also contribute to the negative image of these areas in the vicinity of the city. However, as the contemporary research on the links of ecology and aesthetics demonstrates, these abandoned succession landscapes at the urban fringe or even in the inner urban areas can have the specific aesthetic value and sometimes can even be the desirable elements of environment and the sites of discovery and experimentation (Gandy, 2013; Nohl, 2001). These landscapes can be viewed as a part of the process of the increasing heteropolitization—transition toward the socially, economically, culturally, and spatially more heterogeneous and complex environments (Gentile et al., 2012)—of postcommunist urban environment.

**Agricultural priority.** The features of the former Soviet rural landscape provide the possibilities for the intensive large-scale agriculture. Intensively cultivated productive agricultural landscapes have certain aesthetics (Nohl, 2001), although land cultivation and especially monoculture cause the ecological decline and the contrasts of the features of the urban, suburban, and agricultural aesthetics in the areas of rural–urban interface (Figure 13).



**Figure 13.** The radical contrast between the agricultural and peri-urban aesthetics at the fringe of Kaunas (Lithuania).



**Figure 14.** The suburbanization in former rural landscape at the fringe of Kaunas (Lithuania).

*Aesthetic fragmentation and chaotic diversity.* Due to the economic pressures and the intensive development, the features of agricultural landscape are being increasingly erased in the areas, where the urban influence is mostly felt (Figure 14). The large regular open areas of the former Soviet rural landscape provide the possibilities for the unrestrained development of residential, commercial, logistics structures and the necessary infrastructure. With the lack of coordination of this process, the dissonant, fragmented landscapes having both rural and urban features, which became a stereotype of suburban landscape, emerge. Here, many processes happen in the close proximity and create the aesthetic confusion. This type of rural–urban interface landscape also requires the specific attention.

## Integration Scenarios

The landscape as the dynamic holistic phenomenon (Antrop, 2008) and the sociocultural, economic, ecological, and aesthetic aspects related to the reuse of the relicts of the Soviet rural landscape in the areas of rural–urban interface imply the systematic, integrated approach to this problem. The Soviet utilitarian planning and management of the rural landscapes had made the landscapes unattractive for numerous modern uses related with the urban development—residential, cultural, recreation, small business development, and so on. The

question may be raised how these landscapes can be adapted to more economically and ecologically sustainable life in the developing rural–urban interface areas and how it is possible avoiding further visual and ecological degradation of these landscapes. According to Bučas (2001), such cultural landscapes should be aesthetically attractive, ergonomic, ecologically sustainable, and spiritually meaningful. Historical rural landscapes usually were and are the organically evolved cultural landscapes (Bučas, 2001; United Nations Educational, Scientific, and Cultural Organization [UNESCO], World Heritage Center, 2013). These landscapes had resulted from an initial social, economic, administrative, and/or religious imperative and developed their present form by association with and in response to natural environment; such landscapes reflect that process of evolution in their form and component features (UNESCO, World Heritage Center, 2013). The agricultural reform of the Soviet period, the urban expansion, and its influence on the rural landscapes afterward had disrupted the continuous evolution of these landscapes under analysis. With the increasing pressures for development, the urban influence, numerous stakeholders, and the conflicting interests and functions, the organic evolution of landscapes in the areas of rural–urban interface is hardly possible. However, the holistic, integrated planning and design process encompassing the different scales of landscape from garden to region, from small neighborhood to the entire metropolitan area (Spirn, 2000), viewing the landscape design as a tool for sustainability, viewing the landscape architecture as the instrument of environmentalism (McHarg, 1969), taking into account the social, economic, ecological, aesthetic dimensions, and the overall image of the landscapes all these mentioned aspects could foster the conscious development of cultural landscapes. Insightful planning and artistic thinking can be used to stimulate the organic landscape evolution process and to transfer it to a new level as well (Araeen, 2009). The idea of McHarg that landscape design is a tool for human evolution (Spirn, 2000) can be integrated here as well.

According to Antrop (2008), the landscape research should focus more on prognosis and scenarios. He notes that much landscape research is descriptive; it contributes mainly to knowledge but rarely serves as the basis for planning the future development. Thus, the scenario approach was selected as a tool to coordinate all the above-mentioned aspects and create desirable landscape quality and image. Table 1 demonstrates seven scenarios of treatment of the relicts of Soviet rural landscape in the areas of rural–urban interface. The table includes the following:

- the identification of priorities (ecological—the image of natural landscape, agricultural—image of functional agricultural landscape, urban fringe—the image of sustainable peri-urban development with the strong emphasis on social aspects and communities, urban—the image of high-quality urban environment) reflecting the traditional transition from the natural and



**Table 1.** Scenarios of Development of the Relicts of the Soviet Rural Landscape in the Areas of Rural–Urban Interface.

Priorities							
Ecological			Agricultural			Urban fringe	Urban
Scenarios							
I	2	3	4	5	6	7	
Renaturalized landscapes	Succession landscapes	Unusual landscapes	Agricultural functional landscapes	Recreational landscapes	Urban fringe landscapes	Urban landscapes	
	<ul style="list-style-type: none"><li>• Recreation of the image of natural landscape</li><li>• Leaving landscapes for spontaneous renaturalization simultaneously maintaining some signs of their previous use</li></ul>	<ul style="list-style-type: none"><li>• Creating interesting, unusual, new types of landscape in the vicinity of the city</li></ul>	<ul style="list-style-type: none"><li>• Developing/maintaining agricultural landscapes in the vicinity of the city</li></ul>	<ul style="list-style-type: none"><li>• Development of unusual recreational settings for urban population</li></ul>	<ul style="list-style-type: none"><li>• Developing interesting and humane peri-urban and suburban environments with focal points for communities, specific character and the reminders of the place's history</li></ul>	<ul style="list-style-type: none"><li>• Developing high-quality urban environment</li></ul>	
Conditions for implementation of scenarios							
Difficult accessibility	Difficult accessibility	Difficult accessibility	Good accessibility	Good accessibility	Good accessibility	Good accessibility	
<ul style="list-style-type: none"><li>• High ecological importance of the area due to intensive urbanization of surroundings or adjacent valuable natural areas</li></ul>	<ul style="list-style-type: none"><li>• High ecological importance of the area due to intensive urbanization of surroundings or adjacent valuable natural areas</li></ul>	<ul style="list-style-type: none"><li>• High ecological importance of the area or area is unsuitable for agriculture</li></ul>	<ul style="list-style-type: none"><li>• Area is suitable for agriculture</li></ul>	<ul style="list-style-type: none"><li>• High social and ecological importance of the area due to intensive urbanization of surroundings (predominant residential use)</li></ul>	<ul style="list-style-type: none"><li>• High social and economic importance of the territory (residential and other uses)</li></ul>	<ul style="list-style-type: none"><li>• High economic and social importance of the territory</li></ul>	
<ul style="list-style-type: none"><li>• Derelict emergency state buildings and other structures of low cultural significance and economic value</li></ul>	<ul style="list-style-type: none"><li>• Derelict buildings and other structures of low cultural significance and economic value</li></ul>	<ul style="list-style-type: none"><li>• Good or satisfactory state buildings</li></ul>	<ul style="list-style-type: none"><li>• Good or satisfactory state buildings and infrastructure</li></ul>	<ul style="list-style-type: none"><li>• Good or average state buildings</li></ul>	<ul style="list-style-type: none"><li>• Good or average state buildings</li></ul>	<ul style="list-style-type: none"><li>• Bad or emergency state buildings and other structures of low cultural significance and economic value</li></ul>	
			<ul style="list-style-type: none"><li>• Low or moderate ecological significance of territories</li></ul>	<ul style="list-style-type: none"><li>• Relicts of other types of historic rural landscape may be present in the territory</li></ul>			

(continued)

Table 1. (continued)

Priorities						
Ecological		Agricultural			Urban	
		Scenarios				
I	2	3	4	5	6	7
S: Restoration of natural landscape, increase in biodiversity	S: Restoration of more natural landscape, increase in biodiversity	S: Restoration of more natural landscape, diversification of peri-urban economy, reuse of buildings	S: Continuity of use, local agricultural production for the city	S: Social use and environmental preservation	S: Redevelopment of the area preserving the traces of the past	S: Redevelopment of the area, elimination of emergency state buildings and ruins
	W: Diminished possibilities of social and economic use	W: Limited array of activities to be developed	W: Ecological degradation, diminished possibility of other uses	W: Diminished possibilities of economically profitable uses, required subsidies	W: Ecological degradation of the area, loss of natural elements and possibilities of agricultural use	W: Ecological degradation of the area, loss of natural elements and possibilities of agricultural use, radical change of landscape character
O: Ecological compensation, environmental education	O: Ecological compensation, environmental education	O: Ecological compensation, environmental and agricultural education, increased social and economic viability	O: Economic viability, ecological production, agricultural education	O: Ecological compensation, environmental education, strengthening of communities	O: Living environment with distinctive identity	O: Development of high-quality urban environment
T: Aesthetic unattractiveness of overgrown areas	T: Aesthetic unattractiveness of overgrown areas and ruins	T: Unattractive contrast between the overgrown areas and reconstructed buildings	T: Unattractive sharp contrasts between rural and urban aesthetics in the areas in closer proximity to the city	T: High pressures for urbanization, high maintenance costs	T: Sharp contrast between aesthetics of urbanized areas and former agricultural buildings, visual chaos	T: Unregulated urban expansion, visual chaos
New aesthetic perceptual categories under sustainable landscape conditions according to Nohl (2001)						
The (new) sublime (landscape prototype—natural landscape)	The (new) sublime (landscape prototype—succession landscape)	The (new) sublime (landscape prototype—succession landscape) The interesting (landscape prototype—urban-industrial landscape)	The plain (landscape prototype—rural functional landscape)	The beautiful (landscape prototype—traditional cultural landscape)	The interesting (landscape prototype—urban-industrial landscape)	The beautiful (landscape prototype—traditional cultural landscape) The interesting (landscape prototype—urban-industrial landscape)

agricultural areas to the increasingly more densely urbanized environments;

- the title and short description of each scenario that reflect the desirable image of each envisioned landscape;
- the conditions for the implementation of these scenarios, including the accessibility, the surrounding environment, the ecological importance of the area, the state of buildings, and other structures;
- the identification of the related strengths, weaknesses, opportunities, and threats of scenario implementations;
- the possibilities to develop the types of sustainable landscape with corresponding aesthetic character distinguished by Nohl (2001). We find the contribution of Nohl particularly interesting and relevant for this research. His holistic approach toward aesthetics in the context of landscape sustainability and the look at the future landscapes as the aesthetical objects and his four aesthetic perceptual categories under the sustainable landscape conditions can be successfully applied in the development of the relicts of Soviet rural landscapes under the pressures of urbanization. These four landscape types or the aesthetic perceptual categories under sustainable landscape conditions include “the beautiful” (areas similar to traditional cultural landscapes), “the new sublime” (areas where nature can develop freely and spontaneously, such parts of landscape simultaneously can be disharmonic, unordered, fragmented, unstable, not easy to read, mysterious, and very informative and aesthetically appealing), “the interesting” (areas where the multiplicity of land uses generate confusing, incoherent, labyrinthine, chaotic environments and events; however, the interesting in the right place affects us positively even if it includes ugly things), and “the plain” (areas of ecologically sound intensive agricultural production—rural functional landscapes).

### *Scenario 1—Renaturalized Landscapes*

The scenario involves the demolition of abandoned agricultural buildings of the Soviet era and related infrastructure, the renaturalization of derelict agricultural areas, and the recreation of the image of natural landscape. The term “renaturalization” here implies the naturalness of landscape, the return to its primeval state (Balevičiūtė & Veteikis, 2013). This scenario would apply to the areas unsuitable for any kind of intensive development and even more to the ecologically valuable and vulnerable areas that could be left undeveloped for renaturalization, eco-compensation, increase of biodiversity, acting as carbon sinks, as an integral part of ecological corridors, and so on. The proximity of urban environment would also give the educational and recreational dimension to these landscapes: They can stimulate the sensibility toward nature, willingness to explore.

### *Scenario 2—Succession Landscapes*

This scenario involves leaving the landscapes with the relicts of the Soviet era for spontaneous renaturalization. Only the hazardous buildings and structures can be dismantled, while covering other abandoned buildings and their ruins with rapidly growing trees and shrubs or using vertical planting. The relicts of agricultural buildings can be adapted to the environmental protection needs (for bat hibernation, etc.) as well. This scenario involves “the design with nature” (McHarg, 1969) and always with the minimum possible interventions and the minimum envisioned further maintenance costs bearing in mind the disputed values of the relicts of the Soviet rural landscape and buildings and their scale and the scarcity of funds. As this scenario—leaving landscape to successional processes—requires the least cost, it could be applied both in the larger as smaller scales: in the areas unsuitable for any kind of intensive development or in some segments of agricultural, recreational, or other kind of peri-urban areas. Even if this kind of landscape does not generate any kind of direct economic use, it may provide numerous indirect benefits for urban ecology (eco-compensation, increase of biodiversity, acting as carbon sinks, serving as a part of ecological corridors, etc.) and society (an engagement with the independent agency of nature, according to Gandy, 2013; demonstration of succession landscape to urban society; specific form of recreation). Even if such “derelict” landscapes may seem unsuitable in the close proximity of urban areas or even in the inner urban areas, contemporary researchers increasingly underline its importance. For example, Gandy (2013) speaking on aesthetics, ecology, and urban wastelands used such concepts as “urban nature” and “urban biodiversity” relevant for the analysis of rural–urban interface; he noted that

the marginal spaces of Berlin, London, Montreal, and other cities were becoming a significant focus for cultural and scientific attention that reflected a series of developments such as the emergence of new art practices, increasing levels of ecological awareness, and the changing characteristics of cities themselves. (pp. 1301-1302)

Nohl (2001) distinguished such kind of landscapes for the “self-dynamics, self-productivity, and self-regulation of nature” as the “landscape areas, which are taken away from the control of man, at least temporarily.” In this case, the ecology can be not only a science, a moral obligation, but the norm of beauty as well (McHarg, 1969; Spirm, 2000).

### *Scenario 3—Unusual Landscapes*

This scenario aims at creating new types of rural–urban interface landscapes, unusual, interesting (Nohl, 2001) landscapes, and involves the renaturalization or leaving to successional processes of derelict agricultural areas. It involves the reconstruction and adaptation of agricultural buildings of the Soviet era to nontraditional agricultural (growing snails,





**Figure 15.** Unexpected combinations of tidy peri-urban aesthetics and renaturalization at the fringe of Kaunas (Lithuania).

earthworms, mushrooms, etc.) or nonagricultural (sun-harvesting, small businesses, manufacturing) uses as well. The basic conditions for development of such unusual landscapes in the areas of rural–urban interface would involve difficult accessibility, high ecological importance of the area under consideration or its unsuitability for agriculture, and good or satisfactory state of the existing buildings. The development of such landscapes can involve not only utilitarian and ecological developments but also the artistic creations. The idea of landscape as a collective work of art by Araeen (2009) could be useful in this regard. Araeen expanded the concept of the land art, which could be seen not merely as a conceptual art object, but can become an ongoing and self-sustaining dynamic process, a movement generated within it. The role of artistic imagination in this case is

to think, initiate and create not what is self-consumed by the ego from which the idea emerges, but what can transcend and transgress the narcissistic ego and become part of the collective energy of the earth. It can then transform it in ways that enhance not only the natural potential of the earth itself but also the collective creativity of the life of all its inhabitants. (p. 684)

If realized successfully, such landscapes of unexpected combinations (Figure 15) can attract considerable public interest as well, and the concept of “interesting” by Nohl (2001) can be applied here as in these landscapes, “the aesthetic need for information may be satisfied quickly and thoroughly” (p. 232).

#### **Scenario 4—Agricultural Functional Landscapes**

The scenario involves the sustainable agricultural use of the territories of the relicts of Soviet rural landscape, renovation if necessary, and maintenance of buildings and infrastructure for agricultural use. This scenario is the most feasible in the areas more distant from the city and the main transport routes, where the majority of population still works in agricultural sector and where the conditions are favorable for



**Figure 16.** The relicts of rural landscape of different historic periods and different values at the fringe of Kaunas (Lithuania).

farming. However, with the rise of local produce and the trend of bioregionalism (Aberley, 1999), farming and the proximity of urban environment may not be mutually exclusive and can even constitute an advantage. Moreover, according to Nohl (2001, p. 233), these productive landscapes, if sustainably cultivated and ecologically improved, can have their own aesthetics called “the plain” and “able to arouse feelings of contentment and gratitude in the beholder,” “to show how nature and the man-made could be reconciled.”

#### **Scenario 5—Recreational Landscapes**

This scenario involves the transformation of the relicts of abandoned agricultural territories of the Soviet period into the recreational areas. It also involves the reconstruction of abandoned buildings, and their adaptation to social, cultural, or other uses of local communities. One of the significant factors determining the reuse possibilities of the relicts of Soviet rural landscapes is their accessibility. The relicts of the Soviet rural landscape and the extant buildings of good or satisfactory physical state located in the zones of strong urban influence and near the main transport routes can be converted to other nonagricultural functions. In the peri-urban areas with higher population density, these buildings and areas can be adapted for the social, cultural needs and recreation bearing in mind the current lack of cultural function and public spaces in the developing zones of rural–urban interface in Lithuania. In the cases when the areas are easily accessible and not favorable for cultivation, peri-urban recreation complexes serving for the urban population could be developed. Development of such recreational landscapes could be based both on the previously mentioned concept “the interesting”—creating unusual landscapes for rest and exploration—and “the beautiful” distinguished by Nohl (2001) or their combinations. “The beautiful” in the case of contemporary landscape development refers to the areas where “all the elements are more or less known and in which they are arranged in a balanced and harmonic that is in a beautiful order” (Nohl, 2001, p. 231). This concept could be well applicable in the cases when the

relicts of other, more sustainable and harmonic types of historic rural landscape—*ikivalakinis*, *valakinis*, or *vienkiemis*—and/or the distinctive features of natural environment are present in the territory (Figure 16).

### Scenario 6—Urban Fringe Landscapes

This scenario involves the urbanization of abandoned agricultural territories and adaptation of abandoned agricultural buildings of the Soviet period to cultural, social, or economic needs. According to I. McHarg (1969), the uncontrolled growth is inevitably destructive, and the planned growth is more desirable and as profitable as the uncontrolled growth. This assertion is especially relevant to the areas of rural–urban interface. Multifunctionality and the polycentric development become increasingly important in the areas of rural–urban interface as a means to reduce the dependency on automobile by creating jobs and providing services and social infrastructure locally and to enhance local identity and to strengthen communities. The abandoned buildings and territories could be used for the social needs and services of local communities and for commerce and production, thus diversifying local economies and reducing the need to commute. According to Antuchevičienė (2005), the buildings and territories near densely inhabited areas could be adapted to the businesses and industries, which require more workforces. The structural and aesthetic features of farm buildings of the Soviet period strongly limit the possibility to adapt them to residential purposes; however, not only the foreign experience (Lunkevičius, 2001) but also the survey results (Rubikaitė, 2013) demonstrate that this possibility should not be rejected totally. This scenario can as well involve the combinations of “the beautiful” and “the interesting” according to Nohl (2001), where the development of peri-urban residential areas could be based on the balance and harmony characteristic to the traditional cultural landscapes, and the reused agricultural buildings of the Soviet era may constitute “the interesting” element and contribute to the specific identity and legibility of the local landscape.

### Scenario 7—Urban Landscapes

The last scenario involves the complete redevelopment of the territory, without leaving any explicit signs of its past: the urbanization of abandoned agricultural territories and the demolition of abandoned agricultural buildings. This scenario would be feasible in the case, when the territory under consideration is easily accessible or it has the high economic and social importance, and the state of extant buildings and other structures of the Soviet era is bad or emergency. In such cases, the large spaces provided by the rural landscapes of the Soviet period provide the possibilities for unrestricted development of urban environment, where different aesthetic concepts (“the beautiful,” “the interesting”; Nohl, 2001) and urban solutions can be selected. However, it is important that

these new landscapes would correspond to the characteristics of cultural landscapes—aesthetical attractiveness, ergonomics, ecological sustainability, and spiritual meaningfulness (Bučas, 2001)—and would provide real home for peri-urban residents.

### Conclusion

This research has focused on the landscapes in the rapidly changing social and economic conditions and particularly on the features, development, and redevelopment possibilities of the relicts of Soviet rural landscapes in the areas of rural–urban interface in postcommunist Lithuania.

The short review of history and the peculiarities of these landscapes have demonstrated that the reforms of the Soviet period had strongly altered the Lithuanian landscape. As a consequence of these changes, the specific type of rural landscapes, which can be characterized by the industrial scale of interventions and production, the restructured and rationalized rural settlement system, the radically new building and planting practices and with the large, regular, and uniform spaces and agricultural production complexes of unusual shapes, materials, and large volumes, and the related infrastructure, had emerged. After the restoration of the independence of the country, the following restructuring of agricultural economy affected not only the country’s society but also the landscape: Numerous agricultural areas with corresponding building complexes and other structures mainly of the Soviet period lay abandoned, the decline of the buildings is accompanied by the processes of renaturalization of agricultural land, simultaneously new small farms and large agricultural enterprises emerge causing further landscape transformations, and rapid and extensive urban expansion in the zone of influence of large cities into natural and rural territories alter the face of the Lithuanian rural areas and their links with urban environment.

This paradoxical combination of the rapid new developments and renaturalization and successional processes in landscape deserves a special attention and the analysis of their social, cultural, economic, ecological, and aesthetic dimensions. The literature review and survey results reveal the sociocultural and economic premises for the different uses of the relicts of the rural landscape of Soviet period in the areas of rural–urban interface ranging from the restoration of natural landscape to continuity of agricultural practices and the use for recreational and social purposes. The relicts of the rural landscapes of the Soviet period affected by the contemporary urbanization present the particular challenge from the point of view of interaction of ecology and aesthetics as well. These landscapes exhibit such contradictory trends as abandonment, decline of buildings, renaturalization, intensive urbanization, fragmentation, contrasts of rural and urban aesthetics, and so on, and simultaneously hold the potential of realization of new aesthetic concepts of “urban nature” (Gandy, 2013). This complexity demonstrates

the need of new approaches toward the development of cultural landscapes.

The approach of landscape development scenarios with the specific landscape aesthetic expressions based mainly on the findings of Nohl (2001) and with reference to Gandy (2013) was selected. We argue that such approach would be helpful for development of the sustainable landscapes in the areas of rural–urban interface—the new aesthetically attractive, ergonomic, ecologically sustainable, and spiritually meaningful (Bučas, 2001) cultural landscapes. This contribution demonstrates the applicability of the Nohl's ideas to specific contexts as well. Seven scenarios of treatment of these landscape relicts in the areas of rural–urban interface under different conditions and reflecting the gradual transition from the natural and rural to the urban were developed: renaturalized landscapes (recreation of the image of natural landscape), succession landscapes (leaving landscapes for spontaneous renaturalization simultaneously maintaining some signs of their previous use), unusual landscapes (creating interesting, unusual, new types of landscape in the vicinity of the city), agricultural functional landscapes (developing/maintaining agricultural landscapes in the vicinity of the city), recreational landscapes (development of unusual recreational settings for urban population), urban fringe landscapes (developing interesting and humane peri-urban environment with focal points for communities, specific characters, and the reminders of the place's history), and urban landscapes (developing high-quality urban environment). The scenarios demonstrate the possibilities to develop multifunctional, polycentric peri-urban areas; to develop agriculture and produce locally for the city; and to develop natural areas for eco-compensation and recreational sites.

### Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

### Funding

The author(s) received no financial support for the research and/or authorship of this article.

### References

- Aberley, D. (1999). Interpreting bioregionalism. In M. V. McGinnis (Ed.), *Bioregionalism: A story from many voices* (pp. 13-42). London, England: Routledge. Retrieved from <http://www.vedegylet.hu/okopolitika/Aberley%20-%20Interpreting%20Bioregionalism.pdf>
- Aleknavičius, P., & Valčiukienė, J. (2011). Kaimiškojo kraštovaizdžio raidos ypatumai Vilniaus miesto įtakos zonoje [Features of rural landscape development in Vilnius city influence zone]. *Vandens ūkio inžinerija*, 58, 32-41.
- Antrop, M. (2008). Landscapes at risk: About changes in European landscape. In P. Dostal (Ed.), *Evolution of geographical systems and risk processes in the global context* (pp. 57-79). Prague, Czech Republic: Charles University.
- Antuchevičienė, J. (2005). *Apleistų pastatų naudojimo modelavimas darnaus vystymo (-si) aspektu* [Modeling of re-use of abandoned buildings, the aspect of sustainable development] (Doctoral dissertation). Vilnius Gedimino technikos universitetas, Vilnius, Lithuania.
- Aplinkos apsaugos agentūra. (2014). *Žemės dangos pokyčiai 2006-2013* [Land cover changes 2006-2013]. Retrieved from <http://gamta.lt/files/CORINE%20informacinis%20koreguotas%20v4.pdf>
- Apskritis. (2009). Retrieved from <http://lt.wiktionary.org/wiki/apskritis>
- Araeen, R. (2009). Ecoaesthetics: A manifesto for the twenty first century. *Third Text*, 23, 679-684.
- Balevičiūtė, A., & Veteikis, D. (2013). Renatūralizacijos pokyčiai Lietuvos kraštovaizdyje 1995–2010 metais [Renaturalization changes in the landscape of Lithuania during 1995–2010]. *Geografija*, 48, 132-144.
- Baltrušaitytė, G. (2013). *Apleistų pastatų panaudos galimybių tyrimas* [Analysis of use possibilities of abandoned buildings] (Master's thesis). Kaunas University of Technology, Kaunas, Lithuania.
- Bell, S., Penže, Z., Nikodemus, O., & Montarzano, A. (2008). Perception of the Latvian landscape during social and economic transitions. In E. Nārieva, V. Sarapik, & J. Tomberg (Eds.), *Place and location VI* (pp. 239-256). Tallinn: The Research Group of Cultural and Literary Theory, Estonian Literary Museum.
- Bučas, J. (1988). *Lietuvos kaimo kraštovaizdžio raida ir istorinės vertybės* [Development of Lithuanian rural landscape and its valuable properties]. Vilnius, Lithuania: Moksas.
- Bučas, J. (2001). Kraštotvarkos pagrindai [Fundamentals of land management]. *Kaunas: Technologija*, 142.
- Bukantis, A., Gedžiūnas, P., Giedraitienė, J., Ignatavičius, G., Jonynas, J., Kavaliauskas, P., . . . Valiukevičius, G. (2008). *Lietuvos gamtinė aplinka, būklė, procesai ir raida* [Natural environment in Lithuania, state, processes and development]. Vilnius, Lithuania: Agency of Environmental Safety.
- Čereškevičius, S. (2012). Besitraukiančių miestų fenomenas: Erdvinės struktūros pokyčiai, revitalizacijos principai ir vystymo galimybės [Phenomenon of shrinking cities: Changes of spatial structure, principles of revitalization and development possibilities]. In *Proceedings of the Fourth Urban Forum*. Retrieved from <http://www.am.lt/VI/files/File/Urbanistinis%20forumas%20tinklalapiui%20WEB.pdf>
- Cirtautas, M. (2012). Baltijos šalių miestų ekstensyvos plėtros ypatumai [Peculiarities of extensive development of cities in Baltic states]. In *Proceedings of the Fourth Urban Forum*. Retrieved from <http://www.am.lt/VI/files/File/Urbanistinis%20forumas%20tinklalapiui%20WEB.pdf>
- Gandy, M. (2013). Marginalia: Aesthetics, ecology, and urban wastelands. *Annals of the Association of American Geographers*, 103, 1301-1316.
- Gentile, M., Tammaru, T., & van Kempen, R. (2012). Heteropolitanization: Social and spatial change in Central and East European Cities. *Cities*, 29, 291-299.
- Jankevica, M. (2012). Comparative analysis of methodologies for landscape ecological aesthetics in urban planning. *Science–Future of Lithuania/Mokslas–Lietuvos Ateitis*, 4(2), 113-119.
- Jorgensen, A. (2011). Beyond the view: Future directions in landscape aesthetics research. *Landscape and Urban Planning*, 100, 353-355.



- Kavaliauskas, P. (2011). *Kraštovaizdžio samprata ir planavimas* [Landscape definition and planning]. Vilnius, Lithuania: Vilnius University. Retrieved from [http://www1151.vu.lt/Data/Methodines%20priemones/Krast\\_SMPR\\_PLNV.pdf](http://www1151.vu.lt/Data/Methodines%20priemones/Krast_SMPR_PLNV.pdf)
- Kraštovaizdžio struktūros pokyčių probleminiuose arealuose vertinimas vietinių lygmeniu* [Local level assessment of landscape structure changes in problem areas]. (2008). Institute of Geology and Geography, Vilnius, Lithuania. Retrieved from [http://gamta.lt/files/Krastovaizdžio\\_struktūros\\_pokyčių\\_probleminiuose\\_arealuose\\_vertinimas\\_vietinių\\_lygmeniu.pdf](http://gamta.lt/files/Krastovaizdžio_struktūros_pokyčių_probleminiuose_arealuose_vertinimas_vietinių_lygmeniu.pdf)
- Kučinskienė, J. (2009). Gyvenamosios vietos pasirinkimas: želdinių ekologinių ir estetikinių kriterijų įtaka [Selection of the living environment: Influence of ecological and aesthetic criteria of green areas]. *Miestų želdynų formavimas: Mokslo darbai*, 1(6), 62-65.
- Kuemmerle, T., Olofsson, P., Chaskovskyy, O., Baumann, M., Ostapowicz, K., Woodcock, C. E., . . . Radeloff, V. C. (2011). Post-Soviet farmland abandonment, forest recovery, and carbon sequestration in western Ukraine. *Global Change Biology*, 17, 1335-1349.
- Lunkevičius, S. (2001). *Daugiakriterinis kaimo statinių investicinių projektų efektyvumo vertinimas* [Multicriterial assessment of investment projects of rural buildings] (Doctoral dissertation). Vilnius Gediminas Technical University, Vilnius, Lithuania.
- Lygis, D. (2000). Lietuva trečiojo tūkstantmečio pradžios vizijoje. Lietuvos Respublikos bendrasis planas – preliminarūs sprendiniai [Lithuania in the vision of the beginning of the third millennium. General plan of the Republic of Lithuania—Preliminary proposals]. *Statyba ir architektūra*, 1, 6-29.
- McHarg, I. (1969). *Design with nature*. Garden City, NY: Natural History Press.
- Nassauer, J. I. (1995). Messy ecosystems, orderly frames. *Landscape Journal*, 14, 161-170.
- Nohl, W. (2001). Sustainable landscape use and aesthetic perception—preliminary reflections on future landscape aesthetics. *Landscape and Urban Planning*, 54, 223-237.
- Pakalnis, M., & Bardauskienė, D. (2012). Žalioji ir rudoji urbanistika, priešprieša ir sąlytis, konformistiniai sprendimai urbanistikoje [Green and brown urbanism, confrontation and contract, conformist decisions in urbanism]. In *VI Lietuvos urbanistinis forumas. Šiuolaikiški miestai ir miesteliai: situacija, vystymosi tendencijos, vizija* (pp. 8-13). Vilnius, Lithuania: Technika.
- Palang, H., Printsman, A., Gyuro, E. K., Urbanc, M., Skowronek, E., & Woloszyn, W. (2006). The forgotten rural landscapes of Central and Eastern Europe. *Landscape Ecology*, 21, 347-357.
- Rasa, I. N. G. A., & Nikodemus, O. (2008). The influence of land use structural changes on the landscape ecological, aesthetic and cultural-historical values of the Gauja National Park, Latvia. In O. Opermanis & G. Whitelaw (Eds.), *Economic, social and cultural aspects in biodiversity conservation* (pp. 83-93). Valmiera, Latvia: Academic Press of the University of Latvia
- Rubikaitė, L. (2013). *Žemės ūkio gamybinių kompleksų konversijos galimybės* [Conversion possibilities of agricultural production complexes] (Research report). Kaunas, Lithuania: Department of Architecture and Land Management, Kaunas University of Technology.
- Spirn, A. W. (2000). Ian McHarg, landscape architecture, and environmentalism: Ideas and methods in context. In M. Conan (Ed.), *Environmentalism in landscape architecture (Dumbarton Oaks colloquium on the history of landscape architecture)* (Vol. 22, pp. 97-114). Washington, DC: Dumbarton Oaks Research Library and Collection.
- State Protected Areas Service Under the Ministry of the Environment. (2008). *Apleistų pastatų likvidavimo programa* [Program of liquidation of abandoned buildings]. Retrieved from [http://www.vstt.lt/VI/files/File/Projektu%20skyrius/Apleistu\\_pastatu\\_likvidavimo\\_programa.pdf](http://www.vstt.lt/VI/files/File/Projektu%20skyrius/Apleistu_pastatu_likvidavimo_programa.pdf)
- United Nations Educational, Scientific and Cultural Organization, World Heritage Center. (2013). *Cultural landscape*. Retrieved from <http://whc.unesco.org/en/culturallandscape/#2>

## Author Biographies

**Indre Grazuleviciute-Vileniske**, Doctor of Technological Sciences, is an associate professor at Kaunas University of Technology, Faculty of Civil Engineering and Architecture, Department of Architecture and Urbanism. Main research areas include valuation and preservation of cultural heritage, management of rural–urban interface, and sustainable architecture.

**Erika Zaleskiene**, PhD, is a student at Kaunas University of Technology, Faculty of Civil Engineering and Architecture, Department of Architecture and Urbanism. Main research areas include formation of green areas, rural–urban interface, and rural landscapes.

**Gintare Baltrusaityte**, Master in real estate management, currently works as project manager at UAB “Betonika.” Studied at Kaunas University of Technology, Faculty of Civil Engineering and Architecture. Research interests include reuse possibilities of abandoned buildings.

**Lauryna Rubikaite**, Master in architecture, is an architect, studied at Kaunas University of Technology, Faculty of Civil Engineering and Architecture. Research interests include reuse possibilities of abandoned buildings, conversion of the farm buildings of the Soviet era.