
Landscape planning of fringe city zones - the case studies of Belgrade and Vrnjačka Spa¹

Tijana Crnčević, PhD

Jelena Živanović Miljković, MSc

Institute of Architecture and Urban & Spatial Planning of Serbia

Introduction

The fringe city zones represent spaces which make the connection between city and nature, where urban areas cross into rural, or to the natural areas. The places where in the last decades, because of the rapid development, these zones shows the diverse of the land use and with lot of surfaces subjected to the constant changes (Friedberger, 2000) leading into destruction of the landscape. From the administrative point of view, the fringe zone starts outside the border of the Master plan (MP). The contemporary practice of urban planning confer the need to harmonize the interest of the city and the nature with intention to protect the natural resources, so development of the fringe zones is steering towards their exploitation and not destruction.

The aim of the paper is to present the existing practice of landscape planning in Serbia by representing two Master plans. The case analysis for the capital and the largest city in the country, Belgrade, covers north part of the MP coverage, where agricultural land is predominant, while MP for Vrnjačka spa, which represent smaller urban area, is an example of that how natural resources can be protected while, at the same time, further city development is considered. For Vrnjačka Spa, we are taking into account the natural resources – the existing vegetation presented through the system of the green areas, which are steering the development of the fringe zone towards the protection and enhancement of the environment and progress of tourist and recreational activities (Crnčević, 2005; Crnčević & Bakić, 2008).

Fringe zones in the context of urban development

In recent decades in most of the European countries, territorial systems have been significantly transformed, especially regarding the areas that lie outside the compact urban areas of the city (Tassinari et al, 2007). Today are common so called “linear commercial complexes”. South Europe shows decline within rural areas – villages fall into some form of urban periphery where new inhabitants are bringing new perspectives (Tjallingii, 2000).

Within the planning process of the fringe zones, the subject area has to be treated in a sense of taking into consideration the interaction of the social and physical processes which area bringing visual contrasts (Tjallingii, 2000) with respect to ecological process and its spatial dimensions. In these fringe zones, the landscape considers totally different features typical for both urban and rural areas - for residence, tertiary businesses and industrial production and also for farming and livestock and “feeding” the city.

As regards to the potential use of the agricultural areas outside the compact urban texture, or parts of them for development purposes, and conversely, the need to protect and promote agricultural, environmental and landscape customs and values at the same, the land use and protection law force in Emilia-Romagna region (Italy), for example, specifies that the boundaries of “urbanisable territory” should be geographically established by municipal town planning bodies in long-term strategy perspective (Tassinari et al., 2007). Also, here is recognized the importance of rational use, management and protection of territorial resources in “peri-urban agricultural areas”.

The current law frame covering environmental planning in Serbia, does not give the full attention to the landscape planning, and therefore also to the planning of the fringe zones. The Law on planning and construction (Official gazette Republic of Serbia 72/09) does not consider landscape within the content of the planning documents, and it is assumed that landscape is treated in scope of the natural and cultural heritage. The European Landscape Convention, which applies to the entire territory and covers natural, rural, urban and peri-urban (fringe) areas, is in the process of ratification in Serbia and its ratification will give the legal conditions to consider landscape within planning process.

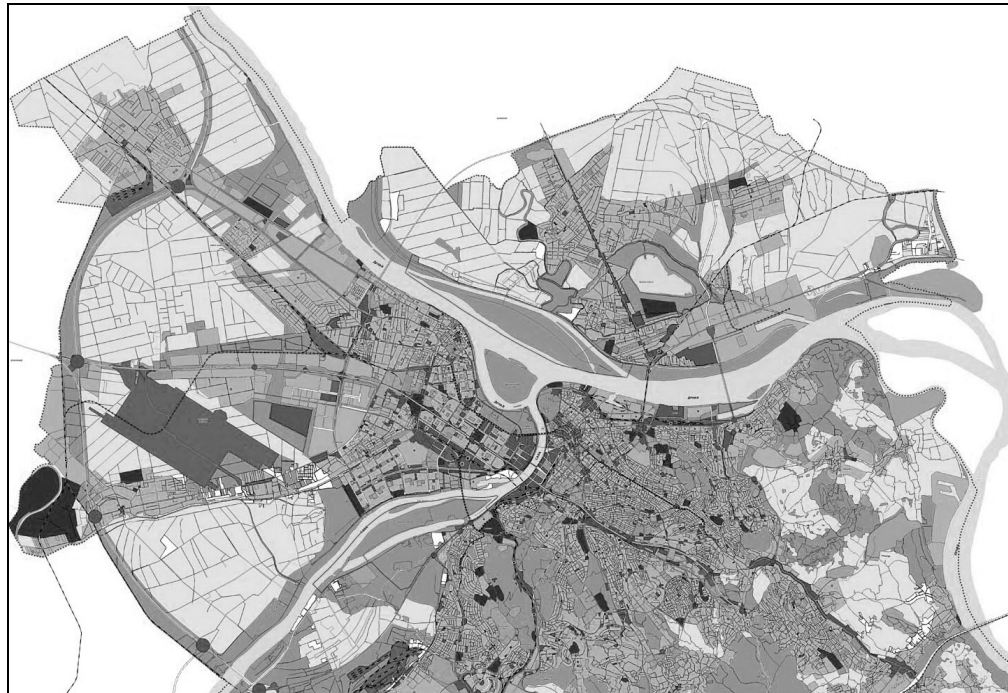
Landscape planning of the fringe zones in Serbia: case study analysis

Master plan of Belgrade

The problem of fringe zones in Serbia, especially in Belgrade, is much unattended in social and legislative sense, which is related to non-planned, non-regulated and non-controlled construction. Starting from the fact that agriculture undeniably plays a crucial role regarding the quality of urban fringe landscapes, it has to be stressed that fringe zone of Belgrade, big city with more than 1,5 million dwellers, must be treated as its primal resource.

Within Belgrade territory covered by Master plan (Master plan for Belgrade 2021, 2001), most presented purpose in 2001. was agricultural (62,3 %) (Figure 1). However, a projection for 2021. shows decreasing of agricultural area by 36% (16 400 ha) by its conversion into urban land.

Agricultural areas in scope of the Belgrade metropoliten (mostly located in agricultural zone “Pančevački rit”-on the north area covered by MP and in Zemun Municipality-on the west) are its capital strategic zones. During the period 1948-1999 Belgrade population has been increased for 2,5 times. Last twenty years in Serbia, as a consequence of tragic scenes in our region, many refugees from Croatia, Bosnia and Kosovo, as domestic dwellers with unsolved residences, tried to reach their own “roof above head” by illegal construction of houses on agricultural soil in fringe zone of Belgrade (Živanović Miljković, 2008).

**LEGEND**




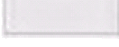
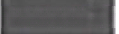
	Residential purpose
	Public purpose
	Sport purpose
	Agricultural areas, farms
	Traffic and traffic areas

Figure 1. Predominantly land use in the north and west part of Belgrade fringe zone (Source: The Master plan for Belgrade 2021)

It has to be pointed out that situation on field is very different from situation projected in Master plan and Cadastre. Cadastre and plan show only legalized changes in land use, but there is significant part of land, that is still officially agricultural, although it has been changed into constructed land. In peri-urban areas of larger towns it is obvious that some parts of land, that is marked as agricultural in cadastre, are used for some other purposes. This so-called quasi-agricultural land is the consequence of urbanization process in rural areas, with the typical land use for residential, business, weekend facilities and other purposes related to small distances

from cities, increased values and frequencies of land sales and socio-economic and cultural changes in land-owners value system (Đorđević, 1999). Intensity of the quasi-agricultural land amount, as a rule, subsides with increasing of the city center distance.

Obtained urbanization data for Belgrade settlements in fringe zone is neither entire nor always correct, because urbanization process is constant. It is evident that comprehensive construction was out of all control in last decades. That kind of city development is not sustainable by nature resources (agricultural soil at a first place) and landscape preservation, neither by the aspect of infrastructural systems building and environmental preserving in whole (Stojanović, 2000).

Agriculture area in the fringe zone has an important role in food provision, the preservation of the landscape, the ecological functioning of this Belgrade area, which is what multifunctional role of agriculture and agricultural soil consists of (Živanović Miljković, 2008).

Case study: Vrnjačka spa

Vrnjačka spa is situated in the Western Serbia with distinguish natural potentials: mineral springs and vegetation (more than 60% of the whole surface is under the vegetation).

The Master plan for Vrnjačka spa 2005-2021 (Figure 2) contains 5 settlements: Vrnjačka spa and Vrnjci in a whole and parts of the settlements Novo Selo, Lipovo and Ruđinci. Therefore, the fringe zone represents the settlements of the MP contact zone - Ruđinci, Novo Selo, Lipovo and Štulac². We could distinguish two dominate direction of wide spreading of all settlements in a fringe zone area. The first, continual construction area is along magistral roadway Kraljevo -Kruševac and the second one which connecting settlements in a borough, gets out to the same magistral roadway.

The common phenomenons for these areas are appearance of the construction lots within infrastructure corridor, non-adequate representation of the vegetation and tree lines, and lack of the natural elements. The overloaded borough center and the necessity to protect mineral springs influenced to the wide spreading of the construction area in radial ways, towards fringe settlements Lipovo and Novo Selo to the west and Ruđinci to the East. These settlements lost village character and became the residential zones. The changes of the functions of these settlements cause changes in the way of living, organization of the garden plots and the relation of the open areas.

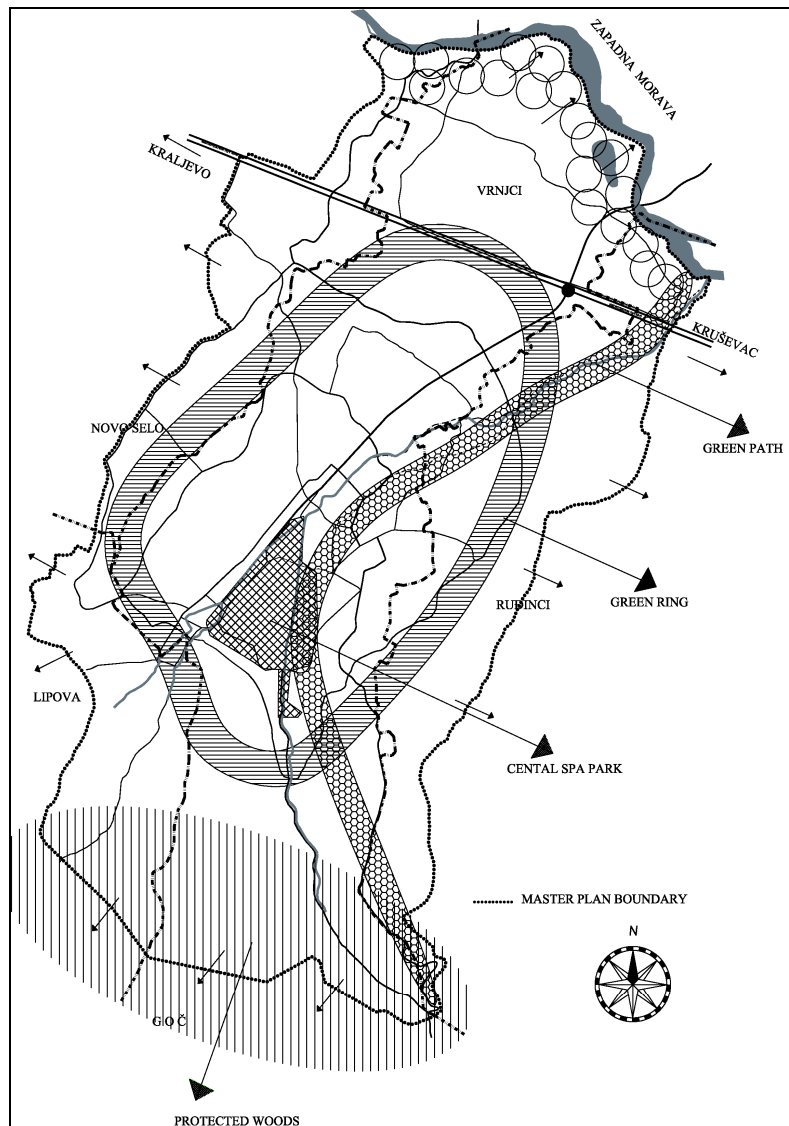


Figure 2. The green surfaces in a function of the fringe zones development (Source: Crnčević & Bakić, 2005)

According to the Master plan for Vrnjačka spa 2005-2021 (Official gazette of the community Kraljevo n.12/05) the system of green surfaces consists of:

- within the public surfaces: parks, squares, greenery within blocks, tree lined paths, the greenery for special purposes and limited uses (around schools and medical institutions, sports and recreational spaces), conservation greenery (around industrial and other objects, coastal greenery), park forests and conservation forests;

- within natural property and according to the information from the Central register for protected natural properties, on the Vrnjačka spa territory are distinguished natural monuments: Black pine tree, Four oaks, Two oaks -Vrnjci and the Church hill as a cultural historic space entity.

As Vrnjačka spa does not have severe environmental problems, the economy development is based on the improvement of the tourist offer. Some problems are related to air pollution, noise, non-legal construction and creation of wild landfills within the forests and forest land. Therefore, development of the sport and recreation tourism is one of the determinations of the Vrnjačka spa municipality development. The natural characteristic of the landscape, the morphology of the terrain, the existing greenery and river flows give a good foundation which do not need big material investment. By its landscape planning concept, the MP gives conditions for formatting of green rings around construction areas, as well as dislocation of the constructed surfaces from the center towards fringe zone.

Landscape planning of the fringe zone consider following (Master plan for Vrnjačka spa, 2001):

- Human factor has the main impact to the forest and forest land and many forests were grubed up for agricultural land and for construction sites. However, recognizing the importance of these forests, the municipality of Vrnjačka spa, by the decree (Official gazette of municipality Vrnjačka spa n. 5/86) declare the protection role for these forests, aiming to protect water resources and mineral springs³. Further protection of that area supported by the MP, consider declaring of these forests as Regional Park. In this manner, conditions for development of tourist and recreational activities will be created.
- The greenery planned within sport and recreational complex has the aim to separate these areas - visual and functional. Also, taking into consideration their purpose, the arrangement of green surfaces within complexes is planned.
- Along the river Zapadna Morava it is planned to raise protective greenery by recultivation and revitalization of the Podunavska lakes and by arrangement of new contents for fishing, walking, picnics as well as for the construction of the swimming complex and Entertainment Park on the water⁴. Therefore, the role of the greenery stresses advantages of the existing conditions, including arrangement of the river shore, raising new forests and greenery.
- Within the MP borders, system of green surfaces represents a concept of conversion of forests into the park forests, promoting recreational activities and social contents, as well as raising the new forest on agricultural land, by which the “protected ring” will be created in order to separate the central city zone from the fringe one.

- During the planning process, the public hearing showed that the inhabitants of the fringe zone are interested for organization of social and cultural contents on their lots and there is awareness that green surfaces has to stay protected and also expanded. Within green belt and rings around constructed areas it is given the possibility for applying the commercial interest in these green surfaces (sport and recreational purposes) while on the edge, where construction is permitted, construction of forest houses and sanatoriums is possible.

At the example of Vrnjačka spa case study it is shown that existing system of green surfaces and resources of the fringe zone represents important potential for development of touristic and recreational activities. Therefore it can be assumed that promoting of the presented concept of landscape planning for the fringe zones opens the possibilities for activating of the fringe zones, in a sense of providing the conditions for further development of the city, with the simultaneous protection of the natural resources.

Conclusions

The case study analysis showed that landscape planning has a role in protection and improving of the natural and agricultural areas of the fringe zones. The practical experiences do impose positive solutions and give an input for the further landscape planning. Therefore, it can be assumed that current landscape planning in Serbia is in the line with European as well as global tendencies (strategies), although it does not have a full legal support.

Now, sports and recreative uses become attractive for the fringe zones (for cycling, tennis, golf terrains, walking and other contents) and that zones could also be used in commercial way. On the other side, agricultural soil protection in fringe areas of the city could be a key element in the planning process as landscapes maintaining and prevention of unlimited growth of the cities.

By giving specific function to the greenery and agricultural land in the fringe zone, it could be limited or prevented further non legal construction. Still, remains the problem that planning solutions, very often, are not realized so, by the time, these areas became devastated because of inadequately maintenance.

References

- Crnčević, T. 2005, *Sistem zelenih površina u funkciji zaštite životne sredine – primer Vrnjačke Banje i Vršca (The system of green surfaces in the function of environmental protection – the example of Vrnjačka spa and Vršac)*, Arhitektura i urbanizam n.16/17, pp.31-39
- Crnčević, T., Bakić O. 2005, *Zelene površine rubne zone u funkciji razvoja turističko-rekreativnih aktivnosti-primer Vrnjačke banje, (Green surfaces of the fringe zones in the function of development of the touristic and recreational activities– the example of Vrnjačka spa)*, Održivi grad i njegovo okruženje, IAUS, pp. 109-116

- Crnčević, T., Bakić O. 2008, *The system of green surfaces in spas with special reference to the case studies: Vrnjačka, Kanjiža and Pribojska spa*, SPATIUM n.17-18, pp.92-95
- Dorđević, D. 1999, *Quasi-agricultural land use in the Belgrade south peri-urban area*, Bulletin of the Serbian Geographical Society, LXXIX, No. 1, Belgrade, pp. 21-22
- Friedberger, M. 2000, *The rural-urban fringe in the late twentieth century*, Agriculture History n.74, pp. 502-514
- Law for planning and construction, Official gazette of Serbia 72/09
- Master plan for Belgrade 2021, Official gazette of the city of Belgrade n.27/03
- Master plan for Vrnjačka spa 2005-2021, Official gazette of the community Kraljevo n.12/05
- Stojanović, B. 2000, *Environmental aspects of urbanisation of peripheral areas of the cities-experience of Belgrade*, Summer school of urbanism-Proceedings, Šipovo
- Tassinari, P., Torreggiani, D., Benni, S. 2007, *Agriculture and Development Processes: Critical Aspects, Potential and Multilevel Analysis of Periurban Landscapes. Part I*, Agricultural Engineering International: the CIGR Ejournal. Manuscript MES 07 005 Vol IX
- Tjallingii, S.P. 2000, *Landscape and ecology between town and country*, Landscape and Urban Planning n.48 pp. 103-119
- Živanović Miljković, J. 2008: *Some measures for soil regulation in Belgrade peri-urban zone*, SPATIUM n.17-18, pp.68-69
- Програм развоја општине Врњачка Бања 2005 (The Program for Vrnjačka spa development 2005), Републички завод за развој

Endnotes

¹ The paper is prepared as a part of the scientific projects TP 16013 „Approach and concept for creating of Strategy of spatial development of Serbia“ and TP 16007 „Sustainable development and organization of spas and other tourist settlements in Serbia“, financed by the Republic of Serbia Ministry of Science and Technological Development.

² It could be stated that listed settlements in some parts are covered by MP, while Štulac is not covered by MP and it will need another planning act.

³ For the protected forests have been declared forests complexes of 420,71 ha where 171,82 ha is owned by society and 248, 89 is within private sector.

⁴ The planned recreational complex around river Zapadna Morava, according to the Program for modernizing of tourist offer of Vrnjačka spa contains swimming recreational complex, nautical center and water sport, picnic paths, fishing and fish raising, hunting and venison raising, auto camp.