

Lithuania at the crossroads: experience from the 'making' of a National Spatial Plan

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Abstract: For the past decades, Lithuania has been facing various challenges, including a massive emigration, shrinking towns and cities as well as a rapidly changing demographic, social and economic structure of the society. Inevitably, such dynamics produced a 'spatial imprint' in both, urban and rural areas. At the same time, different levels of governance attempt to catch up with such an accelerated development, lacking alignment, values and collectively agreed directions. Due to these pressing and complex challenges, a very recent process has been initiated by the Ministry of the Environment, aiming to move the existing national strategic planning approach to the next level and to develop an active, inclusive Comprehensive Spatial Plan of the Republic of Lithuania (CSPRL). The plan and the process behind it, are expected to set a new, transformative and innovative direction, addressing the future of the entire territory of the Lithuanian Republic and bringing all sectoral strategies into alignment. At the spotlight of the ongoing discussions are the definition of the nation-wide values, ambitions and vision, determining the future roles of existing urban centers and potentially redefining their relationship with suburban and rural 'backlands'.

Keywords: transformation, value, vision, integrative development

Introduction

This contribution reflects upon the overall approach, process and methodology of the ongoing national Comprehensive Spatial Plan development in Lithuania. The transformational nature of the current events in the Lithuanian spatial planning scene shapes the core of the content and discussions in this article. The aspiration of the planning experts and political actors presently driving the development of the Comprehensive Spatial Plan of the Republic of Lithuania (thereafter - CSPRL) reaches beyond the established planning routines and aims to create a 'living' spatial planning framework capable to overarch and align all other national strategies and plans as an umbrella framework.

Following the collapse of Soviet Union, Lithuania went through remarkable shifts and in the ways, how national spatial organisation, policy making, stakeholder involvement and implementation have been approached: starting off with heavily centralized, top-down controlled spatial planning system on all levels and rapidly transitioning into market driven, neoliberal planning practice, based on the Anglo-Saxon planning traditions. This transformation has taken place in the relatively short time of nearly thirty years, facing challenges in the establishment of a mature and democratic planning culture.

The current spatial planning practice in Lithuania contains characteristics of two quite contradictory mindsets and approaches in addressing the spatial distribution and allocation of the economic, cultural, environmental and social interests and priorities and related negotiation between the public and private interests. The top-down, national planning and policy setting, still featuring remaining traces of the centralized planning inheritance of the past, collides with the neoliberal local spatial development dynamics, driven predominantly by the private and sectoral interests, controlled using zoning and land-use instruments. This situation generates a variety of conflicting interests and fragmented approaches, exposing an urgent need for the definition of collectively agreed values and priorities, joint vision, alignment, assessment, and cross-sectoral integration of development directions, followed by the consistent and effective implementation on the local level.

At the heart of the described issues are the numerous general misperceptions concerning the role that space takes up in the context of political and economic development priorities and debates. The understanding of space as a key asset, resource and catalyst for the cultural, environmental, economic and social transformation, shaping the identity of a country, has not yet been sufficiently anchored in the collective consciousness of the population, political actors and the key stakeholders which drive the process and direction of the national development.

For the most part, the focus of this paper lies on the elements of fundamental transformation, process and methodologies enveloping the spatial development dynamics in Lithuania. However, some specific contents (such as sustainability principles and two alternative development schemes) will be touched upon, to convey and illustrate significant moments and the nature of development dynamics and changes.

CSPRL development stages and structure

Following the national law and regulations of Lithuania, National Spatial Plans are developed for a period of at least twenty years (concept), while the related detailed local plans (solutions) are valid for ten years. Since the Restoration of Independence of the Republic of Lithuania, it is the second time that a National Spatial Plan is being prepared. The CSPRL - currently under development - is in the hands of the Ministry of the Environment of the Republic of Lithuania (thereafter – MoE) and is scheduled for official approval by the Seimas of the Republic of Lithuania in autumn 2019. Assuming a successful approval, it will be valid until 2050, the related detailed local plans (solutions)– until 2030.

The MoE initiated a four-stage tendering process targeting the development of a ‘New Generation’ CSPRL, which is expected to outline a clear vision and values as well as set the direction for the national development. The four tendering stages entail: 1) the assessment of the existing situation (completed in 2018); 2) conceptual development of the CSPRL (tendering completed, development ongoing); 3) Strategic Environmental Impact Assessment (tendering completed, development started) 4) development of detailed local concepts (solutions).

At present, the winning expert team is engaged in the second stage: conceptual development of the CSRLP, which is set for completion in autumn 2019. Two of the authors: Kristina Gaučė and Giedrė Ratkutė-Skačkauskienė are the leaders of the Lithuanian expert-team; the two remaining authors: Daiva Jakutyte-Walangitang and Nikolas Neubert served the Lithuanian team in the process as

external, international advisors. Thus, the collectively generated experience and knowledge, reflected in this contribution, compiles the outcomes derived from an almost a year long trans-disciplinary collaboration.

Expectations towards the CSPRL development

According to numerous comparative analyses by different authors from a variety of EU countries (Reimer et al 2014), the nature of Lithuanian spatial planning system and practice (this also applies to the majority of post-Soviet countries and the UK (Cullingworth, Nadin 2001)) tends to be rather “land use planning” than “comprehensive planning” due to the lack of spatial, regional and economic planning traditions and integrated, multi-sectoral approach. Thus, turning to a comprehensive spatial planning approach that aims for the development of a clear, integrative and flexible spatial document, backed and owned by the key actors and stakeholders, communicated, discussed and agreed across different layers of governance is a new and promising direction that Lithuanian planning culture has taken up. However, such transformation naturally encounters challenges and conflicting interests on its way, especially bearing in mind its ambitious aims, pushing the existing sectoral as well as collaborative boundaries and expectations. The key objectives of the CSPRL contain, but are not limited to:

- Enabling a more effective implementation of all national sectoral long-term strategies and actions by exposing their spatial relevance and alignment, minimizing conflicting spatial functions and use.
- Aligning and guiding the national economic, environmental and social development by the means of budgetary distribution, based and in accordance with the guiding principles compiled in CSPRL.
- Finding an adequate and meaningful path and format for the establishment of sustainable spatial development principles, capable to accommodate, align and guide all sectoral national strategies in one direction while being sufficiently flexible and assimilative concerning future (long-term) trends, changes and adjustments.
- Establishing a robust foundation for an effective decision-making process, based on well informed anticipation, forecasting and appropriately planned actions, avoiding the ramifications of delayed and fragmented reactions to existing and arising challenges.
- Identifying the key principles and best-practice examples for an effective integration of European and international sustainability aims and goals (e.g. SDG's).
- Defining and applying most suitable methodologies enabling a coherent, consistent and integrated approach to the development of an agile Comprehensive Spatial Plan.
- Deriving the key principles from such European national spatial planning examples that have proven successful across numerous European cases. Discerning the main elements potentially relevant and useful in the context of Lithuanian national spatial planning from identified examples while taking in to account the diverse and locally specific processes behind national planning experiences, cultures and perspectives.

- Addressing the question, how the present planning process can enable, open up and encourage adequate forms and formats of the key local actor and stakeholder engagement as well as public participation (vs. information), turning the shaping of the future of Lithuania into an authentic and collective effort reflected in the equally collective ownership of the plan.

All the points outlined above aim to further, connect and maximise the integration of already existing processes, knowledge, data, and debates in the portfolio of the Government of the Republic of Lithuania.

The CSPRL development steps

To ensure an extensive consultation and adequate integration of experts, representatives of different political and governing bodies as well as to create a platform for discussion among the general public, the content of the CSPRL conception (second tender stage) has been gradually elaborated in four steps:

- First – setting up a consistent methodology and approach for the development of CSPRL;
- Second - identification of the key nation-wide values, ambitions and vision for an aligned and congruent development of Lithuania;
- Third– spatial assessment and allocation of the main attributes of the vision and related functional priorities. Elaborating two alternative spatial development paths;
- Fourth – definition of respective recommendations related to the upcoming development of detailed local concepts (solutions), national sectoral strategies and related legal acts.

The conception of the CSPRL in the format of specifically focused steps has enabled the core development team, comprised of 13 transdisciplinary expert groups, to engage in a broader discussion, including transdisciplinary perspectives in each of the development steps. Most particularly, the Public Forums, organized approximately every two months, enabled the carrying on of discussion, ‘anchoring’ the main topics and raising awareness beyond the involvement of experts.



Understanding development priorities – exploring national values, ambition and vision

This section briefly touches on the key CSPRL content related elements, principles and discussions. The core principles of CSPRL development are based on the universally recognised triple bottom line for sustainable development (Figure 1). The overall concept rests upon the interlinking of the triple bottom line and core values (specified and governed by the Constitution of the Republic of Lithuania), ambitions and vision for the next 30 years of national development.

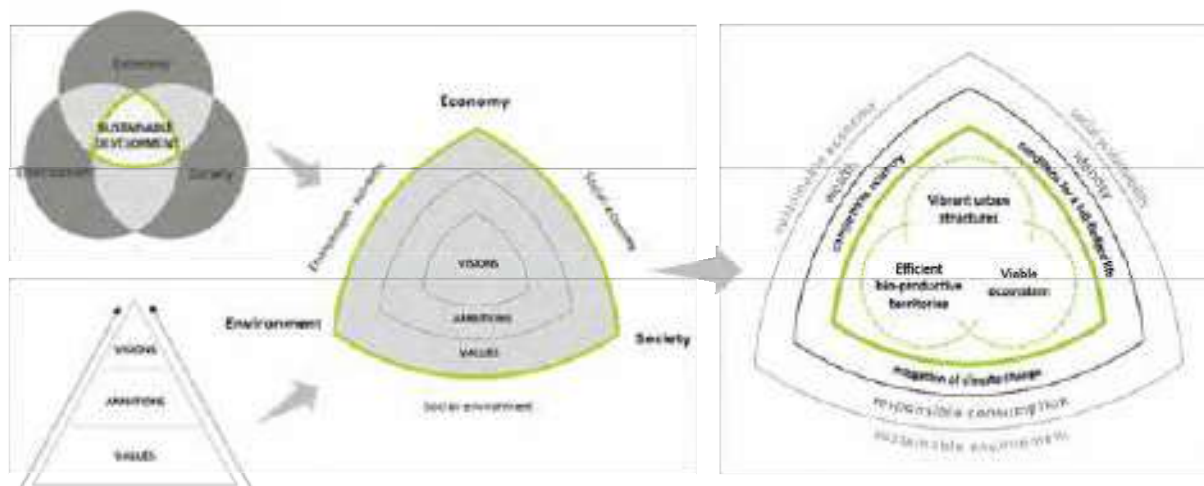


Figure 1 Foundation, underlying sustainable development of the Republic of Lithuania

High level of complexity that understanding of sustainability entails, raises the question, how it can be broken down and made ‘actionable’? How will the application of sustainability principles affect different sectors and systems of Lithuania? What are the concrete implications that these development goals and aims will have on cities, regions, rural areas, etc.? What are the specific roles that different spatial agglomerations will play in the overall context? What are the best means for an effective distribution of national resources in alignment with different regionally specific development settings? In search for answers to these questions, three main dimensions have been elaborated and defined, aiming to create a matrix (Figure 2), which identifies more specific structure and steps for further development of CSPRL:

1. Definition of the main systems of national importance:

- Urban system
- Economic system
- Connectivity - infrastructure
- Engineering systems - infrastructure
- Ecosystem
- Resources

2. The differentiation of national territorial typologies

- Urban centers and towns
- Rural and agricultural areas
- Sea and coastline
- Natural landscapes

3. Special priority themes:

- Strong identity
- Competitiveness
- Objects of national importance

The elements outlined above have been interlinked in the form of a matrix (Figure 2), which enabled the experts to assess different degrees of interdependency on a variety of layers and to link the outcomes with the two alternative development scenarios (Figures 4 and 5).

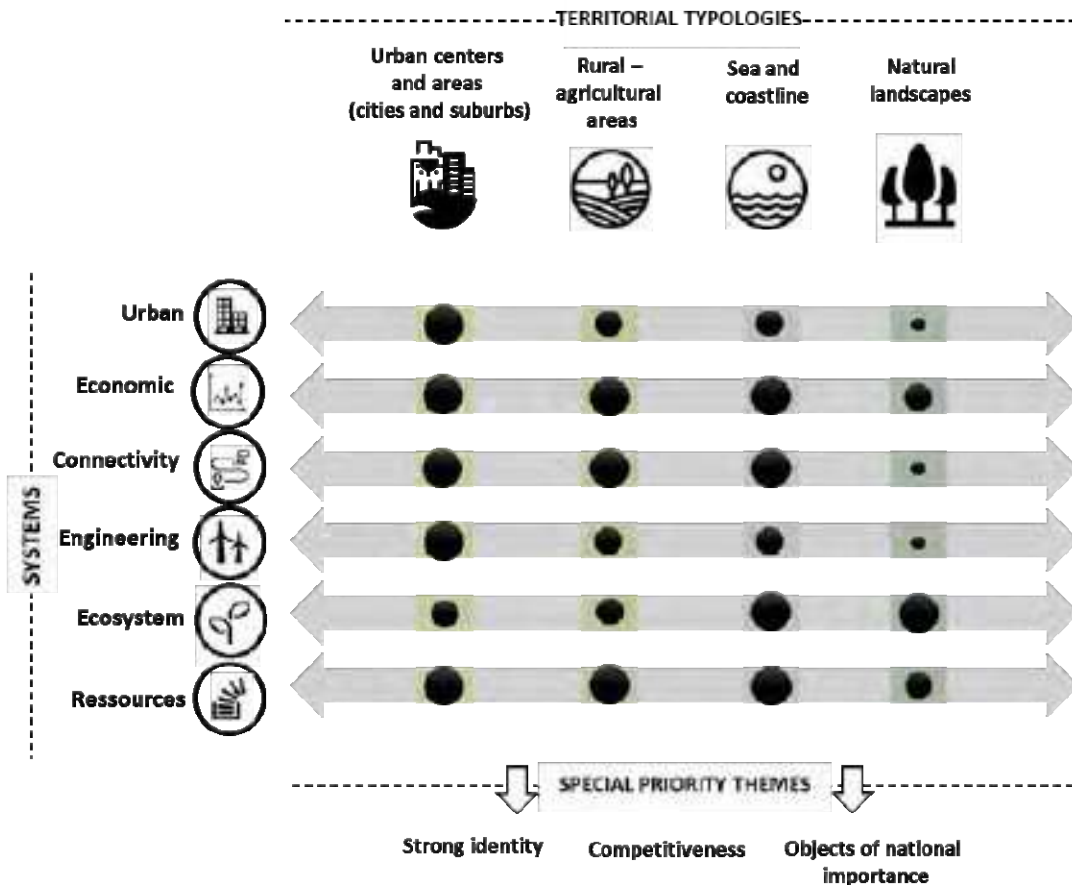


Figure 2 Systemic matrix: correlation between different domains and their spatial relevance

Two alternatives for the spatial development of Lithuania

In the past decades Lithuania has been facing a substantial decline in population mainly due to high and consistent emigration, causing many regions to rapidly shrink and loose population. Most European (Cities of Tomorrow, 2011) countries are familiar with this challenge, exposing rapidly changing development dynamics between growing and shrinking regions. The approaches in addressing this situation vary greatly from country to country, depending on the local planning culture and related legal framework conditions.

In the process of current CSPRL development, this topic lies at the bottom of ongoing most controversial debates concerning the roles of different regions, facing limitations in their capacity to sustain the local quality of life and supply of public services in the short, medium and long terms. To date, the discussion among the experts, politicians and population in Lithuania is concentrated on two main alternative approaches, which are at the core of the CSPRL development.

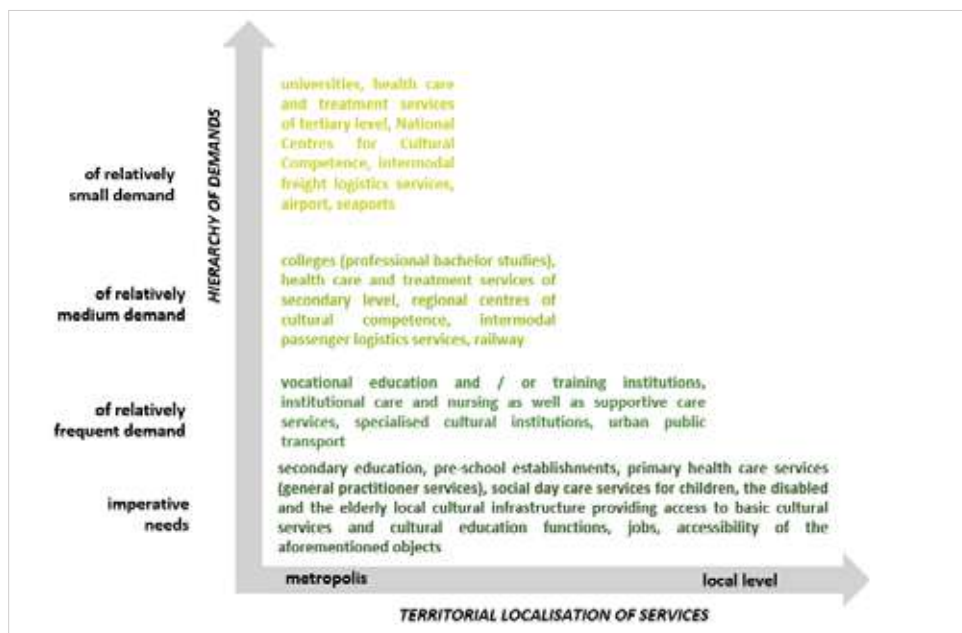


Figure 3 Distribution of needs and services by the level of urban centres

Most controversial points of discussion concerning the future development options are centered around the distribution of the national budget, resources and provision of the public services in correlation with the local spatial, social, cultural and economic development characteristics and features in specific regions and their urban centers. Multidisciplinary experts, politicians, key stakeholders, local administration and wider public are engaged in continuous debates and the decision for the final direction will likely be made by the end of this year. However, going into depths of this topic would overstretch the boundaries and the purpose of this paper, therefore the two alternatives being elaborated and discussed currently, are described in a brief comparison, conveying the essential points and differences only.

The **first alternative** (Figure 4) contains the proposition to sustain and further develop ten regions, driven by the respective urban centers, namely: Vilnius, Kaunas, Klaipėda, Šiauliai, Panevėžys, Alytus, Marijampolė, Utena, Telšiai and Tauragė. This alternative gives priority to the principle of autonomy of equitable regions, whereby public investment is distributed as evenly as possible and a wide range of basic services is equally concentrated in each region. It distinguishes the following categories of urban centers (Figure 3):

- **Metropolitan** – internationally active system of urban centers, containing a range of services and operating as national economic engines: Vilnius- national Capital, Kaunas - cross border center and Klaipėda – port city.
- **Regional centers** – concentrating a wide range of regional services and amenities, intense level of regional economic activities and playing a key regional role in maintaining and improving quality of life in the given region. The cities in this category are further subdivided in the regional development driving centers: Šiauliai and Panevėžys and regional development supplementing centers, such as Alytus, Marijampolė, Utena, Telšiai, Tauragė.
- **Local centers** – towns with the primary objective of maintaining the viability of the regions by working with regional centres and providing some services.

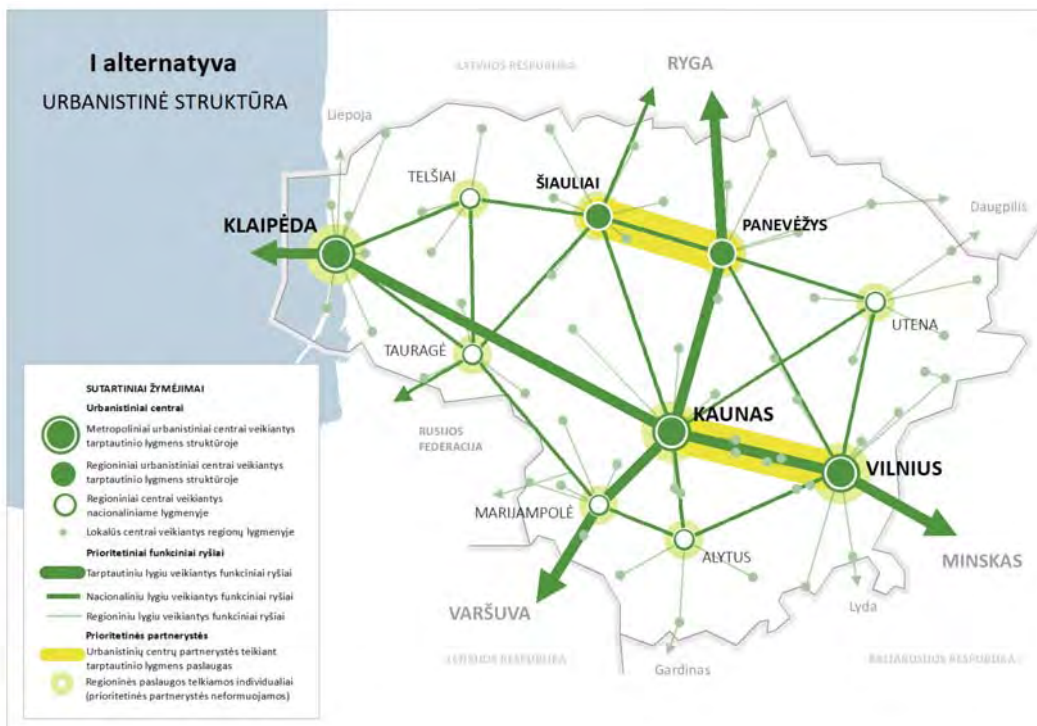


Figure 4 Development Alternative I - Regions, urban centers and connectivity network

The main East-West and North-South transportation corridors connect and further strengthen the network of named urban centers. The first alternative maintains the existing administrative structure and distribution of agricultural land-use, natural landscapes and resources as well as protected structures and objects of national importance.

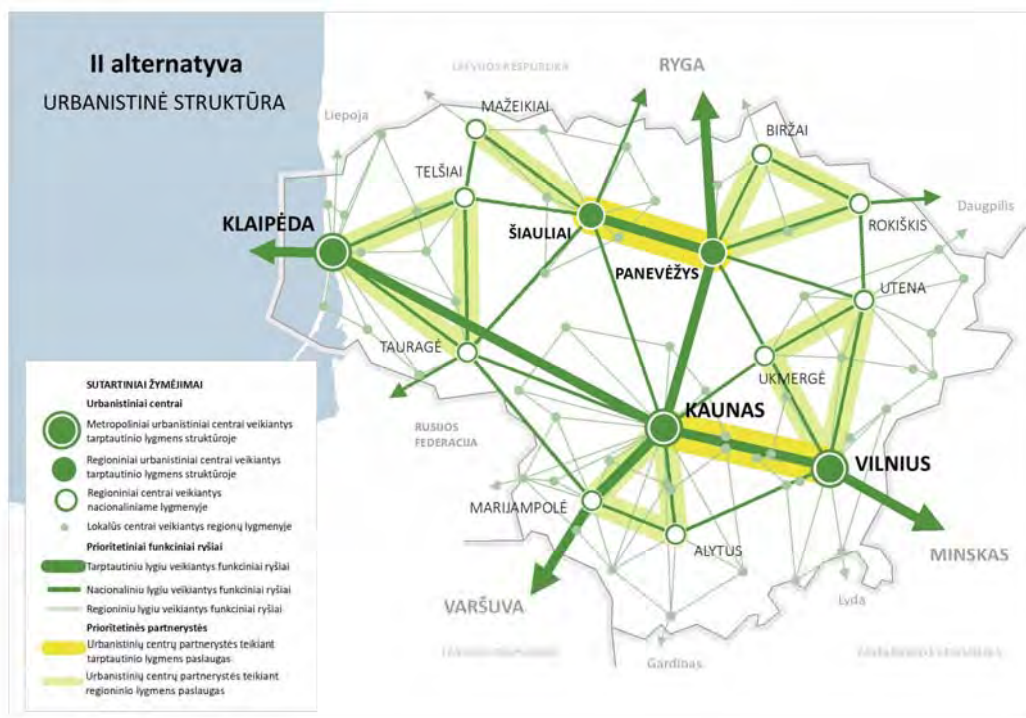


Figure 5 Development Alternative II – Regions, urban centers and connectivity network

The **second alternative** (Figure 5) proposes a greater degree of differentiation between the regions and their urban centers, consequentially followed by an adequate allocation of national budget, resources and public services, depending on the more specific local characteristics and development typologies. This alternative expands the understanding of the future development potentials beyond the existing administrative and institutional boundaries, aiming for a greater integration between functional, natural (environmental) and economical features that specific areas contain. This approach aims to identify synergies and common potentials that different territorial units expose, including the integration of geographical-morphological characteristics (planes, hills, water bodies, etc.); potentials for specific functional use (e.g. agricultural, recreational, tourism, etc.); economic features (based on ‘Invest Lithuania’ data); connectivity (including different types of connectivity); proximity between different urban centers, towns and rural settlements (Figure 6).

The hierarchical distribution of the internationally and nationally important urban centers of Lithuania, as well as their regional and local roles differ slightly from the first alternative. The core difference lies in the focus on different city- region relations and the long-term intention to stabilize shrinking regions (mostly in the Northern and North-Eastern areas of Lithuania, adjacent to the Latvian boarder) by strengthening their collaboration with the strongest adjacent regional center. Main regional centers in this alternative are grouped along three tiers: 1) Šiauliai and Panevėžys, 2) Alytus and Utena and 3) Marijampolė, Telšiai, Tauragė, Mažeikiai, Ukmergė, Rokiškis, Biržai. Vilnius, Kaunas and Klaipėda contain the same categorization and importance as in the first alternative.

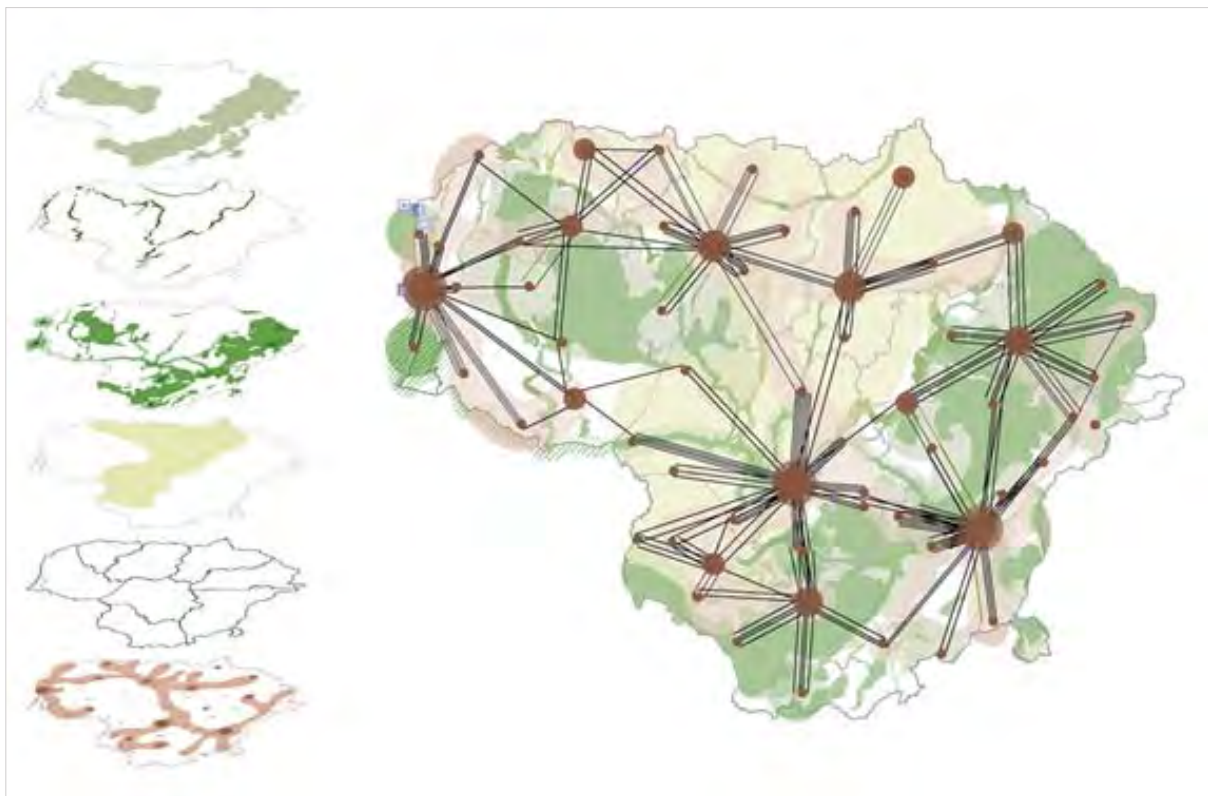


Figure 6 A scheme for the identification of common territorial potentials and synergies

Both alternatives outline the same development direction concerning the sustainable development of agricultural land-use, protection of natural resources, large scale open spaces, objects of national importance, sustainable treatment and development of the coastal areas and the strengthening of

transportation infrastructure and key corridors ensuring the sustaining and improvement of connectivity between urban centers.

The process of the CSPRL conceptual development and stakeholder involvement

The CSPRL development is an ambitious undertaking and a widely discussed document. The overall aim is to engage a broad audience into the planning process, starting with political representatives and going all the way to students who are very likely to be involved in the actual implementation and further adjustment of this document in the future. There are several dozens of actors in the project, who are driving the entire process and are involved in different formats and roles:

1. Direct participants, containing clear responsibilities throughout the project, working on the project and informing other participants about certain results:
 - decision-makers (e.g. coordination of the working group);
 - experts (e.g. core development team).
2. Indirect participants providing feedback on the interim results:
 - containing the right to veto decisions (e.g. politicians);
 - involved directly in the consecutive implementation of the CSPRL (e. g. the Ministry of Environment of the Republic of Lithuania);
 - likely to be involved in the development of certain parts of the project in the future (e.g. academic community);
 - regional and local administration, which will be implementing and integrating the plan on the regional and local level (e.g. regional representatives).

The main structure and connections between the key parties involved in the development of the CSPRL are depicted in the Figure 7. The scheme illustrates the process of interaction between the participants. Two main roles: 1) the owner and initiator of the plan development process – the Ministry of the Environment of the Republic of Lithuania and 2) and the expert-development team, implementing the actual development of the plan. The strategic and methodical core of the project (in the oval section of the scheme) consists of the project owner/organiser and related consultants, the coordinator of the project preparation, the methodical project preparation manager, and a range of topic managers. The project structure shows that the generated outcomes are controlled and dependent on the expectations and competence of the project owner, government working group and official project consultants.

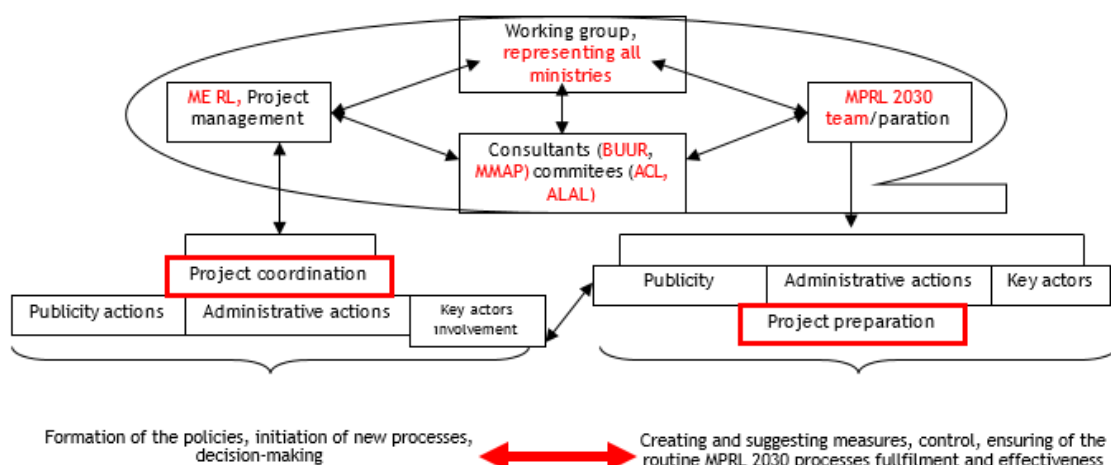


Figure 7 Organisational structure and overall management of the CSPRL development process

The team of local experts consists of over 20 professionals: urbanists, architects, engineers, geographers, environmentalists, sociologists, anthropologists, economists, geologists, heritage and cultural specialists. The project marketing team contains geographic - information systems professionals and communication experts and graphic designers.

Key elements of the multi-level stakeholders involved in the planning process:

1. Political level. The concept of the plan (MPLR 2050) will be approved by the Seimas of the Republic of Lithuania, the detailed solutions (MPLR 2030) – by the Government, therefore, from the very beginning of project initiation, political institutions are actively informed and included in the discussion, MoE RL periodically reports on project's progress and content updates.
2. Governing bodies:
 - Central government. All 14 Ministries of the Republic of Lithuania are part of the CPRL 2030 coordination working group. Responsible deputy ministers, their advisers and business professionals of the ministry participate in the activities of the Group. The activities of the group are coordinated by representatives of the organiser of the plan (deputy minister of MP LR with a team of advisers). The authors of the plan also organise meetings, discussions and workshops to discuss ministerial / business issues.
 - Regional Development Councils. Lithuania is administratively divided into 10 regions that unite 4–8 municipalities each. By way of rotation, the organiser of the plan participates in the Regional Development Councils meetings providing the latest CPRL material presentations, responds to issues relevant to politicians / municipal leaders, documents and expresses their expectations to the organisers.
 - Municipalities. 60 Lithuanian municipalities are represented by the Association of Local Authorities in Lithuania, however most productive work with representatives of municipalities takes place through the Architectural Chamber of Lithuania (ACL). Representatives of both, the plan organiser and the developer, through their reports and intermediary material, involve the Community of Lithuanian Architects (almost 1500 professionals in the field, including municipal architects) in the preparation of the CPRL 2030.
 - Associations: a variety of associated structures is involved in the CSPRL development process (e.g. academic community, business association), non-governmental organisations (e.g. cyclists' community, geographers' union), as well as companies operating under the Ministry: Lithuanian Railways, Lithuanian NGDO Platform, etc.

Content development and management process

The project process map (Figure 8) is subject to regular updates throughout the duration of the entire project. Its complexity and patterns are easier to explain through the scheme of achieving any intermediate result (Figure 9).

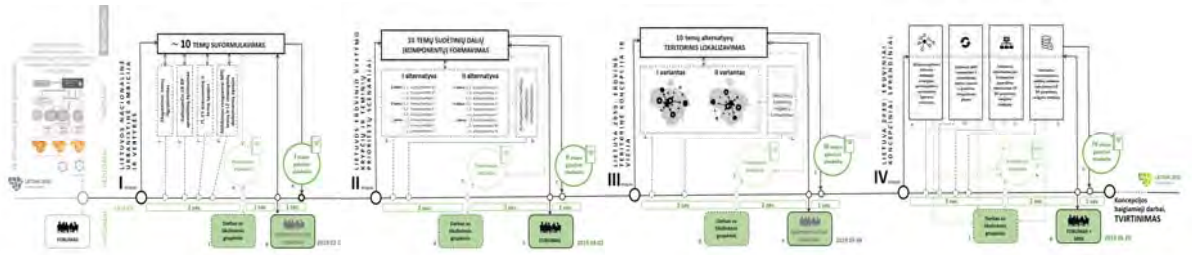


Figure 8 CPRL 2030 Process Map

The ongoing work on the conceptual development of the CSPRL (any segment of it) is organised in stages that contain the following pattern:

- Methodological tasks (a) are formulated, their scope and expected results are checked by the organiser of the plan (b);
- The team of experts is informed on individual or team-specific business and related tasks. Based on a schedule of activities, the work is performed by and *in cloud-based* principle using a variety of technological solutions remotely and/or in the format of thematic creative workshops among the experts (c). Thus, the ongoing discussion between the organisers, the compatibility between the specific elements of the project and a sense of authorship and community is ensured.
- The intermediate progress and outcomes are communicated to the organiser of the plan (d).
- The organiser of the plan, together with the expert team, ensures that the results (e) are presented to the government representatives (deputy ministers, interinstitutional meetings), cross-sectoral discussions (creative workshops with experts from different fields are organised to discuss interim results) (f), expert society and the public (open forums / conferences, 9 forums during preparation period (g) are planned).
- The obtained outcomes are carefully documented, ensuring that the result of all discussions as well as new insights are integrated accordingly into the final interim report(h).
- The process diagram depicting the generation of an intermediate outcome is depicted in the Figure 9.

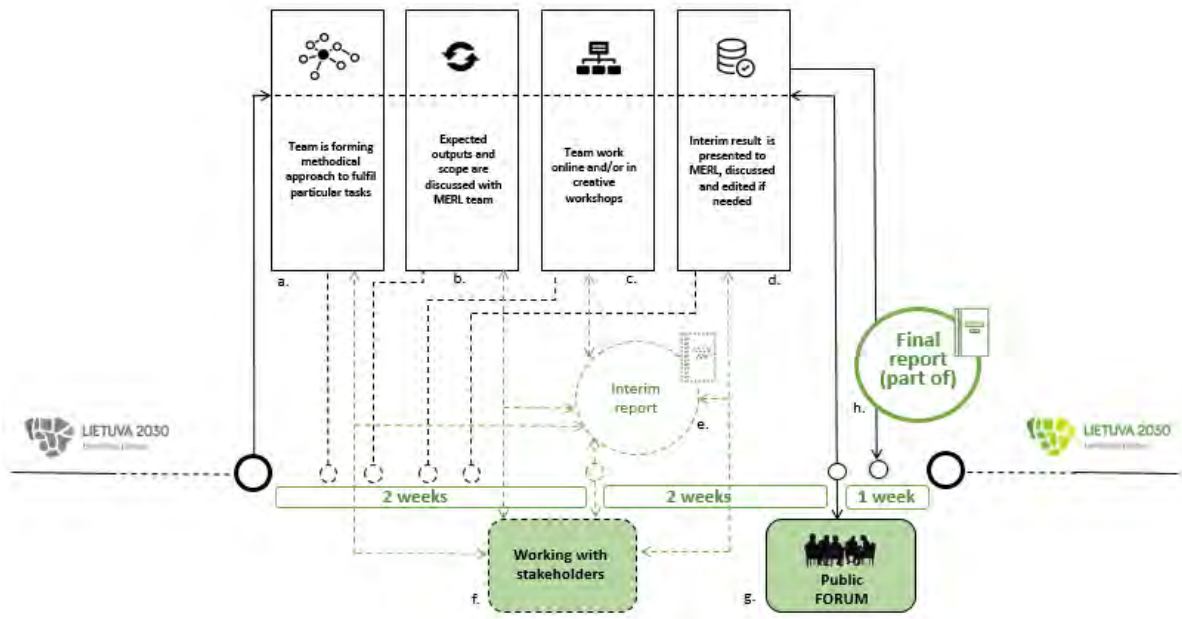


Figure 9 Intermediate outcome - process diagram

Encountering the benefits as well as challenges in the process of CSPRL development

Along with the new approach towards the spatial development and importance of the CSPRL in the overall agenda of Lithuania's strategic goals and decision-making processes, a number of common and specific challenges as well as benefits were encountered by the expert team, in charge of the plan development:

- Organisation of the CSPRL development – new groups of experts are involved in each stage of the CSPRL development, making it challenging to ensure continuity and consistency of the overall development format.
- The development process requires adequate allocation of time linked to specific tasks. The development intensity and the overall frequency of the events in the relatively short total development period creates a conflict between different priorities at the peak times, in which case the quality of the focus on the contents often suffers.
- Integration of the new development methodologies – great focus is being placed on the clarification of the planning methodologies, in some cases placing the experience and competence of the local expert team in a disadvantaged position.
- Application of the new stakeholder and public engagement methods – great focus is placed on the process, publicity and the integration of public opinion.
- Application of new tools and formats, including indicators, interactive platform and Public Forums are beneficiary and enriching to the overall process and outcomes.

Summary and Conclusions

Shaping the national spatial development direction is a demanding and challenging, task. The conceptual development phase of the CSPRL is nearing the finish line and the present transdisciplinary expert team has entered the end-phase of the task completion and the finalisation of the outcomes accomplished to date. However, the next stages of the CSPRL development will continue until the year 2020. The new CSPRL will unfold its impact and effectiveness in the years 2020-2050 guiding the overall spatial development dynamics of Lithuania and serving local municipalities and authorities as well as sectoral strategies by outlining and allocating clear principles and development objectives.

The process of the past two years, since the onset of the CSPRL development has been a transformative experience on multiple levels:

- The degree of vertical (between different levels of governing bodies and administration) and horizontal (among experts from different disciplines, academic community and the wider public) integration, understanding and communication has grown consistently throughout the process, allowing the quality and the effectiveness of the debates to mature and progress; This is an important achievement, considering that the democratic planning culture in Lithuania is relatively young.
- The extent to which the general awareness and acceptance of the need for spatial planning is increasing, exposing a generally growing interest in this topic.
- The capacity to work in an integrative, open and discursive environment is developing and increasing continuously, shifting from the sectoral-silo mentality and exposing more and more interest and willingness for a synergetic, discursive and interconnected generation of outcomes.
- Different levels of national governance and local administration continue to narrow down the existing gap between the national strategic planning and local capacity to implement comprehensively managed local plans through the increasing levels of transparent, inclusive and productive communication and consultation.

This reflection upon the experience gathered in the process and context of CSPRL development to date captures a fragment of time, that encapsulates only a relatively short phase of the overall expected ‘lifespan’ of this significant undertaking and document. The promising implications and effects will expose and prove their transformational potential in the years to come. The outlook however, is encouraging!

Acknowledgements

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References

- Cullingworth J. B., Nadin V., 2001, *Town and Country Planning in the UK* (London, U.K.: Routledge).
- Juskevicius P., Burinskiene M., Paliulis G.M., Gauce K., 2013, *Urban planning: processes, problems, planning, development* (Vilnius, Lithuania: VGTU “Technika”).
- Ministry of Environment of the Republic of Lithuania, 2014, *Rules for Preparation of Complex Territorial Planning Documents* valid summary 2019.
- Parliament of the Republic of Lithuania, 2014, *Law on Spatial Planning*, valid summary 2019.
- [Reimer](#), M., [Getimis](#) P., Blotevogel H., 2014, *Spatial Planning Systems and Practices in Europe. A Comparative Perspective on Continuity and Changes*, 1st Edition (London, U.K.: Routledge).
- The Comprehensive Plan of the Territory of the Republic of Lithuania, date of access: 16/05/2019. <http://www.bendrasisplanas.lt>
- European Union Regional Policy and Cohesion, 1997, *The EU compendium of spatial planning systems and policies*.
- European Union Regional Policy, Oct. 2011, *Cities of tomorrow. Challenges, visions, ways forward*. Date of access: 29/05/2019. https://ec.europa.eu/regional_policy/sources/docgener/studies/pdf/citiesoftomorrow/citiesoftomorrow_final.pdf
- Ministry of Environment of the Republic of Lithuania, 2019, *The Comprehensive Plan of the Territory of the Republic of Lithuania, Preparation phase*, date of access: 16/05/2019. <http://www.bendrasisplanas.lt/esamos-bukles-analize-2/>
- Ministry of Environment of the Republic of Lithuania, 2019, *The Comprehensive Plan of the Territory of the Republic of Lithuania, Conceptual framework, Methodology*, date of access: 16/05/2019. <http://www.bendrasisplanas.lt/wpcontent/uploads/2019/04/Koncepcijos-metodika.pdf>