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LAND USE AND BUILDING REGULATIONS: THE CASE OF SPATIAL PLANS FOR PROTECTED NATURAL AREAS (SERBIA)

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Marijana Pantić, Jelena Živanović Miljković, Saša Milijić

Institute of Architecture and Urban & Spatial Planning of Serbia, Belgrade, Serbia

Abstract. *Land use and building regulation within protected natural areas in Serbia is specific in comparison to areas without this status. Since urban plans define the rules and conditions limited to urban settlements and locations of national priority (e.g. tourism resort in natural protected areas), other areas, including significant parts of protected natural areas, rely on spatial plans, which often contain elements of detailed urban planning (i.e. regulation and building rules). Preservation of ecologic and environmental functions is a priority in protected natural areas (particularly in zones of I and II level of protection), but they are also eligible for controlled development purposes in zone of III level of protection. Due to large distance from administrative centre and institutions responsible for building inspection, it is not rare case in Serbia that illegal building in protected areas makes them more exposed to illegal actions.*
Therefore, this paper focuses on the role of spatial plans in balancing between land use and building in protected natural areas on the one hand and nature protection on the other hand. In-depth analysis of chosen spatial plans, here is given a comprehensive review of building and land use postulates, regulations and different levels of protection applied in spatial planning. Starting from the Spatial Plan of the Republic of Serbia 2010-2020, analysis gives a major significance to four special purpose area spatial plans of different kind: Gornje Podunavlje Special Nature Reserve, Tisa River Multifunctional Ecological Corridor, Kopaonik National Park and Vlasina Landscape of Exceptional Features. Finally, there is shown diversity and systematisation of existing measures, and contribution to understanding of challenges and recommendations on future improvements of methodology in planning and implementation of plans in order to enhance balance between development and protection.

Key words: *spatial planning, protected natural areas, land use, building regulations, Serbia*

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Corresponding author: Marijana Pantić
Institute of Architecture and Urban & Spatial Planning of Serbia, Kralja Aleksandra Blvd. 73/II, 11000 Belgrade, Serbia
E-mail: marijanap33@yahoo.com

1. INTRODUCTION

The principal question confronting planning of protected natural areas is to determine an acceptable degree of human impacts (Eagles et al. 2002). Even though the primary role of protected areas is to protect and preserve the biodiversity, ecological and natural values and resources, the natural environment can provide added value if properly used for other purposes and activities because they become multifunctional (Sayer et al., 2003; Ranganathan, 2010; Bergandi et al., 2013). However, the balance between the development and protection is an ultimate challenge for societies aware of contemporary climate change issues and not so rare misuse of natural resources (Belokurov, 2010; HABIT CHANGE, 2013). Zoning, as established standards of an acceptable land use, helps to control the sprawl of undesirable impacts and represents the best way to reduce spatial conflicts in the land use. Tourism may be seen as a more favorable alternative to some other form of the land use in protected natural areas (Eagles et al., 2002), on the other hand, tourism will always have an environmental impact on protected areas (Danilović Hristić et al., 2018), because they are inherently sensitive. That is why it is vital for the impact to be assessed as precisely as possible before decision on intervention is made and implemented (Eagles et al., 2002).

Concerning the land management issues in Serbia, urban planning and urban plans are predominantly aimed at managing the land use in urban areas, while one of the initial and key tools for balancing between the development and protection outside of cities is spatial planning, particularly special purpose area spatial plans, which contain elements of urban (detailed) planning. Support to the nature protection by the spatial planning starts with the statement and elaboration of existing environmental problems. In general, but also regarding construction activities and building, the issue is the conflict between development and protection. In spite of planning and urban documents, defined land use and building regulations, attractive touristic and scenic locations are simply being overloaded by illegal construction (Pantić et al., 2018a). Therefore, the task of this paper is to show in which way protected natural areas in Serbia are integrated into the spatial planning, by answering the main research question: how spatial plans define the land use and building regulations in protected natural areas in order to limit development to an extent that is not harmful for the natural sustainability? Research sub-questions are: (1) what are the recognizable postulates related to the land use and building regulation in spatial plans? (2) what are particular land-use and building regulations applied in spatial plans? and (3) can spatial plans be sufficient in balancing between the land use and building in protected natural areas on the one hand and the nature protection on the other hand?

The following paragraphs will present a methodological approach, legal framework for nature protection and spatial planning in Serbia, results, discussion, conclusions and implications.

2. METHODOLOGY

This research is conducted using qualitative research methods, a document analysis and a case study analysis. The document analysis starts with the most general documents regulating spatial planning, land use, building and nature protection in Serbia: the Law on Nature Protection (2009), the Order on Protection Regimes (2012a), the Law on Planning

and Construction (2009), the Spatial Plan of the Republic of Serbia (2010) and four spatial purpose area spatial plans [hereinafter SPASPs], which were chosen as case studies.

The case study analysis involves a detailed review of the chosen SPASPs and a generalisation of results in the form of postulates and the land use and building regulations contained in the plans. There where it appeared relevant, differences based on different area types were commented. For the purpose of this research, SPASPs were chosen as case studies because this type of a planning document is the only document that can be purposely prepared for a protected natural area, by encompassing its entire territory and with the goal to regulate the sustainable development within it. As there is over 20 adopted SPASPs, it was helpful to limit the choice, which was done based on a set of the following criteria: (1) out of seven types of protected natural areas (as defined by the Law on Nature Protection), four of them are the foundation for ordering, preparing and adopting a SPASP; so each chosen case study covers one out of four types of protected areas; (2) each spatial plan represents a different geo-morphological area – mountains, lowlands, large water accumulation, river basin and/or Ramsar area, (3) spatial plans are representatives of a larger time-sequence from 2004 to 2016. Based on the criteria, the SPASPs that encompass the following protected natural areas were chosen for the analysis: the Vlasina Landscape of Exceptional Features (2004), the Kopaonik National Park (2009, 2016), the Gornje Podunavlje (Upper Danube Area) Special Nature Reserve (2012) and the Tisa River Multifunctional Ecological Corridor (2015) (Fig. 1). Therefore, the case studies are SPASPs prepared for listed protected natural areas.

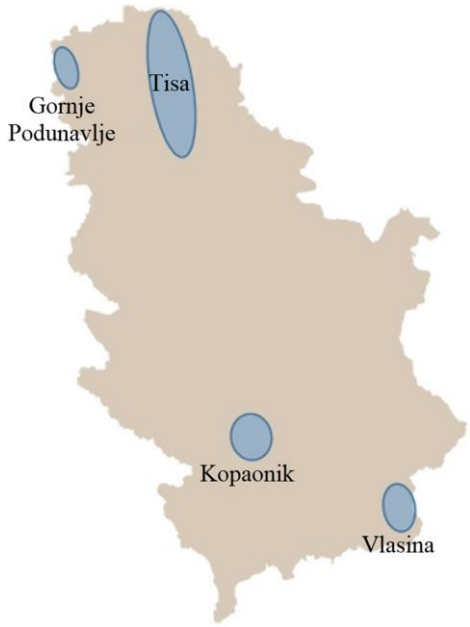

Fig. 1 Case studies – SPASPs encompassing protected natural areas

3. LEGAL FRAMEWORK FOR NATURE PROTECTION AND SPATIAL PLANNING IN SERBIA

The basic legal acts that regulate nature protection in Serbia are the Law on Nature Protection (2009) and the Order on Protection Regimes (2012a), while the spatial planning is being primarily regulated by the Law on Planning and Construction (2009). In the sphere of spatial planning, national spatial plans could be also taken as legislative acts because they are being adopted and published in the same manner as any other law. After the adoption, the implementation of a spatial plan is legally binding for all institutions at national, regional and local levels. The Law on Nature Protection defines three types of protection: (1) protected areas, (2) protected species and (3) mobile protected nature documents. The last two types do not overlap with spatial planning because they are whether mobile – so they are not related to a specific location – or they represent individual natural elements (e.g. a specific three) that take insignificant amount of space to be subject of spatial planning.

In contrast to those types, protected areas comprise seven sub-types of protection, where four of them are the foundation for ordering, preparing and adoption of a SPASP. These are national parks, landscapes of exceptional features, nature parks and special nature reserves. Their common characteristics are interrelations between the nature and culture, where predominantly natural areas are still inhabited by sparse settlements and by people that preserve forms of traditional life-style. Those areas could vary in size from a couple of hectares to over 100,000 hectares. Another group of protected areas are natural monuments and protected habitats, which are usually rather smaller in terms of the territorial sprawl, therefore, usually included in spatial plans with/within other protected areas or ecological corridors. The last category is strict nature reserves that are not inhabited and have solely the nature protection role, for which they are not of particular interest in the spatial planning.

Among other tools, the Law on Nature Protection recognises spatial and urban plans, as well as planning and project documentation as tools for planning, ordering and use of protected areas. There is one more connection between the Law on Nature Protection and the Law on Planning and Construction: preparation of the strategic environmental assessment (additional, but inevitable document following a spatial plan preparation) and the study for accessibility evaluation (a document defined by the Law on Nature Protection as a part of the strategic environmental assessment). If the mentioned documents show that the environmental impact is too high and non-sustainable, measures defined by spatial plan cannot be implemented.

The Order on Protection Regimes defines three levels of protection within a protected area, which is also accepted in spatial planning and spatial plans, while the Law on Planning and Construction sets the principles and protection, order and development propositions. The planning legislative act also defines constructions in the natural environment that do not need a construction permit (e.g. hiking paths and infrastructure that follows the paths, etc.).

4. LAND USE AND BUILDING REGULATION IN PROTECTED NATURAL AREAS – AN ANALYSIS OF SPASPS

4.1. General Framework

Governing and development of nature assets in the way that they are preserved for the future generations appears to be the common effort of most of national documents, including SPASPs. Participation, as general postulate in any contemporary decision-making procedure is in the case of protected natural areas in Serbia specially oriented towards the inclusion of successors of elderly households in settlement reconstruction by special programs. This shows the effort to bring changes that would be as attractive as possible to future generations, thus sustaining living in sparsely populated areas. Another option to preserve continuation of investments (economic vitality) is involvement of private investments in traditionally publicly financed projects.

Analysed SPASPs insist on balancing between tourism development and development of alternative rural economies in river/water accumulation basins on the one hand side and natural values on the other, which is suggested to achieve by synchronization of capacities such as the number of beds for tourists in accordance with other capacities such as ski-lifts, ski-slopes, water supply and sewage infrastructure, nature revitalisation activities, etc. Therefore, no construction or building is allowed, as SPASPs define, before completion of infrastructure (primarily a sewage system).

The SPASPs show the intention to rather have a planned increase of population density than a sprawl of building land in order to prevent soil sealing and preserve natural habitats. Similarly, "urban recycling" actually means rather reuse of neglected buildings and brown-field land than occupying new spaces. By stressing relevance of settlement attractiveness through identity and tradition in architecture, SPASPs aim to stress the relevance of using local materials and traditional styles/forms of building. In addition, the plans bring forward values such as the implementation of planned actions in phases, efforts to put obligations on re-cultivation of locations disrupted by planning measures and raise awareness on the relevance of institutional/personal improvement within the system.

4.2. Zoning in SPASPs

Spatial plans usually cover a slightly broader area than the protected area itself, which allows the planners to put these extra zones in the function of an additional protection, but also proclaim them for zones with no additional limitations. Taking into account the zones defined in protected areas, analysed spatial plans concentrate the greatest amount of activities in the zone of III level of protection, they allow more restricted functions and use in the zone of the II level of protection – usually soft-impact activities and inevitable constructions of public interest, while the zone I of the protection is prohibited for any type of construction and activities basically limited to scientific research and hiking.

For example, in the case of SPASP for Vlasina Landscape of Exceptional Features, there are defined locations prohibited for tourism activities – the area upstream from the dam, places of water inlets into the accumulation, swamp areas and floating islands (Official Gazette, 2004). Another aspect in zoning is, for example, prohibition of building for private and personal use, but still with a possibility to build the tourism accommodation. Besides, construction of small water accumulations for local water supply of the mentioned

accommodation is allowed in the II level of protection zone, and in case of ski-centres, there is also an allowed construction of structures related to functioning of cable cars and ski-slopes. This indicates that ski centres represent a case in which the II zone of protection is the main area of activity and is the most intensively used.

Existing forest paths are usually being assigned for hiking and Nordic skiing, therefore, the impact of these activities is minimal after implementation of the plans, if occurring at all. In addition, some of the analysed spatial plans prepare different tourism development zones, which differ in type and extent of permitted tourism activities, as well as in type and extent of building (intensive/extensive, small/large extent, etc.).

When it comes to zoning according to the land use type, water land is aimed to water protection and protection from water, which is practically the rule that does not depend on the kind of area that is being the subject of the plan; hence, constructions and buildings on this type of land are predominantly in accordance with its functions, but soft-impact activities such as tourism, recreation and sports could also be allowed. Further on, the agricultural land is intended for agricultural production and other agricultural activities, which means that the type of allowed building is in function of it, in the same way the forest land is limited to constructions in function of forests, forestry and hunting.

4.3. Building Regulations

In an effort to protect natural resources, the spatial plans define building regulations for the building land outside of settlements, because settlements are expected to be covered by urban plans. A general tendency in analyzed plans is the enlargement of building land, but with efforts to decrease it in any location where it is possible, and with focused sprawl in contact zones between settlements or other built areas. The plans also highly recommend building land re-use and use of brownfield locations – so to say "land recycling".

Some examples of constructions have already been mentioned in previous paragraphs: cable-cars, ski-slopes, tourism resorts and electricity-supply infrastructure. In addition, SPASPs regulate locations and rules for tourism and development infrastructure such as parking lots, garages, bus stops, roads, ports, docks, moors, marinas, car-camps or development of inter-modal transport zones. However, regarding the topic of this paper, even more relevant is to mention examples of nature protection, starting with anti-erosion measures, wind-safety belts, sewage-systems, canals for atmospheric water, water-purification systems (waste-water management), re-cultivation planned and spontaneously organized landfills (solid-waste management). Precisely speaking, the rules can be listed as follows: (1) overall number of beds in tourism accommodation; (2) gross population density allowed (e.g. 46 stationary users per ha); (3) number of floors (sometimes prohibition of increase of floor numbers for already build buildings); (4) number of allowed buildings on one plot (usually one holiday house + accompanying construction – garage, storage place, etc.); (5) minimal distance from one building to another; (6) minimal width of a plot; (7) land occupancy index (usually low, about 10%); (8) floor area ration (also usually low, about 0.3); (9) roof slope; (10) position of a building on a plot – in reference to side borders of a plot, and regulation line towards road and towards e.g. river bank; (11) maximal gross area of main and accompanying building; (12) minimal area size of a plot; (13) allowance/ disapproval for balcony, porch or pergola construction; (14) height of bottom and top edge of a fence (in order to secure the free movement/migration of wild animals); (15) type of a

fence allowed (green, transparent, etc.) or prohibition of any type of fence; (16) types of allowed house designs – usually based on local tradition and local materials; (17) removal of certain type of buildings/activities (e.g. farms); (18) height of a fence.

In addition to detailed building regulations, spatial plans can also address more general rules such as the prohibition of constructing barriers in riverbeds in order to keep fish migratory habits, prohibition for building commercial buildings, waste disposal and landfills in the vicinity of rivers. On the other hand, greening of spaces between built areas is supported and their minimal mutual distance defined (100-300 m), path paving and paving in general are also put under regulation (e.g. not closer than 20 m from river bank) and pavement slope limited to 45% in order to ensure easy transit of wild animals. If a protected area is related to a larger river, spatial plans also defined desirable locations for beaches with mobile equipment, as well as they define conditions for changes in riverbeds (minimal depth, width, curve radius, etc.). For the places where infrastructural corridors intersect ecological corridors, spatial plans recommend preparation of a technical solution for provision of an unrestricted migration of animals, including solutions against the electrocution of birds (Official Gazette, 2015).

The SPASPs also call for a necessary preparation of urban plans and engineering projects before building. In another words, a potential constructor or resource exploiter must contact corresponding institutions for obtaining necessary permits based on the prepared documentation. If the intervention has a more considerable impact, investors are obliged to finance the preparation of an impact assessment on their own expense. Spatial plans also mark areas that need further elaboration in terms of urban and detailed urban planning. Often, given locations represent simply rough suggestions that get practical use only through the preparation of urban plans and projects that elaborate them into details. There is even an open possibility that one SPASP calls for a preparation of another spatial plan of the same kind within its territory, e.g. Spatial Plan for Donje Podunavlje Special Nature Reserve (Official Gazette, 2012b).

If a building was illegally built outside of the building land, SPASPs proclaim that their legalization is not permitted and its future is on local government to decide. If a building has obtained a building permit before the spatial plan defined new building locations, the owner should build waste-water and solid waste disposal systems and additionally thoroughly examine and harmonize with new set of regulations. In any other case of construction, SPASPs suggest the application of rules and regulations defined by spatial plans themselves.

Fiscal policy, decrease of local taxes and provision of bank loans for energy efficient building are some of the suggestions in analysed spatial plans that connect building regulation and nature protection, although indirectly. Therefore, the role of national and local governments is significant in provision of incentives, but, as analysed spatial plans additionally address, the governmental role is crucial in the sphere of prevention and inspection of illegal building activities – the problem that must be put under control.

5. RESULTS

The current version of the supreme national document in spatial planning – Spatial Plan of the Republic of Serbia (2010) – declares a clear goal regarding the nature and environmental protection: Serbia should obtain an increase of protected areas by 10% up

to 2020, or by almost 100% compared to the year 2008. On its way to meet the aspiration, the national spatial plan, in synergy with other plans analysed here, promote certain postulates. Some of the postulates are explicitly related to nature protection and building, while the value of others is in indirect benefits.

The postulates can be distinguished as:

- The most general – sustainability, participation and support to public-private partnership;
- Those that refer to balancing between development and nature protection – relativization of conflicts between nature protection and development, synchronization and infrastructure at the first place;
- Postulates that reflect nature protection in building and construction processes – density over sprawl, "urban recycling", identity and tradition; and
- Other postulates – "it is not too late" postulate, after exploitation comes re-cultivation postulate, and institutional/personal improvement postulate.

Realisation of plans in phases postulate is particularly relevant for the nature preservation because a successive realization of planned measures gives a possibility to realize potential mistakes during the process (change of the plan), but also because development of accommodation infrastructure can be timely followed by the construction of supra- and infra-structure. In the case an inadequate structure already existed in planned area before the plan itself was made, and it does not fit the newly set regulations, the SPASPs defines that any following reconstruction and intervention must adapt it to the new rules. Sometimes, some excessive measures must be conducted in a protected area or the excessive activity is practiced before the area went under the protection (e.g. exploitation of local mine pits), especially regarding the fact that using the local resources and materials for construction is encouraged. One of the postulates proclaimed in SPASPs in order to prevent the negative impact is approval of the activities but only with previously obtained permit by local authorities and with obligation of the beneficiary to re-cultivate the site. Last but not the least, there is a postulate that refers to a permanent improvement of institutional and personnel know-how, so that development in natural areas can be led independently and taken care of at the very local level. This postulate refers also to the inspection sector.

One of the basic actions by which the spatial planning protects the environment, as well as the public interest, is the land use zoning. Since protected areas already have their three zones distinguished by the level of protection, spatial planning integrates them into land use planning process and add to it another layer of zoning typical for the planning procedure – division on water-, forest-, agricultural- and building-land. The task for the spatial planning is to subtract locations and areas where these activities are prohibited, even though the prohibition does not come from the Law on Nature Protection. In this case, the role of the spatial plan is to secure areas of public interest such as water-source zones, protection belts, etc.

The spatial planning practice tries to minimize the impact by proclamation of the minimal removal of forest cover, obligatory recovery of terrain after interventions through grassing and afforestation with autochthonous species of trees. All three types of zones/land use – water, agricultural and forest land – allow construction of lineal infrastructure (e.g. electricity, gas and fuel transport). Economically speaking, the most valuable zone, therefore the most commonly misused and the most difficult to control, is zone of building land.

There are two major types of constructions and buildings that spatial planning deals with: buildings made for public interest and buildings made for private interest. In contrast to the most of the private building constructions, public interest buildings are not only in function of protected area use, but also in function of their protection. Besides regulation of public infrastructure, spatial plans regulate building rules for individual and collective dwelling (permanent or temporary) and complementary objects. Nevertheless, not all spatial plans give the same regulations, nor they regulate the same aspects, however, these are four major groups of urban parameters and land use regulations found in the analysed examples:

- Areal regulations
- Parcel regulations
- Main object regulations
- Complementary object regulations.

The first group of building regulations aims at control of overall number of stationary population and tourists in a nature protected area. Its main role is to give parameters of optimal population density, which would not endanger the priority of protected areas – nature protection. One of the examples is proclamation of gross population density allowance at 46 stationary users per ha.

The second group of regulations comes down at the level of a parcel, thus defining the minimal area size or width of a plot, land occupancy index (usually low, about 10%), ground-floor area ration (also low, about 0.3) and number of allowed buildings on one plot (usually one holiday house, plus one accompanying constructions such as garage, storage place, etc.). SPASPs also try to enforce control of position of a building on a plot by proclaiming the minimal distance of the main building in reference to side borders of the plot, regulation line between a plot and river bank or road, and minimal distance from one building to another. Last to be listed in this group is the regulation of building removal from a parcel due to improper activity the building might support (e.g. farms).

The third group of building regulations refers to main buildings. For the sake of landscape and nature quality maximisation, the plans regulate the number of floors (sometimes prohibition of increase of floor numbers for already built buildings), building capacity (overall number of beds in tourism accommodation), maximal gross area of main and accompanying building, roof slope degree, allowance/disapproval for a balcony, porch or pergola construction, or types of allowed house designs – usually based on the local tradition and local materials. Finally, the last group – complementary building regulations – refer to additional building and other elements of a parcel, which involves definition of maximal gross area of accompanying building, fence type allowance (green, transparent, etc.), prohibition of any type of fence, and specifying other details about fence (as overall height of a fence might be rather aesthetic matter, but regulation of height of the bottom and the top edge of a fence aims at securing free wild animal transit/migration).

In order to secure nature protection, SPASPs are not limited solely to listed regulations, but also define procedures that need to be followed on the way from an idea of potential intervention in space to its implementation. Building regulations defined by spatial plans also include illegal construction issues, and the general tactic is the removal of the buildings, but also the prohibition of their further enlargement if the building is located in the newly defined building land.

6. DISCUSSION

Most of the analysed plans indicate that there are unsolved issues on the land market and that the state land privatization out of control lead to, not only to illegal building, but also unplanned and spontaneous conversion of agricultural land into building land. These trends diminish identity and attractiveness values, but also have a negative impact on the biodiversity and pollution. The main pollution comes from the liquid and solid waste, because illegally built areas are not equipped with appropriate infrastructure (water-supply, sewage system and waste disposal solutions). The Kopaonik National Park is one of the notorious examples: its high landscape attractiveness is "punished"by the uncontrolled building actions to such an extent that this protected area is getting close to lose the features that put it on the protected area list in the first place (Official Gazette, 2009 and 2016)[1]. In spite of several decades of spatial and urban planning for this area and proclamation of balanced distribution of tourism accommodation capacities, only a few locations have been in the centre of interest for building (areas above 1.600 m), while many other locations, especially in lower elevation areas, have remained untouched. This is also the case in European mountains – the trend of shifting skiing related activities and infrastructure to higher altitudes due to the impacts of climate change and the shift of the lower snow line to higher altitudes (Marty, 2013).

Besides the illegal land conversion and building, which is the common problem detected by each analysed plan, the planning documents also detect issues that might be specific for certain types of protected areas. For example, a major problem in Vojvodina region is the shallow groundwater that is easily polluted by turning a well into cesspit, or slowing down a river flow due to embankment of riverbeds, which further leads to eutrophication of swamps (Official Gazette, 2012b; Official Gazette, 2015). This already indicates that not only an absence of implemented plans, but also of implemented projects can cause undesirable consequences. One of the examples is realisation of some plans for afforestation by allochthonous species that has led to the biodiversity loss, such as in case of the SPASP of the Tisa River Multifunctional Ecological Corridor (Official Gazette, 2015), giving open-hands in construction of small hydropower plants that turned to be almost absolutely out of control leading to the loss of forests, excessive erosion, loss of river biodiversity and in some cases even to loss of entire streams, change of meso-climate, etc. (Vujić, 2018). Another example of improper implementation of planning are ski-slopes, such as the case at Stara Planina (Ristić et al, 2009), or elsewhere because this sort of infrastructure requires interventions and even use of high mountain areas that are usually in the I or II zone of protection. Underground distribution of gas and fuel does not allowed growth of plans with deep roots, which put limits to sprawl of forests and agricultural activities (Official Gazette, 2015).

Spatial plans do not only register and list the existing problems, but apply several layers with the aim of relativizing conflicts between development and protection (Table 1). The most general level is defined by development postulates, such as sustainability, which might not be detailed but is a good direction for defining more specific measures. The following

[1] The Kopaonik National Park has continuality in spatial planning; therefore, in the paper are compared SPASPs for Kopaonik National Park adopted in 2009 and 2016. The comparison indicates that later plan is methodologically enhanced in terms of regulation, building and protection rules, following innovations brought by the Law on National Parks (Official Gazette, 2015).

level encompasses two types of spatial zoning. Primary zoning is practically literally related to protection zones delineated by proclamation of protected area, with the distinction that spatial plans encompass a broader area than the protection zones itself, which can be flexibly defined by a plan to additional protection or soft development. Another type of zoning that is specifically related to land use (water-, forest-, building-, and agricultural-land), could also have a protective function, especially if it is defined as the water land or forest land. Agricultural land can also improve the biodiversity richness of an area, but if a spatial plan does not regulate the use of fertilizers in agriculture, then negative environmental consequences could occur. The most detailed level, by which the spatial plans balance the development and protection, is the building regulations or building rules. At this point, spatial plans go to the level of defining parcel, main and complementary object parameters.

Table 1 Levels of land use and building regulations in spatial plans – protected natural areas in Serbia

I	POSTULATES			
II	ZONING			
	I	II	III	+
	Water land	Forest land	Building land	Agricultural land
III	BUILDING RULES			
	Areal regulations	Parcel regulations	Main object regulations	Complementary object regulations

7. CONCLUSIONS AND IMPLICATIONS

The role of spatial planning in nature conservation appears to be relevant, particularly for territories that are not necessarily regulated by urban plans. The role of planners is recognizable, since they need a substantial knowledge on relationships between the use and human impacts to predict relationships at a variety of scales and over time (Eagles et al. 2002).

In practice, various land use regulation instruments are implemented, based on planning solutions and propositions, regarding the fact that plans are legally binding (Živanović Miljković, 2018). As presented, special purpose area spatial plans can set generally binding content for land use and building in protected natural areas, which is mandatory for everyone, irrespective of whether buildings were made for public or private use, or land is public or private (Pantić et al., 2018a). As it is presented through this paper, relations between planning, building, land use and nature protection have been recognized in a few areas of action – from planning and regulation of large infrastructural constructions of national importance (e.g. touristic resorts, supra- and infrastructure, etc.) to rather precise regulation of building and fence height or building materials. At the very precise level, spatial plans define building instructions in a manner usually expected for urban detailed planning, although they are being defined for areas outside of cities.

Recognition and statement of different environmental problems caused by the human activity is one of the efforts of spatial planners to raise awareness on diverse issues, if not broader, then within the professionals involved in development, decision-making and

governance. Parallel consideration of several zoning criteria and relativisation of conflicts between nature protection and development – level of protection regime and land use – represent the foundation in the planning process, which also shows that planning for naturally valuable areas is the main precondition in creation of special purpose area spatial plans. By following sustainability and other postulates based on the sustainability, planning practice puts effort in order to reach balance between the protection and development, so to keep values and identity of countryside and nature in Serbia. In spite of the efforts, there are the cases when interventions and investments in space bring only short-term benefits, but at the expense of long-term damages. It is not necessarily about unsuccessful planning, but about poor implementation and partiality in decision-making process (Milijić, 2015). However, lessons should be learned and future planning should emphasize potential negative consequences that interventions in fragile natural surrounding could cause and define instructions for the implementation phase as precisely as possible.

It is easier to understand identification of a great number of illegally built structures in the protected areas that have been put under the protection just recently. But, it is alarming to notice that each spatial plan analysed here states the same problem even though some of the areas have been under protection and regulated by spatial and urban plans for decades. As it was identified in other sources (Bryson, 1993; Pantić, 2014; Pantić et al., 2018b), the absence of implementation of spatial plans – their regulations and measures – is the problem, and not the absence of planning documents. Therefore, it is of a crucial relevance to point out the gap between planning and realization of plans – the field where is the most expected from the governance at the national and at the local level. Only after awareness on the problem is raised among professionals and local communities, responsible actions and support can be expected from citizens themselves. One of the most operational tools recommended by analysed documents is enforcement of the inspection sector. In summary, the role of spatial planning is decisive for development of protected natural areas in Serbia, but it is not the action where development ends. In contrary, an adoption of a spatial plan represents only an initial phase and foundation that further on must be completed and upbuilt by plans at a lower hierarchy level, responsible implementation, inspection and monitoring.

Spatial planning and SPASPs are based on about 20 recognizable postulates that are clearly addressed in the analysed spatial planning documents. The postulates are prevailingly directed towards the relation between the spatial planning and protected natural areas, by embracing a group of general postulates such as sustainability, postulates that accentuate the need for balancing between the development and nature protection, postulates that reflect the nature protection particularly in building and construction processes and finally the group of thematically scattered postulates. Based on the postulates, SPASPs define both general and very specific regulations that are aimed to control land use and building in protected nature areas. The general framework for the land use is given through zoning (protection zones and area types), while concrete building rules are set through very precise obligations regarding areal, parcel, main object and complementary object dimensions (height, width, mutual distances, etc.). With that level of thoroughness joined with continuous improvement of practice, SPASPs as tool for balancing between the land use and building and nature protection in protected natural areas would be sufficient only if the set measures and rules are not omitted or purposely

ignored in the phase of implementation. Therefore, in spite of the fact that protected natural areas in Serbia are integrated into spatial planning on several levels – from the most general to the very precise – its efficiency in limiting development to a harmless extent for natural sustainability depends also on other relevant instances such as awareness, responsibility and timely inspection.

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KORIŠĆENJE ZEMLJIŠTA I KONTROLA GRAĐENJA NA PRIMERU PROSTORNIH PLANOVA ZAŠTIĆENIH PRIRODNIH PODRUČJA U SRBIJI

Korišćenje zemljišta i kontrola građenja u okviru zaštićenih prirodnih područja u Srbiji nose specifičnosti u odnosu na područja koja ne nose ovaj status. S obzirom da su pravila i uslovi definisani urbanističkim planovima ograničeni na gradska naselja i lokacije od nacionalnog značaja (npr. turistički centar u zaštićenim područjima), ostala područja, uključujući veće delove zaštićenih prirodnih područja, oslanjaju se na prostorne planove, koji često sadrže i detaljnu razradu sa pravilima uređenja i građenja. Prioritet u zaštićenim prirodnim područjima je očuvanje ekoloških i drugih funkcija životne sredine (posebno u zonama zastite I i II stepena), ali su ona takođe namenjena i kontrolisanom razvoju u zoni zaštite III stepena. Zbog velike udaljenosti od centara uprave, neretko se dešava u Srbiji da ilegalna gradnja u zaštićenim područjima njih čini osetljivijim i više ugroženim posledicama nelegalnih postupaka.

Iz navedenih razloga, fokus ovog rada je na ulozi sprostornog planiranja u balansiranju između korišćenja zemljišta i gradnje s jedne strane, i zaštite prirode u zaštićenim prirodnim

dobrima s druge strane. Detaljno analizirajući odabrane prostorne planove, ovde je dat složeni pregled različitih pravila, postulata i nivoa zaštite primenjenih u prostornom planiranju. Polazeći od Prostornog plana Repbulike Srbije od 2010-2020. godine, ova analiza daje presudni značaj prostornim planovima područja posebne namene različitih karaktera: specijalnom rezervatu prirode Gornje Podunavlje, multifunkcionalnom ekološkom koridoru reke Tise, nacionalnom parku Kopaonik i predelu izuzetnih odlika Vlasina. Naposletku, ovde je prikazana raznolikost i sistematazacija postojećih mera, kao i dati doprinos razumevanju izazova i preporuke za buduće unapređenje metodologije u planiranju i implementaciji planova s ciljem unapređenja ravnoteže između razvoja i zaštite.

Ključne reči: *prostorno planiranje, zaštićena prirodna područja, korišćenje zemljišta, pravila građenja, Srbija*