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APLICATION OF THE PRINCIPLES OF INTEGRATED PLANNING IN THE URBAN PLAN OF BANJALUKA 2020–2040 WITH A FOCUS ON THE SUSTAINABLE USE OF NATURAL RESOURCES

Abstract

The application of the principle of integrated planning is the basis of modern planning aimed at sustainable and resilient built environments. It refers to an adequate methodological framework and procedural steps of planning, as well as to the satisfactory general social conditions in which spatial planning takes place, which, especially in transition societies, is still difficult to achieve. Some improvements in this area are, however, possible in practice at the local level. This paper is focused on the sustainable use of natural resources in the urban area of the city, by applying the principles of integrated planning to the example of the Urban Plan of Banja Luka 2020–2040.

Keywords: integrated planning, natural resources, urban plan

ПРИМЈЕНА ПРИНЦИПА ИНТЕГРАЛНОГ ПЛАНИРАЊА У УРБАНИСТИЧКОМ ПЛАНУ БАЊАЛУКЕ 2020-2040 СА ФОКУСОМ НА ОДРЖИВО КОРИШЋЕЊЕ ПРИРОДНИХ РЕСУРСА

Сажетак

Примјена принципа интегралног планирања је основ савременог планирања простора усмјереног ка одрживим и отпорним грађеним срединама. Они се односе на адекватан методолошки оквир и процедуралне кораке планирања, као и на задовољавајуће опште друштвене услове у којима се планирање простора одвија, што је, посебно у транзиционим друштвима, још увијек тешко достићи. Нека унапређења у овом домену су, ипак, могућа у пракси на локалном нивоу. Овај рад је фокусиран на одрживо коришћење природних ресурса на урбаном подручју града примјеном принципа интегралног планирања на примјеру израде Урбанистичког плана Бањалуке 2020–2040.

Кључне ријечи: интегрално планирање, природни ресурси, урбанистички план

1. INTRODUCTION

Natural resources are phenomena, processes or objects in nature that affect constructively or destructively the development of built environments. The basic natural resources are agricultural land, construction land, forests, rocks, minerals, fossil fuels, water, climate, flora and fauna. From the earliest times, man has used them for their potential for development, because the quality of people's lives in the field of housing, nutrition, health, energy production, bioclimatic benefits, comfort, etc. directly depends on them. At the same time, the damage and dangers posed by the uncontrolled use of natural resources, which are manifested through climate change, environmental threats and biological and social risks, indicate another dimension of their impact, which makes it necessary to establish an adequate relationship between human activities and the environment, in aim of mutually sustainable existence.

Uncontrolled industrial development from the 19th century to the 1970s, accompanied by man's insatiable need to make a profit no matter what, had serious consequences for the quality of life of people and the environment in rural and urban areas around the world [1]. They are reflected in excessive pollution of air, water and soil, uncontrolled exploitation of mineral resources, fossil fuels and forests, problems of unbalanced urban development and uncontrolled urbanization in which agricultural land, forest and aquatic ecosystems have become endangered by the permanent expansion of construction land. Intensive economic development and the exploitation of natural resources were accompanied by the uneven development of countries, among which the gap between rich and poor was growing, which was an additional source of potential socio-economic instability and crisis. Therefore, the idea of sustainable development, conceived in the 1970s, has remained relevant to this day, as a guide to a more responsible path for civilization into the future. The interconnection of different aspects of development (social, economic and environmental) pointed to the need for an integrated approach to development, which includes the integrated management and planning of sustainable spatial development, within which it is necessary to achieve the sustainable use of natural resources.

The sustainable use of natural resources, as an important aspect of sustainable spatial development, is especially important for the former Yugoslavia, which underwent major social and political changes during the transition period. The newly formed states (including B&H and its entity The Republic of Srpska) have faced new tendencies dictated by global problems and the demands of the European Union (EU), which has become a major partner and market for natural resources and their products. Since the eco-economy has recently become a leading driver in the development of the European economy, natural resources have become extremely important, because their sustainable use is based on the use of biomass for bioenergy and biofuels – reducing the use of non-renewable energy sources – ecological approaches to food production, harmonized urban and rural development, etc. Some of the recommendations imposed by the EU on these areas are the integrated management of natural resources and integrative and coordinating support for the use of natural resources through an appropriate institutional framework [2].

The sustainable use of natural resources includes their identification, valorization, monitoring, rehabilitation and protection, which are achieved through integrated spatial planning. It is an important mechanism for achieving the sustainability and resilience of the environment [3], which is extremely important in the conditions of climate change and the uneven and mutually uncoordinated development of social and economic processes in the world. An integrated approach to planning integrates spatial-physical, ecological and socio-economic aspects of urban space development into a unique planning model which is inherently very complex, dynamic and changeable. It consists of numerous influencing factors that intertwine in the interactive actions that need to be harmonized in the space. Geerlings and Stead [4] state that integral policies are complex and depend on numerous factors, such as the organizational, individual, political, economic, financial, contextual, process, etc. Therefore, within the framework of integrated planning, which is the basic mechanism for creating a sustainable and resilient built environment [3], it is possible to observe natural resources, whose sustainable use is at the heart of sustainable development. This paper will investigate the application of the principles of integrated planning in the urban area of Banja Luka with a focus on the sustainable use of natural resources in the example of The Urban Plan of Banja Luka 2020–2040, which is currently in the draft phase. The aim of this paper is to point out the possibilities for improving current planning practice, but also the problems in the field of systemic solutions in society that reduce the capacity of integrated planning in the territory of The Republic of Srpska.

2. EXCERPT FROM THE THEORETICAL BASIS OF INTEGRATED PLANNING

Integrated spatial planning is based on the evaluation and improvement of rational planning in the 1950s [5], [6] and comprehensive planning in the following decades of the twentieth century. It is the result of the complex nature of the built environment and overall socio-economic development that require interdisciplinary cooperation [5], united by a unique integrated planning methodology. The built environment has become very dynamic in recent decades [7], [8], [9], which requires adaptability and flexibility in the planning and managing of spatial development. Adaptive management has been successfully implemented in the management of natural resources for decades, while its application in urban planning has encountered numerous difficulties [10]. Flexibility, which is especially important in detailed planning, can be achieved by zoning, instead of rigid regulatory planning [11], which allows the dynamic social, economic and environmental urban context to be more easily included in the planning process [12], [9]. The basic methodological steps in adaptive resource management are problem definition, planning, implementation, monitoring, evaluation and harmonization [2], which the general methodology of integrated planning also accepts. Teriman [13] defined eight steps in an integrated planning approach: (1) redefining problems in the fields of environment, society, economy and institutions; (2) reviewing objectives; (3) reconsideration of alternatives; (4) review of chosen selection; (5) feasibility of development; (6) start of implementation; (7) completion / delivery; and (8) achievement / monitoring. This model offers a sustainability assessment that takes place after steps (4) and (8), as a very important mechanism to control the planning process. From these checkpoints, activities could return to step (1), redefining the problem. It is evident that, defined in this way, the model of integrated planning integrates all aspects of space in all phases of plan development with institutional support in the field of decision making, the implementation of plans and their financing. The whole planning process is accompanied by the active participation of stakeholders (professional bodies, investors, civil sector, etc.). An integrated approach in the process of spatial planning includes the segment of spatial development management as a continuation of strategic planning [13]. In general, strategic planning is process planning and defines the broadest framework of sustainable and resilient socio-economic development and environmental protection with a vision and strategic goals for the long-term planning period. Ahern [14] believes that strategic thinking is necessary at the level of systems for the planning and designing of urban sustainability and resilience in an unbalanced context. The scope of work and the role of planners in integrated planning has become not only professional, but there are also needs for skill in communication and negotiation with stakeholders [15]. The level of development today in the fields of economy, social culture and technology, as well as the built environment, show the lasting complexity and interactive effect of many influencing factors on urban development [1]. The enormous transformations of our cities, societies and the environment over the last few decades have required more efficient and resilient approaches to spatial development planning [7]. This has further emphasized the importance of implementing integrated planning, in order to achieve the goals of sustainability and environmental resilience to the negative impacts of climate change, socio-economic turbulence, rapid urbanization and modern lifestyles.

Due to its complexity, integrated planning that is based not only on the professional capacities of the planners and their negotiation skills, but also on the capacities of the entire social community to enable its application, is still underrepresented. This is especially evident in transition societies [3]. Improvements, however, can be achieved in practice through the development and adoption of quality plans in which actors, especially planners and staff in city administrations, can improve the methodology and procedures of integrated planning. To this end, the subject of analysis in this paper will be The Urban Plan of Banja Luka 2020–2040, which during its development aimed at some improvements in this area, with special reference to the sustainable use of natural resources.

3. RESEARCH METHODOLOGY

The research methodology in this paper was based on identifying the basic principles of integrated planning and recognizing them through the planning methodology applied in the conducting of procedures in the process of the preparation and drafting of the Urban Plan of Banja Luka 2020–2040. The paper will review the legislative, political, institutional and educational support for integrated planning in the city of Banja Luka and The Republic of Srpska, which will help elucidate the topic. In the field of planning methodology, relevant are: a) continuity of planning, b) the spatial information system and database of the plan, c) multi-disciplinarity of planning, e) integration of

data through the phases of the plan, f) adaptability and flexibility of the plan, d) interaction of planning steps, etc. Procedures conducted in the process of the preparation and development of the plan were related to the efficiency and transparency of procedures for the preparation and adoption of the plan, the involvement of professional and public opinions, the professional capacity of city services, etc. General social conditions in the field of institutional, financial, legislative, political and educational support for integrated planning also affect the scope and quality of integrated planning, and the analysis will contain a general overview of these impacts. The method of researching the presence of the principles of integrated planning in the development of The Urban Plan of Banja Luka 2020–2040, with a focus on the sustainable use of natural resources, will be descriptive. The evaluation of the principles will be based on assessment, without the possibility of exact quantification, due to their diversity and character. Despite the limited possibilities in this domain, the research will throw light on the application of integrated planning in practice in The Republic of Srpska, from the aspect of a case study, by pointing out the problems present, and will provide some guidelines for improvements in this area, which can be useful for other local communities, the professional public and relevant institutions.

4. APPLICATION OF THE PRINCIPLE OF INTEGRATED PLANNING IN THE FUNCTION OF THE SUSTAINABLE USE OF NATURAL RESOURCES – EXAMPLE OF THE URBAN PLAN OF BANJA LUKA 2020–2040

The urban plan of the city is a strategic plan that connects the strategic elements of regional development with the urban area of the city, while providing guidelines for detailed regulatory planning. Therefore, among other things, it should rely on the capacities of the natural resources of the urban hinterland and adequately and synergistically include them in the urban system of the city through improving the quality of life, strengthening the urban economy, using renewable energy sources, applying energy efficiency, protecting against climate change, etc. The sustainable use of natural resources is often not adequately included in the planning methodology, so this aspect has especially been focused upon in the process of drafting The Urban Plan of Banja Luka 2020–2040.

In order for natural resources to be adequately included in the planning methodology, it is necessary first to define them. Skinner [16] provides a comprehensive definition, according to which natural resources include natural objects and phenomena that are exploited in the present, past and future for direct and indirect consumption; which have the ability to create material wealth, reproduce labor resources, maintain living conditions and increase the quality of life (comfort resources, aesthetic resources).

Natural resources that are relevant to the planning process are land (agricultural, construction and forestry), rocks, minerals and fossil fuels, as well as physiological natural conditions: water, soil, climate, flora and fauna. These factors are contained in the legislation that defines the content of plans in The Republic of Srpska. At the same time, renewable energy sources have not been listed, and nor have maps of landslides and maps of hazards and flood risks, which in climate change are important features of natural conditions that directly affect safety and the quality of life of the population and their economic activities.

The acceptance of natural conditions and the sustainable use of natural resources is directly related to the map of land use and the rules of construction in the urban area of the city. Therefore, special attention has been paid to this aspect of planning within the applied planning methodology in the process of drafting the Urban Plan of Banja Luka 2020–2040. The research also included other principles of integrated planning in the field of applied planning methodology, as well as procedures that accompanied the process of the preparation and development of the plan, including the general social context and legislation.

4.1. CONTINUITY OF PLANNING IN THE URBAN AREA OF BANJA LUKA

Continuity of planning can be achieved by making plans at all spatial levels, without exceeding the planning horizon. At the same time, detailed plans have to be harmonized with strategic plans. There are the Spatial Plan of The Republic of Srpska (Amendments to the Spatial Plan until 2025) and the Spatial Plan of the City of Banja Luka until 2030, which have defined strategic guidelines for the development of urban areas in the context of the wider region. The previous Urban Plan of the city of Banja Luka was adopted in 1975, with a planning horizon until 1990. From 1990 to 2020, there were several attempts to draft a new urban plan, but they failed. In the meantime, many circumstances have drastically changed in the field of urban planning, population size and structure, urban economy, organization of urban activities, including natural conditions, especially in the field

of climate change, agricultural land use, renewable energy sources, etc. In the same period, over 200 detailed regulation plans have been made in the urban area of the city, which did not have an adequate basis in the strategic guidelines for the development of the urban area for the new planning period, because they did not actually exist. Detailed regulation plans followed the current situation and population needs, so they often threatened to jeopardize the goals of the city's strategic development, especially in the field of the protection of public goods, environment and natural resources.

These circumstances indicate the presence of discontinuities in the planning of the urban development of the city due to which the aspect of the sustainable use of the natural resources of the city and the environment was endangered. This was especially worrying, because the city through its historical development has been recognized as a city of greenery, which is the basis of its urban identity to this day. The Urban Plan of Banja Luka 2020–2040 aims to achieve continuity of planning, through a clear spatial implementation of the vision and strategic goals of city development defined by the *Banja Luka City Development Strategy* (2018), as a green city, which emphasizes the importance of the sustainable use of natural resources in urban areas. At the same time, the Plan should provide clear guidelines for updating existing detailed regulation plans, in order to harmonize them with the new urban plan of the city.

4.2. SPATIAL INFORMATION SYSTEM AND DATABASE FOR THE PLAN

The City of Banja Luka has been developing the spatial information system in GIS technology for the last 20 years and contains a significant database (spatial planning documentation, location conditions, building permits, studies, projects, regulatory documents, etc.) which was available for the planning team of the new Urban Plan. A problem in the implementation of integrated planning is an out-of-date real estate cadastre and cadastre of underground infrastructure, whose records are not part of the spatial information system of local government. This fact indicates the institutional disconnection that is necessary in integrated planning. The databases for the Urban Plan of Banja Luka 2020–2040, which referred to natural conditions and resources, were: *Amendments to the Spatial Plan of Republic of Srpska until 2025*, *Spatial Plan of Banja Luka until 2030* and *Urban Plan of Banja Luka 1975–1990*. For the needs of drafting the Urban Plan of Banja Luka 2020–2040, three new studies have been carried out which provided relevant data for the sustainable use of natural resources. Those are:

- *Study of natural conditions and resources in the urban area of the city* (2019). Its goal was to define the input parameters for spatial planning from the point of view of the analysis and valorization of natural conditions and resources in the urban area of the city. They can be important factors in improving the quality of life of the population [16], but also limitations from the point of view of environmental protection, protection from climate change, etc., which directly reflects on strategic commitments related to the purpose and use of space. From the natural conditions in the study were analyzed relief, hydrographic conditions, climatic characteristics, geological characteristics, methodology and assessment of landslide susceptibility, and from the natural resources, forests and forest lands, agricultural land, water resources, biodiversity and geothermal energy. However, no data have been recorded on flood risk and hazard maps, which are, also necessary in planning a sustainable and resilient environment.
- The study *Banja Luka – city of greenery* (2019) which discusses the natural characteristics of the urban area (geology, climate, pedological cover, biodiversity, vegetation and habitats) and their interaction with the green space of the city in order to integrate all of them in the vision of Banja Luka as a green city.
- The study *Implementation of the local nature protection plan* (2019) which focused on nature protection, protected areas and recommendations for the plan.

These studies have significantly improved the database of the plan in the field of natural conditions and resources. In that way, the discontinuity in spatial planning in this domain was partially compensated for, considering the fact that the previous urban plan had a planning horizon until 1990, so many of its determinants were out of date from the point of view of the current state of the urban space. For this reason, in 2019, for the needs of the new urban plan, the following documents were also prepared: *Housing Study*, *Demographic Study*, *Study of Economic Zone Development Possibilities* and *Traffic Analysis*.

4.3. MULTIDISCIPLINARITY

An important criterion for the implementation of integrated planning is the multidisciplinarity of the planning process, which achieves the comprehensiveness of planning. Multidisciplinarity implies the participation of a large number of experts from different disciplines in the planning team. The Law on Spatial Planning and Construction in The Republic of Srpska [17] prescribed the minimum conditions for issuing licenses to legal entities for the preparation of strategic spatial planning documents (including the urban plan of the city). The minimum number of full-time experts in planning companies is 2 graduate engineers of architecture, one graduate civil engineer (traffic orientation), one graduate civil engineer (hydro technical orientation), one graduate traffic engineer, one regional planner, one graduate electrical engineer, one graduate mechanical engineer and one graduate engineer of forestry, landscape architecture or agriculture. All of them must have a personal license to prepare spatial planning documents. The law does not provide for the participation of other disciplines (which in practice usually means that they are not involved in the preparation of spatial planning documentation), which significantly impairs the quality and comprehensiveness of spatial planning. In the case of the sustainable use of natural resources in strategic spatial planning documents, the participation of geologists, ecologists, climatologists and biologists is especially important, as well as surveyors, economists, demographers, sociologists and those of other disciplines relevant to the research of a complex built environment at the urban and regional level.

In the case study of the Urban Plan of Banja Luka 2020–2040, after the public procurement procedure, a consortium of three companies signed the contract with the municipality to draft the plan. Apart from the experts who are legally obliged to draft a plan, they also included in the planning team professionals in the disciplines of ecology, biology, economics, geology, geodesy, geography, mathematics and law. This complemented the planning team and significantly achieved multi-disciplinarity, necessary for a comprehensive and integrated approach to planning. The capacities of the planning team have improved with the engagement of the members of The Plan Council and professional institutions, which were monitoring the development of the plan. This has shown that the application of the principle of integrated planning in a multidisciplinary field can be achieved beyond the legal minimum, if the tender is awarded to the best bidder, from the point of view of professional references and human resources and if the professional public is involved in the plan development process.

4.4. INTEGRATION OF SPATIAL DATA THROUGH ALL PLAN PHASES

The integrity of spatial data refers to their integration and interaction in the sectoral and intersectoral domain through all planning steps defined by the planning methodology. A detailed data analysis that includes all available relevant present information for the plan is especially important. It needs to be further upgraded with planning analyses in every aspect of the space. Natural conditions and resources relevant for spatial planning refer to morphological, hydrological, engineering-geological, engineering-seismological and climatic characteristics and other natural factors of development with the aim of managing, using and protecting natural resources and improving quality of life [17]. Among other things, the plans emphasize the topics of environment protection and measures for the rehabilitation of endangered areas (landslides, floods, devastated, unstable and other lands), as well as preventive measures for protection against earthquakes [17].

In the rulebook on the manner of preparation, content and formation of spatial planning documents in the Republic of Srpska [18] it is stated that “if the spatial planning document covers lands that represent a resource (agriculture, forest and other lands), the graphic part of the plan should contain a) a map of other lands for development and b) a map of credit ratings for those lands in order to determine the basic purpose and compatible purposes in accordance with the classification of that land”. This rulebook creates an obligation for the protection and sustainable use of natural resources through their identification, valorization and appropriate integration into planning solutions. In this domain, it is important to respect the rules in planning practice, which is often not the case. We are witnessing the permanent translation of agricultural and forest land into construction land, which is happening both in spatial planning and in the field of land and cadastral records.

In the case of The Urban Plan of Banja Luka 2020–2040, The Study of Natural Conditions and Resources and the Analysis of the current state of space (planning step) formed the basis for the conceptualization of the land use in the planning period. In accordance with the creditworthiness of agricultural land, parts of the 1st creditworthiness class are integrated into the land use plan as agricultural land, while some are converted into construction land (Fig. 1). Generally, agricultural land, despite all the guidelines for protection and sustainable use, is permanently becoming

construction land in urban areas, which is the case with The Draft of The Urban Plan of Banja Luka 2020–2040.

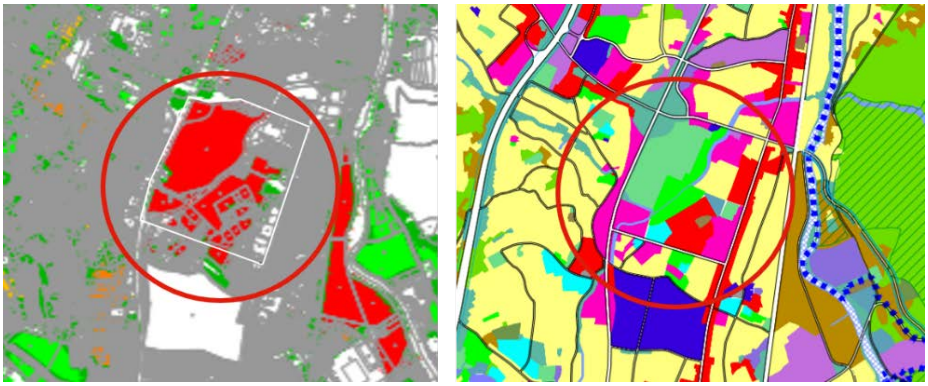

Figure 1. *The map on the left side marks the position of 1st creditworthiness class of agricultural land. The map on the right side is of planning land use with the conversion of agricultural land into residential and commercial purposes*

Unlike the use of agricultural land, the concept of forest management in the urban area of Banja Luka is reflected, above all, in the protection of forest complexes from permanent change of use. The forests of special purpose are the best in terms of creditworthiness on the maps of the plan. They represent the lungs of the city and are used for active and passive recreation. In addition to the prescribed measures for the purpose of planting, protection and maintenance of the forest, The Draft Plan envisages afforestation of private agricultural land of lower credit rating categories, with appropriate financial mechanisms. According to the plan, the forests of special purpose have been integrated into the city's green space system, which opens up opportunities for urban agriculture (Fig. 2).

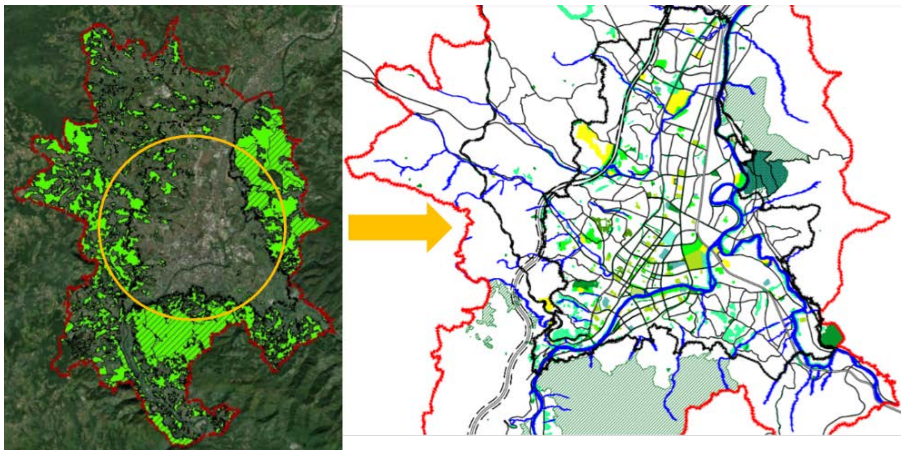

Figure 2. *The map on the left side shows the forests surrounding the narrower urban area of the city. The map on the right side shows the system of green spaces of the city which is connected to the forest hinterland.*

Beside the forests, The Draft Plan defines the protection of natural heritage in the categories of natural monuments, habitat management areas and protected landscapes, the rules of arrangement, and use and construction on agricultural, forest and water land, which mainly contain measures for the sustainable use and protection of natural resources. The Draft Plan also defines building rules for zones of different purposes, which also contain conditions for arranging green areas. This plan, however, does not provide guidelines for urban design in detailed plans, through the determination of the ecological index in urban areas, which is an integral part of urban regulation in many European cities [19].

In the domain of water land, criteria and rules for landscaping and construction in flood zones have been defined, in order to protect against floods. Flood zones refer to characteristic water levels (medium waters, high waters of 10-year, 100-year and 1000-year rank of occurrence). In these zones, urban and technical protection measures and rules for permitted construction have been prescribed, in relation to the degree of the flood risk. In this domain, there is an evident need to

provide maps of flood risks and hazards, which are an integral part of the database for spatial planning in the most countries, but this is not the case in our region.
The sustainable use of natural resources also refers to the identification, the exploration of potentials and the use of thermal waters in urban areas. Banja Luka has this resource at its disposal, based on preliminary studies, but detailed research in the wider urban area has not been done. Due to that, the thermal waters have not yet entered into the function of the urban development of the city. On the map of mineral resources, the potentials of thermal water have been presented generally in the entire urban area, but the exploitation depends on the specific research locations that need to be defined. The exception is the site in the settlement Srpske Toplice, where there are traces of thermal water exploitation from the Roman period until today. Currently, the research of these potentials is underway for the needs of the construction of a regional spa-center, in a defined research zone.
The Draft Plan defined building rules for the urban area that recommend building safety measures for the ninth seismic hazard zone. These are stricter (previously used) regulations, in relation to the new Seismic Hazard Maps, prepared as a basis for the application of Euro codes on the territory of B&H. This position, which is included as a program task, has been taken from the conclusions of the Round Table on Seismic Activity in the Banja Luka area (2019), as a precautionary measure, with a recommendation to the local government to prepare up-to-date maps of micro-seismic classification. These maps are also missing in the database of the plan, although they are very important, because in 1969 Banja Luka was struck by a devastating earthquake.

4.5. ADAPTABILITY AND FLEXIBILITY OF THE PLAN

Adaptability in integrated planning is necessary to achieve in order to adapt plans to frequent and unpredictable changes, which is inherent in socio-economic processes, the natural environment and the urban environment of today. Adaptive planning and design understand the problem of decision-making in conditions of imperfect knowledge about changes and certain disorders in the future as “opportunities” for “learning through work” [20], which is related to strategies for building urban resilience capacity [14]. The adaptive approach is at the heart of resilience theory, which sees planning and management as a mechanism for resiliently facing different future scenarios, which can be stressful and unexpected. The need for adaptive planning also arises due to the lack of information on the ecosystem, spatial or urban system, which is partly the case with The Urban Plan of Banja Luka 2020–2040.
The management of natural resources has for decades successfully implemented the adaptive approach, while its application in urban planning has encountered numerous difficulties [10]. Within the adaptive planning model, strategic plans can be understood as hypotheses about how a policy or project will affect certain regional processes or functions, and implementation plans become “experiments” from which experts, professionals and decision makers can gain new knowledge through monitoring and analysis.
In the case of The Urban Plan of Banja Luka 2020–2040, it has been noticed that the available database for the plan is directly related to the adaptive approach to planning. In the case of insufficient and out-of-date databases, especially in the field of natural conditions and resources, an adaptive approach should provide a broader framework for defining guidelines for sustainable and resilient urban development in general. The adaptive approach, in addition to planning measures, implies the application of participation, in which planners, in addition to their professional knowledge, must also demonstrate skills of communication and negotiation with stakeholders [15].
The adaptability is achieved by a flexible approach to spatial planning that can include different scenarios for development in the future. The urban plan can achieve flexibility by defining general rules for construction in urban area and guidelines for the implementation of the plan, which has applied partially in the case of The Urban Plan of Banjaluka 2020–2040. However, the flexibility of planning must be enabled through detailed planning, by applying zoning, instead of strict regulatory planning, which in practice is still not present [3]. After the adoption of The Urban Plan of Banjaluka 2020–2040, it is necessary to replace the existing regulatory plans on the urban area with new zoning plans, wherever possible, which offer more flexibility in all spheres of urban regulation [11].

4.6. INTERACTION OF PLANNING STEPS

The interaction of planning steps is a mechanism that provides the essential integration of data in the dynamic process of making a plan. The basic precondition for the realization of this principle of integrated planning is an adequate methodological basis of the planning process, which has been defined in The Republic of Srpska by The Law for Spatial Planning and Construction [17]. Among other things, the law prescribed the basic phases in the development of the plan (preparation of the plan, analysis and assessment of the present condition of spatial arrangement, defining problems and

goals of the plan, and the conceptual phase of the plan). The law also defines the procedures for the expert and public monitoring and verification of the plan (expert discussions and monitoring, public insight and public discussions). It is evident that the law did not clearly define the methodology of integrated planning [3] in relation to the theory of integrated planning [13]. The phases of implementation and monitoring of the plan are not listed in the law and marked as important links in the cyclical process of spatial planning. Therefore, they are being implemented in practice without clear goals and tasks, which reduces the capacity of local government to manage sustainable urban development. For this reason, the possibility of interaction of planning steps, which is necessary in terms of the control, review of compliance and sustainability of planning solutions (especially in the field of use of natural resources), is not legally sufficiently specified. The implementation of this principle is rising to planning practice and local government bodies.

In this case, the expert monitoring of the plan has achieved a significant role in the control and review of planning solutions, through the permanent role of The Council of Plan in the process of its development. Several expert discussions were held on The Preliminary Draft Plan and The Draft Plan, and expert workshops were organized [21]. In the phase of analysis of the current state of development and problems of the urban area, a planning survey was conducted in the local communities. During the public insight, lasting 1.5 months, a public presentation of The Draft Plan was organized, and after that, all the objections of the citizens were analyzed. During the public insight, a public presentation of The Draft Plan was also organized with an emphasis on urban greenery ("Banja Luka – green city"). All these activities were in the function of reviewing and evaluating the planning solution and contributed to the interaction of planning steps, including the aspect of natural conditions and resources. All of that is a positive step forward in relation to the legal framework. In order to achieve a substantial interaction of all steps in the planning process, it is necessary, during the process of its implementation, to achieve permanent monitoring of the impact of the plan on space, especially in the field of the sustainable use of natural resources.

4.7. PROCEDURES OF THE PREPARATION, DRAFTING AND ADOPTION OF THE PLAN

Analyzing the procedures in the process of the preparation, drafting and adoption of the plan entails consideration of their efficiency and transparency, the involvement of the profession and the public, the capacity of the city services responsible for adopting the plan, etc., and falls mainly in the field of the work of local government services. The efficiency of the plan preparation procedure reflects the efficient and competent adoption of The Decision about the initiative to draft the plan. It should be based on and substantiated by the results of the implementation and monitoring of the previous plan, as well as the needs and reasons for drafting a new plan. The Decision should also contain professional guidelines with general information on the planning area, and the basic goals and program tasks of the new planning solution. The quality of The Decision, argumentation and program task largely determines whether the city assembly will adopt the initiative for drafting the new plan, which is directly related to the efficiency of the work of a spatial planning service in the municipality and its professional capacities. The final outcome of this initiative also depends on the political factor, because the councilors in the city assemblies are politically elected, so in The Republic of Srpska, due to the general political circumstances and social environment, the work of the city assemblies is often slowed down or blocked.

The efficiency of the preparation procedure of the plan directly depends on the public procurement procedure (selection of the plan holder). In this domain, a significant problem is the inadequacy of The Law on Public Procurement in B&H [22], which provides for the possibility of appeals and the annulment of tenders, without justified arguments of the appellant. Therefore, the procedure for selecting the holder of the plan often lasts more than a year, which was the case for The Urban Plan of Banjaluka 2020–2040.

The efficiency of the procedures for drafting and adopting the plan depend on the dynamics in determining the phases of the plan, organizing expert monitoring and public participation, verification of phases (control points) and determining the final plan to be submitted to the city assembly for adoption. Possible slowdowns in the plan development process by various actors need to be overcome by the professional and institutional authority of the municipality staff, while strengthening the transparency of work and partnership collaboration with the professional and civil public.

Numerous problems are present in the domain of implementing efficient procedures in the process of drafting the plans on the territory of The Republic of Srpska (reduced professional capacities of the departments for spatial planning in municipalities, reduced capacities of participation, policy impact and systemic problems related to the legislation, etc.). The process of drafting The Urban

Plan of Banja Luka 2020–2040 was accompanied by the satisfactory capacity and support of city services. It was slowed down by too long a public procurement procedure (more than a year) and the removal of political representatives in local government and councilors in The City Assembly, which created a time discontinuity in drafting the plan of more than a year. The overall success of the plan-making procedure will largely depend on the dynamics in determining The Final Plan after public insight and its adoption by The City Assembly of Banjaluka.

4.8. GENERAL SOCIAL CONDITIONS

General social conditions that affect the scope and quality of the application of the principles of integrated planning are related to institutional, financial, legislative, political and educational support for integrated planning. It is evident from the previous text that they permeate almost all principles of integrated planning. In order for essentially implemented integrated planning in practice, adequate institutional support is needed, in the form of cooperation between local government institutions that conduct procedures for preparing, drafting and adopting a plan, and institutions that manage certain spatial data or resources at local and state level. In that domain, there are evident problems that affect the dynamics of development and the quality of the plan, which was somewhat the case with the drafting phases of The Urban Plan of Banja Luka 2020–2040. Financial support for the planning system at the local level is often limited, which directly affects the ability of the municipality to choose the best company by professional capacity, and thus influences the quality of the plan. Fortunately, in this case, it did not happen.

Inadequate legal solutions in the field of spatial planning impede the application of the principle of integrated planning in practice in the fullest capacity. They relate to: defining the general methodology and content of the plan, the content of the informational and documentational basis of the plan, conditions for issuing licenses to legal entities for the preparation of spatial planning documentation, procedures for preparing, drafting, adopting, implementation and monitoring of the plan, etc. Improvements in legislation in these domains would enable a systematic solution to the issue of the comprehensiveness and multidisciplinarity of the planning process, define stricter professional capacities of participants in planning, provide an expanded information base, and enable more present public participation and transparency in planning, as well as institutional support for spatial planning.

A very important aspect in the field of the capacity building of integrated planning is the implementation of the systematic education of all actors involved in the process of the planning and management of spatial development. It is especially important to achieve satisfactory education of future experts, urban planners, through curricula at faculties aimed at raising their competencies for understanding and implementing an integrated approach to planning through studying planning methodology, cooperation with other participants in the planning process, and familiarization with legislation and general socio-economic environmental conditions. Education is also needed through lifelong learning in which experts are further educated in the light of new approaches to integrated planning, as well as in the field of strengthening the capacity of civil participation. All these types of education are processes that are developing rather slowly and need to be constantly improved.

5. DISCUSSION

Based on the analysis, it is evident that in the process of the preparation and drafting of The Urban Plan of Banja Luka 2020–2040, the principles of integrated planning were partially applied, primarily thanks to the capacities of the planning team and municipal staff that were involved in the planning process. The database on space had a direct impact on the quality of the plan, which was supplemented in this particular case, especially in the segment of natural conditions and resources, which enabled the integration of this data into planning solutions. Despite the amendments, the available database was, however, insufficient for an integrated approach, especially in the field of resilient planning for climate change, the use of renewable energy sources, the use of thermal waters and the sustainable use of agricultural resources. The spatial information system available to the local government has significantly developed over the last two decades, but the problem of an out-of-date cadastre and cadastre of underground installations is still evident, managed by special institutions that have not connected adequately and efficiently.

The multidisciplinarity of the planning process was achieved by including a consortium of three companies that offered professional capacities in a larger number of disciplines than required by law. In this domain, there is the possibility of improving the capacity of integrated planning at the local level, through a responsible process of plan preparation, which occurred in this case. The integration of data was achieved through their mutual interaction and cross-sectoral cooperation, the

goal of which was harmonized planning solutions. They have directly reflected the plan of land use, which should have been based on the harmonization of natural resources and the built environment in aim of achieving the vision of green city development. Discrepancies are possible due to the large amount of data and the complexity of the process of the integrated approach to planning, which in this case was recorded in the example of the treatment of agricultural land, etc. Various mechanisms reduce the extent of non-compliance. In the field of planning techniques, the adaptability and flexibility of planning can amortize poor estimates and enable the plan to be sustainable in the long term. The Draft Plan, by the compatibility of purposes, general rules of construction and guidelines for the implementation of the plan, left the possibility for the flexible and adaptable spatial development of the city in the future.

Detailed regulation plans will play a significant role in this area, which will also have to provide adaptability and flexibility in unforeseen circumstances in the future, without compromising the strategic guidelines of the city's development. To this end, zoning plans have been recommended instead of regulatory plans.

The application of the principles of an integrated approach in the development of the plan was achieved thanks to the expertise of the planning team and the implementation of expert monitoring, through the active participation of The Council of Plan and external consultants as advisory bodies. The staff in The Department of Spatial Planning in Municipality Government professionally managed the procedures in the process of making the plan, which enabled the interactivity of the planning steps. It has been possible to review planning solutions through the several control points (expert discussion of The Preliminary Draft Plan, public presentations of The Draft Plan, public insight into The Draft Plan), through the continuous involvement of The Council of Plan in the plan development process, etc. There was transparency in conducting procedures with the aim of involving the public, but the methods were classic (public participation in public inspection and public presentation of the plan), which is not efficient enough and has a limited domain. Participation should be a continual process of communication between the city administration and citizens, in which citizens are involved in a timely and proactive manner, by giving their proposals, and not just by being informed of ready-made solutions.

6. RECOMMENDATIONS

The drafting of The Urban Plan of Banja Luka 2020–2040 has shown that the principles of integrated planning can be improved in the process of making plans, despite the limits that exist in the domain of planning methodology, procedures, law and general social conditions. It can be improved through the process of drafting the plan at the local level, which is reflected in providing an up-to-date and expanded database of the plan, improving the integrated planning methodology, achieving a comprehensive and multidisciplinary planning process, making interactive planning steps, implementing efficient and transparent procedures, and strengthening public participation.

In the case of drafting The Urban Plan of Banja Luka 2020–2040, the improvement of the principles of integrated planning in most of the mentioned domains was recognized. This is especially important from the aspect of the sustainable use of natural resources, which, mostly, was considered in an integral way through all phases of plan development. This approach represents a necessary step towards sustainable and resilient planning in the light of climate change, the use of sustainable energy sources and the application of energy efficiency in construction, etc. However, limitations have been identified that represent systemic problems that cannot be overcome at the local community level, but need to be addressed by improving legislation at the level of the government of The Republic of Srpska. They include, among other things, defining the procedures of inter-institutional cooperation and exchange of data in planning, defining the mandatory content of the plan, prescribing the minimum conditions for issuing planning permits, the manner of conducting public procurement, etc. In order to improve the system conditions for the implementation of integrated planning in practice, it is necessary to achieve the mutual harmonization of legal solutions in various domains related to spatial development (spatial planning, land records, property relations, natural resources management, energy, etc.), as well as in the field of public procurement. In transition societies, such as The Republic of Srpska, the problem is also the political factor, which often slows down the processes of sustainable development, including in the segment of the efficient adoption of planning documents. Improving the general social environment also entails the need to strengthen the civil sector and participation in the process of urban development, as well as adapting the education system of future urban planners to new requirements in the field of integrated planning.

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