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Capitalisation of existing results Central Development Region of Romania



Ghelinta Commune
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1. Short description of the region and its economic situation in general

By geographical position, Center Development Region is well-connected territorially, it has got two highways (A1 and A3 – under construction), connection to Central European countries, as well as Center Region has a good polycentric urban build-up, cultural assets, and unique natural heritages. The Region's contribution to the country's GDP is the 3rd largest out of the 8 regions, and the county of Brasov is the 6th richest county in the country – and the richest county of the Central Region. The region covers an area of 34 100 km², making up for 14.3% of the country's territory, and counting 2.31 million inhabitants in 2020¹, with a density of 74 inhabitants/km², 59.4% of which settled in urban areas. Most of the region's settlements have a population smaller than 20 000 inhabitants, only the city of Brasov counting more than 200 000 persons, followed by Sibiu and Targu Mures with up to 200 000 inhabitants each. The most important cultural capital specific to the region is its ethnical and cultural diversity: Romanians 65,3%, Hungarians 29,9%, Roma 4%, Germans 0,6%².

The predominance of the mountainous relief presents a great potential for animal husbandry, the plateau and meadow areas for agricultural crops and altogether they allow a vast diversification of agricultural activities in the region. Concerning renewable energy resources Center region has the greatest potentials in biomass and solar energy as well as the hydro-energetic resources of Mureș, Olt and Sebeș rivers are highly important. Center has a special natural capital, the areas of 3 biogeographical regions can be found in the region's territory out of Romania's 5 such areas. There are 192 natural areas with a national legal protection status: 3 national parks, 3 natural parks, 156 natural reserves, 2 bird protection areas and 28 nature monuments. The dynamics and configuration of the region's settlement network are factors that have directly influenced the level of social and economic development of Center Region. The network of settlements in the region consists of 57 cities (20 of which are municipalities), 357 communes and 1788 villages. Center Region has two urban development poles with considerable metropolitan areas: Brașov (also titled as the only real growth pole of the region) and Târgu Mureș, the third development pole is Sibiu but this city is without a larger metropolitan area³. Geographical features have directly influenced the development and spatial distribution of rural settlements, in Covasna County existing 5 towns and 40 rural communes, from which Ghelinta Commune is the second biggest⁴. Low population density (64 inhabitants/km²) is a common feature for the region, although the urbanization rate is higher than the national average (58 inhabitants/km²). The active population is 42.5% of the total population of the region, decreasing in recent years as a result of the increase in the number of pensioners and the delay of young people

¹ INS, 2020 Populatia dupa domiciliu 1 ianuarie 2020

² INS, 2020 Populatie si structura demografica a Regiunea de Dezvoltare Centru

³ CRE:HUB. (2017). Policies for cultural CREative industries: the HUB for innovative regional development. *Interreg Europe Transnational Programme*.

⁴ INS Covasna Populatia dupa domiciliu 1 ianuarie 2020

entering the labor market. The employment rate of the working age population have been significantly reduced over the last 22 years, reaching 60.5% in 2000s and 52.1% respectively in 2019⁵.

GDP in 2019 totalled 96 bn RON, representing 11.3% of the value of Romania's performance. Calculated at standard purchasing parity, GDP was 19 200 € per capita, ranked the region on 3rd at national level, after the Bucharest-Ilfov Region and the West Region. The regional GDP representing 50% of the EU average and 95.9% of the national average (Eurostat, 2020). The economic structure has undergone substantial changes in the last decade. The weight of the basic economic sectors had fallen sharply (agriculture, mining and manufacturing), while the share of tertiary sector have increased. Regional industry centres on food industry, textiles, woodworking, building materials and automotive industry⁶. Foreign direct investments (FDIs) in Center Region reached 7.3 bn € at the end of 2018, 9% of total foreign direct investments in Romania, second after the capital region. Regional exports have seen a strong upward trend over the past 10 years, reaching around 10.65 bn € in 2019, 1.8 times more than in 2011⁷. SMEs in 2019 represented about 73% of the staff and 63% of the turnover of the local enterprises in industry, construction and services, except those in the banking and insurance sectors. The participation of local companies in the various economic cooperation networks at European level is still low⁸. The economic importance of tourism is relatively low, although the region has a high and diversified tourism potential: in mountain tourism, cultural tourism and rural tourism. The density of accommodation units doubled the national level, thus the region held second position in the country⁹.

Agriculture and rural development in the region occupy about 83% of the territory of Center Region with 357 communes and 1 788 villages. The rural population was slightly over 1 million inhabitants in 2019, representing 40.8% of the total population of the region. The employment rate of the rural population aged 15-64 dropped to 45% in 2018, lower than in the urban area - 57.3%. Agriculture is characterized by the predominance of small-scale farms, the aging workforce, the low share of mechanized labor in production, low income earned. Population employed in agriculture was still large but in decreasing in 2019 (20% of the total empl.), although the share of agriculture in regional GDP has fallen sharply in recent years, from 19.3% in 1993 to 5.3% in 2019³. In terms of economy, the region has a strong orientation towards industrial activities with a significant potential for supporting of forest based industries (46% of the national timber production, 20% of the furniture production). The region has a great potential in terms of tourism, including cultural tourism, but the most important dimension of its CCI is the ICT sector. As it happens in all regions of Romania, ICT activities are polarized around large cities, in particular county residence-cities. The region has a great potential in terms of ICT, increasing significantly in terms of employment and in share in regional GDP as well.

⁵ INS 2020, Populatia activa in Regiunea de Dezvoltare Centru, Romania

⁶ CRE:HUB. (2017). Policies for cultural CREative industries: the HUB for innovative regional development. *Interreg Europe Transnational Programme*.

⁷ BNR (2020) Comertul International cu servicii. *Banca Nationala a Romaniei*.

⁸ INS (2020) Conturi Nationale, IMM-uri

⁹ CRE:HUB. (2017). Policies for cultural CREative industries: the HUB for innovative regional development. *Interreg Europe Transnational Programme*.

2: Objectives and identification

The main objective of this deliverable is to gain good knowledge and, when possible, to capitalize results from a selected list of EU-funded projects and macroregional documents that are related with demographic change, circular bioeconomy and/or sustainable rural development.

The first research batch, focused on Horizon 2020 projects, was delivered by MIZS; BIOPRO made a first selection from this batch and extended the search in October 2020 with a focus on Interreg projects (Danube Transnational Programme, Alpine Space and Interreg Europe, including ARPAF) using the keep.eu database. Further research related to Horizon 2020 projects was done through CORDIS and the database of the Bio-Based Industries/BBI JU funded LIFT project that encompasses the results of up to 34 coordination and support actions funded mainly by Horizon 2020.

As search criteria, projects starting from 2016 onwards were considered and it was intended that most of the selected projects had at least one of the countries participating in GoDanuBio in their consortia. From each relevant project, its deliverables and outputs that could be interesting for the development of GoDanuBio were identified using the project websites. In some particular cases, the deliverables were not available and, if relevant, were requested by other means.

The search has delivered 19 EU-funded projects and 12 transregional documents. Only a handful of them have a focus on the deployment of the bioeconomy in the Danube macro- region; some of the outputs can be used as inspiration or even guideline to gain insight in the transnational approach aimed by the project. Complementary to this search, all partners identified further transregional projects and macroregional documents that are relevant for their regions with regard to GoDanuBio project aims.

2.1. Capitalisation of EU-funded projects

2.2.1. Bioenergy Village - Increasing the market uptake on of sustainable

In our commune Ghelinta has been implemented a Horizon 2020 project, namely the 'Bioenergy Village (BioVill) - Increasing the market uptake on of sustainable bioenergy' between 01.01.2016 and 31.12.2019. The coordinator of the project was GIZ Germany.

The core idea and objectives of this project was a cross-border exchange and transfer of know-how between different stakeholders in order to spread best practice examples of bioenergy villages and value chains, support local initiatives as well as foster replication and upscaling effects. In Romania this project ensured the set-up of the very first bioenergy village while our Commune Ghelinta was one of the target villages. The experiences gained from German and Austrian bioenergy villages was collected, in same parts reconsidered and adapted to the respective local framework conditions.

Results of the project: it provided a comprehensive toolbox for the initiation and planning of bioenergy projects. Hands-on peer-to-peer learning experiences, fostered by the project, have enabled local stakeholders to develop, manage and facilitate their own individual bioenergy projects. In Ghelinta as one of the target villages in the Biovill project, several biomass-based individual heating systems with

almost 2 MW total capacity have been installed (e.g. in the mayoralty, school, a bakery, an event hall and private households). Furthermore, investments in the establishment of the biomass value chain have been realised by the involved local stakeholders, e.g. by procuring wood harvesting, biomass production and transportation equipment as well as preparing special areas for gathering wood residues and relevant analyses, studies and permissions have been financed. The outcomes and outputs of the Biovill project was presented to EU parliament deputies, to Romanian parliament deputies as well as to local rural municipalities. Moreover, in frame of Biovill project our commune elaborated a long term action plan, called Local Bioenergy Development Strategy 2020-2030 in Ghelinta. In the same time, the Green Energy Innovative Biomass Cluster from Covasna County elaborated a national initiative '1 village 1 MW' to promote the local small-scale biomass to energy projects in rural Romania.

2.2.2. Be-Rural Bio-based strategies and roadmaps for enhanced rural and regional development in the EU

The second most important and closely related to GoDanuBio project is the ongoing 'Be-Rural - Bio-based strategies and roadmaps for enhanced rural and regional development in the EU (BE-Rural)' ongoing Horizon 2020 project between 01.04.2019-31.03.2022. The coordinator of the project is Ecologic Institute gemeinnützige GmbH.

In the Be-Rural project the target region is Covasna County from Romania, while the Romanian project partner is Institute for Economic Forecasting, under Romanian Academy. Since Ghelinta is located in Covasna County and local private companies are involved in Be-Rural from Ghelinta, the project has high relevancy also in Ghelinta. Moreover, the Mayor of Ghelinta is member of the Be-Rural Working Group. In this project the local potentials are assessed, such as existing and available sustainable technologies, biomass potentials and (small-scale) business models for a bio-based economy. After this, broader engagement mission will be realized by involvement of citizens, teachers and students, organizing innovation workshops, bio-based pop-up stores, educational seminars, summer schools and webinars.

The goal of these events: to stimulate understanding and interest in supporting their regional bioeconomy. Building upon the knowledge generated, local key stakeholders from academia, business, policy and civil society will come together to discuss regional potentials and develop bio-based strategies and roadmaps. Together with bio-based innovators, BE-Rural will also analyze market needs and local conditions, as well as identify promising (small-scale) business models. To keep the momentum and ensure broad support for the further development of the selected regional bioeconomies, the exchange will be consolidated in a "Network of Knowledge", in which best practices from the regions are shared at an interregional level. The BE-Rural team will focus on addressing fragmented value chains in Covasna County, and how to implement the circular economy concept within the county's industrial sectors (i.e. wood and furniture, textiles, agro-food, mechanical engineering, green energy).

2.2.3. Foresda - Forest-based Cross-sectoral Value Chains Fostering Innovation and Competitiveness in the Danube Region

The project is started on 01.01.2017 while the end date was 30.06.2019. The Project Coordinator was CyberForum e.V., Germany, while the national project partner is the PRO WOOD Regional Wood Cluster.

The project aimed to transform the local forest-based industries (FBI) into attractive and sustainable industry sectors. This is possible by developing innovative products and services that come as a result of the cooperation with R&D entities and another economy sectors, such as agriculture, construction, pharmaceuticals, etc. This is the so-called cross-sectoral approach. In order to achieve this, the project partners (mostly clusters and associations) supported and improved the innovation culture of their SMEs and strengthened collaboration among companies, faculties, and universities, research institutions, clusters etc. In frame of the project has been elaborated the Joint Action Plan for Innovation and set a list of actions to address the identified needs within the region for the development of the supporting environments of wood sector in the region. Since in Ghelintă existing several companies in forest-based industries, some of them were involved in elaboration of Joint Action Plan, as well as in the Foresda Project Working Group. Afterwards, based on the identified needs, the development of the supporting environments related to the possible FBI cross-sectoral activities were addressed. The PRO WOOD organized benchmarking of the different group of stakeholders (SMEs, academic area, public authorities, consulting companies), also involved in the FORESDA project several other stakeholders from different areas, such universities and R+D institutions from academic areas, national and regional public authorities and forest management public and private entities, consulting companies in order to understand the ongoing challenges in the wood processes and local SMEs from the wood industry.

The gained results have been already capitalized in elaboration of the Regional Development Strategy for 2021-2027, however the strategy is currently under finalization.

2.2.4. STRING – Strategies for Regional Innovative Food Clusters

In STRING Interreg Europe ongoing project from 01.01.2017-30.06.2021 with the focus on food industry. The Project Coordinator is Province of North Brabant, NL, project partner is AgroFood Regional Cluster.

A few local companies from Ghelintă is also member of the AgroFood Cluster, such as bakery and traditional food producer companies. The objective of the project is to improve the performance and implementation efficiency of development policies and programmes related to food R&D&I and clusterization to promote innovation value chains for the sector. In STRING project a local bakery was involved from Ghelintă, and an innovation project is starting among this local bakery and National Research and Development Institute for Food Bioresources – IBA Bucharest. STRING unifies regions sharing the ambition to improve the innovation capacity of their food clusters, enabling them to meet the increasingly diversified needs and the growing demand for larger quantities of food. The shared bottlenecks of agro-food innovation eco-systems –often rooted in the malfunctioning of policy instruments– urge partners to work on solutions adaptable to specific regional contexts.

2.2.5. AgroBioHeat – Promoting the penetration of agrobiomass heating solutions in European rural areas

AgroBioHeat is an ongoing Horizon 2020 project from 01.01.2019 to 31.12.2021, aiming to produce a mass deployment of improved and market ready agrobiomass heating solutions in rural Europe. The Project Coordinator is CERTH, Greece.

In Ghelintă agrobiomass is a large, underexploited resource, considered as byproducts which can support the rural development and circular economy. On the AgroBioHeat project events local farmers and members of Local Council participated and will be involved in the future as well. In order to generate trust to local market actors, the AgroBioHeat project will detect potential early adopters even from Ghelintă. Local stakeholders will have opportunity to participate on engagement and matchmaking actions where technology providers, ESCOs, other consultancy companies will participate and collaborate with the aim to set-up agrobiomass for heat projects.

3: Findings

The findings section has been elaborated in two thematic fields that are considered crucial for the deployment of the bioeconomy at regional and local level: policy and development strategies/action plans and role of clusters.

3.1. Policy documents

The Action Plan for Bioenergy/biomass of the Center Development Region 2014-2020 was elaborated within the PromoBio 'Promotion of regional bioenergy initiatives 2011-2014' project which has as main purpose the development of the energy use of biomass identified as one of the main renewable energy resources of the Center Development Region as well as of the Ghelintă Municipality. In elaboration of this Bioenergy Action Plan (BAP) were actively involved the Center Regional Development Agency and the Green Energy Innovative Biomass Cluster from Center Development Region of Romania. In additional, several Local Action Groups, which are a non-profit entities in rural regions involved some direct funding measures to promote local green innovation investment projects such as development of local infrastructure for biomass harvesting, production of biomass fuel and bioenergy production, establishment of local and short supply chains and establishment of new start-ups in bioeconomy and forest-based industries. In November 2020 has been launched the first version of Regional Smart Specialization Strategy of Center Development Region 2021-2027, in which the main focus is on digitization of the businesses and public sector, support the transition into low carbon society, development of local and regional value chains and increase the collaboration among the R&D and business entities.

3.2. Bioeconomy in Center Development Region

After the „Bioeconomy Development in EU regions” report of the European Comossion, in Central Development Region was also pointed out that demonstration projects, dissemination towards general

public and knowledge transfer and exchange are necessary for a better engagement for bioeconomy development. According to the Bioeconomy development in EU regions report, the Center Development Region by the first ranked broad value chain approach is in 'Biomass supply and Waste' category. The maturity of our region received 1.- Low Maturity in scoring 1 to 10. The Center Development Region count on technology transfer entities, clusters and other bridge and intermediary organizations in upcoming period.

3.3. Role of Clusters in Development of Regional Bioeconomy

In the identification of local and regional challenges and establish the roadmaps on bioeconomisation, a few former and ongoing project provided adequate framework for the regional clusters, such as for the Green Energy Innovative Biomass Cluster, AgroFood Regional Cluster, Transylvanian Textile and Fashion Cluster and Pro Wood Regional Cluster. The general problem lies in the fact that usually the private companies focusing on production and dealing with business as usual approach. The world, however, changes very rapid and the regional stakeholders have to reshape their directions or to develop new value chains in collaboration with other cross-sectoral stakeholders. So far, in Center Development Region the focus was only on renewable energy, increase of sustainable production of bioenergy. In this mission the Green Energy Innovative Biomass Cluster is one of the most important actor on regional level. However, the biomass feedstock from forest-based industries, agriculture byproducts, food industry byproducts have to be considered as input material in other processes. The low bioeconomy maturity index of Center Development Region of Romania as described in the report "Bioeconomy development in EU regions" (2017) should be improved by the elaboration of regional bioeconomy inventory and based on that elaboration of regional bioeconomy strategy is required. In this process have to be involved the relevant universities, research teams, professional advocacy entities, clusters, regional and local public institutions, etc. as it was also proposed in the "Common Action Plan towards better framework conditions for biobased eco-innovation in Danube Region" (2019) by the DanuBioValNet consortium. Besides the importance of networking the presentation of lighthouse cases is essential on local level.

Chapter 4: Consequences for GoDanuBio

At the moment one of the main issues is that there is no existing local policies in rural areas developed regarding mitigation of the depopulation and exodus of rural areas in many Danubian countries. The other identified issue that there is low interest among the local policy makers to act against deficits in rural population, low attractiveness of the communes. In many cases not only because of the less developed infrastructure but also because of the lack of well-paid jobs young generation leave its hometown and move towards more attractive cities or countries abroad. The new topics such as circular-bioeconomy can be used as a tool, that ensure new momentum to foster rural developments. Since this approach is a new concept - focusing on the transition of a fossil-resource based economy to bioeconomy based society, - young generation could be more susceptible towards an economy making use of sustainable production of biological resources and processes to develop new products. In order to

facilitate the lessons learned from previous projects mentioned above, during the implementation of GoDanuBio project the following recommendations have to be taken into consideration:

- Communication and dissemination of the successful stories from previous projects for local young generation
- Create workshops and round table discussions to present new social innovation approaches from domestic and foreign regions, presentation of best practices
- Organization of brain-storming sessions by involvement of young people on local levels
- Inform the local decision-makers about the real needs from young generation, let them enter into the decision making process
- Establish local community building initiatives: workshops for elaboration of new business ideas, local cultural events, local open innovation platform, local business development corner/office
- Establishment of local economic forum, permanent funding monitor
- Collaboration with the local traditional bio sectors in order to create an added value, to innovate. GoDanuBio should promote “cross sectors” workshops, they could generate motivations to initiate new projects
- Launch investor events to promote startup ideas in local bioeconomy sector
- The region lacks high professionals, so the regional educational system should be changed to provide more professionals, according to local labor market demand.
- Increase the living conditions for the local young professionals knowing their specific preferences (better local childcare services, healthy rural environment, smart mobility – connection with urban areas, recreation possibilities etc.)