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ASSESSMENT OF CLIMATE CHANGE MAINSTREAMING IN SPATIAL PLANNING AT THE CENTRAL LEVEL IN KOSOVO

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ABSTRACT

Spatial developments contribute to climate change through greenhouse gas emissions and disordered land use. At the same time, climate change impacts have spatial implications, influencing the land uses and settlements development, and damaging habitats, ecosystems, infrastructure and other assets. Considering its regulatory character and multi-sectorial approach, spatial planning is gaining an increasingly important role in climate change management. As such, it could be better utilized in increasing climate resiliency and achieving decarbonization targets in Kosovo as well. While Kosovo is prone to natural hazards such as floods, landslides, droughts, and wildfires, the future climate change could further impact the economy, infrastructure, buildings, energy, health and wellbeing of its communities. Assuming that climate change considerations are not sufficiently integrated in spatial planning policies at the national level in Kosovo, this research assesses the extent that the Law on Spatial Planning and the Spatial Plan of Kosovo (also referred as the Spatial Planning Strategy) address those considerations. Upon the identified gaps, this research provides recommendations for better climate change management, risk reduction and resiliency building. Considering that the

Spatial Plan of Kosovo has expired, and the Kosovo's institutions are currently reviewing and considering the updating of the Law on Spatial Planning, the findings of this research could better inform and orient climate change mainstreaming in spatial planning at the central level.

Key words: spatial planning, climate change management, national policies.

INTRODUCTION

Climate change impacts, such as temperature, precipitation or extreme weather events, have direct spatial effects, influencing the current and future land uses (Schindelegger et al. 2022), damaging landscapes, ecosystems, biodiversity (Mary & Gjorgjievski 2020), infrastructure and other built assets (especially in dense urban areas) (Jiang et al. 2017). At the same time, inefficient or uncontrolled spatial developments (including rapid urbanization and sprawl) contribute to increased greenhouse gas (GHG) emissions (Jiang et al. 2017); thus, further amplifying climate change and the related impacts, such as heat waves and precipitation intensities (GYCN 2021). As such, spatial planning and climate management (both adaptation and mitigation) should be well-coordinated (Crispi & Abubakar 2022).

Spatial planning has no general agreement upon its definition (Dallhammer et al. 2018). In this research, spatial planning refers to the various actions taken mainly by the public sector within a particular territory at different scales (local, regional, national) aiming to influence the future distribution of activities in space (Pütz et al. 2011, Dallhammer et al. 2018). A spatial planning system may be defined as the institutional framework of a specific country, which regulates the multiple and complex processes of vertical (between policy levels) and horizontal (between policy sectors and public and private subjects) interactions addressing the spatial organization of social life, economy (industry, commerce, trade, tourism), and of the natural and built environment (UN-Habitat 2015). As a multi-stakeholder process of reconciliation, prioritization and decision-making, spatial planning can help reaching the economic, social, environmental and climate-related goals, but also achieving systemic changes and building resiliency (UN-Habitat 2015).

Considering the regulatory character and influence in terms of spatial distribution of activities and intensity of land uses, spatial planning is gaining an increasingly important role in climate change management (Schindelegger et al. 2022). Many countries around the world have made climate change an integral part of spatial (city and regional) planning, integrating it into the legal framework, development strategies, and implementing successful practices (Jiang et al. 2017, Mary & Gjorgjievski 2020). While the focus of the urban planning and climate

change nexus was more oriented on the dynamic relationships of the urbanization patterns (increased GHG emissions, land use changes, climate effects and urban systems), it is now shifting to urban space assessments and smaller scale interventions on the internal urban systems (Jiang et al. 2017). Even though city governance is receiving more and more importance in climate change management, it is still crucial to address the respective issues through multiple spatial scales and levels of governance. National authorities are responsible to develop specific policies and strategies (with clear direction, objectives and goals) on addressing climate change and strengthening resilience, but also to improve related education and awareness level (Runhaar et al. 2017, Schindelegger et al. 2022).

Kosovo is already experiencing the impacts of climate change, and those are expected to increase in frequency and intensity in the future (Caka & Caka 2022). However, it is not yet a signatory party of the United Nations Framework Convention on Climate Change (UNFCCC) to report on its climate action and benefit from related financial assistance (UNKT 2021). Yet, as Kosovo aspires to obtain full membership in the European Union (EU) and has signed the Stabilization and Association Agreement (2015), it has already started establishing official mechanisms to implement the EU laws and regulations in several fields, including environment (Bekteshi 2020). Despite the progress in transferring the EU acquis into the environmentally-related legislation, there is still a lot of effort needed in implementing them – with lack of administrative capacities, technical skills, and insufficient funding being among the key identified challenges (Bekteshi 2020). Even though the Law on Climate Change has not been drafted yet, Kosovo has conducted a GHG inventory for the period of 2008-2019 and has approved its Climate Change Strategy 2019-2028. However, according to the European Commission, there has been limited progress on environment and climate change agenda, and more concrete measures are needed (DG NEAR 2021).

In 2020, Kosovo signed the Sofia Declaration on the Green Agenda for the Western Balkans (RCC 2020) to support the EU commitments towards climate-neutrality by 2050 (Schindelegger et al. 2022), which will require Kosovo's massive transformation towards a more resource-efficient, clean and circular economy. The agreement requires reviewing and revising relevant legislation and strategies to enable integrating climate action into all relevant sectors and support the country's decarbonization and resilience building (RCC 2020). Kosovo is currently drafting its National Energy and Climate Plan, which is expected to set clearer measures to reduce GHG emissions, but more focus is also needed on the climate adaptation side (RCC 2020, Caka & Caka 2022). Since Kosovo is prone to natural hazards such as floods,

landslides, droughts, and wildfires, the future estimated temperature increases and precipitation changes caused by climate change could further exacerbate them along with adverse impacts on the economy (mainly agriculture), infrastructure, buildings, energy, health and wellbeing of communities (MESPI 2018, Caka 2020).

Since many of these sectors fall under the domain of spatial planning, the role of the latter could be better utilized to support Kosovo's sustainable development and transition to a more low-carbon and climate-responsive country (Schindelegger et al. 2022, Goranci 2020, Mary & Gjorgjievski 2020, GYCN 2021). Yet, the extent to which Kosovo has integrated climate change considerations into its spatial planning system and documents (plans) has not been thoroughly assessed yet.

As such, this research aims to assess the regulatory mainstreaming (Runhaar et al. 2017) of climate change considerations at the central level, with a particular focus on the Law on Spatial Planning and the Spatial Plan of Kosovo (Spatial Planning Strategy) for the period of 2010-2020, as the key spatial planning document (ISP 2010). Upon the identified gaps, it provides recommendations for better climate change management (Jiang et al. 2017, Goranci 2020, GYCN 2021), risk reduction and resiliency building (Mary & Gjorgjievski 2020, Schindelegger et al. 2022). While the Spatial Plan of Kosovo is now outdated and the Law on Spatial Planning is currently being reviewed on its content and applicability on the ground, the findings of this research (identified gaps and suggested recommendations) could inform the respective drafting processes in better integrating climate change considerations (such as related impacts, risks and vulnerabilities, as well as adaptation and mitigation options).

METHODOLOGY

Spatial planning in Kosovo is regulated by the provisions of the **Law No. 04/L-174 on Spatial Planning**, which defines the basic principles of spatial planning, methodology of spatial development and regulations, and responsibilities of the administrative entities for drafting and implementing the spatial plans and related activities at both central and local levels. Considering the current spatial planning legal framework was developed prior to Kosovo undertaking commitments for increasing climate action, it is not expected to specifically address climate related aspects at neither the central nor the local level.

According to this Law, spatial planning at the central level is directed through three types of plans, including the Spatial Plan of Kosovo and the Zoning Map of Kosovo (both covering Kosovo's whole territory), as well as the Spatial Plans for Special Areas. The Spatial

Plan of Kosovo is the main spatial planning document in Kosovo and all other spatial documents (or those that have spatial implications) should be developed in accordance with its objectives and guidance (ISP 2010). While the Spatial Plan of Kosovo (also referred as the Spatial Planning Strategy) was approved in 2010 (according to the requirements set in the previous Law on Spatial Planning, which was in force during the period of 2003-2013), the Zoning Map of Kosovo (a new requirement emerging with the new Law) remains an unapproved draft since 2019 (ISP 2019). Therefore, this research focuses on analyzing the Spatial Plan of Kosovo only.

Since there is no standard nor a unified tool for assessing the extent to which a spatial plan at the central/national level has mainstreamed climate change considerations, the assessment tool for the purpose of this research has been developed by the authors, mostly building on the assessment logic and criteria used in a similar study developed by Kumar & Geneletti (2015). The authors have used the assessment logic of Kumar & Geneletti (2015) dividing the overall assessment in three main components (Awareness, Analysis and Action). The "Awareness" component assesses the extent to which the spatial plan is climate-aware, understanding the key drivers of climate change and its impacts at the central/national level. The "Analysis" component assesses the extent of analysis, quantification and synthetization of available information on climate change in support of spatial planning decisions, whereas, the "Action" component assesses whether the spatial plans contain specific responses or measures (physical interventions or vulnerability reduction and resilience building) to deal with both climate change adaptation and mitigation (Kumar & Geneletti 2015).

However, since this study assesses the mainstreaming of climate change considerations into spatial plans at the local level (not the central/national one), the authors have tailored some of the criteria (mainly in the Analysis and Action components) to fit a larger spatial scale as the focus of this particular study. Modification of these criteria and addition of new ones (such as criteria number 5, 9, 23, 24 and 35), has been based on recommendations provided on other studies addressing spatial planning at the central level, such as those developed by Pütz et al. (2011), Mary & Gjorgjievski (2020) and Schindelegger et al. (2022). As a result, the final assessment tool includes thirty-six criteria (as shown in Table 1).

In contrast to the assessment tool developed by Kumar and Geneletti (2015), which uses a two-level scale for measuring the achievement (consideration) of respective criteria, this study expands the level of consideration into four to provide a more nuanced evaluation. The

level of consideration/addressing of the respective criteria is represented in a gray scale, where the "white" color shows no (direct or indirect) consideration, "light gray" shows low level, "dark gray" shows medium level, and "black" shows high level of consideration.

ASSESSMENT OF THE LAW ON SPATIAL PLANNING

The Law on Spatial Planning (enforced in 2013) aims to provide a sustainable and balanced spatial planning and development throughout the whole territory through principles of good governance, rational use of space, environmental and cultural heritage protection. It provides means to protect areas with special features (including national parks, agricultural land, natural and cultural heritage sites), and addresses threats from environmental pollution and degradation, as well as from natural and other disasters through protective and mitigating measures.

While the Law promotes planning according to the principles of sustainability, it mandates all spatial planning documents to be subjected to Strategic Environmental Assessments (SEAs), which are further regulated by the **Law No. 03/L-230 on Strategic Environmental Assessment.** SEAs should address the current state of the environment, its evolution without the implementation of the assessed (spatial) plan, related effects on the environment deriving from the implementation of the plan, measures planned to prevent, minimize or offset the adverse effects on environment, as well as monitoring measures. The identified plan's effects on the environment should be as comprehensive as possible, including short-, medium- and long-term, permanent or temporary, positive or negative, and where relevant transboundary impacts (encompassing biodiversity, air, water, human health, heritage and other climatic events). However, due to the lack of reliable environmental data and necessary expertise, the development of proper SEAs in Kosovo remains challenging (Goranci 2020).

Even though these measures contribute to climate change mitigation (preservation of carbon sinks and GHG emissions reductions) and adaptation (risk prevention and reduction), the Law on Spatial Planning makes no direct reference to climate change or global warming and related impacts; hence the existing spatial plans at both central and local levels are expected to not specifically address them.

ASSESSMENT OF THE SPATIAL PLAN OF KOSOVO

Spatial plans at the national level provide an overview of a territory's development trends, challenges and opportunities, main land uses, natural resources and major infrastructure,

but also broader aspects such as agriculture, cultural heritage, tourism etc. (Crispi & Abubakar 2022). They should recommend policy options, strategies and measures that promote balanced urban and rural development in a sustainable and inclusive manner (Crispi & Abubakar 2022), but also those that better respond to different stresses and shocks, including those caused by climate change.

The Spatial Plan of Kosovo is a multi-sectorial strategic plan, which translates the social, economic and environmental policies in the spatial aspect, with the aim of supporting balanced and sustainable development of Kosovo's territory (PRO-Planning 2021). It assesses the current situation for several sectors and defines the vision, principles, objectives and priorities for strategic development (which should also be aligned with other strategies) (PRO-Planning 2021). It is based on information and data on the country's demography, usage of resources for economic development, technical, public and social infrastructure, risks from natural and other disasters and environmental pollution and degradation, and protected areas.

There are no standard procedures to assess the quality, implementation and the impact of spatial planning documents (PRO-Planning 2021). According to the Law on Spatial Planning, monitoring and assessment of spatial plans should be based on the Consolidated Spatial Planning Database, which started being established only in 2019 (PRO-Planning 2021). With the implementation of the spatial planning documents not being at a satisfactory level yet (Goranci 2020), their impact towards achieving Sustainable Development Goals (including those related to climate) and other targets is unknown (PRO-Planning 2021).

Using the assessment tool developed for the purpose of this study (shown in Table 1) to understand the integration of climate change considerations in the Spatial Plan of Kosovo (2010-2020), it is clear that there is a low level of climate change mainstreaming. The Spatial Plan of Kosovo is insufficiently climate-aware, hence, not properly understanding the key drivers and impacts of climate change at the central level. The Plan does not specifically mention or elaborate climate change or global warming as a phenomenon, but it acknowledges it as a global threat that Kosovo will also have to deal with.

Yet, the Spatial Plan of Kosovo does not identify current and potential future impacts of climate change throughout the Kosovo's territory and related spatial implications (on land use, ecosystems, infrastructure, buildings etc.). There are also no geographic regions identified as most impacted by climate change, nor areas with elevated risks from droughts and heat waves (Mary & Gjorgjievski 2020), except the priority areas for intervention against floods.

Table 1: Assessment criteria for climate change mainstreaming in the Spatial Plan of Kosovo (Scale: "white" = not considered, "light gray" = low, "dark gray" = medium, "black" = high)

Component	Criteria	Scale
Awareness	1. Concept of climate change or global warming	
	2. Current and future climate change impacts	
	3. Long term goals and targets for climate change management	
	4. Alignment with relevant climate change policies, agreements or targets	
	5. Considers climate change at the regional and trans-boundary context	
	6. Guidance for implementation of adaptation and mitigation measures	
Analysis	7. Categorization of GHG emissions by sector (including the baseline year)	
	8. Future GHG emissions trend forecast and scenario development	
	9. Climate risks and vulnerability assessment	
	10. Assessment of the physical development (settlements distribution)	
	11. Assessment of changes in land use due to climate change	
	12. Assessment of climate change impacts on natural and protected areas	
	13. Assessment of transportation system (infrastructure and services)	
	14. Assessment of energy demand and supply	
	15. Assessment of water usage and supply in relation to climate change	
	16. Assessment of the sectoral economy, employment and livelihood structures	
	17. Assessment of the climate change impacts to poverty distribution patterns	
	18. Assessment of climate-driven displacement or migration	
	19. Assessment of capacities and resources to act on climate change issues	
	20. Relevant stakeholders (with defined roles and responsibilities)	
	21. Cost estimates (on climate-related damages and losses)	
Action	22. Conservation and sustainable management of protected areas, forests, parks	
	23. Sustainable agricultural land management and food production	
	24. Integrated watershed and river basin management	
	25. Integrated land use, housing and transportation planning	
	26. Climate proofing of infrastructure and other physical assets	
	27. Green building and green infrastructure standards	
	28. Renewable energy and solar energy	
	29. Brownfield remediation and redevelopment strategies	
	30. Waste management	
	31. Water supply and consumption management	
	32. Wastewater treatment	
	33. Policies for healthy social development service delivery (including healthcare and food security) and effective emergency response	
	34. Financial/budget commitments for implementing climate-related measures	
	35. Provisions for monitoring the implementation of climate-related measures	
	36. Public awareness and education about climate change issues	

There is also no alignment with climate change policies (as none was in force at the time when the Plan was drafted) and no set climate-related long-term targets. In terms of regional cooperation, focus is given on joint infrastructural projects (mainly on road transport),

environmental protection (including national parks and touristic areas), resource management and risk prevention, especially with Montenegro, Albania and North Macedonia.

Climate related information and data is also insufficiently analyzed and taken into consideration when planning for settlements distribution, transportation systems, or protection of natural and cultural heritage assets. Even though there is extensive analysis on the economic sectors, along with employment and livelihoods information, there is no analysis on vulnerable communities, or the impacts that climate change may have on poverty distribution or population displacement. Furthermore, no cost estimates are presented on the damage and losses caused by the impacts of climate change (such as damaged road infrastructure, bridges, dams, buildings or other assets).

GHGs and air pollutants are mentioned to be emitted mainly by the power plants, transport, industry and households (for heating), however they are not specifically quantified as no proper GHG inventory was developed at the time when the Plan was drafted. Some CO_2 emissions are provided for the time period of 2003-2007, but they are not categorized by sector, nor show the data source or methodology. As such, even though the GHG emissions reduction is somehow aimed, it is not quantified with specific targets.

It also lacks specific (direct) climate-related measures, monitoring provisions and implementation guidance (including green building and green infrastructure standards). Sustainable concepts promoting compact development, affordable housing and multi-modal transportation are only addressed at a superficial level (PRO-Planning 2021).

SYNERGIES WITH THE CLIMATE CHANGE STRATEGY

As identified in the previous section, climate change considerations in the Spatial Plan of Kosovo, also referred as the **Spatial Planning Strategy 2010-2020** are addressed at a superficial level; acknowledged as an issue but including no specific adaptation or mitigation measures. Overall, the Spatial Planning Strategy acknowledges the impact of transport sector and uncontrolled forest logging to climate change through increased GHG emissions (ISP 2010). Even though it suggests some measures (shown in left column in Table 2) that contribute to climate change mitigation (such as prohibition of illegal lodging, protection of forests and other green areas, expansion of tree lines along the highways, waste management and promotion of renewable energy and energy efficiency) and adaptation (such as conservation of protected areas and restriction of development in risk-prone areas), there is additional space for improvement that could be addressed while updating it for future developments.

On the other hand, Kosovo's **Climate Change Strategy 2019-2028**, which is consistent with the expected EU's policy framework for climate and energy, aims to adapt to the ongoing and future impacts of climate change and to mitigate its causes while boosting sustainable development. It prioritizes GHG emissions reduction through increased energy efficiency in all sectors and increment of energy generation from renewable sources, sustainable usage of natural resources, and the development of capacities to fulfill future obligations to the UNFCCC. It identifies uncontrolled urbanization, inadequate land use and municipal planning, illegal construction in hazardous areas and failure to comply with the building codes as factors further increasing the impact of climate hazards (MESPI 2018).

Due to new constructions and infrastructure developments, during the period of 2000-2018, the total urban area in Kosovo grew by 57% (UNKT 2020). The institutional and capacity vacuum, late development and poor quality of the first spatial planning documents at the local level, extended procedures for building permits, and lack of sufficient inspectors were some of the factors contributing to new illegal, informal and/or unpermitted constructions happening all around the Kosovo's territory (Goranci 2020, PRO-Planning 2021). In 2015, there were a total of 353,685 illegal constructions (with most of them being used for residential purposes) identified around Kosovo (ISP 2010).

Respective developments led to many adverse environmental impacts, including agricultural land loss, deforestation, degradation of natural protected areas and rivers, etc. (PRO-Planning 2016, Goranci 2020). In response, the Climate Change Strategy presents measures (shown in the right column in Table 2) towards limiting settlements' uncontrolled expansion (especially on flood- or erosion-prone areas), adjusting building codes to future weather and climatic conditions, and promoting ecological construction (including vertical and green roofs) (MESPI 2018).

Table 2: Synergies between the Spatial Planning and Climate Change strategies

Spatial Planning Strategy 2010-2020	**Climate Change Strategy 2019-2028**
Climate change related aspects (directly or indirectly) addressed	Spatial planning components contributing to increased climate impacts
• GHGs and air pollutants (mainly emitted by the power plants, transport, industry and households) mentioned but not quantified, • Acknowledgement of the impact of uncontrolled land use changes and forests logging, as well as of the transport sector to climate change,	• Uncontrolled urbanization (since 1999), • Inadequate land use and municipal planning, • Illegal construction in hazardous areas, • Failure to comply with the building codes.

• Identification of threats deriving from natural disasters, but not specifically from climate related impacts, • No analysis of climate related impacts on settlements and their distribution.	
Suggested measures (directly or indirectly) contributing to climate change management	Suggested spatial planning related measures
• Protected areas identified and sustainable management of resources and forests promoted, • Prohibition of illegal lodging and construction in high quality agricultural land, • Restriction of development in risk-prone areas (floods and erosion) and identification of priority areas for interventions against floods, • Promotion of polycentric settlement development; road network in harmony with economic development and settlements connection, • Reduction of GHG emissions from the power plants considered an urgent issue to be addressed, • Promotion of renewable energy and energy efficiency along with national targets, • Industrial waste and ash landfills and degraded land (due to exploitation) mentioned as urgent issues to be addressed, • Elimination of illegal landfills, and building of new ones according to European standards; promotion of recycling; • Encourages efficient use of water and its harvesting; • Promotion of tree lines expansion along highways to mitigate noise and GHG emissions,	• Limiting settlements' uncontrolled expansion (especially on flood- or erosion-prone areas), • Adjusting building codes to future weather and climatic conditions, • Promoting ecological construction (including vertical and green roofs).

CONCLUSION

Rapid changes and uncertainties due to climate change are causing additional threats to the natural and built environment, economic development, as well as communities' health and wellbeing worldwide and in Kosovo too. Even though climate change affects the land use and its development, spatial planning has potential to provide means for both adapting to the impacts of climate change and mitigating GHG emissions and uncontrolled land use changes (Egging 2013, Jiang et al. 2017, Schindelegger et al. 2022).

In Kosovo, environmental protection has been integrated in spatial planning processes (both at the central and local levels) through land use rules and regulations for protection of natural and cultural areas, agricultural land, green areas, water sources, recreational zones, as well as mitigation of environmental and health-related threats posed from environmental pollution (landfills, industrial, and energy-related and infrastructural facilities) and degradation (Bekteshi 2020, Goranci 2020). However, this research confirms that climate change considerations are not sufficiently included into spatial planning policies at the central level,

specifically the Law on Spatial Planning and the Spatial Plan of Kosovo (Strategy for Spatial Planning).

With the **Law No. 04/L-174 on Spatial Planning** being enforced for almost 10 years now (since 2013), the Ministry of Environment, Spatial Planning and Infrastructure (MESPI) has initiated an evaluation of its applicability and effectiveness on the ground. There is already a list of many law interpretation and implementation challenges identified by the local authorities and planning professionals (PRO-Planning 2021). Some of the suggestions for the improvement of the existing Law and planning practices in Kosovo include the returning of focus on urban areas (through Urban Development Plans or specific chapters on the current Municipal Development Plans), reassessment of zoning as a regulatory tool, introduction of better monitoring tools for the implementation of the plans, or contextualization of the SDGs (PRO-Planning 2021). While further discussions at the technical level are ongoing, this represents a momentum to mainstream climate change considerations in this Law as well, with the purpose of accelerating Kosovo's sustainable development.

Through recommendations for the modification of legislation and the key planning document at the national level, this research supports regulatory mainstreaming of climate change considerations into spatial planning (Runhaar et al. 2017). Some of the related climate considerations that could be integrated in the Law include the increased attention to protection from and minimization of climate risks (Schindelegger et al. 2022). Risk-sensitive land use planning supports the identification of respective climate risks, land development practices contributing to enhance them, and hazard-prone areas, with the aim of avoiding new risks or mitigating existing ones, and reducing vulnerabilities, damage and loss (Schindelegger et al. 2022). Through legal mandates, regulations or prohibitions, the Law could be amended to demand the inclusion of climate change considerations into the spatial plans at all levels, and at the same time improve the monitoring and evaluation of the implementation of the respective plans by including climate-related indicators as well (Mary & Gjorgjievski 2020, Schindelegger et al. 2022). In addition, national guidelines for mainstreaming climate change considerations into different spatial aspects (such as habitats, forests, infrastructure etc.) should also be developed (Mary & Gjorgjievski 2020), either through new Administrative Instructions (AI) or revisions of the current ones (e.g., the AI on Spatial Planning Technical Norms).

Furthermore, the Law should be harmonized with other existing laws and strategies related to agricultural land, forestry, water, construction, energy performance in buildings,

cultural heritage, SEAs (PRO-Planning 2021), as well as climate change (once drafted). SEAs can be an effective tool for climate adaptation and mitigation, if they take into consideration climate change impacts into development planning as well (Egging 2013). Possible measures could be inclusion of adaptation measures in land use planning or infrastructure design (Egging 2013), such as road transport.

While the **Spatial Plan of Kosovo (2010-2020)** is outdated and needs to be updated to better orient future development, the reviewing process provides an opportunity for mainstreaming climate change considerations into it, which would support Kosovo's sustainable and more risk-informed development. Even though the current Spatial Plan of Kosovo addresses some aspects of climate change indirectly through its suggested actions, the lack of sufficient understanding (awareness) and analysis of related issues may result in inefficient and inadequate adaptation policies. Therefore, a better comprehension of the related aspects, data and relationships is needed in terms of better planning for adaptation to future climate and leveraging the potential of spatial planning for GHG emissions reductions. For this purpose, increased collaboration with academia and research institutions, as well as continuous investments in increasing institutional capacities on sustainable spatial planning, environmental protection, and climate change management are highly recommended (Caka & Caka 2022, Goranci 2020, Mary & Gjorgjievski 2020, Bekteshi 2020, PRO-Planning 2021) are highly recommended.

Some of the climate change considerations that could be included in the Spatial Plan of Kosovo comprise:

- Climate variables affecting the country at large and its regions,
- Climate change impacts and spatial implications in different geographic regions, ecosystems and landscapes,
- Climate risk and vulnerability assessments (for the whole territory and most impacted regions),
- More demographic data into spatial databases and other analysis (to better estimate carbon footprint, resources needed, responsive capacities, etc.),
- Comprehensive hazard maps (including natural disasters and extreme weather events, dam spills, flood risks, and soil erosion) with specific regional differences,
- Measures to adapt to and reduce the impacts of climate change and related risks (with priority regions identified, and maps with development suitability, as well as

strategies for conservation of protected areas, such as national reserves, parks and sanctuaries),

- Measures to lower emissions (promoting compact, mixed-use and transit-oriented development, encouraging energy generation from renewable sources, protecting and increasing green areas) (Mary & Gjorgjievski 2020, Hamilton & Ingram 2014, Kumar & Geneletti 2015, Caka 2020).

Since spatial planning is a multi-sectorial, integrative and participatory decision-making process, respective plans should be developed in collaboration with all stakeholders (including line ministries, regional entities, local authorities, civil society and communities) and at the same time should be well-aligned across levels (Mary & Gjorgjievski 2020, Caka 2021). Therefore, the new Spatial Plan of Kosovo should also be aligned with other important national strategies and action plans, including the Climate Change Strategy 2019-2028, the National Development Strategy 2022-2030, and other strategies on energy, transportation, waste management, air quality, disaster risk reduction, etc.

In addition, national authorities should collaborate with neighboring countries to address climate change related aspects across borders, but also to share knowledge with one another. For example, North Macedonia has recently implemented a project to mainstream climate change considerations into spatial planning legal frameworks and planning documents, and their experience could be shared with Kosovo as well (Mary & Gjorgjievski 2020).

REFERENCES

1. Bekteshi, H. (2020). *Environmental laws in Kosovo: Implementation of the SAA.* MWP 13th Graduate Symposium. Fiesole, Italy: JMU.
2. Caka, F. & Caka, N. (2022). A scientometric analysis of climate change research in Kosovo. *The International Journal of Climate Change: Impacts and Responses, 15(*1), pp. 73-83. doi:10.18848/1835-7156/CGP/v15i01/73-83.
3. Caka, F. (2020). Moving towards sustainable agricultural land management and practices in Kosovo. *WIT Transactions on Ecology and the Environment, 249,* pp. 21-29. doi:10.2495/SC200031
4. Caka, F. (2021). *Municipal Capacity Gaps and Needs on Integrating Climate Change Aspects into Spatial Planning in Kosovo*. Prishtina, Kosovo: UN-Habitat Kosovo.
5. Crispi, G., & Abubakar, R. (2022). *Urban Planning Law for Climate Smart Cities: Urban Law Module. Law and Climate Change Toolkit*. Nairboi, Kenya: UN-Habitat.
6. Dallhammer, E., Gaugitsch, R., Neugebauer, W., & Bohme, K. (2018). *Spatial planning and governance within EU policies and legislation and their relevance to the New Urban Agenda.* European Committee of the Regions.
7. Directorate-General for Neighbourhood and Enlargement Negotiations (DG NEAR). (2021). *Commission Staff Working Document. Kosovo 2021 Report.*
8. Egging, M. (2013). *Climate change in Strategic Environmental Assessment: A research on the extent of climate change incorporation in Environmental Statements belonging to Dutch structure visions and underlying explanations.* The Netherlands: Wageningen University.
9. Global Youth Climate Network (GYCN). (2021). *Climate Action Position Paper.* Washington, D.C.: GYCN.
10. Goranci, S. (2020). *Ongoing spatial planning reform and development in Kosovo: Integrating sustainability, climate and environmental aspects into spatial planning processes and products.* 2020 World Bank Conference on Land and Poverty. Washington, D.C.: World Bank.
11. Hamilton, C., & Ingram, J. (2014). *Planning for Climate Change: A strategic, values-based approach for urban planners – Toolkit.* Nairobi, Kenya: UN-Habitat.
12. Institute for Spatial Planning (ISP). (2010). *Spatial Plan of Kosovo – Strategy for Spatial Development.* Prishtina, Kosovo: Ministry of Environment and Spatial Planning (MESP).
13. Institute for Spatial Planning (ISP). (2019). *Draft Zoning Map of Kosovo 2020-2028+*. Prishtina, Kosovo: Ministry of Environment and Spatial Planning (MESP).
14. Jiang, Y., Hou, L., Shi, T., & Gui, Q. (2017). A Review of Urban Planning Research for Climate Change. *Sustainability, 9,* 2224. doi:10.3390/su9122224
15. Kumar, P., & Geneletti, D. (2015). How are climate change concerns addressed by spatial plans? An evaluation framework, and an application to Indian cities. *Land use policy, 42,* pp. 210-226. doi:10.1016/j.landusepol.2014.07.016
16. Mary, L., & Gjorgjievski, N. (2020). *Mainstreaming Climate Change considerations into Spatial Planning. Recommendations for Country level plans and Regional level plans*. Skopje, North Macedonia: Ministry of Environment and Physical Planning, UNDP, GEF.
17. Ministry of Environment, Spatial Planning and Infrastructure (MESPI). (2018). *Climate Change Strategy 2019-2028.* Prishtina, Kosovo: MESPI.
18. PRO-Planning. (2016). *Sfidat e planifikimit dhe menaxhimit hapësinor në Komuna. Roli i shoqërisë civile në adresimin e tyre*. Prishtina, Kosovo: EC Ma Ndryshe.

19. PRO-Planning. (2021). *Reforma ligjore e planifikimit hapësinor të Kosovës në qorrsokak?!* Prishtina, Kosovo: EC Ma Ndryshe.
20. Pütz, M., Kruse, S., & Butterling, M. (2011). *Assessing the Climate Change Fitness of Spatial Planning: A Guidance for Planners.* ETC Alpine Space Project CLISP.
21. Regional Cooperation Council (RCC). (2020). *Sofia Declaration on the Green Agenda for the Western Balkans.* European Union.
22. Runhaar, H., Wilk, B., Persson, A., Uittenbroek, C., & Wamsler, C. (2017). Mainstreaming climate adaptation: taking stock about "what works" from empirical research worldwide. *Regional Environmental Change 18,* pp. 1201–1210. doi:10.1007/s10113-017-1259-5
23. Schindelegger, A., Steinbrunner, B., & Ertl, M. (2022). *Climate-Resilient Spatial Planning in the Alps. EUSALP Action Group 8.* Vienna, Austria: CLISP-ALP.
24. UN-Habitat. (2015). *International Guidelines on Urban and Territorial Planning.* Nairobi, Kenya: UN-Habitat.
25. United Nations Kosovo Team (UNKT). (2020). *Common Kosovo Analysis.* Prishtina, Kosovo: UNKT.