

INTRODUCTION TO HAJDÚ-BIHAR COUNTY

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Hajdú-Bihar County Government



European Union
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Development Fund

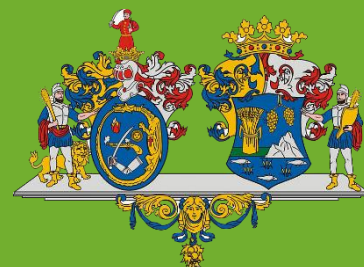


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PREFACE

The natural and landscape values of Hajdú-Bihar County are diverse and colourful. There are ecological networks of special importance; natural areas, ecological corridors, protected landscape areas mean significant natural resources.

Besides, agricultural and other economic production activities are also essential for the quality life of citizens; to preserve natural values, brownfield investments are suggested instead of greenfield ones, but huge peri-urban areas have been selected to serve as the location for new industrial investments, e.g. industrial parks.

There is a growing demand to consider peri-urban open spaces as a huge potential for ecological, recreational and educational utilization but there is a lack of common understanding and efficient policy initiatives or solutions.

Decision makers and professionals have to face the missing information, tools and methods for a more favourable use of these valuable spaces; RENATUR project is expected to provide a great added value finding the most appropriate solutions and adapt those for local circumstances. This can result in a higher level well-being of citizens, more sustainable and ecosystem-friendly exploitation of available natural resources while providing the potential for better educated society concerning these values.

Considering the significance of ecological objectives, there is a strong need to focus on the governance of ecosystem services to conserve biodiversity; the peri-urban ecosystems of Hajdú-Bihar County can provide different services related to reducing the impacts of climate change, air/water purification, waste management, food security serving environmental and social purposes at the same time.

The county needs a better coordination of natural, social, cultural and institutional resources and capacities built on appropriate participatory processes; moreover, it is important to find proper answer on how to help policy makers to integrate knowledge into decision making process.

TERMS AND LIST OF ABBREVIATIONS

Green Infrastructures (GI): According to the Green Infrastructure Strategy prepared by European Commission, GI is “a strategically planned network of natural and semi-natural areas with other environmental features designed and managed to deliver a wide range of ecosystem services’ in both rural and urban settings¹

Peri-urban Landscapes (PULs) “are specific transitional forms of urban landscapes undergoing dynamic land-use changes. PULs’ transformations are driven by close and significant influence of an urban core, cross-administrative boundary character, and diversity of governance actors.”²

Peri-urban Open Space (PUOS) are terrestrial areas, located in PULs, that are immediately adjacent to a city or urban area. They offer diverse important ecosystem services both to tourists and to the region inhabitants and host rich biodiversity. These are areas, which land cover/use is not related to artificial surfaces and their soil is not sealed, e.g. forest areas, grasslands wetlands.

Policy Instrument (PI) is a “means for public intervention. It refers to any policy, strategy, instrument, or law developed by public authorities and applied on the ground in order to improve a specific territorial situation. In most cases, financial resources are associated with a policy instrument. However, an instrument can sometimes refer to a legislative framework with no specific funding.”³

Spatial Planning refers to the methods used largely by the public sector to influence the future distribution of activities in space. It is undertaken with the aims of creating a more rational territorial organisation of land uses and the linkages between them, to balance demands for development with the need to protect the environment, and to achieve social economic objectives. Spatial planning embraces measures to co-ordinate the spatial impacts of other sectoral policies, to achieve a more even distortion of economic development between regions than would otherwise be created by market forces, and to regulate the conversion of land and property uses.⁴

National Land Use Plan (NLUP) - Hungary’s largest scale plan defining main land use categories and main infrastructural development. Current NLUP is in force since December 2018 by the Act CXXXIX on the Spatial Planning of Hungary and its Priority Regions. It is accompanied with the Ministry Regulation which contains the frames of implementation.

County Spatial Plan - Adapted to the NLUP defines main land use categories and main infrastructural development on county level.

County Structural Plan demonstrates the main infrastructure network of the county and individual special constructions.

¹ Source: European Commission, 2013a, Green Infrastructure (GI) — [Enhancing Europe’s Natural Capital](#) - COM(2013) 149. More information on the forms and functions of GI can be found at: https://ec.europa.eu/environment/nature/ecosystems/benefits/index_en.htm

² Source: Spyra, M., La Rosa, D., Zasada, I., Sylla, M., & Shkaruba, A. (2020). Governance of ecosystem services trade-offs in peri-urban landscapes. *Land Use Policy*, 95, 104617. <https://doi.org/10.1016/j.landusepol.2020.104617>

³ Source: <https://www.interregeurope.eu/help/faqs/12/#faq-question-33>

⁴ EU compendium of spatial planning systems and policies (EUROPEAN COMMISSION, 1997, 24)

National Settlement Planning and Construction Requirements - Ministry Regulation which's points has to be applied starting with urban planning and ending with the location and construction of individual buildings. It regulates all the aspects of planning and construction phase.

Uniquely defined county zones are defined by the specific land-use categories or types and utilization within the county.

Allotment - Small lots around the residential areas of cities, that are typically have been used as vegetable gardens or fruit production by city dwellers. Conflict arises when people tend to move into the allotment area as permanent residence, and push the municipality towards infrastructure development. However, the position of the allotments and narrow road network does not allow the creation of public infrastructure.

Starry Sky Park is an area within the Hortobágy National Park Directorate, designated to areas where the light pollution is extremely low, or zero. This regulation determines the conditions of public lighting for concerned settlements or farm lighting, but also gives guidance how to replace traditional lighting facilities.

HAJDÚ-BIHAR COUNTY - OVERVIEW

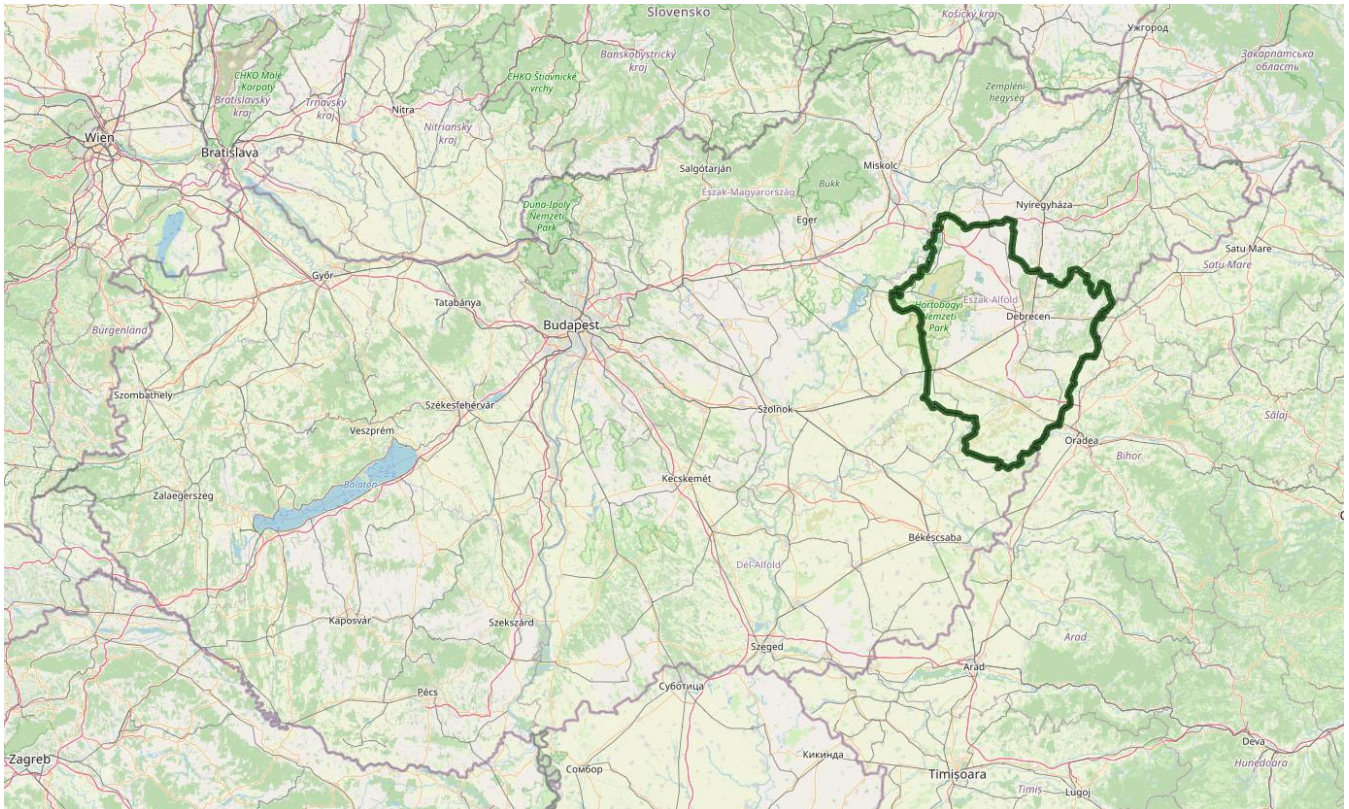


Figure 1 Location of Hajdú-Bihar County (OSM)

Hajdú-Bihar County is located in Eastern Hungary, in the Great Plain having four geographic units: the South Nyírség - Ligetalja region and Erdőspuszta (1), the Bihari region (2), the Hortobágy and the Tisza area (3) and the Hajdúság (4).

The county capital is the city of Debrecen (population 201 081 as of 2020).

Due to its location within the country, the county is in a peripheral position, but in the eastern part of the country it is starting to play an increasingly strong central role considering not only neighbouring counties but also cross-border areas. This means not only transit - transport and economic - but also employment and cultural relations.

Hajdú-Bihar County (NUTS III) is part of the Northern Great Plain Region (NUTS II) and as such is one of the most backward regions of the EU. Over the past more than 20 years, the Northern Great Plain has been one of the 20 least developed NUTS II regions. According to the latest data, gross domestic income per capita is well below the EU average.

GEOGRAPHY AND LOCATION

With an area of 6,211 km², Hajdú-Bihar County belongs to the large counties of the country. In terms of size, the fourth county accounts for almost 6.7% of the territory of Hungary, but only 5.4% of the resident population. Apart from Budapest, it also ranks fourth in the ranking of counties in terms of population.

There are currently 82 municipalities in the county. A significant proportion of the settlements in Hajdú-Bihar have large area and population so the settlement density is low. The number of settlements per 100 km² is only 1.29. The average settlement area is almost 76 km², which is two and a half times the national average. The average population of the settlements is also high: 6,507 people, which is more than twice as much the national (rural) average. Hajdú-Bihar County is a relatively young administrative unit in Hungary, as its existence can be counted from March 16, 1950. (The territory of the county has been practically unchanged since June 1, 1950, except for insignificant border changes.)

The county is very diverse in terms of natural geography. The northeastern part is the southern micro-region of the sand dune of Nyírség, the central part is the loess Hajdúság micro-regions with excellent soil conditions, the west-northwestern part is the Hortobágy and Borsodi floodplains belonging to the Central Tisza region, the southern part is the Berettyó-Körös region (Nagy-Sárrét and Kis-Sárrét), Berettyó-Kálló köz, Érmellék and the Bihari plain.

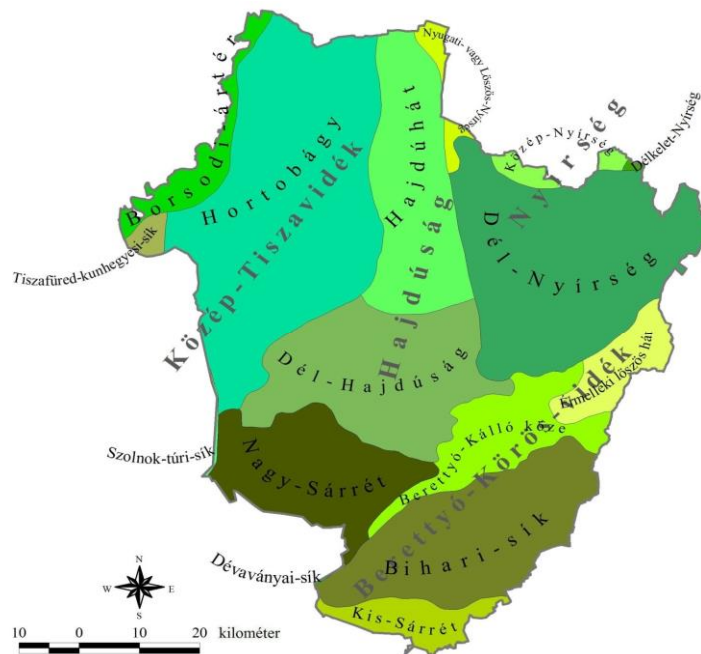


Figure 2 Geographical landscape regions of Hajdú-Bihar County

The climate of Hajdú-Bihar County is similar to that of the other areas of the Great Plain: it is drier in summer, slightly colder in winter, most of it has a moderately warm-dry climate, only the climate of Southern Nyírség is moderately cool and moderately warm.

The number of annual sunny hours is between 2020-2150 hours. The average annual temperature is between 10.5 and 11.0 °C, increasing from north to south.

In terms of precipitation, the county is one of the driest regions of the Great Plain, and the southern part of Hortobágy is one of the driest areas of the country, as the annual amount of precipitation doesn't reach 500 mm. The most significant watercourse in Hajdú-Bihar, which is poor in surface waters, is the Tisza river running along the western part of the county for 53 km and drains the area directly or through the Berettyó and Sebes-Körös rivers.

The Eastern and Western main canals are also of great importance in the county's water management, residential, agricultural and ecological water supply, as well as in its recreational functions. The natural stagnant waters of

the county are of various origins, abandoned riverbeds, cut-off bends and flats can be found next to the growing number of artificial lakes (Hortobágy fishponds, Erdőspuszta lakes).

The county is rich in groundwater.

Thermal water from the deep-drilled wells in the area bursts to the surface in many places, several of which have a healing effect. It is a significant base for thermal and spa industry.

Due to the hydrological conditions of the county, floods and inland waters pose a serious threat to the area.

The problems related to climate change are significantly related to water. Problems caused by water scarcity and excess water are present in the area at the same time:

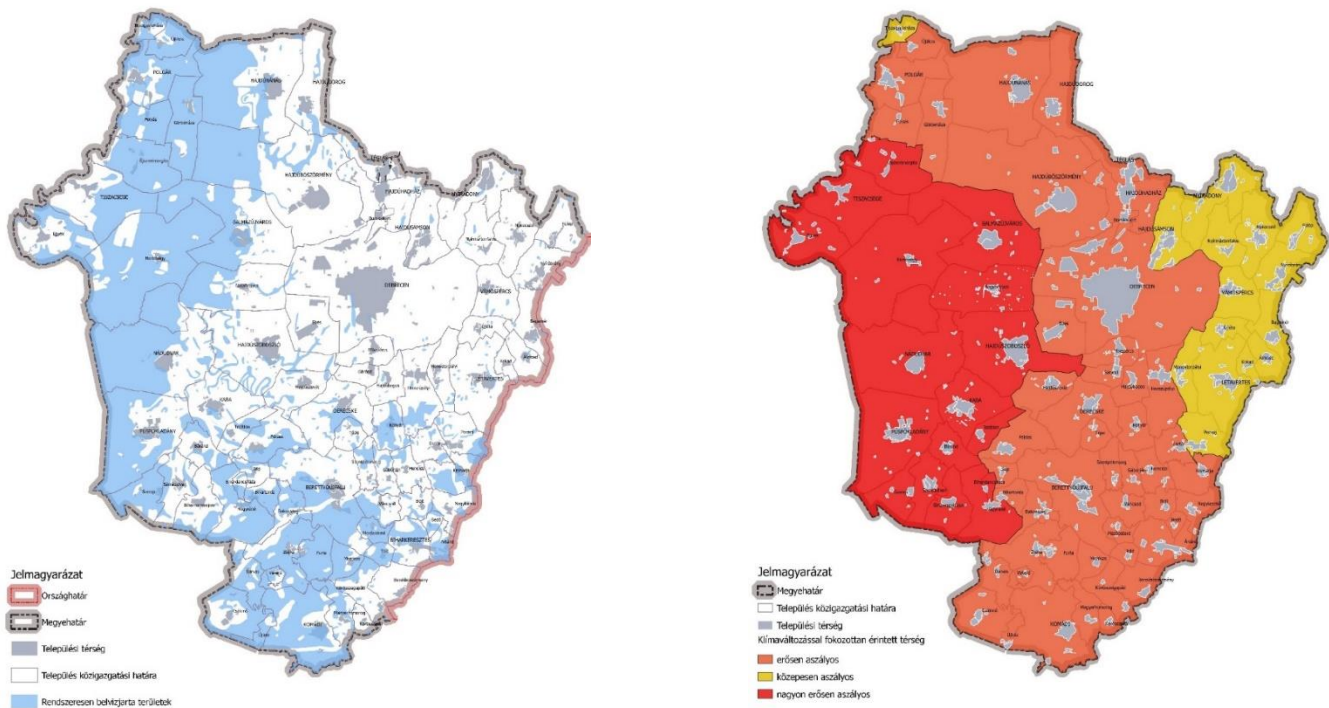


Figure 3 Inland inundation and droughts endangering Hajdú-Bihar County (2020)

POPULATION

Hajdú-Bihar County - excluding Budapest - is the 3rd most populous county in Hungary, with a population of 527,989 on 1 January 2019, which accounted for 5.4% of the country's total population. The county's population has declined by about 2.46% since 2010.

The population density - 85 inh/km² - is significantly lower than the national average, especially if the population of Debrecen is deducted from the total population of the county. Already in 1990, 39% of the population lived in the county seat - the second most populated settlement in the country - and in the cities together the majority of the population was already 69.2%. Hajdú-Bihar County is therefore one of the more urbanized areas of the country. The high proportion of cities (above 70%) near Debrecen can be explained by the significant population of the largely expanding Hajdú settlements.

ECONOMY

The structure of the industry - following the structure inherited from the period before the change of regime and the development tendencies of the last two decades - shows characteristic differences compared to the whole country.

On one hand, its industrialization lags behind the national and (mainly) rural average, and on the other hand, the traditionally overrepresented employer is the food and light industry, but especially in the second half of the decade, chemicals and pharmaceuticals, electricity, gas, steam and water supply as well as waste management.

It is also important for the county's economy that there is a significant industrial and construction enterprise in several cities of the county with the leading position of the county capital, Debrecen among the major cities in Eastern Hungary (dynamic industrial segments). Automotive industry, large-scale investments of multinational companies, national vaccine factory show a boosting economic development based on the internationally recognized knowledge capital.

The infrastructure for economic development has expanded spectacularly in recent years, significant industrial park and incubation capacities have been created, cluster organizations have been formed, however, especially in the field of industrial park infrastructure and service supply, there are large differences - some industrial parks are unused.

The same can be seen for services: the dynamic elements of services play a relatively smaller role in the county, however, a large territorial concentration of service enterprises is typical.

Within the economy of the county, special attention should be paid to tourism built on the heritage and values of the county. Hajdú-Bihar County is characterized by increasing visitor number, primarily in the field of health tourism, but the growing popularity of cultural and active tourism based on natural and cultural heritage is showing an improving trend. The expansion of Debrecen Airport and the built tourism infrastructure strengthened the stimulation of business tourism. Gastronomic tourism has emerged as a new element in the county's offer. Balancing sustainability and the benefits of tourism is still a challenge today, yet the lack of tourism, regional marketing and complex tourism product packages is hampering further growth in tourism development for the time being. At the same time, the close-to-nature areas of the county offer an excellent opportunity for gentle tourism.

The importance of agriculture is outstanding; currently arable farming dominates. The county has an outstanding agricultural and agro-innovation potential. Agricultural structure adapted to natural conditions and a developing food industry based on cultivated crops and long traditions are of particular importance. Uncertainty surrounding the structural transformation of agriculture and the immaturity of organizational and technological conditions may hinder the dynamism of the sector in some respects, therefore it is important that the long-term survival of land productivity is one of the important aspects when choosing agricultural production methods.

NATURE AND ENVIRONMENT

According to the national Act on nature conservation No. LIII. of 1996, the protected natural areas and assets can be classified - on the basis of the extent of the conservation, their aims and their national and international importance - as followings:

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- Protected natural areas and assets of national interest
 - Natural areas protected by a specific law:
 - national park
 - landscape protection area
 - nature conservation area
 - natural monument
 - Ex lege protected natural areas
 - Ex lege protected natural assets
 - Protected natural areas of local interest

The county has extensive Natura 2000 sites (“Special Protection Area for Birds” and “Special Area of Conservation”), which have a large overlap with protected natural areas, but at the same time significantly expand the size of protected areas.

These protected areas are ex lege protected areas, as well as areas of national and community importance, such as saline lakes and bogs, and nature reserves (TT), declared by specific legislation.

The Hortobágy National Park is the first and largest national park in Hungary. It was transformed into a national park in 1973, which now includes more than 82,000 hectares of protected area. It is on the World Heritage List by the UNESCO World Heritage Committee since 1999. The purpose of the area is to preserve and develop the characteristic natural values of the steppe, to protect the unique flora and fauna of the Hortobágy, the landscape of the steppe. It is an important task to ensure the smooth nesting and migration of birds. It must preserve and present in an authentic and natural conditions the traditional steppe way of life, the endangered ancient Hungarian animal species, the cultural and historical values of the area (shepherds’ culture). It has also a unique Starry Sky Park designated as International Dark Sky Park.

The settlements affected by the protected areas of the national park include also the Case Study area of the RENATUR project.

The natural values of the county are protected by nearly 90,000 ha (86,938 ha) of protected natural areas (of which about 2,300 ha are ex-lege protected). Its most important areas: in addition to the Hortobágy National Park, the Hajdúság and Bihari Plain Landscape Protection Areas, 4 nature protection areas, 127 ex-lege protected areas, several local protected areas and elements of the “ecological network” (NATURA 2000, Sensitive Natural Areas, etc.).

The management of the county's outstanding natural values, also in international comparison, shows a fundamental connection with the use of the economic landscape. It would be very important to also protect the “shores” of these “habitat islands” with buffer zones established with appropriate land use forms (organic farming), reducing direct and indirect damaging effects.

As part of an extremely important natural network, the conservation and protection of county values and habitats are ensured by 43 nature reserves of local significance (3300 ha), which belong to the quality of life and living conditions of local governments and communities.

During the review of the county spatial plan adopted in 2020, the load-bearing capacity of the landscape was examined with a development-based approach, ie which areas of the county could be located in a sustainable way in the future. Investments that burden the landscape and the environment typically involve the creation of some kind of physical structure, which, with the exception of public utility pipelines, usually means the extraction of land. In the given place, the agricultural or forestry cultivation, water management that used to take place there will be discontinued, and an area intended for construction will be created.

In accordance with the action directions of the National Environmental Protection Program, a landscape load map has been developed, which assigns different levels of protection to each map layer in order to sustainably preserve our landscape, natural and environmental values.

Each layer strengthens the protection level of the area in case of overlap. Based on this, a three-point scale can be set up for the load capacity of the landscape, according to the attached figure:

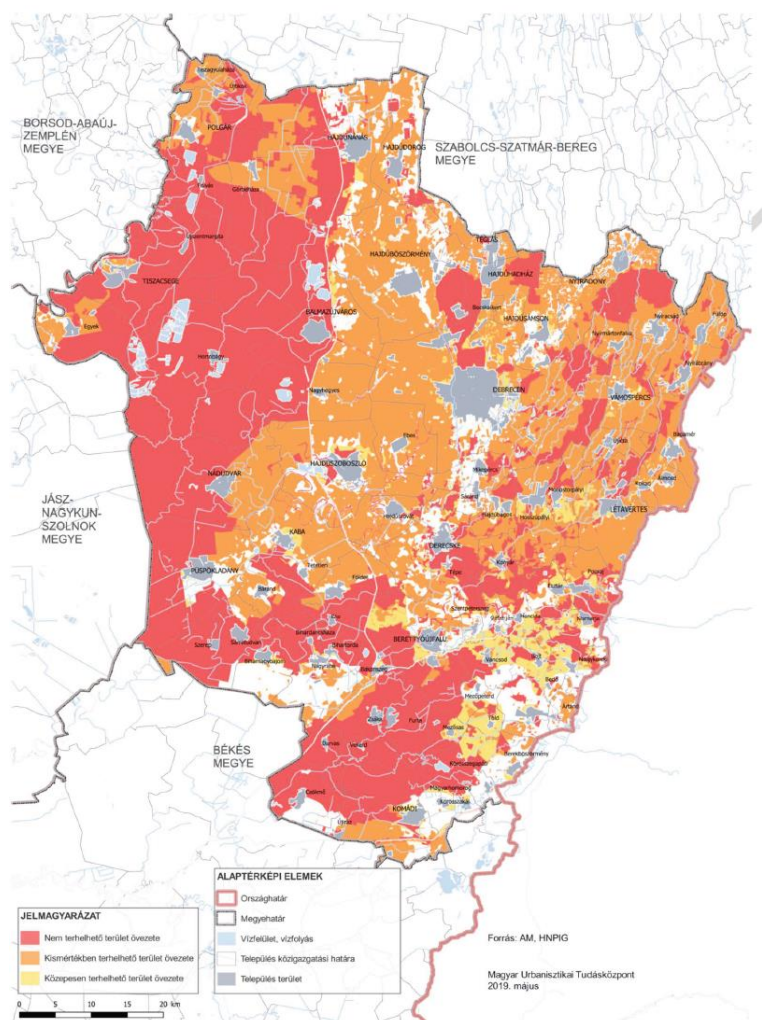


Figure 4 Landscape load map of Hajdú-Bihar County (2020, CSP)

Finally, the map was not included in the official approval of the County Spatial Plan but remains in the content of the baseline assessment as a tool for any actors interested.

FRAMEWORKS AND PRACTICE – PLANNING SYSTEM IN HUNGARY

Hungary has a hierarchical planning system with three or four levels of spatial plans depending on the region. At the highest level, the National Spatial Plan contains a mix of general guidelines, strategic plans and small scale land-use plans. These are legally binding documents that are approved by a vote of parliament.

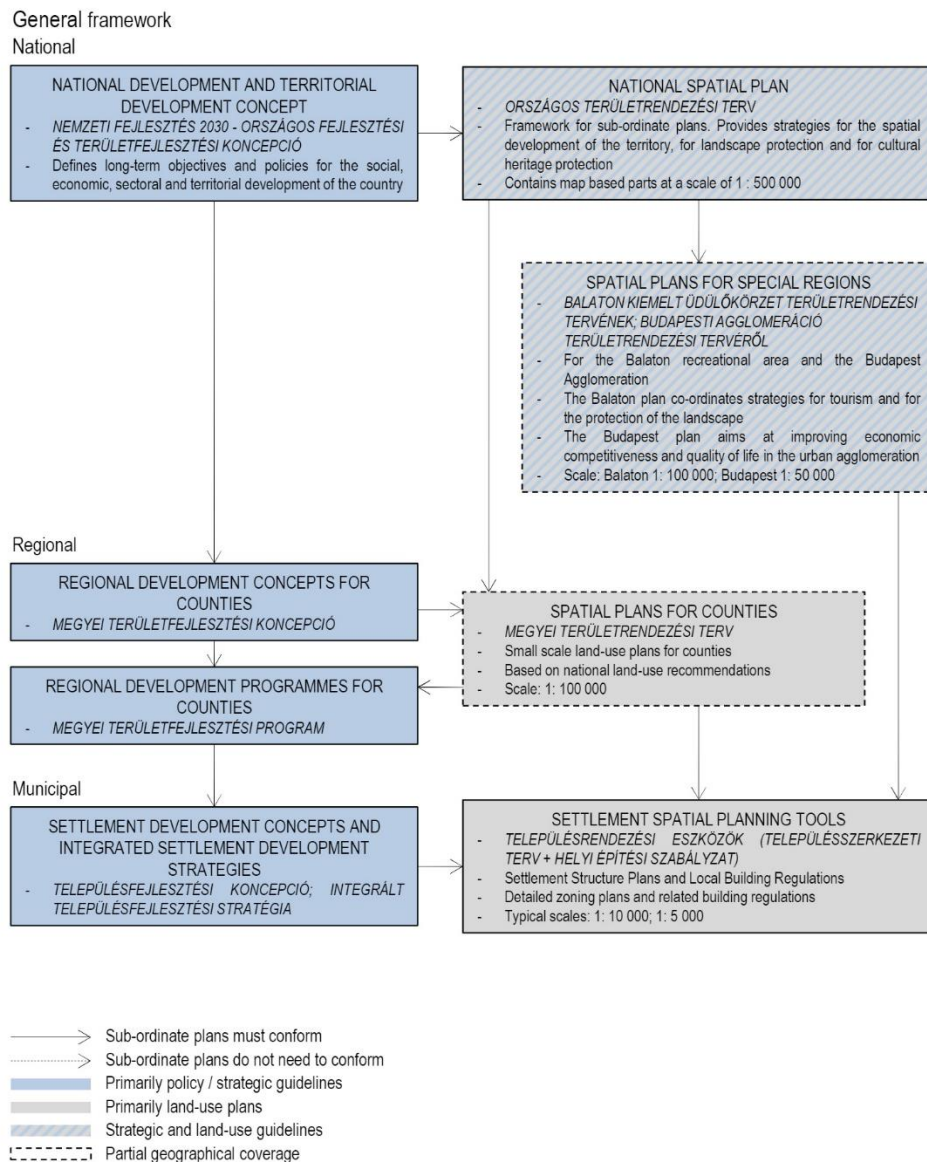


Figure 5 Spatial Planning and Regional Development in Hungary⁵

Hungary is a unitary state with two levels of sub national government; 19 counties and the capital region of Budapest constitute the regional level and 3,178 municipalities form the local level. The national government has several responsibilities related to spatial planning:

⁵ Land-use Planning Systems in the OECD: Country Fact Sheets, 2017

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- Preparing the national framework legislation that structures planning at the national and subnational level.
 - Enacting the *National Spatial Plan*, the two existing *Spatial Plans for Special Regions* and *Cross-border Spatial Plans*.
 - Using financial instruments and allocates its budget to shape the spatial structure of the country.
 - Providing opinions on regional and local spatial plans and approves them with respect to their congruence with higher level spatial plans. This task is delegated to the *State Chief Architects* within the regional *Government Offices*, i.e. the deconcentrated parts of the national administration.

County governments like Hajdú-Bihar County Government are primarily responsible for the preparation and enactment of the County Spatial Plans. They also provide opinions on the National Spatial Plan and the Spatial Plans for Special Regions that concern their territory.

Local governments enact Settlement Structural Plans and related building regulations that complement the plans. They are also the primary contact point for public engagement in the planning process. Furthermore, they have several special legal instruments at their disposal that they can use to shape the spatial structure in their territory, such as special proceedings, prohibitions and plot read justments.⁶

Also every seven years, each county prepares a County Spatial Plan. It provides the link between the National Spatial Plan and local (municipality) plan by detailing the regulations provided in the national plan. County Spatial Plan are particularly relevant for development control, as they outline areas for future development and for nature and cultural heritage protection. Furthermore, they determine the permitted uses of those areas that have been left unspecified by the national plan.

At the local level, planning is complemented by local building regulations that provide more details on approved types of use and possible developments. As for most other plans in Hungary, geographical scale and focus in particular are on social and economic objectives.

Spatial plans at all three levels of government are accompanied by Development Concepts. In their respective geographical area, they define long-term objectives for territorial development and guide the preparation of Spatial sectoral planning.

Regional development and spatial planning are divided particularly among two ministries, the Prime Minister's Office and the Ministry of Finance. The mid-term objectives of the current framework are: to improve the global competitiveness of firms; promote employment through economic and social policies, taking into account territorial disparities; promote greater energy and resource efficiency; address social inclusion and demographic challenges; and implement economic growth oriented to local and territorial development.

The ministries in charge of regional development and spatial planning also prepare the EU operational programmes, with place-based elements found in the different sectoral programmes, along with the EU Territorial and Settlement Development Operational Programme that supports decentralised development actions. Cities and cities with county rights, for example, benefit from EU operational programmes.

⁶ Introduction to the Hungarian spatial planning system, Dr. Ludwig Scharmann, 2020

A national urban policy is under development, including prior elements of the national guidance on spatial planning.

At the subnational level, counties and cities with county rights develop their own territorial development concepts and programmes, with a ten-year time span. Such documents are aligned with the development objectives of the European Union and the national-level territorial and urban strategic plans.⁷

Recent policy changes taking place:

- The municipal and territorial public administration reform of 2012 abolished the regional county and micro-regional development councils, making the elected county level the main territorial actor. A subsequent recentralisation of many responsibilities of counties and municipalities has been accompanied by new governmental offices at county and district level (including the capital), operating as the government's deconcentrated administration bodies with general competences.
- At the national level, the National Development and Territorial Development Concept (2014) is Hungary's regional development plan. The plan defines a vision for Hungary's regional development to 2030 as well as medium- and long-run objectives in the following areas: attractive economic environment and dynamic economy; growing population, communities; strategically used natural resources; and balanced spatial structure. The Concept offers guidance for both national (sectoral funds, territorial levels) and EU programming (Partnership Agreement and operational programmes). The concept is under revision in order to set the new mid-term objectives for development policy and territorial development of Hungary.
- For the 2014-20 EU programming period, counties have set up their own county development concepts and programmes, to co-ordinate investments across sectors. Counties are also responsible for integrated territorial investments, in parallel with those developed by the largest cities. The concept and programme referring to 2021-2027 are under development.
- In 2018, responsibilities for rural development were moved to the Ministry of Agriculture, which is responsible for the Rural Development Strategy (2012-2020) and the Rural Development Programme (2014-2020). The strategy explores the development challenges of agriculture, rural development, and food sector and environmental protection. Similarly, the Rural Development Programme (2014-20) is focused on supporting agriculture and people living in rural areas. Its main goals are to support small and medium-sized enterprises and young farmers (through the young farmer thematic sub-programme); and help the development of horticulture, animal husbandry and food processing sectors.
- Anticipated changes to improve policy co-ordination and the effectiveness of public investments may include: integrating development in functional areas, greater use of monitoring and policy indicators, and public involvement in planning and implementation.

⁷ OECD Regional Outlook 2019: Leveraging Megatrends for Cities and Rural Areas

LEGAL FRAMEWORK

There are several laws form the main legislation that creates the framework of the Hungarian spatial planning system:

- Act XXI of 1996 on Regional Development and Spatial Planning outlines the roles of the different levels of government and their bodies for spatial development
- Act LXXVIII of 1997 on the Development and Protection of the Built Environment contains the main elements of national building regulation
- Government Decree 218/2009 (X.6.) on the content requirements of the county development concept, the county development program and the spatial planning plan
- 1/2014. (I. 3.) Parliamentary Resolution on the National Development 2030 - National Development and Regional Development Concept
- Act CXXXIX of 2018 on the Spatial Planning of Hungary and Certain Priority Regions determines how the land-use planning system works and defines the main land-use categories that must be used in zoning plans at national and county level

COORDINATION AND PARTICIPATION

Vertical co-ordination between levels of government occurs through the Chief Architects in counties who serve as representatives of the national government. They provide assistance to municipalities in preparing their plans and ensure that they match national plans. They can also approve discrepancies between local and national plans.

Co-ordination at the horizontal level occurs primarily through the dissemination of the spatial plans at an early stage of the planning process to a list of authorities that is defined by decree. These authorities may comment on the plans and influence their contents.⁸

Pursuant to the Act XXI of 1996 on Regional Development and Spatial Planning, the county government develops and approves the county development concept in accordance with the national development and spatial development concept in the framework of the performance of tasks related to spatial development and planning.

Pursuant to the Government Decree 218/2009 (X.6.) on the content requirements of the county development concept, the county development program and the spatial planning plan, as well as the detailed rules for their integration, elaboration, coordination, acceptance and publication, the progress consists of a preparatory and proposing phase.

In the preparatory phase, the factors affecting development must be systematized and evaluated, as well as the possible directions of development must be examined. The preparatory phase includes the implementation of the County Development Partnership Plan and the situation assessment.

There are two main types of target groups to be involved in planning:

⁸ Introduction to the Hungarian spatial planning system, Dr. Ludwig Scharmann, 2020

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- A) organizations or citizens who are obliged to be involved as a result of legal determination
B) interest groups, social organizations and enterprises operating in the area affected by the planning, to be involved at the individual decision of the body responsible for the development of spatial plans.

In case of the recent planning processes (County Spatial Plan revision as well as County Development Concept and Programme) the involvement of the following actors took place:

- A) organizations or citizens who are obliged to be involved as a result of legal determination
- Ministers
 - Government agencies or independent regulatory bodies
 - National Environmental Council
 - Hungarian Academy of Sciences - Debrecen Regional Committee of the Hungarian Academy of Sciences
 - National municipal interest associations
 - County development councils concerned
 - Relevant (neighbouring) county governments
 - Municipality of the capital city (Debrecen)
 - Municipalities concerned (81 municipalities)
 - Relevant territorial public administrations

B) interest groups, social organizations and enterprises operating in the area affected by the planning, to be involved at the individual decision of the body responsible for the development of spatial plans

- public sector:
 - o University of Debrecen
 - o municipalities - e.g. territorial self-governments, cross-border territorial self-government
 - o interest groups: LEADER, chambers, diocesan representations, employers' and employees' organizations
 - o economic actors: clusters, business sector (companies, entrepreneurs)

The general aim of participatory cooperation in planning is to get to know and review the development ideas of citizens, bodies entitled to comment, regional development actors, interest groups and enterprises in Hajdú-Bihar County, to explore the challenges affecting the county, to formulate and synthesize proposals for measures.

Specific goals:

- Getting to know the development needs and strategy of a given region or sector
- Exploring real needs by interviewing actors in the field who are familiar with it
- Concretization and focus of measures, interventions, development goals and directions
- Sensitizing the actors of the society to the development of the county, as by involving them in the planning they can feel the development ideas even more in their own right
- Promoting the integrated, sustainable development of the county and its regions by learning about the development ideas of the stakeholders
- Establishing the social acceptance of the county spatial plans to be developed and adopted as a result of the implementation of the partnership

Means of involvement:

- Digital devices
- County Development Consultation Forum

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- County Development Working Group
 - Individual consultation
 - Communication campaign

LEGISLATIONS AND REGULATORY FRAMEWORK FOR ENVIRONMENT AND NATURE

The primary responsibility for environmental issues and for the implementation of EU environmental legislation is delegated to the Ministry of Agriculture (to dedicated State Secretariats) being the central governing body for environmental protection and nature conservation. The task of the State Secretariat is the promotion of sustainable development, the preservation of air and soil quality, and the protection of natural assets. The following legislative frameworks, policies and initiatives are most relevant:⁹

Since 1997, the comprehensive framework for environmental objectives and measures in Hungary has been represented by the **National Environmental Programme**. The Programme aims at defining environmental goals and the relevant tasks and tools for Hungary, while considering national conditions, long term social interests and future development targets and commitments related to global responsibilities, international co-operations and our EU membership. The Programme is harmonised with the 7th Environment Action Programme of the European Union for the period until 2020 and the National Framework Strategy on Sustainable Development of Hungary approved by the Parliament. The Programme also serves as a basis for using the environmental funds of the EU for the 2014-2020 period. The overall objective of the Programme is to contribute to the provision of environmental conditions for sustainable development.

The National Nature Conservation Master Plan of 2015-2020 (as part of the National Environmental Programme) states the importance of biodiversity and ecosystem services and imposes a multisectorial approach to prevent further loss of biodiversity; it highlights to maintain or extend the nationwide network of protected areas in order to provide the conditions for regional protection of Hungarian landscape features and natural values.

The Hungarian Government adopted in 2014 the **National Biodiversity Strategy for the period 2015-2020**. The Strategy intends to halt the loss of biological diversity and further decline of ecosystem services in Hungary by 2020 and to improve their status as much as possible. This aim can only be achieved if the aspects of biodiversity conservation are integrated into cross-sectoral policies, strategies and programmes and in their implementation.

The legal framework for **Natura 2000 sites** is governed by the government decree regulating the preparation process for designation and the detailed rules for Natura 2000 sites (Government Decree 275/2004 (X.8.)).

The National Ecological Network is “the backbone” of green infrastructure in Hungary. The National Ecological Network includes the national importance of natural and semi-natural areas and among those link-creating ecological corridors belong to a single, coherent system, and which is part of the core areas, ecological corridors and buffer areas. The network includes different type of areas of nature conservation importance, like nature protected areas, Natura 2000 areas, high nature value areas. This accounts for 36% of the total area of the country.

⁹ <https://biodiversity.europa.eu/>

The zone of the **National Ecological Network** is entrenched in the municipal planning of settlements. It was incorporated into the spatial planning regulation. Act on National Spatial Plan defines the zones of the network (core area, ecological corridor, buffer zone). These zones were harmonized with the Pan-European ecological network-related category system in 2009.

Act CXXXIX of 2018 on National Spatial Planning lays down the national regulations for land use and the spatial framework of spatial planning in order to harmonise land use in Hungary's settlements and regions of different features and to develop a uniform infrastructure network. The spatial plan ensures the protection of natural, landscape and cultural heritage values, primarily through rules of zones. The zone of the national ecological network includes natural and semi-natural habitats of national importance and the unified and composite system of ecological corridors, which provide links between them. In the zone of core areas and ecological corridors, the rules restrict the designation of areas for development, the placement of transport infrastructure and new surface mines. These regulations indirectly contribute to the protection of biodiversity (CBD, 2014).

Hungary prepared the country's first **National Sustainable Development Strategy (NSDS)** and submitted it to the Council in 2007. The new NSDS was accepted by the National Council for Sustainable Development on 16th May 2012, and has been adopted by the Hungarian Parliament in 2013. The National Framework Strategy on Sustainable Development for the period of 2012–2024, entitled "National concept on the transition towards sustainability", was adopted by Resolution 18/2013. (III.28.) of the Hungarian Parliament in the spring of 2013.

Hungary's second **National Climate Change Strategy (NCCS II)** – review of the first National Climate Change Strategy – was accepted in 2018 with the National Decarbonisation Strategy and the National Adaptation Strategy as integrative chapters. The National Adaptation Strategy, among its short term action lines on nature conservation, names the coordinated development of "green infrastructure" elements, including natural, semi-natural and rehabilitated habitats, in order to strengthen the physical connections and links between them, to enhance their sustainability and resilience. For the period 2014-2020, climate change adaptation and risk management and preserving biodiversity/developing "green-infrasturcture" were the most frequently occurring areas of adaptation support within the majority of operative programmes.

In 2016 October, a new "**National Forest Strategy 2016-2030**" (NFS) came into force. According to the NFS, there is an increasing social support for efforts promoting nature conservation in forests and the expansion of close-to nature forest management.

In Hungary, the **Landscape Convention** (Act CXI of 2007 on the promulgation of the European Landscape Convention dated in Florence on 20 October, 2000) took effect on 1 February, 2008.

The **National Landscape Strategy 2017-2026** was adopted by the Governmental Decision 1128/2017. (III.20.). The document is closely related to the European Landscape Convention of the Council of Europe. The framework for the complex preservation, protection, planning and development of green infrastructure elements is the landscape that describes environment and space as a complex whole.

The new Forest Act was adopted in 2009 – **Act No. XXXVII. of 2009 on Forests, Protection of Forests and Forest Management (revised and updated in 2020)**. This Act determines general rules of sustainable forest management and gives the opportunity to have a sustainable and more environmentally friendly forest management of different property and management forms.

Updated in 2015, the **Danube River Basin District Management Plan** contributes to protecting the Black Sea ecosystem by reducing pollution and by fostering the migration of long-distance migratory fish species. It can also help to protect habitats and species, support the implementation of Natura 2000 and European Green Infrastructure (ICPDR, 2015).

Considering county level, the **Climate Strategy of Hajdú-Bihar County** defines the necessary requirements, approaches, development methods to implement successful and efficient climate adaptation measures as well as mitigation solutions.

COUNTY IN FOCUS

As of January 1, 2013, the district system came into force with the transformation of the administrative system. Hajdú-Bihar County was divided into 10 districts:



Figure 6 Districts of Hajdú-Bihar County (2020, CSP)

Hajdú-Bihar County consists of 82 settlements. The classification of settlements according to their legal status is as follows:

- 1 city with county status
- 20 cities
- 10 large villages
- 51 villages

In terms of population ratio, the ratio of the urban population to the total population of the county is 80.23%, while the ratio of the village population is 19.77%. Over the last 8 years, the proportion of the urban population has risen by more than 2.5%. The increased high ratio is due to the data of the county town Debrecen and the

settlements with a large population (Hajdúböszörmény, Hajdúszoboszló), which does not reflect the higher level of urbanization valid for the county as a whole.

At the top of the county and the region, Debrecen is a city with county status, as the second most populous city in Hungary, and with its versatile functionality it also plays a regional central role.

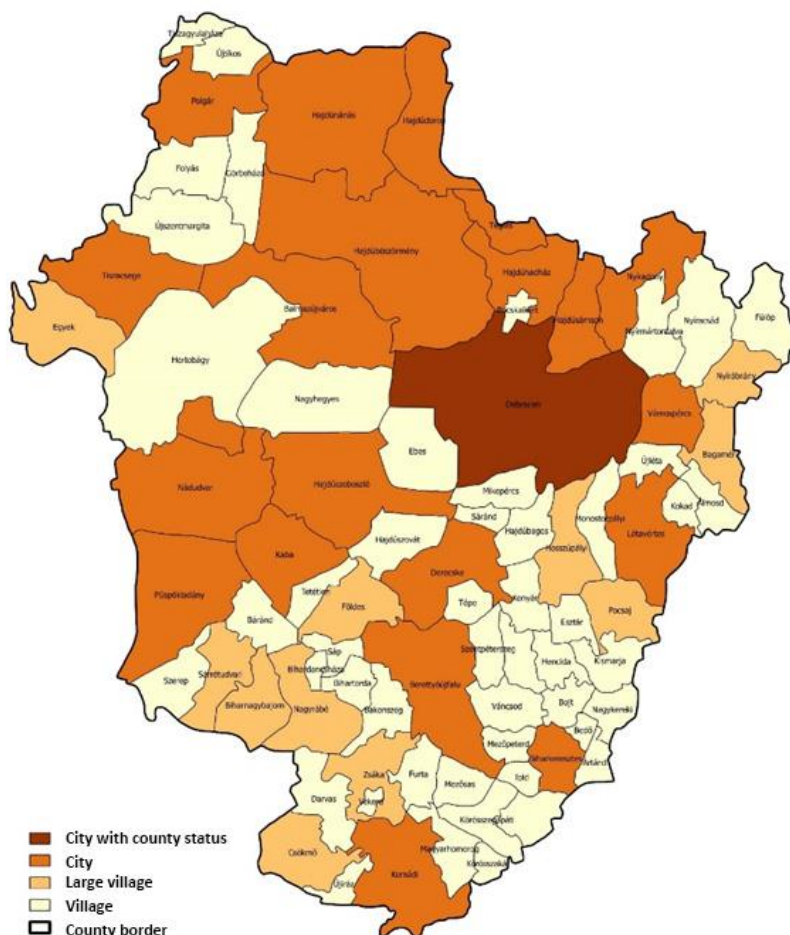


Figure 7 Municipalities of Hajdú-Bihar County (2020, CSP)

Hajdú-Bihar County also shows a “water head” phenomenon in terms of Debrecen and the other settlements of the county, similarly to when we examine Budapest and other large cities in the case of the whole country. Outside Debrecen, the settlement system forming the usual “pyramid” in the Great Plain can be observed.

Settlements with urban status are separated not only according to their population, but also according to their functional role, thus forming different levels in the settlement hierarchy - district capitals, functionally strong cities, cities with secondary functions, cities with incomplete secondary functions.

There are also differences in the designated district headquarters.

It is necessary to talk about the centre-periphery of the county. The central area of the county is the county seat and the surrounding ring of settlements, and it has the most favourable indicators in terms of all indicators. In addition, the central settlements of the peripheral regions can function as partial centres.

Urban settlements outside the district headquarters also show a diverse picture in terms of their functionality and population. There are settlements that have been awarded urban titles and have smaller populations than some large municipalities.

In terms of international relations between the settlements in the county, we can meet the cooperation with the neighbouring Romanian county both at the county and settlement level. Twinning relations have been established in the last decade with Bihor, Kolos and Harghita counties, in the framework of which the closest relations have been established with Bihor county.

Among the national networks, the organization of LEADER action groups is outstanding. There are 4 organizations in the county, which connect 73 county settlements (with their entire administrative area) and 9 settlements with their outlying parts and ensure local community development.

In the period of 2014-2020, it was possible to establish CLLDs, in the framework of which 7 municipalities established Local Action Groups in the county with the aim of support the implementation of the infrastructural development of specific municipal cultural and community spaces and local community organization activities.

Hajdú-Bihar County currently has 21 urban rankings, but the peri-urban area of each city is very different (in fact, there are cities that do not have an impact on any settlement). 6 factors are generally taken into account to determine the catchment area of cities (public and specialist institutions, health, education, trade, labour attraction, services).

As a result of the suburbanization and agglomeration processes, an agglomeration ring was formed around the county seat. The boundaries of the suburbanization zone around the city are expanding more and more and slowly reaching the agglomerating settlements. The outermost part of the agglomeration means the 30 km radius of the satellite settlement ring around Debrecen.

PLANNING PROCESSES AND DOCUMENTS OF HAJDÚ-BIHAR COUNTY

The preparation or modification of National Land Use Plan is required in every seven years in Hungary. The process is automatically followed by the adaptation of the counties' plans, which must be followed by the revision of the settlements' structural plans. The new National Land Use Plan (hereinafter as the new NLUP) was adopted in December 2018 by the Act CXXXIX on the Spatial Planning of Hungary and its priority regions. The amendment of the Hajdú-Bihar County Spatial Plan (HBCSP) was completed in 2020 in accordance with the new NLUP.

The purposes of the plan

- Communicating territorial goals and development intentions of the government to municipal plans;
- Strengthening the coordination of spatial planning by utilizing the coordinating role of the county;
- Utilizing the county's proposing role to tailor the government's intentions, use the plan as a lobbying and investment incentive;
- Spatial preparation of the development planning for the 2021-2027 European Programming Period; the foundation of county's economic and regional development activities.

The steps of the planning process

1. Methodology preparation – impact assessments and proposals for unique county zones, kick-off meeting for work session
2. Workshop at district level – I. Roadshow in four cities
3. Investigating the state-of-the-art
4. documentation of the state-of-the-art and planner's proposal for the County Spatial Plan
5. Workshop at district level – II. Roadshow in four cities
6. Amendment of work based on feedback - documentation of the state-of-the-art and finalized proposal for the County Spatial Plan
7. The preparation of the final form of the County Spatial Plan, based on the received official and ministerial evaluations and consultations
8. Approval of the Spatial Plan by the County Assembly

Aims of the plan

The aim of the County Spatial Plan is a dynamic and more balanced territorial development of Hajdú-Bihar County; the improvement of living conditions, reduction of territorial differences. Besides it is an important issue to support development ideas and decisions favouring sustainable utilization of environmental conditions.

The tasks of the county are primarily in the following activities

1. to help the industrial deployment in cities that are far from Debrecen, to create more balanced economic conditions, to stimulate investments, to attract jobs and innovation,
2. to help the development of local services in the cities around Debrecen, while maintaining local purchasing power;
3. to coordinate the development of district tourism, efficient branding and distribution of the different regions of the county;
4. to assist in the implementation of an eco-friendly economy (eg: bath-, spa and nature-friendly tourism, renewable energies, water-saving agriculture, R&D in agro-innovation) and, with other affected counties, dissemination among stakeholders.
5. to establish and support effective interventions, ensure sustainable environmental conditions.

The toolbox of planning are as follows:

- support the planning of the cities by the County Spatial Plan a regional structural plan for the work of settlements,
- uniquely defined county zones, and
- decisions in line with the Ministry Regulation, concerning the county government.

The main objectives of the updated HBCSP are formulated and approved in the form of a County Government Regulation. The purpose of the regulation is to determine the conditions for land use in certain areas of the county, the harmonized spatial order of technical infrastructure networks and individual buildings, with regard to sustainable development and the preservation of territorial, landscape, natural, ecological and cultural assets and values, and the conservation of resources.

HBCSP includes the spatial structural plan of the county, the designated spatial zones of the county and the rules related to them.

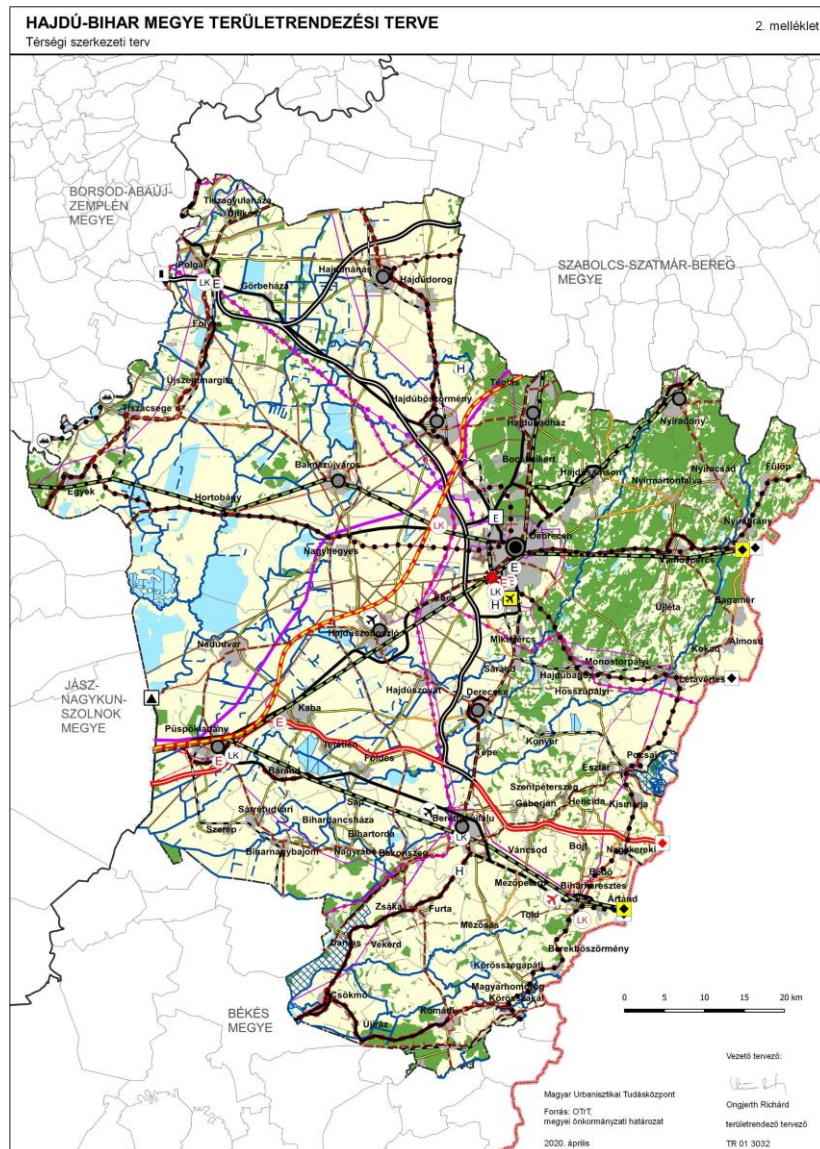


Figure 8 Spatial structure plan of Hajdú-Bihar County, 2020 (source: CSP)

Additional specifications for the structural elements and land use units, defined in each paragraph, are supplemented by 15 textual and table annexes with 14 thematic maps + 1 map for regional (county) spatial structural plan.

The county's land use categories, separated in the county's regional structural plan: forest management area, agricultural area, water management area, settlement area, area of at least 5 hectare of special land use.

In addition to the separated uniquely defined county zones, the spatial order determining settlements and the national and regional transport infrastructure networks and constructions are depicted on the spatial structure plan and the related tables.

The county spatial plan formulates national, county and uniquely defined county zones. The specifications for the national zones are defined in the NLUP Regulation, which are:

Designated county spatial zone areas

(1) Among the national zones defined in the National Spatial Plan:

- (a) zones of the core area of the ecological network, the area of the ecological corridor and the buffer area
- (b) areas of excellent and good arable land
- (c) areas of forests and proposed afforestation area
- (d) the area of the landscape protection area
- (e) settlements affected by the World Heritage and World Heritage Sites
- (f) the water quality protection zone
- (g) flood protection areas, including the river basin district and the VTT reservoir zone
- (h) settlements affected by the defence and military zone

(2) Among the county zones specified in the National Spatial Plan and the decree of the Prime Minister's Office supplementing the preparation and application of spatial planning plans:

- (a) the mineral resource area
- (b) the area of the regularly flooded by inland water
- (c) settlements belonging to the zone of homesteads

(3) Among the county zones individually determined on the basis of the National Spatial Planning Plan:

- a) settlements belonging to the zone of peri-urban settlements
- b) settlements with healing factors
- (c) the area most affected by climate change
- (d) the starry sky park area

The development of the uniquely defined county zones and their rules support the main objectives of the county for a sustainable and stimulating development. The rules are set out in accordance with the Act CXXXIX of 2018 on the Spatial Planning of Hungary and its Priority Areas, **in order to facilitate the realization of investments that support the development of the region, they also hinder the development of excessive or damaging burdens on the territories.** Typically:

- Encouraging the development of unique plans on areas under climate and environmental protection,
- Provide more favourable installation options under given conditions of innovative areas. (The plot can be built up without disturbing the nearby dwellers and institutions of the area by 10% more than the installation determined in the NSPCR, while the ratio of green area can be less with 5%.)

LAND USE AT COUNTY SCALE

The structure of its agriculture, which is also adapted to natural conditions, is reflected in the structure of land use. 89% of the area of Hajdú-Bihar County is arable land, 73% is agricultural land these values significantly exceed the national average (84%; 62%), but also the average of the Great Plain counties (84%; 70%). Similar to the counties of the Great Plain, the land use of Hajdú-Bihar County is also characterized by the over-representation of arable land and under-representation of forest areas. However, the county - with its extensive grasslands, reeds and fishponds, as well as its minor orchards and vineyards - differs significantly from the whole of the Great Plain.

Over the past decade, the proportion of forest land has doubled, while other forms of land use have generally lost weight. The structure of land use adapts to the relatively diverse landscape conditions of the county: in Hajdúhát and Dél-Hajdúság, which have the best soil conditions, the share of arable land is outstanding (above 75%); in Hortobágy grasslands (above 40%), reeds and fishponds (above 10%) are significant while the South Nyírség stands out with its forests (above 40%).

CHALLENGES IDENTIFIED

Considering the regulatory framework and experience gained during regional development and spatial planning of Hajdú-Bihar County, the following landscape-related major challenges have been identified:

- controlling urban sprawl
- efficient answers on landscape changes
- green infrastructure planning and development
- restoring degraded ecosystems, development of ecologic network, reducing fragmentations
- efficient solutions combatting the challenges of climate change (mitigation and adaptation)
- considering special conditions, different landscape character types
- harmonizing development, land use approach and tools to achieve more integrated spatial planning system.

In the last one and a half or two decades, the process of regional renewal in Hajdú-Bihar County has been accompanied by the renewal of previously existing settlement areas, the recycling of underutilized or unused areas, and the relatively diffuse, easily accessible greenfield developments for economic development. Although the phenomenon of urban expansion was marked in almost all settlements in the county, the analysis of land use data shows that it remained within a relatively solid framework.

In the land use of the county, it is typical that both the expansion of the built-up areas of the settlements and the implementation of the forest development programs take place by using agricultural lands, so they are decreasing to a lesser extent, but continuously. Especially in the case of the expansion of settlements, it can be observed that - in spite of the relevant legal regulations - the agricultural land used for such purposes is not the quality of the arable land, but other factors - e.g. accessibility, the cheapest possible provision of public utilities. This approach is particularly damaging when, for example, dozens or even hundreds of hectares of agricultural land are removed from cultivation for major industrial investments for the purpose of an industrial park or plantation, without meaningful consideration of agricultural productivity in the pre-location.

POLICY INSTRUMENT SELECTED

The Regional (County) Development Programme of Hajdú-Bihar County for 2014-2020 integrates the strategic goals of the county at both sectoral and territorial levels. The objectives of the programme include 8 priorities; within this project we plan to address Priority 1: Sustainable environment focusing on Measure 1.2: Conservation of natural and landscape values of the county. Due to the significant loss of biodiversity and the decrease of natural areas the importance of landscapes clearly strengthens. There is a strong need to create an adequate ecological perspective concerning both policy makers and the wider community. The policy instrument

encourages the development of Nature 2000 and other natural areas applying an integrated landscape management approach with specific focus on biodiversity and the sustainability of ecosystems. It is also an essential objective to ensure an attracting and safe livelihood for citizens considering climate adaptation.

The main aim of the policy instrument is clear but an improved structural background is required with an appropriate approach, enhanced capacity and the potential to integrate enhanced governance of ecosystem services to conserve biodiversity. New methodologies are required to efficiently implement the preservation and maintenance tasks even at municipal level.

Due to the end of 2014-2020 programming period, the policy instrument is under revision and amendment for the period 2021-2027. The final version of the updated policy is expected to be completed in the first half of 2021.

HBCG plans to improve the selected policy instrument through improved governance (as type 2 suggested by Interreg Europe).

Based on new aspects, fresh ideas and solutions originating from lessons learnt at/from other partners, the county government tries to find applicable and long-term sustainable methods in the management/governance of peri-urban open spaces when creating and enhancing a supportive governmental/policy environment. It is also planned to develop/gain an appropriate methodology to monitor and evaluate the efficiency and sustainability of the above-mentioned solutions within the county.

Implementing the project in Hajdú-Bihar County will have a potential impact on different sectors; the proper design and interpretation of respective potential brought by the ecosystem services to social and economic assets enable to achieve and generate added value in the form of strengthened and enhanced institutional and territorial capacity. There is a strong need for the integrated and harmonized development of respective peri-urban areas with potential through the preservation of natural heritage.

During the policy change we plan to achieve, increased staff capacity, a new collaborating network of relevant actors as well as new decision/policy making support methods and tools are expected.

RENATUR AS A TOOL – WORKSHOP AND PEER REVIEW

The overall objective of RENATUR is the identification, analysis, dissemination and transfer of good practices and policy experiences related to the protection of natural heritage of PUOS (peri-urban open spaces) into regional policy instruments. In case of this online workshop, the addressed policy instrument will be Hajdú-Bihar County's regional (county) development programme for years 2021 – 2027. To achieve this objective, partner regions work together exchanging solutions in the promotion and protection of the natural heritage of PUOS in planning practice.

The specific challenges to be tackled during the workshop on the 27th of April are the identification of:

- a) suitable national/regional/local policy approaches, planning instruments, practical solutions to map ecosystem services (ES) related to a selected area, e.g. a municipality, with special focus on peri-urban open spaces;
- b) methods and approaches to translate the role and significance of ES to local decision makers (e.g. mayors, assembly members, etc.) and citizens/local communities;
- d) practices, guidance on the development of municipal green infrastructure concept to provide an easily applicable supporting document to decision makers/planning experts for municipal planning even for smaller communities.

AIM OF THE WORK

The workshop and the peer review event provide several new inputs for county planning professionals, experts, municipal leaders and regional/local stakeholders.

During the event, two main issues are planned to be highlighted and answered.

“What are suitable policy approaches and methods to efficiently map area-based ecosystem services? How to develop a municipal green infrastructure concept built upon the results of the mapping process? How to use such green infrastructure approach to protect the natural assets and heritage of peri-urban open spaces?”

Several questions are planned to be discussed such as:

- What are low-cost and easy-to-use technologies, methods that could be useful to map area-based ecosystem services?
- How to integrate ecosystem services in local/municipal green infrastructure concept?
- Do you have any knowledge, or experience concerning to low-cost system of ecosystem services protection at municipal level?
- What kind of regulatory policy and planning approaches to municipal green infrastructure concept do you know?
- Which other instruments (e.g. monetary incentives; awareness raising tools) do you know to be built in a municipal green infrastructure concept?

“How to translate the significance of ecosystem services approach (ES) for decision makers and planning experts and how to make it better understandable for citizens/local communities?”

- What technics/methods are available to introduce the issue of ecosystem services in a clear, simple, easily understandable way, not focusing on scientific but practical approaches?

-
- How to successfully provide information on the benefits of conserving the ecosystem services to protect PUOS?
 - What communication solutions can be applied to efficiently reach the different target groups like decision makers and citizens?
 - Which information need to be included in such communication process?
 - How to convince less engaged local decision makers to integrate at least the consideration of ecosystem services in municipal planning processes?

Gaining new knowledge, listening to new experiences and recommended solutions introduced and discussed by peers, the peer review provides the opportunity to learn about practices concerning the most promising strategies and approaches

- for mapping ecosystem services and incorporating those in municipal green infrastructure conceptual document
- for a common understanding of the role and benefits of ecosystem services by both policy/decision making level and local citizens
- for exchanging ideas on how to develop recommendations for an efficient and applicable municipal GI concept.

At the end of the event, good practices identified and peers' recommendations will support the elaboration of the county level action plan.

CASE STUDY

The selected case study area to focus on during the event is the municipality of Nádudvar.

Being in a period of municipal spatial and regional planning for the upcoming decade, it is a great opportunity to learn about solutions, practices, methods, tools and/or processes that can help a specific local area, a small city of Hajdú-Bihar County to step into a greener future taking into consideration assets, potential, necessity, engagement and social responsibility.

Although there are some existing initiatives and funding opportunities to define, select and implement green infrastructure related projects and investments, it is hard to find applicable solutions for smaller municipalities to fulfil the multiple needs of municipality, economic/business actors and local communities at the same time.

As it is expected to gain access to wider funding opportunities in the period 2021-2027 (via Territorial and Settlement Development Operational Programme Plus and Environment and Energy Operational Programme Plus with a dedicated measure for green and blue infrastructures), it is essential to prepare well-based and well-justified municipal plans and/or strategies to achieve the required objectives.

The RENATUR knowledge capital can fill this gap providing applicable, simple but efficient solutions for municipality planning and decision making.



Figure 9 Municipality of Nádudvar (source: www.aszhirportal.hu)

Nádudvar is located at the intersection of four landscape regions (Hortobágy, Hajdúság, Nagykunság, Sárrét); the proximity of Hortobágy is determining.

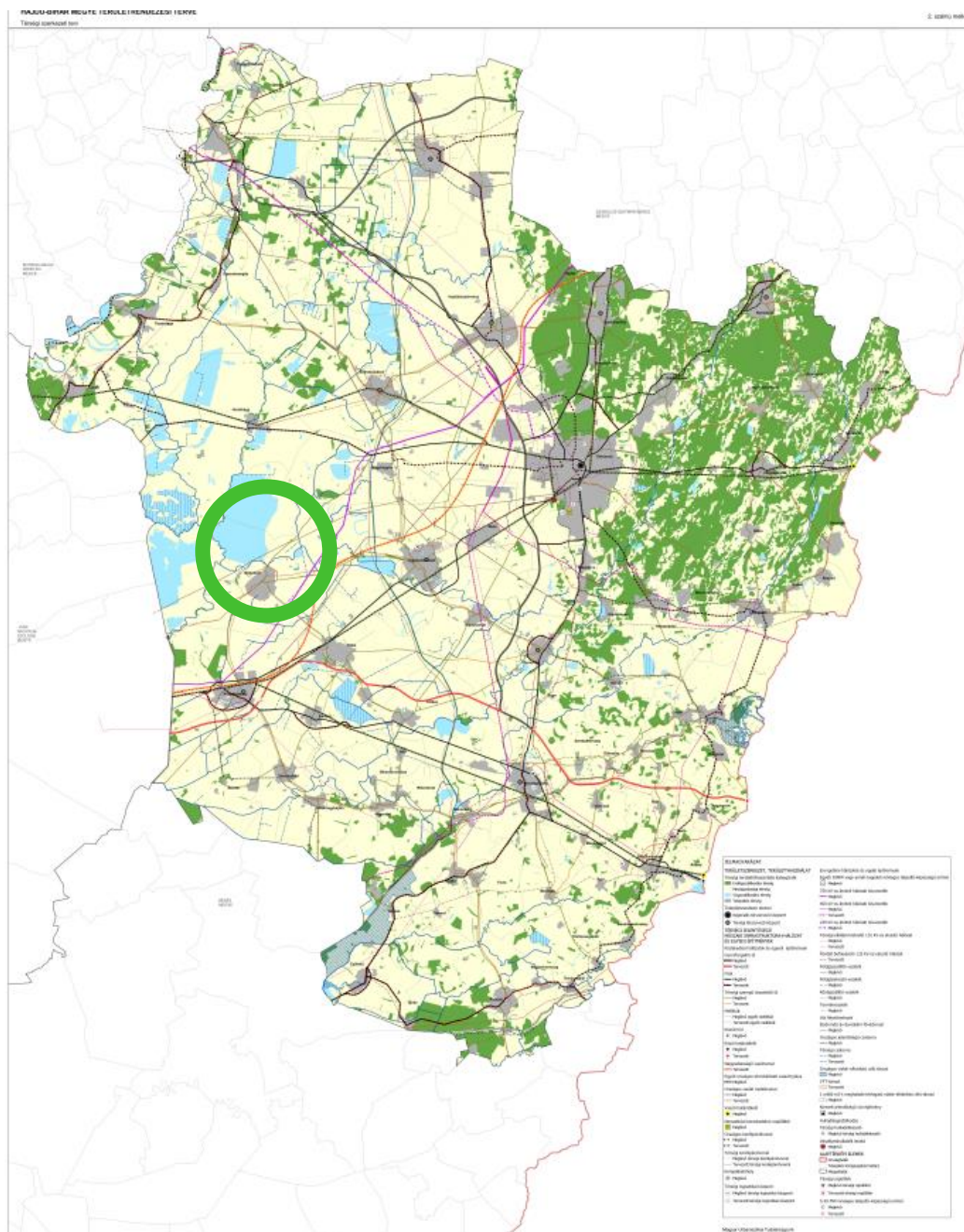


Figure 10 Location of Nádudvar within Hajdú-Bihar County (source: CSP)

Hortobágy National Park is a UNESCO World Heritage Site, a unique treasure of Europe with its natural and cultural heritage.

About 40% of the outskirts of Nádudvar belong to this area.

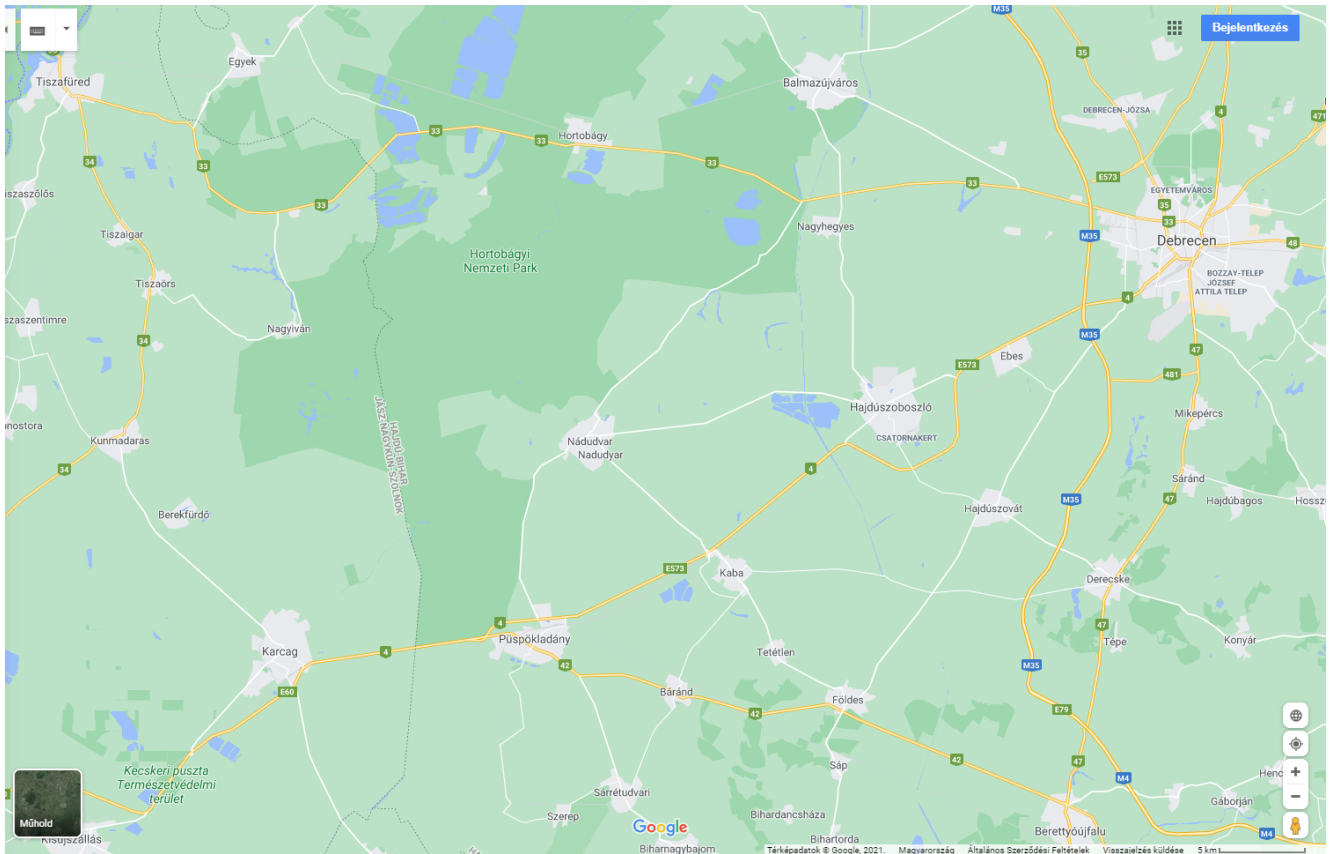


Figure 11 Location of Nádudvar – Hortobágy National Park (source: Google Maps)

A grassy plain not found anywhere else in Europe evokes the world of the Asian steppes. In addition to its special landscape, its fauna is home to native species, and its birdlife is unparalleled. The unique landscape management and pastoral culture adapted to nature is famous far and wide. It is one of the few areas in Europe that is largely free of light pollution. The Municipality works in strong collaboration with the Hortobágy National Park to protect natural values and to present them in a value-preserving way to domestic and foreign tourists visiting here.

In addition, the city has significant historical, cultural and architectural values. Nationally protected monuments are found here, the Cultural Center in the city is one of the most original cultural houses in the county. Nádudvar is very rich in the memories of the old peasant culture, in the cultivation of folk crafts and shepherd art.

Talking about its economy, due to the large agricultural and food companies operating here, the city has the highest number of enterprises with at least ten employees per capita in the county. The local government's business tax revenue has increased significantly in the last decade, approaching 1,8 million EUR in 2017, which far exceeds the revenues of the two neighboring cities, Kaba and Püspökladány.

As concerns agriculture, soil conditions favor both arable crop production and animal husbandry, it is the dominant economic sector of the city.

The city was a stronghold of large-scale agricultural production in the decades before the change of regime, and has managed to maintain this position ever since. The share of agricultural enterprises is high, which is a good reflection of the economic dominance of the sector.

The number of registered primary producers in 2017 was 640. The list of the largest business taxpayers also includes mainly agricultural and food companies, as well as related service providers.

Nádudvar's industrial enterprises are active in the manufacturing and construction industries.

There is no industrial park in the city, but there are significant underutilized areas that can be made attractive as green or brownfield investment areas.

There are no significant brownfield areas in Nádudvar, formed from abandoned plant areas. At the same time, there are several smaller or larger plots or sets of plots on the edge of the inner area as agricultural or empty land embedded in the residential area. These can be potential sites for development, depending on the ownership intentions.

At the intersection of four landscape areas, Nádudvar is treated as part of the steppe tourism development zone and considering that a significant area of the outskirts of the city towards Hortobágy is free of light pollution, ecotourism potential is also something should be utilized.

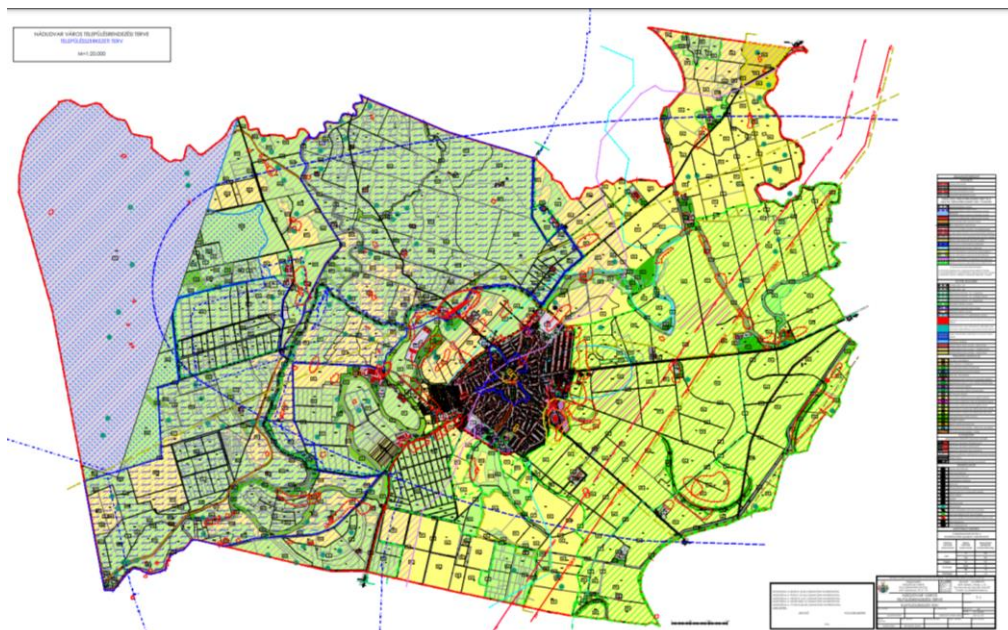
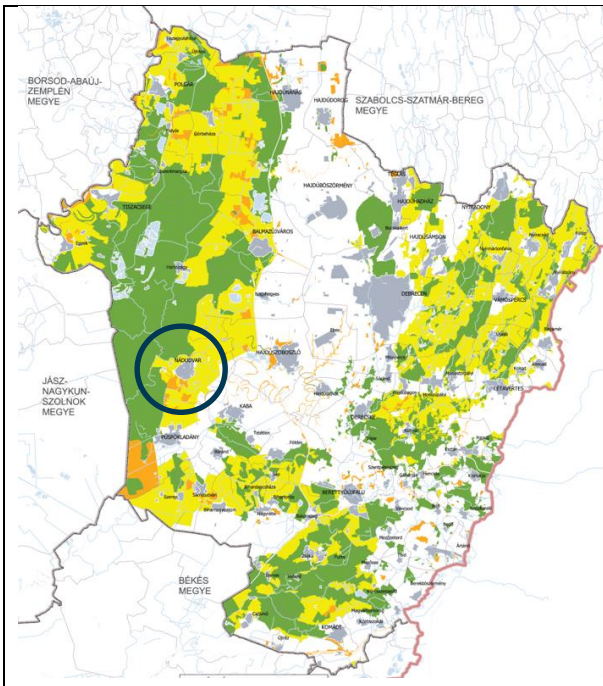
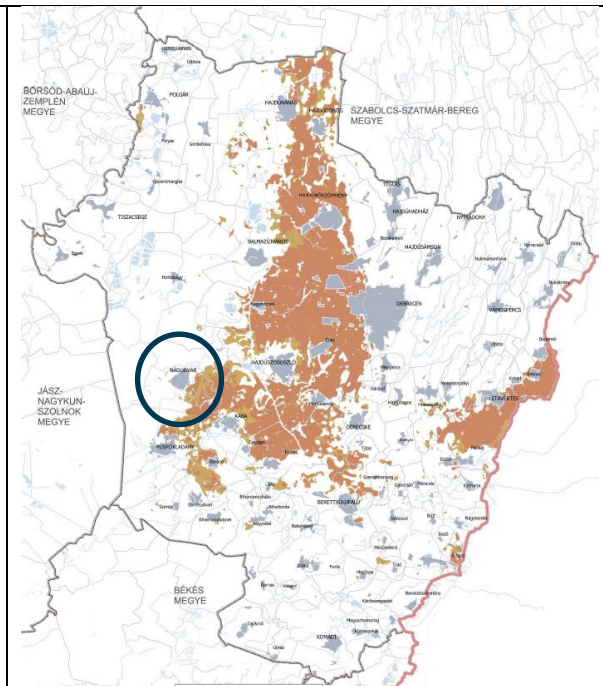


Figure 12 Spatial Structure Plan of Municipality of Nádudvar (source: nadudvar.hu)

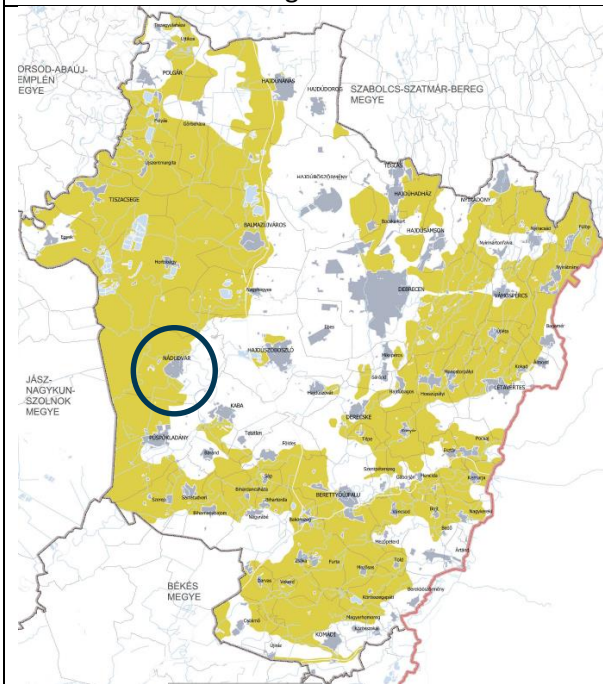
Based on the County Spatial Plan, several designated spatial zones cover the whole or a smaller area of the city:



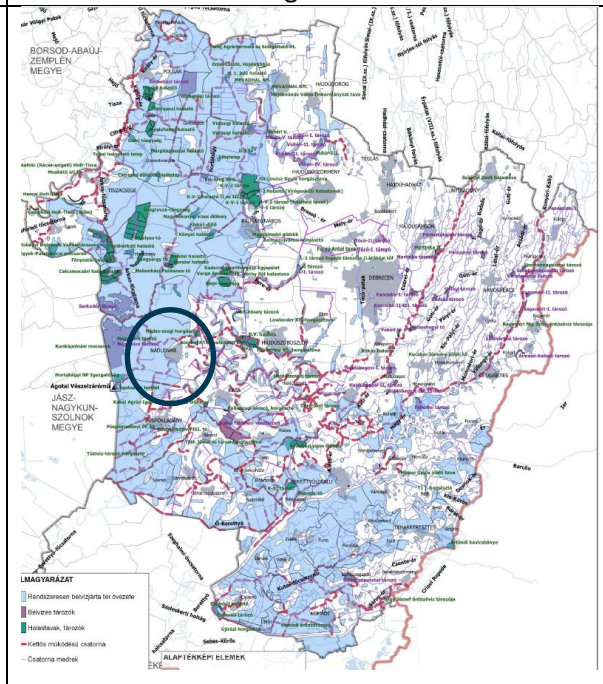
Zone of national ecological network



Zone of excellent and good arable land



Zone of landscape protection



Zone of regular inland water inundation

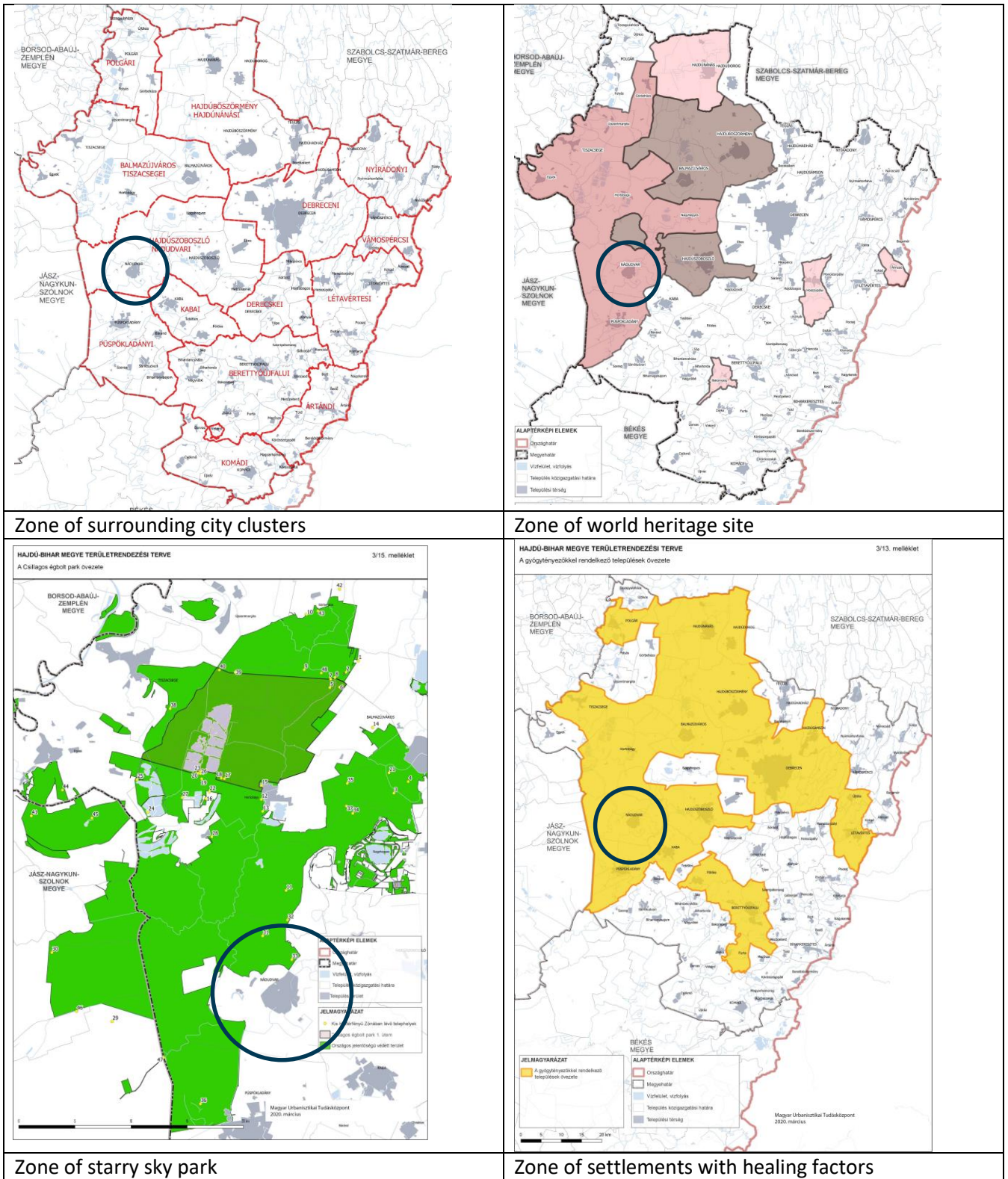


Figure 13 Designated spatial zones in Hajdú-Bihar County including the area of Municipality of Nádudvar (source: CSP)

As defined by the mayor of the city:

“Today, global climate change is valuing the importance and professional care of our green areas, in order for the settlements and the population to be able to adapt to the changing conditions, mitigating its harmful effects.

The planned design of the city's green spaces allows for continuous plant cover during the four-season schedule of perennial and annual plantings, with a view to enriching the urban ecosystem. This requires a professional activity that constantly focuses on the task.

Particular attention needs to be paid to the care of the tall, decades-old trees in our public spaces, which are of paramount importance to the ecosystem. They are home to many species of birds, birds and insects, and in addition to their oxygen-producing activities, their shading effect is essential during the increasingly hot summers, so it is in the public interest to keep them sensible.

The afforestation program should be carried out as planned, focusing on native varieties that are well adapted to local climatic conditions. Continuous maintenance should be provided after installation.

We can have a good time in our city if the environment is beautiful. Therefore, one of the most important tasks of the next period is the implementation of living environment developments, during which, together with the population, we must make our streets and public areas beautiful and homely.

The aim is to make the people of Nádudvar feel comfortable in their place of residence, to provide an attractive living environment for young people, and to be attractive to visitors as well.”

So based on the results and outcomes of the RENATUR project, this small urban community with its diverse peri-urban area is ready to act as a “pilot” municipality to disseminate the benefits of applying green infrastructure approach in spatial and local municipal development planning and urban investments while ensure the common understanding of these values at different scales within and beyond its community.



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