

THE PERI-URBAN SPACE OF CHISINAU MUNICIPALITY: CONCEPTUAL DELIMITATIONS AND IMPLICATIONS FOR PUBLIC POLICIES

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Abstract: *The article analyzes the peri-urban space of Chisinau municipality from the perspective of its conceptual delimitations and their implications for territorial public policies. The aim of the research is to critically examine the main approaches to the peri-urban and to highlight the relevance of this concept for territorial planning, regional development, and peri-urban governance in the Republic of Moldova. The study is based on the analysis of international, Romanian, and national specialized literature, as well as on the examination of the normative and strategic framework relevant to territorial development. Methodologically, the research has a theoretical-analytical and synthetic character and is oriented toward clarifying the relationship between concepts such as peri-urban, suburban, functional urban area, urban-rural continuum, and urban influence area. The findings show that peri-urban space cannot be treated as a mere extension of the city or as a peripheral rural territory, but must be approached as a hybrid, dynamic, and functional territory. It is subject to pressures generated by urban expansion, land conversion, daily mobility, and socio-economic transformations. For the Republic of Moldova, the study highlights the need to integrate the peri-urban dimension more explicitly into regional development policies, territorial planning, and the management of localities under the influence of Chisinau municipality. Such an approach may contribute to more coherent territorial governance and to reducing fragmentation between urban, rural, and regional policies.*

Keywords: *peri-urban space; Chisinau municipality; conceptual delimitations; public policies; regional development; territorial governance.*

JEL: R11, R14, R58, O18, Q15

Introduction

In the context of intensifying urbanization processes, peri-urban space has become an important analytical category for understanding current relations between city and countryside. It can no longer be interpreted only as a physical contact zone between the urban and the rural environment. It must be analyzed as a hybrid territory in which residential, economic, agricultural, ecological, and institutional functions intersect (Perpina Castillo et al., 2023; Cattaneo et al., 2022; Ianos et al., 2024). The relevance of the topic results from the fact that peri-urban spaces concentrate many of the contradictions of contemporary territorial development. On the one hand, they support the expansion of housing, the location of new investments, and the diversification of economic activities. On the other hand, these processes may generate landscape fragmentation, the reduction of agricultural land, pressure on infrastructure, and insufficient institutional coordination (Spyra et al., 2021; Spyra et al., 2025; Caizer et al., 2026; Matei, 2024). Therefore, the conceptual delimitation of the peri-urban is not only a theoretical exercise. It is, in fact, a condition for substantiating appropriate public policies. The motivation for choosing this topic is related to the doctoral research on the socio-economic reconfiguration of the peri-urban area of Chisinau municipality in the context of sustainable regional development. In the Republic of Moldova, this issue is particularly relevant. The relations between Chisinau municipality and the adjacent localities are dynamic, but the conceptual and institutional framework used to explain them remains insufficiently defined. Existing studies highlight the strong

polarization exerted by the capital and the territorial disparities between Chisinau and the other development regions (Matei and Hachi, 2020; Mariciuc and Bulat, 2020). Research on the Chisinau agglomeration also demonstrates significant spatial and functional transformations in nearby localities, determined by demographic pressure, weakly controlled urban development, and the intensification of land relations (Sirbu and Cujba, 2020).

The aim of the study is to critically examine the main conceptual delimitations of peri-urban space and to highlight their implications for territorial public policies. To achieve this aim, the article pursues three objectives: 1. to critically analyze the main conceptual approaches to peri-urban space; 2. to clarify the relationship between the peri-urban, the suburban, the functional urban area, and the urban-rural continuum; 3. to evaluate the implications of these delimitations for the development of public policies, territorial planning, and peri-urban governance.

From a methodological point of view, the research has a theoretical-analytical and synthetic character and is based on the critical analysis of specialized literature and on the comparative use of studies relevant to the European, Romanian, and Moldovan contexts. The article analyzes works on peri-urban dynamics, land-use conversion, the protection of open spaces, urban-rural relations, and planning dysfunctions in territories under the pressure of urban expansion (Spyra et al., 2021; Ianos et al., 2024; Caizer et al., 2026). For the case of the Republic of Moldova, the focus is placed on studies concerning the Chisinau agglomeration, the expansion of built-up areas, changes in land structure, and the relations between the urban core and peri-urban localities (Sirbu and Cujba, 2020; Matei and Hachi, 2020).

In the Republic of Moldova, the peri-urban dimension must be integrated more explicitly into territorial planning and regional development policy. These documents often operate with notions such as influence area, growth pole, or functional urban area, but they insufficiently valorize the peri-urban category (Mariciuc and Bulat, 2020; Law of the Republic of Moldova No. 438/2006). In previous periods, peri-urban management was not developed as a distinct direction of public intervention, although the transformations around Chisinau municipality show the need for an integrated, anticipatory, and coordinated approach.

Conceptual delimitations of peri-urban space

Peri-urban space is one of the most problematic and relevant analytical categories in contemporary urban and regional geography. The difficulty of defining it derives from its intermediate position between the urban and the rural. Peri-urban space does not fully identify with either of these categories. In the specialized literature, the peri-urban is interpreted as a territory of functional and socio-economic interference. It results from the expansion of the city into surrounding spaces and from the reconfiguration of urban-rural relations under the influence of mobility, the land market, and contemporary economic transformations (Perpina Castillo et al., 2023; Cattaneo et al., 2022; Ianos et al., 2024).

The first essential dimension of conceptual delimitation concerns the relationship between the peri-urban and the traditional urban-rural dichotomy. Recent studies consider this dichotomy insufficient for capturing current territorial realities, because an urban-rural continuum develops between the city and the rural proper. This continuum is characterized by different degrees of density, accessibility, connectivity, mobility, and access to services. From this perspective, the peri-urban no longer appears as a marginal or residual zone. It becomes a strategic interface where flows of population, goods, services, information, and investment are concentrated, with direct effects on regional development (Perpina Castillo et al., 2023; Cattaneo et al., 2022).

Romanian and Central European literature provides several similar, but not identical, definitions. Pecingina (2012) describes the peri-urban area as an area located around urban agglomerations, subject to the advance of urban expansion, a place of contact and confrontation between the urban world and the rural world, with profound demographic, economic, social, and cultural consequences. In the same direction, Benedek (2019) emphasizes that peri-urban areas must be understood as

functional territorial units that provide mutual and complementary advantages to the actors involved, but only under the conditions of effective territorial governance structures. Thus, the peri-urban is not only a spatial reality, but also an institutional and relational one.

At the conceptual level, the distinction between peri-urban, suburban, and functional urban area is useful. These concepts partly overlap, but they are not equivalent. The suburban is associated mainly with residential expansion and low-density morphology at the edge of the city. The functional urban area emphasizes mobility relations, commuting, and economic integration. The peri-urban is distinguished by its processual and hybrid character and designates a territory undergoing transformation, in which urban functions disseminate into formerly rural spaces (Cattaneo et al., 2022; Perpina Castillo et al., 2023; Ianos et al., 2024).

This terminological diversity has important methodological and practical consequences. Sareen and Haque (2023), in a bibliometric synthesis of research on peri-urban planning, show that the field has expanded beyond classical definitions and currently includes topics such as ecosystem services, green infrastructure, spatial equity, land-use change, investment pressures, and multiscale governance. In other words, peri-urban space can no longer be reduced to the status of a simple urban "fringe". It must be analyzed as a complex and multifunctional territory in which residential, agricultural, ecological, economic, and political-administrative interests intersect and compete.

For the Republic of Moldova, the problem of conceptual delimitation is even more relevant because strategic and public policy documents more frequently operate with notions such as "influence area", "growth pole", or "functional urban area", without clearly enough integrating peri-urban space as a distinct object of analysis and intervention. The study on urban development centers in the Republic of Moldova emphasizes the polarization relations exercised by cities, accessibility, services, and the territorial influence of urban centers. However, it does not systematically develop an explicit conceptualization of the peri-urban, although this space is implicitly involved in all these relations (Mariciuc and Bulat, 2020). At the same time, Matei and Hachi (2020) highlight the determining role of urban and peri-urban space in the territorial organization of the Centre Development Region, underlining its strong dependence on Chisinau and on the polarizing dynamics of the capital.

Therefore, the conceptual delimitation of peri-urban space must be understood as an indispensable exercise not only for theoretical rigor, but also for substantiating public intervention. Without clarifying its hybrid and relational nature, the peri-urban risks remaining trapped between urban and rural policies, without adequate instruments for planning, coordination, and regulation.

Transformations of peri-urban space in the context of contemporary urbanization

The dynamics of peri-urban space are closely linked to contemporary processes of urbanization, metropolization, and economic restructuring. The specialized literature shows that peri-urbanization is a continuous process of transforming territories located at the edges of cities. It is determined by the expansion of built-up and artificialized surfaces over agricultural, natural, semi-natural, or undeveloped land. This expansion is driven by multiple factors: demand for housing near the city, the desire to access cheaper land, transport infrastructure, investment dynamics, increased mobility, and changing lifestyles (Spyra et al., 2025).

One of the most important consequences of these processes is land-use conversion. Spyra et al. (2021) show that peri-urbanization manifests directly through the transformation of agricultural land, forests, and other open spaces into artificial surfaces, with effects on biodiversity, ecological connectivity, and the provision of ecosystem services. In all regions analyzed by the authors, peri-urban spaces are under constant pressure. Their protection requires not only conservation measures, but also a reconsideration of the relationship between built-up growth and the maintenance of ecological balance.

At the same time, peri-urbanization does not mean only physical expansion. It also implies functional restructuring. In these territories, commuting intensifies, economic activities diversify, and new forms of entrepreneurship emerge. The social composition of the population also changes. Matei (2024),

analyzing the peri-urban area of Suceava municipality, shows that proximity to urban centers reduces dependence on agriculture. Peri-urban communities gradually orient themselves toward production, services, and activities connected to the urban market. Similarly, research on the Cluj metropolitan area highlights rapid demographic growth in peri-urban communes and massive residential development. These transformations are accompanied by a fragmented legislative and institutional framework that is insufficiently adapted to managing change (Galos, 2025).

In post-socialist spaces, these processes acquire additional particularities. Caizer et al. (2026) demonstrate that urban expansion in Central and Eastern Europe cannot be understood outside the post-socialist context, which radically changed land ownership, planning mechanisms, and institutional relations. The liberalization of the land market, administrative decentralization, and the lack of effective regional or metropolitan policies favored fragmented developments that are often difficult to manage. In Romania, after 1990, peri-urbanization was stimulated by a change in the housing ideal, from collective housing to individual housing with its own green space, as well as by greater autonomy of local authorities in attracting investments and authorizing construction. In the absence of higher-level territorial coordination, this autonomy generated competition between administrative-territorial units and accentuated development incoherence.

The same logic is confirmed by Galos (2025), who links the development of peri-urbanization in Romania to the withdrawal of the state from housing policies, accelerated privatization, and the emergence of land and real estate markets after 1990. The author shows that the liberalization of land ownership and the facilitation of the conversion of agricultural land into buildable land created favorable conditions for uncontrolled urban expansion and the development of satellite residential complexes near economically dynamic cities. In many cases, this process was presented as a housing solution "closer to nature". In practice, however, it generated the profound transformation of rural spaces, the destruction of natural elements, and increased dependence on car mobility.

In this respect, the peri-urban is marked by a structural contradiction. Although it responds to real needs for housing, accessibility, and economic expansion, it frequently produces major dysfunctions. Caizer et al. (2026) emphasize that excessive residential development in the peri-urban often leaves too little space for community services, green infrastructure, and ecologically balanced areas. The lack of coherence between the urban and the peri-urban generates functional blockages that directly affect quality of life. In addition, these processes are amplified by the fact that the pace of real estate development exceeds the capacity of local authorities to regulate, equip, and coordinate the territory adequately.

For the Republic of Moldova, the case of Chisinau is particularly relevant. The research conducted by Sirbu and Cujba (2020) on Stauceni commune demonstrates that the peri-urban area of Chisinau is undergoing a period of significant transformation, characterized by weakly controlled urban development, the intensification of land relations, and changes in land use. The authors underline that, in the absence of a rapid adaptation of spatial planning to the pace of demographic and investment changes, there is a risk of compromising infrastructure projects and wasting land in suburban spaces. At the same time, Matei and Hachi (2020) show that the Centre Development Region has the lowest degree of urbanization among the development regions of the Republic of Moldova, which strengthens the centrality of Chisinau and its pressure on peri-urban territories.

Therefore, the transformations of peri-urban space must be interpreted as complex processes of territorial reorganization. They are not only effects of urban growth. They combine changes in land use, mobility, economic restructuring, lifestyle changes, and institutional tensions. In the absence of adequate governance, these transformations may lead to fragmentation, territorial competition, and imbalance.

Implications for public policies and territorial governance

The complexity of peri-urban space generates direct implications for public policies and territorial governance. First, conceptual ambiguity produces institutional ambiguity. If the peri-urban is not

defined as a distinct territory, it remains between urban and rural policies. In practice, this space is treated either as a secondary extension of the city or as a rural territory undergoing transformation. In both situations, dedicated instruments for coordination, regulation, and intervention are missing (Cattaneo et al., 2022; Spyra et al., 2025).

This problem is also visible in the Republic of Moldova. The normative framework includes important instruments for regional development, territorial planning, and urbanism. However, the peri-urban category is not sufficiently valorized as an explicit object of public policies. Law No. 438/2006 on regional development in the Republic of Moldova defines functional development regions, interregional cooperation, the institutional framework, and the instruments of regional development policy (Law No. 438/2006). These provisions provide a basis for coordinating territorial development, but they do not formulate a distinct approach for peri-urban and suburban areas. Therefore, the integration of the peri-urban into public policies must start from the existing regional framework, while also completing it with functional planning instruments around major urban centers.

An additional reference point is the Urbanism and Construction Code No. 434/2023. It establishes a unified normative framework for territorial planning, urbanism, the authorization and execution of design and construction works (Urbanism and Construction Code No. 434/2023). From the perspective of the peri-urban, this framework is important because it regulates urban planning documentation and discipline in territorial planning. However, the mere existence of urban planning rules is not sufficient. They must be connected with regional development policy, mobility plans, the protection of agricultural land, and the management of public services in localities under the influence of the city.

The National Plan "Building European Moldova" - 20 Government Actions confirms the current orientation toward the modernization of localities, infrastructure, energy efficiency, water and sanitation, roads, and public services (Government of the Republic of Moldova, 2023). These directions are also relevant for peri-urban spaces. Around Chisinau, infrastructure modernization cannot be separated from residential pressures, commuting, construction expansion, and the need for coordinated public services. Therefore, the peri-urban may become an operational category that links the modernization of localities with territorial planning and regional development.

Land-use planning remains one of the most important directions of intervention. European studies show that effective policies must maintain the balance between built-up and non-built-up areas. They must protect fertile agricultural land and integrate green infrastructure into territorial strategies. Spyra et al. (2021) show that coherent legal and planning instruments are needed at the regional level, including green-blue corridors, land readjustment mechanisms, and climate change adaptation measures. In the absence of these instruments, the peri-urban becomes a space of confrontation between housing, agriculture, business, recreation, nature protection, and the public interest.

Public policies for the peri-urban also require interinstitutional coordination. Spyra et al. (2025) show that effective peri-urban governance cannot rely on a single instrument. It requires combinations of legal, economic, financial, participatory, and methodological instruments. These "governance mixes" can mobilize public and private resources. They can include multiple actors and respond simultaneously to challenges related to climate change, the circular economy, public participation, and sustainability. For the Republic of Moldova, this approach is relevant because the peri-urban space of Chisinau exceeds the administrative limits of the municipality and involves several localities, competences, and interests.

An important shortcoming of current policies is their dependence on predominantly top-down approaches. A top-down approach is understood as a model in which decisions are formulated at higher administrative levels and subsequently applied at the local level. Spyra et al. (2025) observe that many peri-urban policies depend excessively on vertical regulations and public funds. Citizen and local actor participation often remains limited. However, the contested character of the peri-urban

requires the involvement of communities, landowners, investors, local authorities, and regional structures. Without such participation, policies risk remaining formal or being blocked at the implementation stage.

The experience of post-socialist spaces shows that lack of coordination may accentuate territorial dysfunctions. Caizer et al. (2026) link uncontrolled peri-urban development in Romania to competition between local administrations, the lack of updated metropolitan strategies, and insufficient cooperation between authorities. This finding is also useful for the Republic of Moldova. Around Chisinau, the lack of a clear approach to the suburban and the peri-urban may maintain development within a logic of dispersion and land pressure. Integrating this category into public policies would allow a transition from fragmented management of urban expansion to coordinated territorial management.

Consequently, the major implication for public policies is the recognition of the peri-urban as a distinct territory of planning and governance. This requires several concrete directions: clarifying conceptual and methodological delimitations; including the peri-urban in urban and regional development strategies; metropolitan and intercommunal coordination; correlating residential development with infrastructure, services, and mobility; protecting agricultural land and open spaces; and using mixed instruments of regulation, stimulation, and participation. Only in this way can the peri-urban be managed as a key space of sustainable regional development, not as a secondary effect of urban expansion.

Conclusions

The analysis confirms that peri-urban space represents an essential territorial and conceptual category for understanding contemporary transformations produced at the urban-rural interface. Its complexity derives from the hybrid, dynamic, and relational character of this type of territory, in which processes of urban expansion, mobility, functional change, and land-use conversion occur simultaneously and interdependently (Perpina Castillo et al., 2023; Cattaneo et al., 2022; Ianos et al., 2024). In this regard, the study has shown that the peri-urban cannot be treated either as a simple extension of the city or as a peripheral rural territory. It must be approached as a distinct territorial category of organization and intervention, influenced simultaneously by urban, rural, economic, institutional, and ecological logics.

A first important result of the research is that the conceptual delimitation of peri-urban space remains a fundamental condition for the rigor of scientific analysis and for the coherence of public intervention. The diversity of definitions and criteria used in the specialized literature—morphological, functional, administrative, economic, or mobility-related—reflects not only the interpretative complexity of the concept, but also the difficulty of operationalizing it in a unified manner (Benedek, 2019; Pecingina, 2012; Sareen and Haque, 2023). At the same time, this very plurality demonstrates that the peri-urban must be understood in a relational and processual key, not in a strictly descriptive one.

A second result concerns the nature of the transformations that define this type of territory. The research has shown that peri-urbanization involves the expansion of built-up areas, the reorganization of economic and residential functions, the intensification of commuting, and increased pressure on agricultural land and open spaces. It also produces significant imbalances between the pace of territorial growth and the capacity for regulation and infrastructure provision (Spyra et al., 2021; Spyra et al., 2025; Caizer et al., 2026). In post-socialist spaces, these processes are accentuated by land market liberalization, administrative fragmentation, and the weakening of planning control, which favor discontinuous, dispersed, and difficult-to-manage forms of development (Ianos et al., 2024; Galos, 2025).

Regarding the Republic of Moldova, the analysis allows the conclusion that the study of peri-urban space is particularly relevant in the context of the polarization exerted by Chisinau municipality and

the territorial disparities existing between the capital and the development regions. The case of Stauceni commune and the observations on the dynamics of the Centre Development Region demonstrate that peri-urban territories around Chisinau face accelerated processes of functional and spatial transformation, marked by demographic pressures, land conversions, and insufficiently controlled urban development (Sirbu and Cujba, 2020; Matei and Hachi, 2020). This situation confirms the need for a clearer and more systematic approach to the peri-urban in national research and in public policy documents.

At the applied level, the major conclusion is that peri-urban space must be recognized as a distinct object of territorial planning and governance. Approaching it exclusively through urban or rural policies is insufficient because its problems exceed administrative boundaries and require intercommunal, metropolitan, and regional coordination. In this respect, the consulted literature supports the need for integrated instruments capable of correlating residential development, infrastructure, mobility, the protection of agricultural land, and the conservation of open spaces (Spyra et al., 2021; Spyra et al., 2025; Mariciuc and Bulat, 2020). For the Republic of Moldova, this means that urban and regional development policies should integrate the peri-urban dimension more explicitly, especially around the main polarizing centers (Chisinau and Balti).

In conclusion, the study demonstrates that peri-urban space is not a simple urban periphery, but a strategic territory of contemporary development. This space concentrates opportunities for growth and functional integration, as well as risks of imbalance and fragmentation. Clarifying the conceptual delimitations of the peri-urban and analyzing its implications for public policies represent a necessary theoretical undertaking. At the same time, these delimitations are a condition for formulating territorial interventions that are more coherent, more integrated, and more oriented toward sustainability. In the case of the Republic of Moldova, such a perspective may contribute to understanding the reconfiguration of the space around Chisinau and may support the substantiation of public policies capable of managing the relations between the urban, peri-urban, and rural more effectively.

References

1. Benedek, J. (Ed.). (2019). *Studiu de fundamentare privind definirea zonelor periurbane din județul Cluj în scopul realizării planului de amenajare a acestora*. Presa Universitară Clujeană.
2. Caizer, A. D., Popa, N., Ile, A. L., and Dragan, A. (2026). *Urban sprawl and territorial dysfunctions: a spatial analysis of peri-urban dynamics in a post-socialist context*. *Land*, 15(3), Article 367. <https://doi.org/10.3390/land15030367>
3. Cattaneo, A., Adukia, A., Brown, D. L., Christiaensen, L., Evans, D. K., Haakenstad, A., McMenomy, T., Partridge, M., Vaz, S., and Weiss, D. J. (2022). *Economic and social development along the urban-rural continuum: new opportunities to inform policy*. *World Development*, 157, Article 105941. <https://doi.org/10.1016/j.worlddev.2022.105941>
4. Urbanism and Construction Code No. 434/2023. (2024). Official Monitor of the Republic of Moldova, No. 41-44, art. 61.
5. Matei C. and Hachi, M. (2020). *Evoluția spațiului urban și periurban în regiunea de dezvoltare Centru a R. Moldova în contextul dezvoltării regionale*.
6. Government of the Republic of Moldova. (2023). National Plan "Building European Moldova" - 20 Government Actions.
7. Galos, D. A. (2025). *Learning from the periurban: housing dynamics and policy challenges in Romania's metropolitan areas*. International Conference ENHR Grand Paris 2025 – Affordable Housing in Greening Cities, Paris, France.
8. Law No. 438-XVI of 28 December 2006 on regional development in the Republic of Moldova. (2007). Official Monitor of the Republic of Moldova, No. 21-24, art. 68.
9. Ianos, I., Coheci, R.-M., and Petrisor, A.-I. (2024). Exploring the relationship between the dynamics of the urban-rural interface and regional development in a post-socialist transition. *Urban Science*, 8(2), Article 47. <https://doi.org/10.3390/urbansci8020047>
10. Mariciuc, A., and Bulat, V. (2020). *Studiu privind centrele urbane de dezvoltare în Republica Moldova* (Versiunea extinsă). Ministry of Agriculture, Regional Development and Environment; GIZ/MSPL.

11. Matei, D. (2024). The development of peri-urban areas in Romania: A case study of Suceava municipality. In *Competitivitate și inovare în economia cunoașterii* (Vol. 1, pp. 350–356). National Institute for Economic Research. <https://doi.org/10.36004/nier.cecg.I.2024.18.34>
12. Pecingina, I.-R. (2012). Spațiile naturale periurbane și impactul antropic. *Analele Universității „Constantin Brâncuși” din Târgu Jiu, Seria Inginerie*, (3), 294–299.
13. Perpina Castillo, C., van Heerden, S., Barranco, R., Jacobs-Crisioni, C., Kompil, M., Kucas, A., Aurambout, J. P., Batista e Silva, F., and Lavalle, C. (2022). Urban–rural continuum: An overview of their interactions and territorial disparities. *Regional Science Policy & Practice*, 15(4), 729–768. <https://doi.org/10.1111/rsp3.12592>
14. Sareen, S., and Haque, M. (2023). Exploring the evolution and trends in the peri-urban planning: A bibliometric overview. *International Journal of Sustainable Development and Planning*, 18(12), 3855–3866. <https://doi.org/10.18280/ijstdp.181217>
15. Sirbu, R., and Cujba, V. (2020). Urbanization effects on land use changes within Chisinau urban agglomeration: Case study – Stauceni commune. *Acta Scientiarum Polonorum. Administratio Locorum*, 19(4), 241–253. <https://doi.org/10.31648/aspal.5408>
16. Sochirca E. (2020). Aspecte privind evoluția numerică a populației municipiului Chișinău în perioada 1990-2019. *Provocările și tendințe actuale în cercetare componentelor naturale și socio-economice ale ecosistemelor urbane și rurale* (pp. 28-31).
17. Spyra, M., Cortinovis, C., and Ronchi, S. (2025). An overview of policy instruments for sustainable peri-urban landscapes: Towards governance mixes. *Cities*, 156, Article 105508. <https://doi.org/10.1016/j.cities.2024.105508>
18. Spyra, M., Kleemann, J., Calò, N. C., Schürmann, A., and Fürst, C. (2021). Protection of peri-urban open spaces at the level of regional policy-making: Examples from six European regions. *Land Use Policy*, 107, Article 105480. <https://doi.org/10.1016/j.landusepol.2021.105480>