ANALYSIS OF SPATIAL PLANNING AND GREEN INFRASTRUCTURE AT THE LOCAL LEVEL IN THE AREA OF JABLANICA AND RECOMMENDATIONS FOR THEIR IMPROVEMENT

UDC: 711.2:340.13(497.7:234)
DOI: https://doi.org/10.37658/MGD24105i

Dejan ILIEV[1], Dejan GADJOVSKI[2]
[1]Institute of Geography, Faculty of Natural Sciences and Mathematics,
Ss. Cyril and Methodius University in Skopje, 1000 Skopje, North Macedonia
[2]Ministry of Environment and Physical Planning, Plostad Presveta Bogorodica 3,
1000 Skopje, North Macedonia
e-mail: d.iliev@hotmail.com; diliev@pmf.ukim.mk

ABSTRACT

The area of Mount Jablanica, which is the subject of analysis in this paper, is of national importance. In addition to it, Mount Jablanica also has international importance as part of the Balkan Green Belt, i.e. as part of the European Green Belt. The areas along the Balkan Green Belt in North Macedonia and the area of Jablanica are under great pressure from humans, mainly due to intensive land use and infrastructural development. Also, so far little has been done to implement the concept of green infrastructure (GI) in the existing planning activity in the country, as well as at the local level in the pilot area. There is also a need to improve spatial planning legislation and practices and the relevant decision-making processes related to spatial planning. Using a qualitative research approach, this paper aims to review and analyze the spatial planning practice at the national and local level in the pilot area of Jablanica, the involvement of GI in spatial planning and its implementation, as well as to give some recommendations for their improvement.

Keywords: spatial planning, green infrastructure, planning documents, Jablanica

INTRODUCTION

The different interests and the different types of activities of the various stakeholders in the usage of the space and resources that belong to all of us often lead to overlapping interests and conflicts. Therefore, it is necessary to balance the different interests and ways of using the land, taking into account economic, social, and environmental aspects. The basic task of spatial planning is the promotion of long-term and sustainable socio-economic development and prevention and control of its harmful impact on the environment, in order to establish a balance between available space, economic and demographic development, and natural and cultural resources. Planning theory is a broad field of knowledge about which many scholars have written extensively (Allmendinger, 2017; Faludi, 2013; Healey, 2003). Planning theory has developed and changed dramatically over the short history of its existence (Hartmann and Geertman, 2016). In recent literature, one of the concepts that scientists are debating and trying to integrate into spatial planning is the GI concept. According to Mell (2010, p. 93) "GI, like all contemporary planning concepts, needs to engage with the structures of policy development if it is to be mainstreamed".

The development of better places to live, work and recreate can be achieved through GI planning (Mell, 2010). Throughout the literature, it can be noted that several authors debating GI have considered it as a redevelopment of existing concepts related to green space planning. However, the GI concept/approach differs from conventional land use/spatial planning approaches as it considers the multiple functions and benefits of green spaces in line with land development, growth management and built infrastructure planning. Within the scientific literature, it is suggested that GI infrastructure can include national parks, local nature reserves, gardens, etc. Namely, GI is defined as "an interconnected network of green spaces that conserves natural ecosystems values and functions and provides associated benefits to human populations. GI is the ecological framework needed for environmental, social and economic sustainability" (Benedict and McMahon, 2002, p. 12). Davies et al. (2006) state that, to effectively plan green infrastructure, professionals are required to have a conceptual understanding of environmental systems, knowledge of multi-functionality as it applies to green areas and an understanding of how environmental, economic and social issues intermingle in relation to sustainable communities and sustainable development agendas (quoted in Mell, 2010, p. 79). GI planning must be seen as of equal importance as other infrastructure to aid long-term sustainable planning (Benedict and McMahon, 2006; quoted in Mell, 2010, p. 80).

Due to the specific physical-geographic characteristics, the significant natural and cultural values and the rich biodiversity, but also due to the danger of degradation of the space due to the granting of concessions for the exploitation of mineral resources, there is an initiative to declare part of Jablanica a protected area in the category of a national park. It is particularly important that the Jablanica – Shebenik mountain massif already has the status of a national park in Albania (declared in 2012), so by declaring the Macedonian part of Jablanica Mountain a national park, a cross-border protected area would be established. On the other hand, so far little has been done to implement the GI concept in the existing planning activity in the country, as well as in the pilot area of Jablanica. Therefore, the current paper aims to analyze spatial planning practice at the national and local level in the pilot area of Jablanica, the involvement of GI in spatial planning and its implementation, as well as to give some recommendations for their improvement.

The remainder of the paper is organized as follows. The second section presents the research methodology. In the third part of the paper, coverage of the pilot area with planning documents is given. The fourth section shows the way of spatial planning at the national and local level. In the fifth part, the legal regulations affecting spatial planning and land use are analyzed. The sixth section elaborates on the Procedures for the development and adoption of the spatial plans and the plans for the management of protected areas and their planning horizons/validity. The next (seventh) section of the paper describes the cooperation of municipalities with the responsible institutions and participation of the public in the planning process and development of planning documents at a local level. The paper ends with a discussion, conclusion and some recommendations for the authorities.

METHODOLOGY

The methodology of the research process is divided into two phases. In the first phase of the research which involves data collection and processing, contact was made with all the relevant stakeholders in spatial planning, nature protection, and the management of protected areas on a national and local level (the Ministry of Environment and Spatial Planning – the Department for Spatial Planning, the Department for Nature, the Spatial Planning Agency, the Municipality of Struga, the Municipality of Vevchani, Public Enterprise National Park "Galichica"), during which all the relevant documents (laws and by-laws, plans at the national, regional and local level, strategies, programs) were obtained. In the second phase, a qualitative analysis of the collected documentation was made and the findings of this research were presented.

COVERAGE OF THE PILOT AREA WITH PLANNING DOCUMENTS

Based on the investigation and analysis of the space, it can be concluded that several types of planning documents play an important role in the planning and usage of the space of the target area, which are hierarchically related and can generally be divided into:

- Planning documents that refer to the entire territory of the country and are of exceptional importance for the spatial planning of the target area;
- Planning documents that refer to the region that the area belongs to;
- Planning documents that refer to the municipalities, and
- Planning documents at a local level, such as urban plans and different types of urban documentation.

Vertical and horizontal integration of the planning documentation

In order to establish connections, that is, to determine touchpoints of the pilot area with relevant national, regional, and local planning and strategic documents, vertical and horizontal alignment and coordination of acquired strategies and documents with the overall area are made.

Vertical interrelation with the relevant national and regional planning and strategic documents

Relevant documents that affect the planning and usage of the space within the boundaries of the pilot area:

- Spatial plan of the Republic of Macedonia (2004-2020);
- Spatial plan of the Ohrid-Prespa region (2005-2020);
- Regional plan for the Ohrid-Prespa region (1973-1993);
- Regional spatial plan covering the municipalities of Debar, Struga, Ohrid and Resen (1988) (in accordance with the administrative division of that time, today's Municipality of Vevchani belonged to the Municipality of Struga);
- Program for the development of the South-West planning region (2021-2026);
- National strategy for sustainable development (2009-2030);
- Strategy of regional development for the Republic of Macedonia (2009-2019);

- Strategy for balanced regional development of the Republic of North Macedonia (2021-2031);
- Strategy for agricultural and rural development for the period of 2014-2020;
- National strategy for the development of culture in the Republic of Macedonia (2018-2022);
- National strategy for tourism – Republic of Macedonia (2016-2021);
- National strategy for the protection of nature (2017-2027);
- National strategy for water (2012-2042);
- National strategy for biodiversity with action plan (2018-2023);
- Strategy for the environment and climate change (2014-2020);
- Communication strategy and action plan for climate change (2022-2030);
- Fourth national plan for climate change (2023);
- Regional plan for the management of waste in the South-West region (2016);
- Plan for stopping the creation of waste in the Republic of North Macedonia (2022-2028);
- Plan for the management of waste in the Republic of North Macedonia (2021-2031);
- Plan for the management of the World Natural and Cultural Heritage Ohrid Region (2020-2029);
- Study for the valorization of the natural values of Jablanica Mountain (2006).

Horizontal interrelation with the relevant planning and strategic documents at a local level

Relevant documents that affect the planning and usage of the space within the borders of the pilot area:

- Spatial plan of municipality of Struga;
- Strategy for sustainable development of the municipality of Struga (2006-2011);
- General urban plan of the municipality of Struga (2003);
- Amendment of the general plan for the city of Struga (2007);
- Basic urban plan for the municipality of Vevchani (1980-2000);
- General urban plan for Vevchani (1997-2007);
- Integral plan for local development of the municipality of Vevchani (2019-2022);
- Plan for the management of Nature Monument Vevchani Springs (2019-2029).

It should be noted here that within the boundaries of the pilot area there are a large number of urban documents that refer only to urbanized areas. These documents are not subject to analysis, as they are not relevant to the current study.

SPATIAL PLANNING AT A NATIONAL AND LOCAL LEVEL

Spatial planning in the Republic of North Macedonia takes place at two levels – national and local. There is also regional development planning, but not regional planning in the sense of spatial planning, such as exists in some European countries, as in Germany, for example. The National Spatial Plan is a comprehensive and long-term planning document for the territory of the entire Country, which is prepared in order to achieve the goals of spatial organization

which ensure the terms of use, protection, and management of the Country's space as a particularly valuable and limited national treasure, and to achieve the prerequisites for societal and economic development, protection of the environment and nature, protection of cultural goods, and rational use of natural and cultural resources. This highest strategic, developmental document contains the setup for the planning concepts and solutions of all fields relevant to spatial planning, and provides guidelines for the preparation of lower-level planning documentation. In accordance with the Law, the Spatial Plan of the Country is developed with: spatial plans for regions, spatial plans for areas of special interest to the Country (such as, for example, national parks), and spatial plans for local self-government units (municipalities) and the city of Skopje.

Regional development planning is regulated by the Law on Balanced Regional Development, for the purpose of which planning regions have been established which represent territorial units for statistics at the third level (NTES-3), determined in accordance with the nomenclature of territorial units for statistics. There are eight planning regions in the Republic of North Macedonia, and the targeted municipalities (Struga and Vevcani) in this study belong to the Southwest planning region.

There is also a legal possibility for the preparation of separate municipal spatial plans, which also present a more detailed elaboration of the spatial plan of the country. Currently, the target pilot area is covered by the Spatial Plan of the Ohrid-Prespa region (2005-2020). That is the latest Plan that is still in force, according to which the so-called Terms for planning the space are issued, which essentially represent an excerpt from the Plan and provide guidelines for the development of the planning documentation at the lower levels.

In general, the systemic and hierarchical organization of spatial and urban planning is regulated by laws, whose implementation is the responsibility of several institutions, through the creation, adoption, and implementation of the Spatial Plan of the Country, urban plans, and other types of urban documentation.

The first level consists of spatial plans made by the Assembly of the Republic of North Macedonia. In this category, the top document is the Spatial Plan of the Republic of North Macedonia, also called the "Constitution of Planning", followed by the spatial plans that refer to smaller spatial scopes and constitute an elaboration of the Plan. The comprehensiveness and integrity of the Plan, the procedure it undergoes, and the very fact that it is adopted by the National Assembly give the decisions and provisions of each spatial plan a legally binding character.

The second level includes strategies, management plans and other planning documents carried out by the Government of the Republic of North Macedonia, ministries, and other competent entities. These documents are not as comprehensive as the Spatial Plan, with which they must be aligned. Some of the documents represent sectoral strategies, often with a time horizon shorter than that of the Spatial Plan, and some refer to the implementation of strategic decisions through specific activities with established entities (management plans).

The third level refers to the urban plans and projects in which the policies and measures contained in the documents of the first and second level are incorporated. This type of documentation is usually carried out at a local level, by the councils of the local self-government

units, and if it is a matter of plans of country-wide importance, they are adopted by the Ministry of Transport and Communications.

SPATIAL PLANNING LEGISLATION

Until recently, the system of spatial and urban planning in the Republic of North Macedonia was regulated by a single law – the Law on Spatial and Urban Planning (Official Gazette of the Republic of Macedonia no. 199/14, 44/15, 193/15, 31/16, 163/16, 90/17, 64/18 and 168/18), which was in force until 18.06.2020. With the entry into force of the new Law on Urban Planning (Official Gazette of the Republic of Macedonia no. 32/20), the Law on Spatial and Urban Planning ceased to be valid, which unfortunately led to the activity of spatial planning being, temporarily, incompletely regulated, up until the drafting of a new Law on Spatial Planning (the drafting of which is in progress). The systematic solution is such (with the Law on Organization of the Country's Administrative Bodies), that it is decided that instead of having one law for which two institutions will be competent, it is divided into two separate laws (spatial and urban). The Ministry of Environment and Spatial Planning is responsible for spatial planning, while the Ministry of Transport and Communications is responsible for urban planning.

Since the most important role is played by legislation in the planning and usage of the space, below is the list of laws that have an impact on planning and the manner of using space:

- Law on Urban Planning (Official Gazette of the Republic of Macedonia no. 32/20);
- Law on Spatial and Urban Planning (Official Gazette of the Republic of Macedonia no. 199/14, 44/15, 193/15, 31/16, 163/16 and 64/18) (no longer in effect, but some policies are still valid according to the transitional and final policies of the Law on Urban Planning);
- Law on Balanced Regional Development (Official Gazette of the Republic of North Macedonia no. 24/21);
- Law on Implementation of the Spatial Plan of the Republic of Macedonia (Official Gazette of the Republic of Macedonia no. 39/2004);
- Law on the Environment (Official Gazette of the Republic of Macedonia no. 53/05, 81/05, 24/07, 159/08, 83/09, 48/10, 124/10, 51/11, 123/12, 93/13, 187/13, 42/14, 44/15, 129/15, 192/15, 39/16 and 99/18);
- Law on Nature Protection (Official Gazette of the Republic of Macedonia no. 67/04, 14/06, 84/07, 35/10, 47/11, 148/11, 59/12, 13/13, 163/13, 41/14, 146/15, 39/16, 63/16 and 113/18);
- Law on Cultural Heritage (Official Gazette of the Republic of North Macedonia no. 20/04, 115/07, 18/11, 148/11, 23/13, 137/13, 164/13, 38/14, 44/14, 199/14, 104/15, 154/15, 192/15, 39/16, 11/18 and 20/19);
- Law on the Management of the World Natural and Cultural Heritage of the Ohrid Region (Official Gazette of the Republic of North Macedonia no. 75/10);
- Law on Agricultural Land (Official Gazette of the Republic of Macedonia no. 135/07, 18/11, 148/11, 95/12, 79/13, 87/13, 106/13, 164/13, 39/14, 130/14, 166/14, 72/15, 98/15, 154/15, 215/15, 7/16, 39/16, 161/19 and 178/21);
- Law on Waters (Official Gazette of the Republic of Macedonia no. 87/08, 6/09, 52/16, 161/09, 83/10, 51/11, 44/12, 23/13 and 163/13);

- Law on Urban Greenery (Official Gazette of the Republic of Macedonia no. 11/18) – applies only to urbanized environments;
- Law on Mineral Resources (Official Gazette of the Republic of Macedonia no. 136/12, 25/13, 93/13, 44/14, 160/14, 129/15, 192/15, 39/16, 53/16, 120/16, 189/16 and 7/19);
- Law on Forests (Official Gazette of the Republic of Macedonia no. 64/09, 24/11, 53/11, 25/13, 79/13, 147/13, 43/14, 160/14, 33/15, 44/15, 147/15, 7/16 and 39/16);
- Law on Pastures (Official Gazette of the Republic of Macedonia no. 03/98, 101/00, 89/08, 105/09, 42/10, 116/10, 164/13, 193/15 and 215/15).

The Law on the Implementation of the Spatial Plan of the Republic of Macedonia (Official Gazette of the Republic of Macedonia no. 39/2004) was adopted at the same time as the adoption of the Spatial Plan of the Republic of Macedonia (2004-2020). Given that the planning horizon of this Spatial Plan has already been exceeded, in 2017 a new procedure was started for the development of a new Spatial Plan of the Country, which is still ongoing, and is expected to be completed in a few years. Still, because in accordance with the Law, the Spatial Plan is a document with permanent value, it is still considered to be in force up until a new Spatial Plan is adopted. There are also spatial plans that are an elaboration of this Spatial Plan, and whose planning horizon is longer, such as, for example, the Spatial Plan of the Eastern Planning Region or the Spatial Plan of National Parks Pelister and Mavrovo, whose planning horizons are up to 2030.

Since spatial plans are adopted by the highest legislative body in the Country – the Assembly of the Republic of North Macedonia, in a procedure that is the same as the adoption of laws, spatial plans are considered to be documents at the level of Law, that is, they must be adopted and implemented.

The procedures for the development and adoption of the spatial plans and the plans for the management of protected areas and their planning horizons/validity

The preparation and adoption of the spatial plans and management plans are stipulated by the law. A spatial plan for a national park is drawn up in accordance with the Law on Spatial and Urban Planning (Official Gazette of the Republic of Macedonia no. 199/14, 44/15, 193/15, 31/16, 163/16 and 64/18), that is, the Law on Urban Planning (Official Gazette of the Republic of Macedonia no. 32/20), (which in its transitional and final policies refers to the Law on Spatial and Urban Planning, until the adoption of the new Law on Spatial Planning), as well as according to the Law on Nature Protection (Official Gazette of the Republic of Macedonia no. 67/04, 14/06, 84/07, 35/10, 47/11, 148/11, 59/12, 13/13, 163/13, 41/14, 146/15, 39/16, 63/16 and 113/18), whose policies also envisage the creation of spatial plans for protected areas. It is a procedure that takes place in two stages, a draft and a proposal-plan, and which lasts quite a long time (over 5 years). Competent institutions are: the Ministry of Environment and Spatial Planning, which is the commissioner and coordinator of the entire procedure, the Spatial Planning Agency, which is the only professional and competent institution for the preparation of spatial plans in the Country, the Government, which is the proposer, and the National Assembly of the Republic of North Macedonia, which adopts the plan.

The development of a management plan is stipulated by the Law on the Protection of Nature (Official Gazette of the Republic of Macedonia no. 67/04, 14/06, 84/07, 35/10, 47/11, 148/11, 59/12, 13/13, 163/13, 41/14, 146/15, 39/16, 63/16 and 113/18) and is made in accordance with the Manual on the content of management plans for protected areas and the content of the yearly programs for the protection of nature (Official Gazette of the Republic of Macedonia no. 26/12). The Public Enterprise National Park (which in the case of Jablanica is yet to be formed, after the declaration of the area as a national park), is responsible for the production of the management plan, and the plan can be prepared by internal or external experts. It, just like the spatial plan, is created in two stages (as a draft and a proposal plan), and a public discussion is also carried out, in order to include the opinion of the public and stakeholders, along with an SEA (Strategic Environmental Assessment) on the environment from the implementation of the plan). The plan is approved by the Ministry of Environment and Spatial Planning and adopted by the management board of the national park (which also decides at the beginning of the process on the need for a new management plan). These types of plans have a planning period of 10 years.

Competent institutions for implementing management plans are the public enterprises – National Parks. The implementation of the management plans is carried out through the so-called Operational Plan, which is realized with the annual programs for the management of the protected area. For this purpose, special funds are foreseen in the financial plan of the institution, that is, in its annual budget. The implementation of management plans is monitored through the Annual Program Report for the previous year.

Cooperation of the municipalities with the responsible institutions and participation of the public in the planning process and development of planning documents at a local level

The involvement of municipalities and their role in the preparation of planning documents is realized through Participatory Bodies, which are formed in accordance with the Law on Urban Planning (Official Gazette of the Republic of Macedonia no. 32/20). Namely, to ensure inclusiveness, participation and publicity in the process of urban planning, municipalities must form a participatory body at the initiative of the Mayor. The participatory body consists of members of the Urban Planning Commission of the Municipality determined by the Mayor, experts employed by the legal entity that prepares the urban plan that is the subject of discussion, and especially persons who are representatives of urban and local communities, representatives of non-governmental organizations from different segments of urban life, associations of citizens and civil activists from the territory of the Municipality that represent various groups of citizens, as well as citizens who are experts in the field of urban planning and other professional areas that are relevant for the planning and sustainable development of the city. The participatory body is formed of voluntarily registered persons. Namely, the participatory body represents the various interests and interest groups in the local community and conveys the attitudes, opinions, and needs of citizens and legal entities, monitors the planning situation by offering initiatives, directions, and suggestions for the preparation of planning solutions, and

in the procedure for making and adopting the plans, it considers the planning programs and the planning solutions of the urban plans in their working version.

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

Although GI is a new term, it is not a new idea (Benedict and McMahon, 2002; Wright, 2011). The GI concept in the countries of the European Union began to be incorporated as part of spatial planning a little more than 10 years ago. However, it is a relatively unknown concept among the main stakeholders in spatial planning in the Republic of North Macedonia. In the Republic of North Macedonia, within the framework of several projects at the regional level in the field of GI, the following two studies have been prepared:

- Study on the development of GI and the status of ecological connectivity in Albania, Bosnia and Herzegovina, Montenegro, Serbia, and North Macedonia, along with the Regional Plan for the development of GI and ecological connectivity, which has already been approved by the EU;
- Large carnivores in the Dinarides: Management, monitoring, threats and conflicts: Establishing a transnational exchange platform for the management of large carnivores in the Dinaric region (Background Report).
- In addition to these two studies, three national reports on ecological corridors have been prepared within the framework of the GEF STAR 5 project, namely:
- Guidelines for managing forests within the identified ecological corridors and establishing GI, as part of the Proposed National Ecological Network (MAK-NEN) for the linear corridor Bukovikj-Sretkovo and the regional corridor Bukovikj-Kolari;
- Guidelines for managing forests within the identified ecological corridors, as part of the Proposed National Ecological Network (MAK-NEN) for the linear corridors Dren-Vitolishte and Kozjak (Pletvar) and the regional corridor Selechka Mountain;
- Manual of measures – design of "Green Crossings".

From the analysis carried out in this study, it can be concluded that, despite the coverage of the pilot area with a large number of planning documents, a major drawback is that they all refer to a wider area (of the country and/or the region), and not specifically to the area itself, and that they are all outdated and with exceeded planning horizons. A particularly negative aspect is the lack of newer spatial plans for the municipalities of Struga and Vevchani, and the fact that the legal possibility for the creation of new municipal spatial plans has not been used, which would have regulated the organization, use, arrangement, and protection of the specific space in more detail, in accordance with modern conditions and needs. In addition, the concept of GI is not defined in any law, nor is it integrated in any of the planning documents that could ensure its implementation at a national, regional, and local level, or in a cross-border context.

This is because the traditional, conventional model of spatial planning (on which existing spatial plans are based) did not include the concepts of newer phenomena such as climate change and GI, and therefore does not offer the possibility to fully address all aspects related to environmental protection and sustainable development with appropriate acceptance of spe-

cific functions and their consistency in the wider spatial context. But today, a new Law on Spatial Planning is being drafted, as well as a new Spatial Plan of the State, in which the concept of GI will be integrated.

One of the biggest problems in recent times is increased, accelerated urbanization and the many concessions made for the exploitation of natural resources, which is the main reason for the fragmentation of productive land and landscapes. These processes cause the reduction of natural habitats and so on. An additional drawback is that, despite the exceptional natural values and significance of the pilot area, it has not yet been declared a protected area, which would contribute to its proper management. Adequate management would be achieved through the establishment of a Public Enterprise – National Park institution, which would provide financial resources for management, appropriate personnel who will take care of the area, preparation of planning documents and their implementation, cross-border cooperation, etc.

The involvement of GI in planning and planning documents and recommendations for their improvement

GI is an effective counterbalance to the processes that degrade the environment, and that is why integrating the concept of GI into spatial planning is very important. Bearing that in mind, the following recommendations are given as concluding observations of this study, which would contribute to the prevention of the negative trends of landscape degradation, and also to the revitalization of the space and the development of GI:

General recommendations

- A Study for the valorization of the natural values and biodiversity of Jablanica Mountain should be prepared;
- Based on the results of the study, the area should be proposed for designation as a protected area in the category of a National Park;
- Following the proclamation of the area as a National Park, a Public Enterprise National Park "Jablanica" should be established – an institution that will manage the area;
- Following the preparation of the new Spatial Plan of the Republic of North Macedonia and the new Law on Spatial Planning, a new Spatial Plan for the Jablanica National Park should be prepared (according to a new methodology, including GI and adaptation measures for climate change);
- After the preparation of the Spatial Plan of National Park Jablanica, a Management Plan for National Park Jablanica should be developed;
- These planning frameworks should incorporate GI: GI should be integrated into existing planning frameworks. This can help ensure that GI is considered early in the planning process and is aligned with other planning objectives;
- An initiative should be launched to revise the issued concessions for exploitation of mineral resources in the area, and concessioners should be obligated to undertake offset measures;
- The unplanned and illegal felling of the forest should be prevented.

Specific recommendations

- The opinion of the local population should be sought: The participation of the local population should be encouraged to ensure the creation of quality green spaces that meet their practical needs;
- Civil society should be considered a key stakeholder in GI management: Residents possess specific knowledge about their territory and can support the promotion of GI through collective actions;
- GI should be implemented in urban areas: Planning green and multifunctional urban spaces, as well as infrastructure for development in an urban context, should be prioritized;
- Unused land (unoccupied urban plots) should be transformed into green areas;
- Well-connected, multifunctional GI should be deployed in the rural landscape;
- Urban-rural partnerships should be established: This would facilitate a more efficient spread of economic activities while providing access to ecosystems and their services for local settlement dwellers;
- Encourage GI projects as cost-effective alternative solutions: prioritizing natural/semi-natural land redistributions in the context of agroecology and forestry (greening measures);
- Restoration measures should be implemented in degraded areas to improve landscape permeability;
- Green corridors and natural areas should be created;
- Plant rows of trees and low vegetation along roads: This helps mitigate climatic effects on roads and communal infrastructure, such as providing shade, mitigating precipitation, regulating water flow, and absorbing vehicle exhaust gases;
- Maintain natural buffer zones around areas of industrial activity;
- Reclaim abandoned industrial sites as green areas for recreation and potential elements of the GI network;
- Create vegetation corridors along cycling or walking paths, such as hedges, to enhance landscape diversity;
- Prioritize defragmentation measures to mitigate the impacts of intensified agriculture and road infrastructure on species movement;
- Prevent fragmentation of habitats to enable the unobstructed movement of animals in search of mates, food, and shelter;
- Provide underground or above-ground natural passages for wild species across road infrastructure;
- Plan GI as a cross-border, dynamic, and adaptable network to mitigate climate change;
- Foster inter-municipal cooperation in land-use planning, particularly to enhance environmental connectivity at local and regional levels. Coordinated management between sectoral departments is crucial, and methodological guidelines, training, and a participatory approach can help overcome obstacles to creating GI.

ACKNOWLEDGMENTS

The authors acknowledge the support of the "Enhancing connectivity at the Balkan Green Belt" project. The research on which this paper is based was supported by EuroNatur (Germany) and the Macedonian Ecological Society (North Macedonia). However, the views expressed in this paper represent those of the authors alone.

REFERENCES

1. Allmendinger, P. (2017). Planning theory (3rd ed.). Basingstoke: Palgrave.
2. Benedict, M. A., McMahon, E. T. (2002). Green infrastructure: smart conservation for the 21st century. Renewable Resources Journal, vol. 20, no. 3, pp. 12-17.
3. Benedict, M. A., McMahon, E. T. (2006). Green infrastructure: linking landscapes and communities. Washington: Island Press.
4. Davies, C., McGloin, C., MacFarlane, R., Roe, M. (2006). Green infrastructure planning guide project: Final report. NECF, Annfield Plain.
5. Faludi, A. (Ed.). (1973). A reader in planning theory. Oxford: Pergamon Press.
6. Hartmann, T., Geertman, S. (2016). Planning theory. In: C. Ansell, J. Torfing (Eds.), Handbook on theories of governance (pp. 61-70). Cheltenham, UK: Edward Elgar Publishing Limited.
7. Healey, P. (2003). Collaborative planning in perspective. Planning Theory, vol. 2, no. 2, pp. 101-123.
8. Law on Agricultural Land (Official Gazette of the Republic of Macedonia no. 135/07, 18/11, 148/11, 95/12, 79/13, 87/13, 106/13, 164/13, 39/14, 130/14, 166/14, 72/15, 98/15, 154/15, 215/15, 7/16, 39/16, 161/19 and 178/21).
9. Law on Balanced Regional Development (Official Gazette of the Republic of North Macedonia no. 24/21).
10. Law on Cultural Heritage (Official Gazette of the Republic of North Macedonia no. 20/04, 115/07, 18/11, 148/11, 23/13, 137/13, 164/13, 38/14, 44/14, 199/14, 104/15, 154/15, 192/15, 39/16, 11/18 and 20/19).
11. Law on the Environment (Official Gazette of the Republic of Macedonia no. 53/05, 81/05, 24/07, 159/08, 83/09, 48/10, 124/10, 51/11, 123/12, 93/13, 187/13, 42/14, 44/15, 129/15, 192/15, 39/16 and 99/18).
12. Law on Forests (Official Gazette of the Republic of Macedonia no. 64/09, 24/11, 53/11, 25/13, 79/13, 147/13, 43/14, 160/14, 33/15, 44/15, 147/15, 7/16 and 39/16).
13. Law on Implementation of the Spatial Plan of the Republic of Macedonia (Official Gazette of the Republic of Macedonia no. 39/2004).
14. Law on the Management of the World Natural and Cultural Heritage of the Ohrid Region (Official Gazette of the Republic of North Macedonia no. 75/10).
15. Law on Mineral Resources (Official Gazette of the Republic of Macedonia no. 136/12, 25/13, 93/13, 44/14, 160/14, 129/15, 192/15, 39/16, 53/16, 120/16, 189/16 and 7/19).
16. Law on Nature Protection (Official Gazette of the Republic of Macedonia no. 67/04, 14/06, 84/07, 35/10, 47/11, 148/11, 59/12, 13/13, 163/13, 41/14, 146/15, 39/16, 63/16 and 113/18).
17. Law on Pastures (Official Gazette of the Republic of Macedonia no. 03/98, 101/00, 89/08, 105/09, 42/10, 116/10, 164/13, 193/15 and 215/15).
18. Law on Spatial and Urban Planning (Official Gazette of the Republic of Macedonia no. 199/14, 44/15, 193/15, 31/16, 163/16 and 64/18) (no longer in effect, but some policies are still valid according to the transitional and final policies of the Law on Urban Planning).
19. Law on Urban Greenery (Official Gazette of the Republic of Macedonia no. 11/18) – applies only to urbanized environments.
20. Law on Urban Planning (Official Gazette of the Republic of Macedonia no. 32/20).

21. Law on Waters (Official Gazette of the Republic of Macedonia no. 87/08, 6/09, 52/16, 161/09, 83/10, 51/11, 44/12, 23/13 and 163/13).
22. Mell, I. C. (2010). Green infrastructure: concepts, perceptions and its use in spatial planning. PhD Thesis. Publisher: Newcastle University.
23. Wright, H. (2011). Understanding green infrastructure: the development of a contested concept in England. Local Environment: The International Journal of Justice and Sustainability, vol. 16, no. 10, pp. 1003-1019.