

Built Heritage Management Challenges in the Areas of Rural-Urban Interface

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Urban sprawl and management of rural-urban interface remains the relevant area of research of the last decades. Urban sprawl usually absorbs such relicts of rural environment as the residencies of former manors, fragments of rural settlements, individual buildings. Intensification of concentration of the anthropogeneous processes, shifts in ecological situation, and changes of surrounding visual environment cause threats to the identity and even the survival of rural heritage objects closely linked to their authentic settings. The analyses demonstrate the trends of negative changes of the physical state of rural heritage objects affected by the processes of urbanization. Nevertheless, the urbanization in the vicinity of the relicts of rural landscape cannot be seen solely as negative. The intensification of social and economic processes in urbanized areas and the identity and the distinctiveness of the relicts of rural environment can encourage developing peri-urban areas with the unique sense of place with attractive peripheral centers and to preserve rural heritage adding new values and meanings to it. In order to highlight the opportunities and challenges of management of built heritage in the areas of rural-urban interface, the article presents the results of the sociological research on the state and preservation possibilities of the rural relicts in the urban settings.

Keywords: *urban sprawl, rural-urban interface, built heritage, sustainable development, Kaunas, Lithuania.*

1. Introduction

Urbanization is one of the fundamental features of the European civilization. Cities and the urban networks were always an important factor in the development of surrounding regions. However, the last centuries were of extreme significance in the growth of urban population. If considering the urbanization as the proportion of people living in urban areas, it contemporarily reaches around 80 percent in most European counties (Antrop, 2006). One of the most dynamic and intensive phenomenon of the 20th and 21st centuries is the rapid territorial expansion of the urban environment, the so-called urban sprawl (Antrop, 2004; Bučas, 2010). Since the middle of the 20th century the territory of European urban settlements had expanded circa 78 percent on the average, while the population increase was only circa 33 percent. Currently areas of new development in cities sometimes are several times larger than the existing built-up urban areas (Dringelis et al., 2011). D. Bardauskienė and M. Pakalnis (2012) note that in Lithuania suburbanization does not correlate with a demographic and economic situation, as circa 70 percent of country's population live in expanding urban settlements, but the

total number of inhabitants is shrinking. Such expansion could not have any effects. The increasing scale and pace of landscape changes become extremely devastating and many heritage values and resources become irreversibly lost (Antrop, 2004). In his analysis of issues of urban sprawl of Lithuania and the world J. Bučas (2010) drew attention to the environmental, economic, social, and cultural problems and the effects on the general image of the city caused by these processes. He noted that "... while meeting the 21st century the horizontal sprawl of cities has become the urban problem of considerable relevance. The urban sprawl is leaving to decay the historical city centers, while assaulting the natural surroundings of cities and leaving there not only new constructions but also wastelands and waste dumps." L. Dringelis et al. (2011) had identified numerous problems related with the uncoordinated urban sprawl: low residential density and lack of service infrastructure, high transportation costs, serious damage to agriculture due to the inappropriate use of fertile land, negative impact on attractive recreation facilities and tourism development prospects, ecological problems, such as urbanization of

slopes, swampy areas, stream valleys etc. These problems were not left without a response. As M. Antrop (2004) notes, currently natural and cultural landscapes receive increasing attention at different levels and from different points of view. R. Fischer (1996), G. Adell (1999), M. Antrop and V. Van Eetvelde (2000), M. Antrop (2004), G. Overbeek and I. Terluin (2006), P. Juškevičius (2007), J. R. Miller *et al.* (2009), R. I. McDonald *et al.* (2009), J. S. Deng *et al.* (2009), J. Bučas (2010), L. Dringelis *et al.* (2011), D. Bardauskienė and M. Pakalnis (2012) and many others had analyzed the global and local aspects of urban sprawl and urban-rural interactions. M. Antrop (2004) had analyzed the urbanization process in Europe and related landscape changes. J. R. Miller *et al.* (2009), R. I. McDonald *et al.* (2009) had analyzed the issues of the impact of urban sprawl on the natural environment. G. Overbeek and I. Terluin (2006), J. S. Deng *et al.* (2009) had analyzed the socio-economic aspects of urban and rural interface and suburbanization and their spatial expression. L. Dringelis *et al.* (2011) and D. Bardauskienė and M. Pakalnis (2012) discussed the peculiarities of urban expansion in Lithuania undergoing the post-communist transition. M. Antrop and V. Van Eetvelde (2000) had analyzed the suburban transition of the city to the rural countryside areas. This article deals with one concrete but often overlooked aspect of rural-urban interactions, i.e. the heritage management dimension. Our research is based on the review of literature, data from our previous studies (Vitkuvienė and Ažukaitė, 2010; Ažukaitė, 2011; Ažukaitė *et al.* 2011; Gražulevičiūtė-Vileniškė *et al.*, 2011, 2012) and the expert survey and is aimed at identifying the built heritage management challenges in the peri-urban areas based on the Lithuanian experience.

2. Relevance of the research

Review of literature. The management of change and preservation of rural heritage and rural cultural landscapes in the context of urbanization is a rapidly developing area of research all over the world. Numerous case studies found in literature demonstrate, that both developed and developing countries face the challenges of the urban pressure on the rural heritage. M. Antrop and V. Van Eetvelde (2000), M. Fonseca *et al.* (2001), G. Swensen (2002), G. B. Jerpaseen and G. Swensen (2005), Qviström, M & K Saltzman (2007), G. Swensen and G. B. Jerpaseen (2008), Costa M. R. and D. Batista (2011) and other researchers had conducted studies of this topic. The researchers commonly conclude that the expansion of cities cause a growing threat to the valuable properties of traditional agrarian landscape reflecting the local landscape character, the development of agricultural, cultural and political activities, lifestyles, architecture, and technical development features. This is related both to the radical changes of the character of the environment surrounding the heritage property, changes of functions, and the environmental situation changes due to the pressure of urbanization (Vitkuvienė 2003), and the changes of behavior patterns and values of increasingly urbanized society (Swensen and Jerpaseen 2008). While the basic problem - the change of physical and social context and functions of rural heritage objects absorbed by the

urbanized settings - is the same in many instances, different sociocultural, socioeconomic, geographic and political contexts of different countries bring in specific issues. We have distinguished several examples below:

Developing countries. M. Fonseca *et al.* (2001) had analyzed the issues of preservation of cultural landmarks threatened by urban expansion in Brazil, where the expansion of urban centers has been distinguished by the complete absence of planning. They note that “as a result, urban environments lead to land uses encroaching on, defacing and destroying landmarks.”

Developed countries. J. G. Swensen and G. B. Jerpaseen (2008) had analyzed the role of cultural heritage in suburban landscape planning in Norway. Their study shows that even in fully functioning system of territory planning the problems of preservation and the use of the rural heritage under the urban pressure constitute the relevant issue: “... protection and caretaking of green interests in land use planning is not necessarily a protection of cultural heritage interests. Cultural heritage is more to be seen as derivative interest. Cultural heritage management seldom functions as a premise provider in municipal planning.”

M. Antrop and V. Van Eetvelde (2000) had analyzed the urban-rural transition landscape of the city of Ghent in Flanders in Belgium. This is the example of strongly urbanized developed country, where population density is circa 431 inhabitants per square kilometer. In this study they have identified extremely complex landscape pattern with a high degree of fragmentation, with “surrounding villages joined in the spreading of built-up land acting as local foci of further urbanization. Most unaffected rural land exists as small corridors along the river valleys. To improve mobility a new peripheral transportation network (roads, waterways) has been built.”

Territories with pressures from mass tourism. M. R. Costa and D. Batista (2011) analyzed the problem of integrating rural vernacular settlements in urban planning using the case Algarve in Portugal. The area can be characterized by multi-layered historical landscapes, urban expansions, dense transportation system and the intensive tourism use.

Lithuanian case. The peculiarities of built heritage preservation in the territories of rural-urban interface caused by the different sociocultural, socioeconomic, and political contexts allow making the presumption that the post-communist transition countries can be considered as a specific case with characteristic problematic. Moreover, the research by L. Dringelis *et al.* (2011), D. Bardauskienė and M. Pakalnis (2012) support this hypothesis, as they underline the specific character of the urban growth and expansion in Lithuania of the communist and post communist periods. D. Bardauskienė and M. Pakalnis (2012) note that “Lithuania inherited compact cities and landscape diversity after 1990”, currently the situation is quite different: “migration of citizens from cities to the suburbs is induced by the open market and “ad hoc” territory planning”, “after regaining the independence the main driving force of the growth became a private housing sector”, “intention to use land for construction is being considered as the perfect

investment in comparison with the agricultural use, cities are surrounded by chaotic urban structures (urban sprawl) and poor landscapes”. Summarizing it can be stated that the urban expansion in contemporary Lithuania was strongly influenced by the real estate “bubble” of 2006 and 2008 and can be described as the chaotic spot expansion of the compact settlements.

J. Bučas (2001) described the character of development of Lithuanian landscape as “emergent”: the radical changes in land management and landscapes were caused by radical political shifts and reforms. The change in urbanization patterns in Lithuania after the restoration of the independence also can be characterized in this way. Such radical changes and the experience of multifaceted and often negative effects of urbanization on rural landscapes and heritage urge to study this problem in Lithuania undergoing the period of post-communist transition. We have identified three complementary directions of this research: to analyze the international experience in this field; to analyze the heritage objects and fragments of rural origination already absorbed by the urban environment and to study the effects of advanced urbanization on the rural heritage; to analyze the character of urbanization and possibilities of its regulation and the prospects, opportunities and threats of the integration of the rural heritage into the urban development.

Analysis of rural heritage absorbed by urbanization in Lithuania. This research area is quite new in Lithuania. Vitkuvienė (2003, 2005) had analyzed the influence of urbanization on the manor residences and the role of these residences in urban development. J. Jurevičienė (2005) had analyzed the state of the rural relicts in urban environment. In our previous researches (Vitkuvienė and Ažukaitė, 2010; Ažukaitė, 2011; Ažukaitė et al. 2011; Gražulevičiūtė-Vileniškė et al., 2011, 2012) we had analyzed the international experience of the rural-urban fringe management, the present situation of the rural relicts in the territory of the

city of Kaunas and have formulated some recommendations for its preservation and management.

In order to understand and demonstrate the effects of the advanced urbanization on the rural properties we have performed the analysis of historical and contemporary maps. The comparison shows radical differences in the surroundings of rural the heritage objects (Fig. 1). The research of the present situation and the development prospects of the objects of rural heritage in the territory of Kaunas (Vitkuvienė and Ažukaitė, 2010; Ažukaitė, 2011; Ažukaitė et al. 2011) (Fig. 2) had demonstrated that their preservation and revitalization in the present urban context raise numerous challenges. The research demonstrates that good preservation prospects correlate with high cultural value and well preserved structure of the ensemble: the manor residences of Aukštoji Freda and Linkuva existing in the territory of Kaunas are characterized with high cultural value and their preservation and rehabilitation prospects were identified as high. The analysis of the level of urbanization had demonstrated that the urbanization in the surroundings of four heritage objects – the fragments of Naujasodis rural settlement, the fragments of Milikoniai rural settlement, the fragments of Biruliškiai rural settlement, and the fragments of Marva manor residence – is intensive and aggressive. Infrastructure objects, industry, high rise residential buildings dominate in their surroundings. The prospects of rehabilitation of these objects were identified as low: Marva manor residence with water treatment plant in the vicinity has almost disappeared; the above-mentioned fragments of rural settlements with high-rise and infrastructure development in the vicinity also face threats of decline or of complete loss of identity. The least negative influence of urbanization was identified in cases, when the territories of individual housing, recreational or natural areas extend in the vicinity of rural heritage objects absorbed into urban environment. In this case at least some aspects of the authentic surroundings of the objects are preserved.

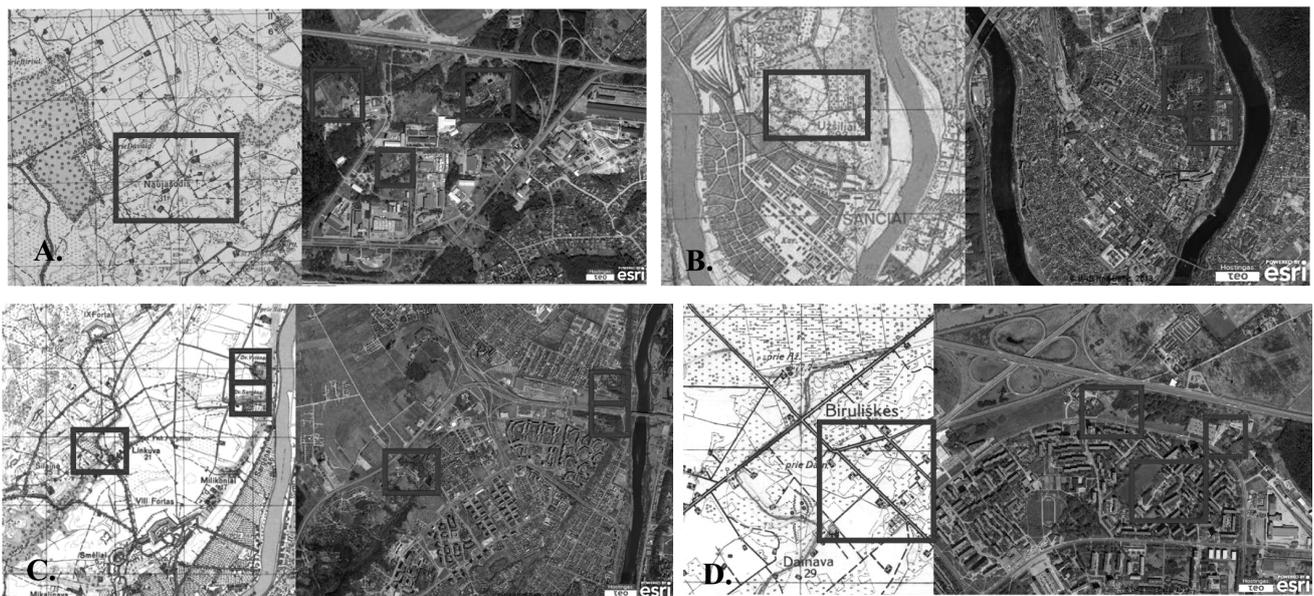


Fig. 1. Changes of the environment of the fragments of rural landscape: situation in 1928 and contemporary situation. A. – fragments of Naujasodis rural settlement; B. – fragments of Užušiliai rural settlement; C. – Linkuva manor residence; D. – fragments of Biruliškiai rural settlement, (Interactive map..., 2013)

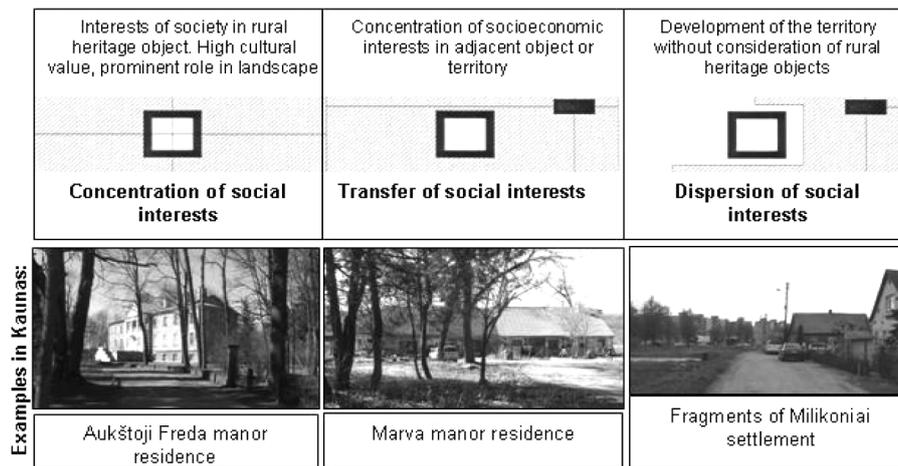


Fig. 2. Three situations of rural heritage objects affected by urbanization and the examples in the territory o Kaunas

The analysis of the prospects of revitalization of the rural heritage in the urban development in the territory of Kaunas has demonstrated that the concentration of the social interests in the heritage object together with low or medium level of unaggressive urbanization can have positive influence on the preservation and rehabilitation of the object (Fig. 1). Aukštoji Freda manor residence adapted to the needs of the botanical garden and Linkuva manor residence used for the residential purposes are the examples of such case. However, the preservation of the authentic or similar to authentic functions does not guarantee the preservation of the rural heritage and related identity in the urban settings. In the fragments of Milikoniai rural settlement under intensive pressure of urbanization historical wooden buildings are rapidly replaced by new structures.

3. Methods

The significance of the subjective dimension in the landscape studies is an issue of continuous discussions. For example, P. Kavaliauskas (2012) criticizes the European Landscape Convention for the populist attitude. According to him, the Convention in the definition of landscape underlines the subjective perceptions of the local inhabitants instead of the objective scientific approach. The idea of his alternative approach is to find the rational and objective scientific criteria for the landscape quality and to determine the model landscapes of desirable quality. The different view towards a landscape more as a process, transcending stable concepts or definitions, than as a goal or outcome, as more subjective and socially determined than objective entity also exists (Antrop and Van Eetvelde, 2000; Swense and Jerpasen, 2008). According to M. Antrop and V. Van Eetvelde (2000), “the perceptive dimension in landscape is fundamental, as the concept of landscape combines a piece of land with its appearance, the scenery. Interaction between perception of the environment and behavior leads to landscaping, i.e. shaping and organizing land according to the needs of a (local) society and according to ethical and aesthetic values.” Both attitudes advocate for a scientific approach to landscape; however, the transitional concept with an

emphasis on social factors is more appropriate for studying rural-urban interface as the area of continuous changes and the role of built heritage in it. In order to specify the presumptions made from the analysis of literature and from the pilot researches on site in the territory of Kaunas we have decided to introduce the sociological aspect in this study. The links between landscape perception and management show the need and importance to study the attitudes and perceptions of landscape and heritage preservation professionals. The experts understanding the discipline and knowing the local context can provide significant insights on the strengths, weaknesses, opportunities, and threats related with rural heritage in the contexts of urbanization. Semi-structured questionnaire was chosen as a survey method for this research. The part of surveyed professionals discussed the problem with the interweaver in a form of non-structured interview and all the respondents expressed their ideas in a written form in a more systematic way using the written questionnaire.

The survey was conducted in April of 2010. The questionnaire with 10 open and semi-open questions and the questions-scales was presented to seven heritage preservation and architecture professionals. Experts were asked to perform the strengths, weaknesses, opportunities, threats (SWOT) analysis of the integration of the rural heritage in the urban development. The SWOT table included statements which had to be rated in a scale of 5 points, the experts also had a possibility to add their own statements. Experts were also asked about the problems of preservation and maintenance of the rural heritage absorbed by the urban expansion and asked to consider in what ways the well thought out integration of rural heritage into urban development could be beneficial to the city and to the heritage object. Professionals were also asked to indicate which types of the relicts of the rural landscape – manor residencies, fragments of rural settlements, individual buildings – have the greatest potential for the rehabilitation and could be successfully used in the development of the urban areas. The questions on the appropriate uses of the rural relicts in the urban development were also included in

the questionnaire. The experts were asked to express their opinion on whether it is possible and worth to retain the original, authentic function of the rural heritage, what new uses could be introduced integrating rural heritage objects into the expanding urban areas. They also were asked what type of urban environment – recreational, residential, industrial, infrastructure, commercial, public areas, low or high-rise development – has the highest and the lowest negative effect on the preservation of the relicts of the rural landscape.

4. Results

The summarized results of the SWOT analysis of the integration of the rural heritage into the urban development carried out by the experts are presented in Table 1. The survey shows that the experts consider the rural landscape relicts and the rural heritage in the urban environment as culturally and socially significant objects (7 respondents), as the objects forming the specific identity of the landscape

(7 respondents) and recognize that the rural heritage in the urban contexts can be significant from the ecological (2 respondents) as well as economic (7 respondents) points of view, and can possess significant recreational and tourism potential (7 respondents). According to the surveyed experts, a well thought out integration of the rural heritage into the expanding urban areas could be useful in the following ways: would allow creating an attractive recreational areas in existing and newly developed suburban areas (6 respondents); could function as public attraction centers in the suburbs and could be devoted to the cultural and creative industries (4 respondents); according to the surveyed experts, the harmonious integration of the rural heritage into the urban environment could increase the city's cultural potential (4 respondents); create new opportunities for the development of cultural tourism (7 respondents); one of the interviewees also referred to the possibility of regulating building density by integrating the rural landscape relicts into the expanding urbanized areas.

Table 1. The results of the expert survey: strengths, weaknesses, possibilities and threats of integration of the rural heritage into urban development

Strengths		Weaknesses	
Important component of landscape, formant of its identity		Heritage protection system is unable to influence the process of urbanization	
Cultural significance		The problem of coordination between innovations and authentic heritage features	
Social significance		Depopulation	
Ecological significance of territorial fragments of rural environment		Decline or loss of primary function	
Economic value		Economic problems	
Recreational potential		Conflicts of interest in expanding urban areas	
		Indifference of society and lack of public awareness	
		Unwise privatization	
		Unattractiveness of abandoned heritage objects	
		Peculiarities of rural heritage are in contrast with urban architecture. This contrast is not always accepted positively	
		Poor condition of rural heritage objects and sites	
		No interest of owners to protect and restore heritage objects	
		Difficulties of integration of heritage objects of rural environment into process of city development and into newly created urban structures	
Rural heritage objects in urban environment			
Opportunities		Threats	
Integration of rural heritage in the socioeconomic activities of contemporary city		Preservation and re-use problems of rural heritage objects caused by the urbanization process	
Use of rural heritage in the development of cultural tourism		Risk of loss of abandoned or inappropriately maintained heritage sites	
Rural landscape features and structures can be specifically used for shaping the suburban areas and for providing them with identity		The rural heritage can lose its identity and gain an urban character because of unwise innovations	
Architecture objects formed in rural landscape can enrich cityscape		Decreasing possibility of the continuity of historical functions	
The objects of rural heritage can become the sociocultural centers of newly formed urban areas		Rural heritage can become a foreign body in the newly formed urban environment	
Use of rural heritage, in the development of cultural and creative industries		Decline of rural heritage significance in the landscape because of the rapidly changing environment	
Significant objects of rural heritage can become sociocultural centers of attraction in a city level		Transformation of the authentic environment of rural heritage sites	
Rural landscape relicts, such as manor residencies with parks, can be used for recreation			
The highest priority (4 or 5 points)		Medium priority (3 or 2 points)	The lowest priority (1 point)

Table 2. Proposals for uses of the rural heritage in the urban environment presented by the experts

Type of rural heritage	Proposed primary (close to the original) functions	Proposed new functions
Manor residencies	Residential Representation Recreational Commercial (farming)	Commercial accommodation (hotels, guest houses) Commercial services (lodgments for conferences, banquets, restaurants) Public cultural (cultural centers, museums, community centers, spiritual recollection centers) Recreation (homestead greenery used as the district or city parks) Cultural tourism Creative industries Organic farming
Fragments rural settlements	Residential	Cultural tourism Creative industries Commercial (farmers' fairs) Agro-tourism Public cultural (community centers)
Rural residential areas with relicts of land use (homesteads)	Residential Commercial (farming)	Organic farming Agro-tourism Cultural tourism Commercial (entertainment) Public cultural (cultural centers, community centers) Passive recreation (parks, green zones)
Individual buildings	Residential Representation	Commercial Representative-educational (museums) Cultural tourism Public cultural (cultural centers, community centers)

The interviewed experts identified these possibilities of the preservation and revitalization of the rural heritage provided by the sustainable integration of the relics of rural landscape into the urban development: possibility to improve the physical condition of the heritage objects, to preserve and highlight their characteristics determining cultural value (4 respondents); to provide the rural heritage with new values and meanings (3 respondents); to improve the accessibility of heritage sites by well thought integration into urban setting and social life (1 respondent); higher concentration of the potential users and visitors of the heritage objects in the urban areas (1 respondent). These aspects are important for the dissemination of knowledge about the rural heritage objects, as well as for their economic viability.

The interviewed experts had almost unanimously concluded that the residencies of former manors and folwarks possess the greatest potential of preservation and use in urban development (6 respondents). One respondent stated that the manor residencies usually are ensembles with a distinctive green structures, plan and spatial structure and can become centers of newly planned areas or the attraction centers for the entire city. Other respondents had indicated that these objects stand out not only for their cultural value but also for the environmental significance, the role in landscape (“green islands” in the city) and their social meaning. So they could be adapted for recreation (3 respondents), cultural-social use (5 respondents), and cognitive, cultural tourism (2 respondents). Table 2 presents the summarized answers of the respondents on the possible original, close to original, and new uses of the rural heritage objects integrated in the urban environment.

Specialists conclude that the main problems concerning the preservation of the rural heritage in the urban environment are the rapid changes of the environment: changes in the visual links of the object with its surroundings (3 respondents), transformation and the loss of the authentic features of the surrounding landscape (6 respondents), and the aggressive interests of new development, which can further speed up the degradation of elements of rural heritage and distinctive features of the relicts of rural landscape (5 respondents). Respondents also had noted that when the rural heritage objects are absorbed into the urban environment, it becomes difficult to maintain their primary historical function, which usually is somehow related to the agrarian activities (4 respondents). One of the respondents had indicated that the ecological changes of the environmental situation can have a direct impact on the physical state of the buildings, and thus influence the use and re-use possibilities of the rural heritage and its surroundings. This is clearly illustrated by the case of Marva manor residence in Kaunas city, where the water treatment plant built in the close proximity of the heritage object has diminished its attractiveness and restricted the possible uses. Specialists also had identified the problem of disinterest of the owners and users of the rural heritage (1 respondent) and a rising threat of vandalism in the abandoned objects (1 respondent). The experts were asked to identify what predominant functional character of urban environment is the most and the least favorable for the successful preservation and integration of the rural heritage in urban development; the majority of the experts indicated that the industrial areas (7 respondents), the areas dominated by commerce, logistics, storage buildings (6 respondents), and

high-rise blocks of residential apartments (4 respondents) have the most negative impact on the rural heritage objects. The areas of recreational use were recognized as the most favorable to the preservation of the rural heritage in the urban context (6 respondents). Experts also pointed out that the areas built-up with low-rise individual houses are favorable for the preservation of the fragments of rural settlements (6 respondents).

5. Generalization and conclusions

1. The analysis of literature has demonstrated that developing and developed countries both encounter problems of urban expansion and of preservation of the rural heritage in the zones of rural-urban interface characterized by high diversity, transitional character and constant change. The analysis of literature had also revealed the diversities in urban-rural transition processes and character depending on the socioeconomic, sociocultural, geographical, and political contexts.

2. The researchers analyzing the peculiarities of the urbanization in the post-communist transition countries and namely of Lithuania indicate the uneven, “emergent” character of this process. This encourages analyzing and considering separately the peculiarities of preservation of the rural heritage absorbed into the urban settings in the post-communist transition countries.

3. The research has demonstrated that sociological studies, such as expert surveys, can be applied in studying heritage preservation possibilities in ever changing surrounding environment. Such analyses together with

other studies can help to determine the possible potential and threats and identify solutions for the heritage objects and to direct the urban-rural transition into more desirable direction.

3. The results of the survey of architecture and heritage preservation professionals revealed that the rural heritage objects in the urban environment can be important as the cultural, economic, recreational, ecological resources for the newly emerging peri-urban and suburban areas and their positive effect can be felt even at the level of the city. This suggests that the preservation of the rural heritage objects and the use of them in the urban development are important not only for the heritage protection, scientific knowledge, and public education, but also for the development of the urban environment in general (Fig. 3).

4. The conclusion and the starting point for a new discussion could be the observation that a new context presupposes new uses of rural heritage. Even the superficially authentic functions, such as residential or farming, are not actually historically authentic. Farming in the urban environment is quite different from farming in rural areas. Living and recreation, cultural activities are also affected by the urban context.

5. The insights from the survey of experts show, that, under the favorable circumstances, rural heritage objects can play a vital role in the formation of the suburban and peri-urban landscapes and in some part can determine the character of landscape. Further studies are needed in order to understand and classify the transient rural-urban landscapes with rural heritage.

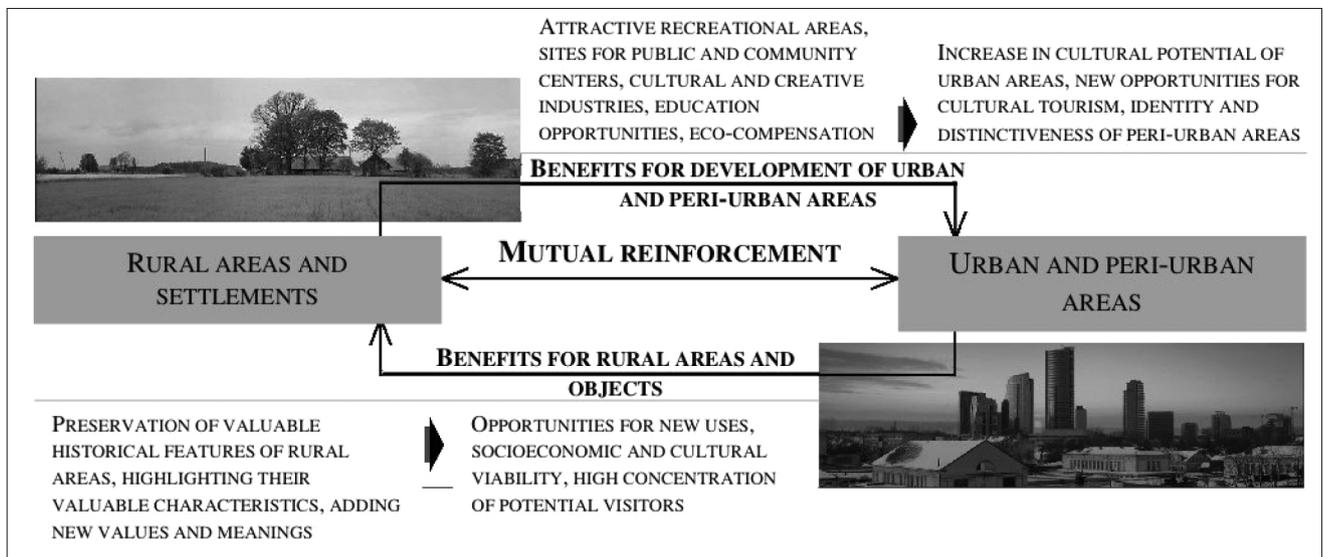


Fig. 3. Hypothetical opportunities of the integration of the rural heritage into the emerging peri-urban and urban landscapes and possible benefits of the rural-urban interface (scheme by L. Ažukaitė)

References

- Adell G. 1999. Theories and models of the peri-urban interface: a changing conceptual landscape. Literature review. Development Planning Unit. University College London.
- Antrop M. 2004. Landscape change and the urbanization process in Europe. *Landscape and Urban Planning*, 67, 9–26. [http://dx.doi.org/10.1016/S0169-2046\(03\)00026-4](http://dx.doi.org/10.1016/S0169-2046(03)00026-4)
- Antrop M. 2006. Sustainable landscapes: contradiction, fiction or utopia? *Landscape and Urban Planning*, 75, 187–197. <http://dx.doi.org/10.1016/j.landurbplan.2005.02.014>
- Antrop M., Van Eetvelde V. 2000. Holistic aspects of suburban landscape: visual image interpretation and landscape metrics. *Landscape and urban planning*, 50, 43–58. [http://dx.doi.org/10.1016/S0169-2046\(00\)00079-7](http://dx.doi.org/10.1016/S0169-2046(00)00079-7)
- Ažukaitė L. 2011. Kaimo kraštovaizdyje susiformavusio statybinio paveldo panaudojimo galimybės urbanistinėje plėtroje [Possibilities of use of built heritage of rural origination in urban development]. Tyrimų vietose ataskaita. Kauno technologijos universitetas, Kaunas.
- Ažukaitė L., Vitkuvienė J., Gražulevičiūtė-Vileniškė I. 2011. Development policy for revitalization of fragments of historic rural areas in peri-urban landscape. Case of Veršvas landscape reserve. In: Rural Development 2011: the 5th international scientific conference, 24–25th November, 2011, Akademija, Kaunas region. Lithuania. 2011, 5(1), 31–36.
- Bardauskienė D., Pakalnis M. 2012. Foresighted urban planning. *Environmental Research, Engineering and Management*, 59, 63–72.
- Bučas J. 2001. Kraštovarkos pagrindai [Fundamentals of landscape management]. Kaunas, Technologija.
- Bučas J. 2010. Miesto drieka kaime: socialinis ir aplinkosauginis aspektas [Urban sprawl into rural areas: social and environmental aspects]. Urbanistinė drieka: miesto ir kaimo sandūra. Kaunas, Technologija, 5–11.
- Costa M. R., Batista D. 2011. Towards integrating rural vernacular settlements in urban uegions: a study of Algarve, Portugal. *Journal of the International Society for the Study of Vernacular Settlements*, 2, 35–51.
- Deng J. S., Wang K., Hong Y., Qi J. G. 2009. Spatio-temporal dynamics and evolution of land use change and landscape pattern in response to rapid urbanization. *Landscape and Urban Planning*, 92, 187–198. <http://dx.doi.org/10.1016/j.landurbplan.2009.05.001>
- Dringelis L., Ramanauskas, E., Gudzinevičiūtė, G. 2011. The use of land in master plans of towns from the point of view of sustainable spatial development. *Environmental Research, Engineering and Management*, 58, 65–73.
- Fischer R. 1996. The urban Fringe. Montreal: planning and politics, Quebec style. *Berkeley Planning Journal*, 11, 106–112.
- Fonseca M., Sobreira F., Rainho M. E., Oliveira M. 2001. Unbridled development of urban space and its implications on the preservation of landmarks – the Morro da Queimada archeological site, Ouro Preto, Brazil. *Cities*, 18 (6), 381–389. [http://dx.doi.org/10.1016/S0264-2751\(01\)00030-0](http://dx.doi.org/10.1016/S0264-2751(01)00030-0)
- Gražulevičiūtė-Vileniškė I., Vitkuvienė J., Ažukaitė L. 2011. On the sustainable development of peri-urban areas with the fragments of rural environment. In: Ecological architecture 2011, 13 October, 2011, Kaunas. 2011, 114–121.
- Gražulevičiūtė-Vileniškė I., Vitkuvienė J., Ažukaitė L. 2012. Kaimo ir miesto gyvenamos ir estetikos darna priemiestinėse teritorijose: kaimo aplinkos relikto integracijos miesto plėtroje gairių formulavimas [Harmony of rural and urban lifestyles and aesthetics in suburban areas: formulation of the guidelines for integration of the relics of rural environment in urban development]. Miestų želdynų formavimas : mokslo darbai = Formation of Urban Green Areas: Scientific Articles, 1(9), p. 25–37.
- Interactive map of Kaunas city. 2012 Available at: <http://www.maps.lt/map/default.aspx?lang=lt> (accessed 7 March 2013).
- Jerpasen, G. B., Swensen G. 2005. When the city invades the countryside - cultural-historical environments in spatial planning. *WIT Transactions on Ecology and Environment*, 84, 1283–1290.
- Jurevičienė J. 2005. Kaimo aplinkos reliktai šiuolaikiniame mieste [Relicts of rural environment in contemporary city]. *Urbanistika ir architektūra*, 29, 62–67.
- Juškevičius P. 2007. Lietuvos miestų sistemų raida [Development of sistem of cities in Lithuania]. Vilnius, Baltijos kopija.
- Kavaliauskas P. 2012. Kraštovaizdžio formavimo (siektinų kraštovaizdžio etalonų) metodika. Siektinos kraštovaizdžio kokybės tikslo koncepcija [Methodology of landscape formation (target landscape models). Concept of target goal of landscape quality]. Tarpinė ataskaita. Vilniaus universitetas, Vilnius.
- Mcdonald R. I., Forman R. T. T., Kareiva P., Neugarten R., Salzer D., Fisher J. 2009. Urban effects, distance, and protected areas in an urbanizing world. *Landscape and Urban Planning*, 93, 63–75. <http://dx.doi.org/10.1016/j.landurbplan.2009.06.002>
- Miller J. R., Snyder S. A., Skibbe A. C., Haight R. G. 2009. Prioritizing conservation targets in a rapidly urbanizing landscape. *Landscape and Urban Planning*, 93, 123–131. <http://dx.doi.org/10.1016/j.landurbplan.2009.06.011>
- Overbeek G. and Terluin I. 2006. Rural areas under urban pressure. Case studies of rural-urban relationships across Europe. The Hague: Agricultural Economics Research Institute, LEI Research Report 7.06.01.
- Qviström M., Saltzman K. 2007. Ephemeral landscapes at the rural-urban fringe: an introduction to an interdisciplinary research project, in: Roca, Z., Spek, T., Terkenli, T., Plieninger, T., Höchtl F. (Eds) *European landscapes and lifestyles. Proceedings of the 21st Session of the Permanent European Conference for the Study of the Rural Landscape (PECSRL)*, Myrina and Molyvos, Greece, 25 August - 1 September 2004. CEGD, Edicoes Universitárias Lusófonas. Lisbon. 2007, 1–10.
- Swensen G. 2002. Cultural heritage on the urban fringe. Nannestad workshop report. The Norwegian Institute for Cultural Heritage Research.
- Swensen G., Jerpasen G. B. 2008. Cultural heritage in suburban landscape planning. A case study in southern Norway. *Landscape and Urban Planning*, 87, 289–300. <http://dx.doi.org/10.1016/j.landurbplan.2008.07.001>
- Vitkuvienė J. 2003. Buvusių dvarų sodybų vaidmuo miestovaizdyje [Role of manor residencies in cityscape]. *Mokslas ir gyvenimas*, 10, 30–31.
- Vitkuvienė J. 2005. Buvusių dvarų sodybų reikšmė miesto savitumui [Influence of manor residences on the identity of the city]. *Urbanistika ir architektūra*, 29(3), 120–124.
- Vitkuvienė J., Ažukaitė L. 2010. Kaimiškojo paveldo kaitos tendencijos urbanistinėje plėtroje (Kauno pavyzdžiu) [Trends of changes of rural heritage in the urban expansion (Case of Kaunas)]. *Urbanistinė drieka: miesto ir kaimo sandūra*. Kaunas, Technologija, 71–81.

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