REPORT ON ACTION PLANS

Deliverables D.C.5.2

Version 1
10 2018

PP4: Cristina Marietta, Elena Masala

Index

REPORT ON ACTION PLANS

Ruda Śląska, Chorzów, Świętochłowice FUA

Deliverable D.C.5.2

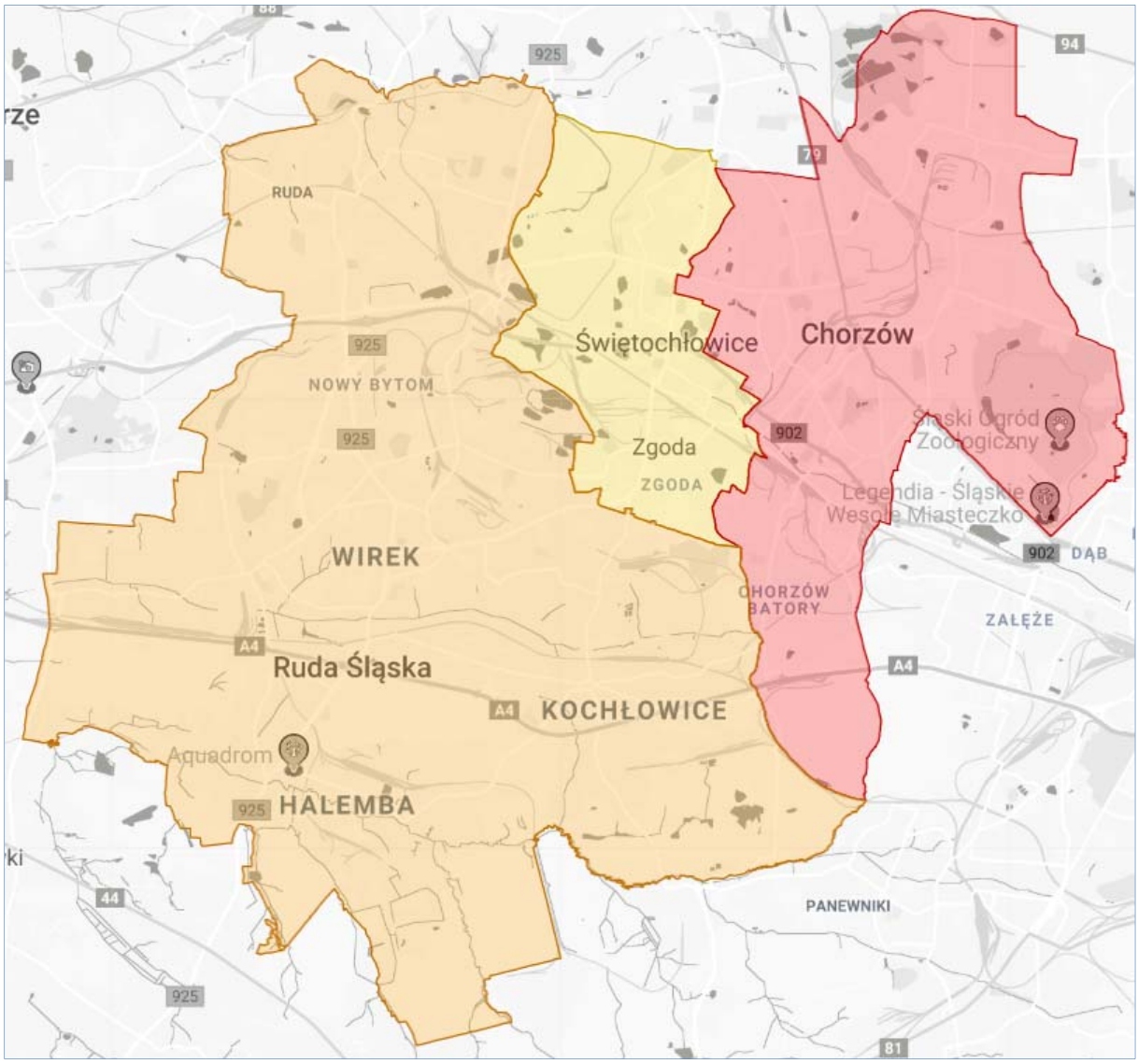
Version 1
10 2018

LP: Anna Starzewska-Sikorska, Joachim Bronder

Index

1. THE FUA IN POLAND

LUMAT Partner	LP	IETU, Poland
Polish FUA (Ruda Śląska, Chorzów, Świętochłowice) – Poland		



Population	297984 (2017 according to Central Statistical Office)
Area	124,10 square kilometres
Density	2401.19
Current Land Use	Ruda Śląska, Chorzów, Świętochłowice (Counties)

Land use	Area [ha]	Percent [%]
Continuous urban fabric (S.L. : > 80%)	903,82	7,28%
Discontinuous dense urban fabric (S.L. : 50% - 80%)	1383,74	11,15%

Discontinuous medium density urban fabric (S.L. : 30% - 50%)	68,48	0,55%
Discontinuous low density urban fabric (S.L. : 10% - 30%)	12,62	0,10%
Discontinuous very low density urban fabric (S.L. : < 10%)	21,35	0,17%
Isolated structures	13,53	0,11%
Industrial, commercial, public, military and private units	1567,53	12,63%
Fast transit roads and associated land	77,68	0,63%
Other roads and associated land	465,20	3,75%
Railways and associated land	308,67	2,49%
Mineral extraction and dump sites	371,96	3,00%
Construction sites	4,42	0,04%
Land without current use	53,75	0,43%
Green urban areas	887,52	7,15%
Sports and leisure facilities	915,07	7,37%
Arable land (annual crops)	863,17	6,96%
Pastures	1522,26	12,27%
Forests	2780,93	22,41%
Wetlands	4,95	0,04%
Water	183,22	1,48%
Administrative Structure	Ruda Śląska, Chorzów, Świętochłowice (Counties)	

1.1 Current Status

Administration

Functional urban area of Ruda Śląska is composed of three cities: Chorzów, Ruda Śląska and Świętochłowice. It is located inside the Silesian Metropolitan Area which includes 41 municipalities.

Use of the area

The three cities of the FUA have raised and developed basing of heavy industry, mainly coal mining and ferrous as well as non-ferrous metallurgy. The spatial structure of these cities constitutes a mosaic of functions and areas of various predestination. It has been defined mainly by the development and many-years functioning of industrial plants located within their borders. In the neighbourhood of the urban centres the industrial and post-industrial objects and areas are located such as spoil heaps and dumping sites. Post-industrial areas present a characteristic environmental resource which is also valuable due to vegetation succession. The stake of anthropogenic areas reaches 55,71% of the whole surface area of the FUA, which means a high level of its transformation.

Environment

The Ruda Śląska FUA is characterized with a large number of brownfields and degraded areas. In Chorzów and Ruda Śląska there are 44 sites (ca. 687 ha) while in Świętochłowice the degraded urban tissue is the

main problem requiring regeneration activities. Most of the sites are post industrial wastes dumping places or areas with polluted soil being the sites left after metallurgical industry (ferrous and non-ferrous).

Two basic groups of land-use conflicts have been identified:

- built-up areas neighbouring to areas of industrial production,
- natural areas neighbouring to transformed areas.

FUA identity

The Functional Urban Area including three cities: Chorzów, Ruda Śląska and Świętochłowice is an integrated area, identified as a result of delimitation of areas characterized with common problems as well as areas with features deciding on its strength and development potential. Identification of development factors and barriers in this area allowed to define optimal final range of the functional area from the view point of transport and settlement efficiency, life quality and access to public services. Therefore the range of the functional area has been defined basing on real connections but not formal ones.

1.2 Action plan

FUA objectives and priorities

Action Plan objective: Enhancement of green and blue infrastructure system in the FUA of Chorzów, Ruda Śląska and Świętochłowice

Planning and Strategic Framework

Natural resources constitute an important element connecting three cities as well as it is a potential, which can and should be used as a development factor which contributes to raising the quality of life and touristic attractiveness of the area. It is recommended in the Integrated Development Strategy of the FUA of Chorzów, Ruda Śląska and Świętochłowice until 2030 to create a common policy concerning ecology and environmental quality.

Methodology

The activities connected with enhancement and development of green infrastructure can be presented in three groups: technical, organization (legal) and information (education) activities. Technical activities include all kinds of investments presented in the Action Plan as well as complementary activities being implemented in the framework of other programs or projects (e.g. Rudzki Route Program in Ruda Śląska) or projects based on other contracts or initiatives (Adaptation Plans to Climate Change being elaborated for Chorzów and Ruda Śląska). Legal and organization activities include changes of land use planning documents by introducing records on green and blue infrastructure. Information and education activities constitute a wide spectrum of ideas and initiatives directed towards informing the local society on natural values and possibilities of using the recreation potential of these areas.

The use of tool (InViTo, LUMATO, etc)

For identification, delimitation of action plan sites and assignment of actions to the individual site a loosely coupled spatial information system composed of project and city spatial data, CAD software (ARCADIA) for landscape design, ArcGIS and qgis software for integration of all spatial data as well as InViTo tool for communication of the results has been used.

This system was applied for panel discussions during meetings of FUA members and partners. The emphasis was put on interactive discussion and decisions making with use of above mentioned data and

system in video-conference room equipped with digital touch board. For instance, the extent of the sites has been determined by application of existing survey data including map of registered plots.

The final results was publication of digital maps of elaborated action plan sites and bicycle paths in form of the homepage elaborated by use of InViTo tool. This homepage constitute platform for communication of the project results especially to general public.

Strategies for the implementation

Establishing a structure for the action plan implementation is a consequence of the acceptance of the LUMAT project initiative expressed earlier as well as a will of co-operation at elaboration of the action plan concept. Following these declarations the city of Chorzów has established the team for realization of these tasks and the city of Świętochłowice has accepted the idea in a special letter issued by the Mayor. The city of Ruda Śląska – being the project partner is involved in the work in the framework of its tasks in the project.

The letter of commitment has been signed by the authorities of three FUA cities establishing the Task Force for Implementation of Green Infrastructure in the Functional Urban Area of Chorzów, Ruda Śląska and Świętochłowice. It includes the group of teams which have been working on the concept of the Action Plan in the framework of LUMAT. This group will be composed of officials from three cities of the FUA, representing departments of environmental management, land use planning, municipal and development. Participation of these people is coherent with the idea of the LUMAT, whose objective is integration of sustainable environmental management with land use planning and management in functional urban areas. Implementation of the plan concerning strengthening and development of green infrastructure requires co-operation of these departments.

Expected impacts

The Action Plan will strengthen connections of natural system of the FUA cities as an essential component of the Metropolis creating blue and green infrastructure. The efficient natural system with active ecological corridors connecting natural valuable areas will provide strengthening of self-regulation processes, resistance to climate change and stability of ecosystem services.

The Action Plan will promote the idea of healthy life style by creation of biking and walking routes in areas of a high natural potential increasing at the same time an access to ecosystem services connected with bioclimate beneficial for people and necessary for a proper functioning of human organism.

In the economic aspect the proposed system of communication connections based on biking traffic inside cities and between them as well as their recreation attractiveness will affect reduction of the car traffic and costs connected with it.

Conclusions

The conclusions relate to ecosystem services approach that has been applied assure functionality of the cities regarding a stream of benefits connected with services and values offered by nature, realized in a strong link between economy and society.

Ecosystem services as benefits offered by nature to humans, are a basis for wellbeing, economic development and employment, particularly in areas of high level of urbanization as it is in the case of the Functional Urban Area of Chorzów, Ruda Śląska and Świętochłowice.

Application of ecosystem services approach in urban areas management as one of the elements necessary for functioning of urban areas enables making responsible decisions in the planning and infrastructure development on these areas.

Preservation of ecosystem services as well as their supporting and restoring will allow to create and use „natural capital" and to strengthen environmental potential of functional areas of the FUA cities.

REPORT ON ACTION PLANS

LEIPZIG FUA

Deliverables D.C.5.2

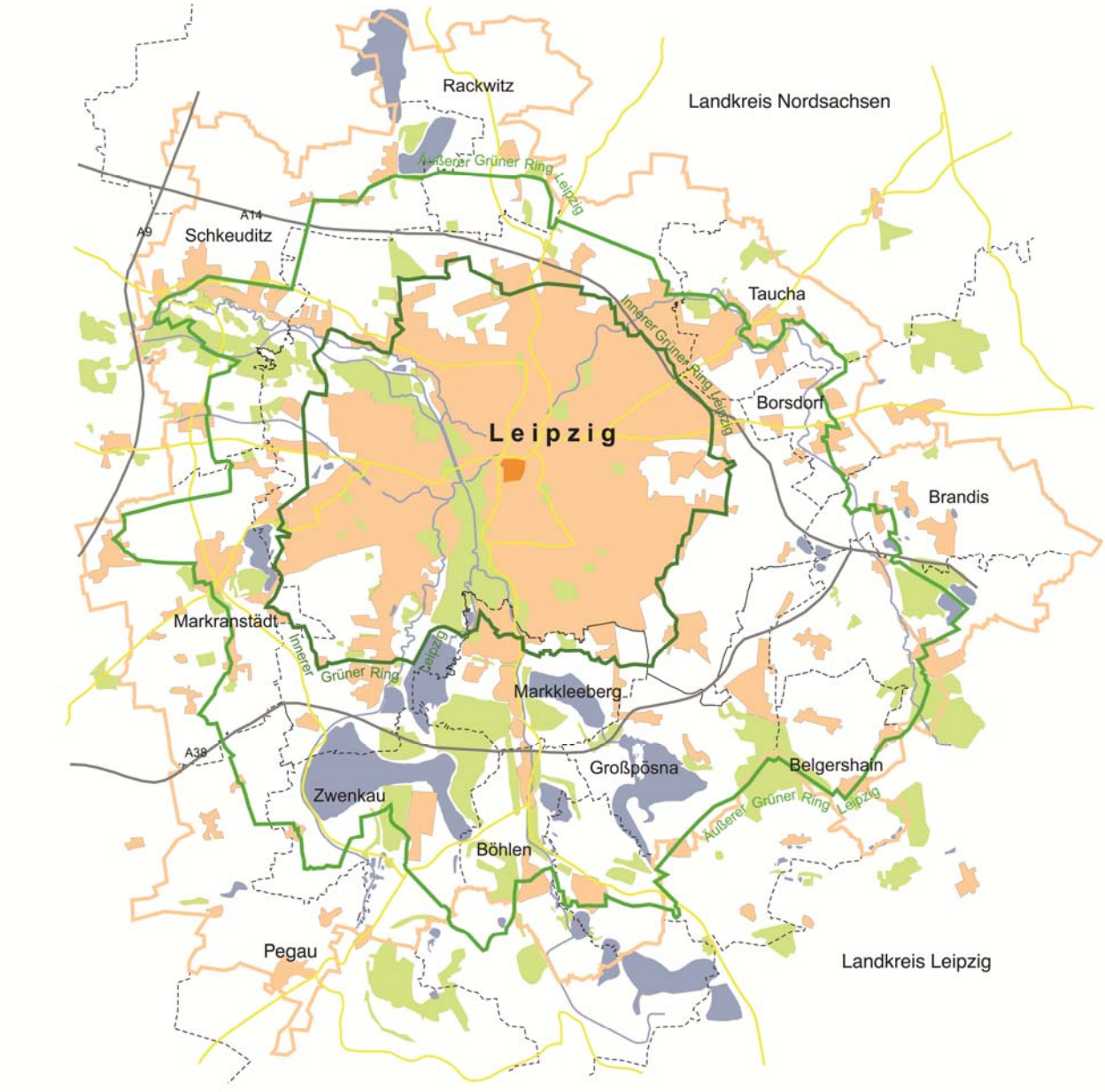
Version 1
10 2018

PP3: Bernd Siemer, Karl Eckert, Dr.-Ing. Uwe Ferber

Index

1. THE FUA GREEN RING OF LEIPZIG

LUMAT Partner	PP3	Saxon State Office for Environment, Agriculture and Geology, Germany
Green Ring of Leipzig - Germany		



Population	Green Ring of Leipzig municipalities – ca. 705,000
Area	Roughly 78,000 hectare
Density	900 people per km²
Current Land Use	Urban, Commercial, Agriculture, Natural, etc.

Administrative Structure	Inter-municipal organization for sustainable land management and strategic development

1.1 Current Status

Administration

The Working Group Green Ring of Leipzig is an established part of the city administration of Leipzig. The members include the main city of Leipzig as well as representatives from the surrounding 12 municipalities. 2 Counties are also members in the organization.

Use of the area

The Action Concept 2015 formulated the following strategic framework, "in and around Leipzig a landscape with a high quality of living, environment and recreation will be established". The duties related to nature and soil protection and the upkeep of the landscape, of environmentally friendly agriculture and forestry as well as the requirements of recreation and relaxation are all to be holistically managed and thematically connected to each other. The landscape which follows as a result of these actions will be maintained and developed sustainably.

The respective fields of action are as follows:

- Strong landscapes / stable ecosystems,
- A landscape to be experienced,
- Edible landscape, and
- Innovative landscape.

Environment

The current ecosystem services provided by soil in the region include those of regulating, provisioning, supporting and cultural in nature. The soil threats that exist include brownfields, urban sprawl, the risk of over-warming and the risk of over-fertilization. Land use conflicts in the FUA are to be understood as the conflict of the threats with land use information categories. For example brownfield sites in flooding hazard zones provides a land use conflict and reduces the capacity of land to retain water due to sealed surfaces. Excessive soil sealing leads to a risk of overwarming in urban areas on hot sun intensive summer days, which can be harmful for residents and visitors. These and other land use conflicts are to be evaluated for the region.

FUA identity

Elements of FUA identity include the established cooperation of inter-municipal governance introduced in 1996 by the working group for the Green Ring of Leipzig upon which common projects and common strategies have been pursued. Stakeholders in the LUMAT project are the Green Ring of Leipzig and the 13 associated municipalities, Saxon Central Agency for Land Management and the Saxon State Office for Environment, Agriculture and Geology.

1.2 Action plan

FUA objectives and priorities

Goals of the Action Plan Saxony:

- The direct living environment of the citizens in the GRL will be improved through the protection, development of urban and peri-urban green spaces in FUAs.
- Brownfields are to be revitalized through demolition/de-sealing and the carrying out of compensation measures on these sites. This will further develop the quality and interconnection of the green infrastructure, help reduce land consumption and optimize local ecological services.
- To direct the demand for new urban land uses onto inner city brownfields or in other cases onto suitable brownfields in outer city areas (should the demand for this exists) through land recycling.
- To improve the water retention of soil through the de-sealing of brownfield sites.
- To integrate risk areas of the FUA to support the minimization of over fertilisation on land and the filtration of substances into ground and surface water reservoirs.

The objectives for the action plan in the Saxonian pilot region of the GRL are as follows:

- Restrict the consumption of land in the region of the city of Leipzig through the use of the existing inner development potentials
- Targeted de-sealing actions on brownfields in outer areas (compensation areas)
- Development of the green infrastructure and the strengthening of the amount of green land present in the city and region
- Effective land management and brownfield regeneration management structures through inter-municipal cooperation

Planning and Strategic Framework

The strategic framework of the region is defined by a number of planning documents, all of which have been assessed for the creation of the Action Plan:

- "Landesentwicklungsplan Sachsen 2013" (State Development Plan Saxony 2013): in this document, clear goals are established for reducing land consumption as well as addressing the presence of brownfields.
- Regionalplan Westsachsen 2008 (Regional Plan for Western Saxony 2008): in this document it is stated that the quality of life in the regions, especially the quality of the environment and the attractiveness for living as well as tourism and recreational activities are to be improved. Efficient land use is also a main goal.
- "Handlungskonzept 2015" (Action Concept 2015): brownfield regeneration, adaption of the city to warmer temperatures, as well as agricultural aspects are all represented and planned for in this document.

LUMAT will support the existing strategies of the region.

Methodology

The City administration of Leipzig and Green Ring of Leipzig currently both have access to an IT system supported by GIS application for land use management in the Green Ring. LUMAT Germany is updating this system with LUMAT information (threats, Decision Support System, Ecosystem Services) to renew the existing system into an "integrated environmental and land use management" system. The first step for this was to reach a stakeholder agreement on environmental management, including goals and the threats that are important to consider for evaluation. The second step is the recognition of the current IT-System that is being used by decision-makers. The third step consists of the gathering of LUMAT information in the pilot area. The LUMAT information on soil threats and environmental management is to be integrated with one another so that important conclusions can be made on the basis of intersecting threats and soil information. Through the activities the LUMAT information will reach a wide range of the different stakeholders in the territory of the GRL (which is to ensure the integration into the processes of the GRL). The integration of information serves as a Decision Support System for integrated environmental management and allows for an initial evaluation of ecological system services. The work was carried out through a consequent and continual dialog process in the GRL.

The use of tool (InViTo, LUMATO, etc)

LUMATO is being developed for the Green Ring of Leipzig to create Decision Support Services which are to be used as a foundation for the improvement of the ecosystem services of land and soil in the functional urban area (core and hinterland areas). An evaluation system will help guide stakeholders towards recommended actions on threatened sites.

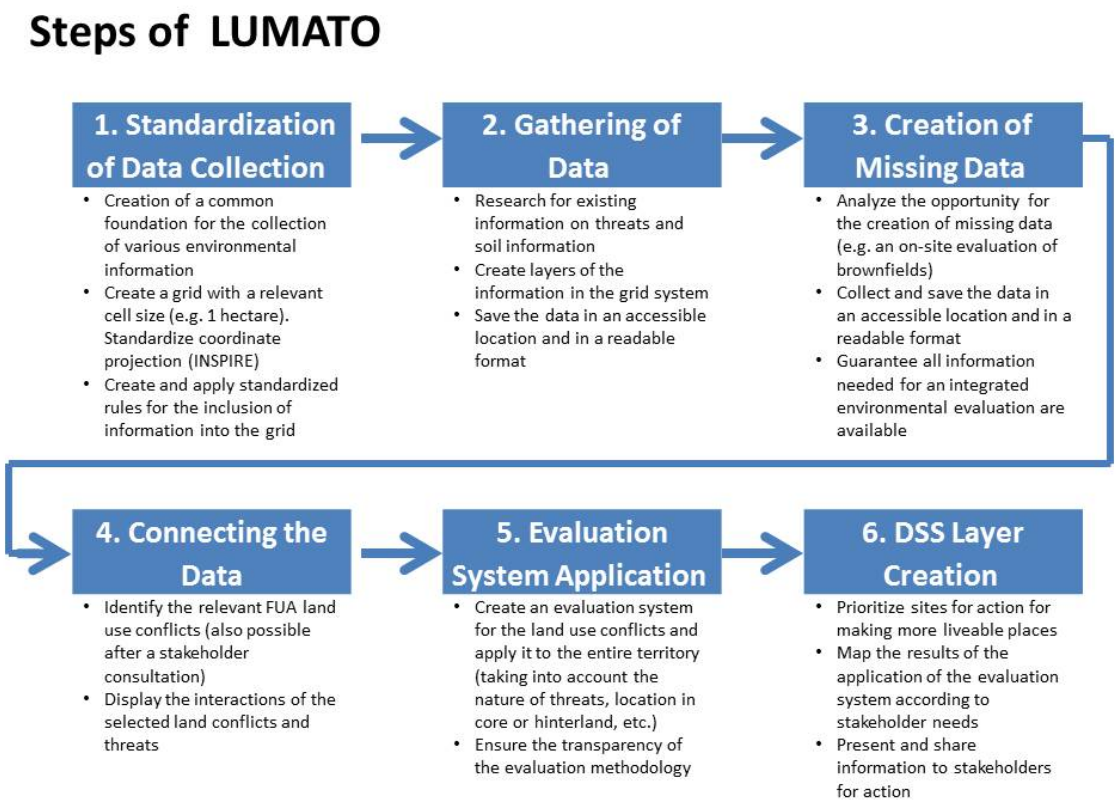


Figure 1. Steps for the establishment of integrated environmental management.

Strategies for the implementation, Timeline and funding programme

Relevant stakeholders for determining time, financial planning and general organization are:

- The municipalities as the holders of planning policing powers and spatial policies
- Property owners, ranging from public owners to state owners such as the "Central Land Management Agency of Saxony"
- The Free State of Saxony with its regulative powers and funding strategies

The financing of the activities mentioned in the action plan is to follow via a combination of various financing mechanisms:

- Management: the inter-municipal activities are to be generated through an appointment mechanism gathered from municipal contributions. Beyond this, the further development of the use of national and European funding programs (for example the BMBF on the German national level, HORIZON 2020 on the European level) are to be pursued.
- Pilot actions: three streams of funding are possible for the carrying out of pilot actions
  - Municipal finances as well as the possible expansion of available funds from the Central Land Management Agency
  - Financing dedicated to environmental compensation measures
  - Financing from the Saxonian state program for brownfield revitalization

Expected impacts

Integrated environmental management will be carried out by the existing stakeholders using their existing IT systems that are currently in place. LUMATO will provide a new information foundation upon which action on brownfields in the area for sustainable land management, as well as other threatened sites, can be initiated.

Further, stakeholders will be made aware of the important role that soil plays for making places more liveable. The ecosystem services provided by unsealed land will be better recognized in the city administrations of the 13 municipalities. Capacity building will help the management structures which exist on the inter-municipal and state levels to carry out sustainable land management activities on brownfield sites. Pilot projects for the improving of ecosystem services in the Green Ring of Leipzig will be carried out based upon the information gathered and processed in the LUMAT project.

Conclusions

It is required to develop new approaches to land management that take into account the various sectors of environmental information that are available today in the FUAs of Central Europe. In the German case, this information will be evaluated to create sustainable land use management on sites that present very real problems for urban and rural residents alike. The combination of the information in the framework of LUMAT will provide new impetus for action to happen. To not do so, and continue the same path of land consumption as in the past, would be unsustainable and irresponsible. Instead, interests have to be combined to make sustainable land use in FUA regions a reality; land threats have to be revitalized and the various stakeholders involved in making land use decisions have to be properly informed through Decisions Support Systems.

REPORT ON ACTION PLANS
CHIERESE-CARMAGNOLESE FUA

Deliverables D.C.5.2

Version 3
29.10 2018

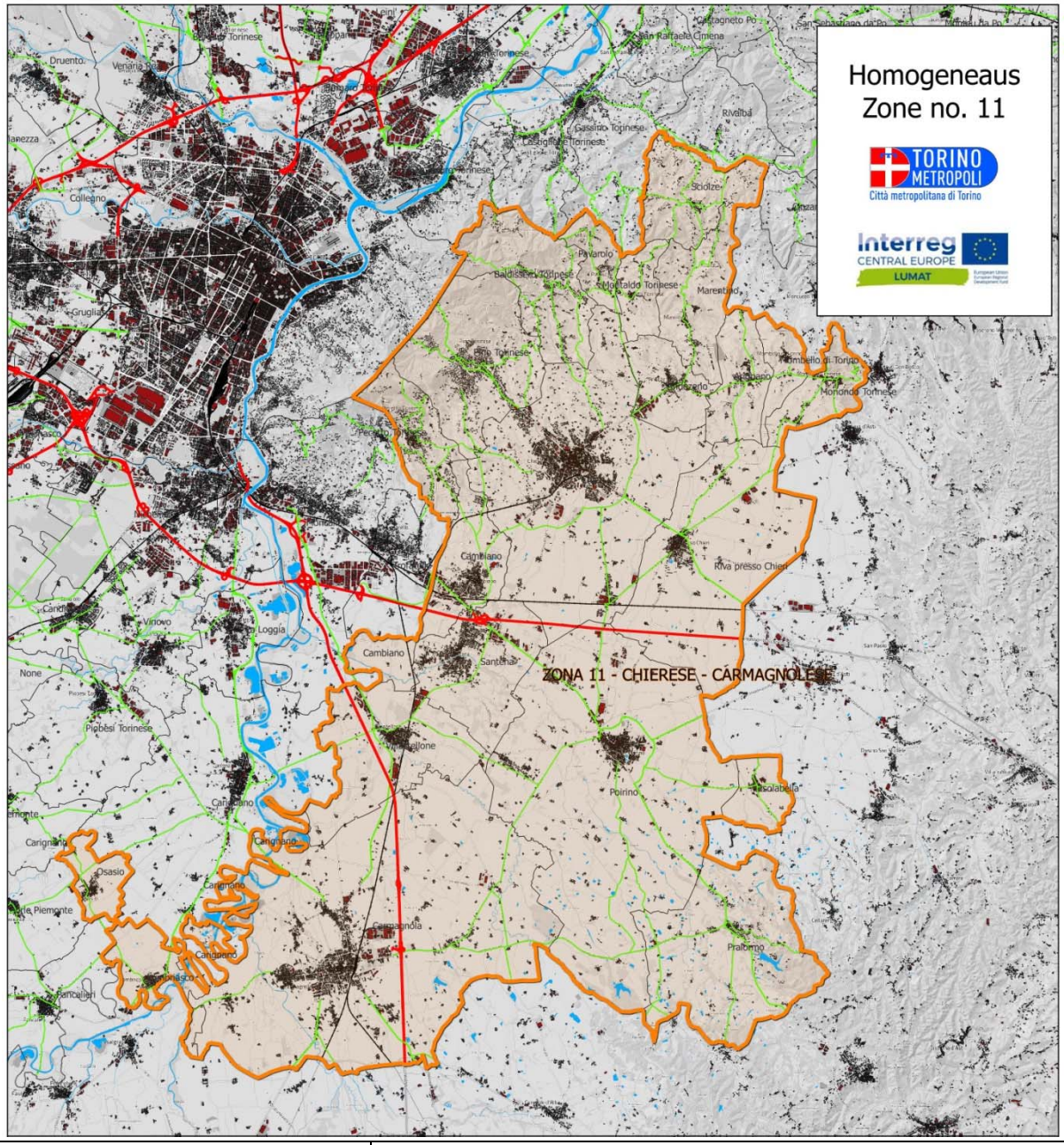
PP5: Irene Mortari, Stefania Grasso, Giannicola Marengo, Gianfranco Manca

PP5: SITI

Index

1. THE FUA IN METROPOLITAN CITY OF TURIN

LUMAT Partner CMTo, SITI	PP5, PP4	Metropolitan City of Turin, (Italy)
Homogeneous Zone"Chiersese Carmagnolese" – CMTo - Italy		



Population	130.000 hin.
Area	462 sqkm
Density	281 hin./sqkm
Current Land Use	Various
Administrative Structure	N. 22 Municipality

1.1 Current Status

Administration

The institution/s in charge of the area administration/management. Administrative level.

The Metropolitan City of Turin (Piedmont Region, Italy) is divided in 11 Homogeneous Zones, each of them being represented by a "Zone SpokesMayor" at the CMTo Assembly of Mayors.

The pilot area identified for LUMAT project is represented by the Homogeneous Zone 11 "Chierese-Carmagnolese" composed of 22 Municipalities, each of them with an own Mayor and a Council.

Use of the area

The current use of land and soil. Masterplan/regulatory plans/normative which describe present and future land use

The territory of the pilot area is 77,4% flat and 22.6% hilly. It has an extension about 46.500 ha, of which over 33.500 for agriculture (72,1%), 41.085 ha are characterized by forested (9%) and about 16.830 ha by permanent meadows, pastures and important natural area (3,6%). The 9.7% of the total area is occupied by urbanization and transport infrastructure.

The south portion of the Homogeneous Zone (HZ) is characterized by the presence of forest cover of high conservation interest, in particular the Ternavasso forest which is an important relic of the vegetation in lowland oak-hornbeam with oak highland of Poirino Municipality, almost disappeared as a result of past extensive deforestation to leave space for the agriculture.

On the slopes of the Poirino's terrace, in particular the border with the hilly area of Monferrato, there are interesting remains of lowland forests in Querco-hornbeam, alneti and mixed oak woods with various beeches (Cellarengo Municipality).

Also in the portion of the Po River hills (between the City of Turin and the Chierese-Carmagnolese area), there are areas of natural interest, as the Lake of Arignano, being recovered, and the large forested area between the Municipalities of Moncucco Torinese and Marentino.

The Chierese-Carmagnolese .H.Z. is also characterized by the presence of many protected natural areas.

On the Turin hill is identified the Site of Community Importance (SCI) named Superga Hill. The ponds of the highland of Poirino, fishponds of Pralormo, of importance for wet environments and plant populations and related animals, including the main population of Pelobates fuscus insubricus, classified "species priority "by Directive 92/43 / EEC. "Habitat".

In addition, in the 2016 the Turin's hill area (in the north of the HZ) and the Po river protected area have been recognized by UNESCO as "CollinaPo Man and Biosphere Reserve" as first recognition of Urban MAB in Italy. It is an area of 171,233.85 hectares which includes over 80 municipalities and sectors characterized by both natural and human causes, (core area: 3853.05 ha, buffer: 21,161.45 ha Transition: 146,219.46 ha). The HZ Chierese-Carmagnolese is fully included into the MaB UNESCO Reserve.

Land uses	area m2	%
Continuous urban fabric	11.605.099	2,5%
Discontinuous urban fabric	20.493.036	4,4%
industrial and commercial facilities	4.533.488	1,0%
road and rail networks and ancillary spaces	8.434.642	1,8%

mining dumps and construction sites undifferentiated areas	725.460	0,2%
artificial green areas non-agricultural undifferentiated	6.776.742	1,5%
service areas	565.947	0,1%
arable undifferentiated	335.392.061	72,1%
vineyards	2.606.966	0,6%
Orchards and fruit trees	2.836.800	0,6%
Wood Arboriculture undifferentiated and poplars	10.599.026	2,3%
permanent meadows, pastures, important natural areas	16.830.835	3,6%
forested areas	41.085.385	9%
Basins of water, water bodies and the like	2.552.277	1%
total	*465.037.765*	*100%*

Tab 1: Land use in HZ *Chierese-Carmagnolese*

Each municipality has its own Master Plan and framework for identifying land use and future use.

Environment

Soil pollution (need for land reclamation?), current Ecosystem Services, Land use conflicts, Soil threats

The main problems of the area are:

- compromised readability of the settlement system due to land consumption in industrial-manufacturing purposes and widespread residential;
- brownfield sites (underutilized industrial sites or disused industrial areas);
- landscape deterioration, in the hilly areas and in the valley systems (Pecetto, Madonna della Scala, Cambiano and Trofarello; Andezeno, Mombello, Moncucco Torinese and Baldissero). Here the strong residential building expansion threatens to completely alter the settlement reports and historical production;
- urban expansion in the plan areas of HZ (along the main transport way), and sprawl in the hill and valley areas;
- high values of environmental insularisation because of infrastructure and industrial presence;
- soil consumption on the south slope of the hill in particular in Pino Torinese, Chieri and Pecetto due to urban sprawl and daily commuting City of Torino - City of Chieri;
- loss of biodiversity and environmental connectivity caused by soil consumption, forest sporadic cuts but overly with expansion of invasive species;
- risk of loss of traditional cereal crop because of the introduction of crops that provide higher yields, such as corn; the presence of cereal crops and arboriculture in the plain has partly caused the transformation of the landscape, subtracting space to the traditional grassland;
- progressive loss of productive land and farms sectoral specialization;
- spread of exotic species (Sicyos angulatus, Clematis vitalba, Reynoutria japonica) in the Carmagnola's river areas (Po river, in the south-west of the HZ) due to problems in the management of forest environments, in particular for the renewal of wild native species; the reduced riparian forest vegetation in a small linear band, often in decay with age and non-renewal of the trees;

- involution towards a set of simplified agro-ecosystems and industrialized in the Carmagnola area due to urban expansion that is concentric along the linear connection between Villastellone and Carmagnola and between Carmagnola and Candiolo municipalities, in areas with good attitudes of niche crops;

FUA identity

Elements of FUA identity, Citizens and stakeholders involved

Some of the FUA municipalities have been working for many years to affirm their local identity also through the drafting of Local Strategic Agendas.

With the establishment of the Metropolitan City (which took the place of the Province on 1st January 2015), 11 homogeneous zones with FUA characteristics were identified. The 22 municipalities of FUA Chierese-Carmagnolese, therefore, felt the need to identify and consolidate a new territorial governance based on cooperation and collaboration between municipalities and on integrated territorial and environmental planning. The objective is to solve wide-area problems related to land use and to strengthen the identity of the FUA with respect to the Capital City of Turin and the other CMTo's FUAs.

The citizens of the Homogeneous Zone are involved through the local representatives of the individual municipalities. Both the City of Chieri and the Metropolitan City of Turin have given ample and constant information about the progress of the LUMAT project through their institutional websites, through video-interviews on YouTube, through the publication of articles on the institutional magazine of the CMTO (*Cronache da nache of Palazzo Cisterna*), as well as through the periodical newsletter of LUMAT.

The final results will also be disseminated during a final conference, as well as through web channels.

The elaborations made with the SDSS tool on the identity of the area and the projects were made available through the digital platform accessible both from the LUMAT website and from the InViTo website, also advertised through the information channels of the Metropolitan City of Turin and SiTI.

1.2 Action plan

FUA objectives and priorities

The Action Plan identifies the path to build an inter-municipal Structure for an integrated management of territorial and environmental issues at large area (FUA). Starting from a transnational strategy developed jointly by the LUMAT partners the representatives of the area have been invited to start, the practical experimentation of the management model. Through a Pilot Project the FUA n. 11 was involved in the definition of an integrated environmental territorial program composed of supra-municipal interest actions. The activities include a working method and an instrument (InViTo), useful for local actors and citizens involvement in administrations choices. Lastly, the Action Plan, with the Pilot Project, accompanies the new Management Structure to the implementation of one action identified in the FUA territorial programme.

The general objectives of Action plan are:

A. defining an integrated environmental management model of the territory, replicable in all CMTo's FUAs able to deal with various problems types related to conflicts arising from different land uses;

B. testing the model inside the FUA "Chierese-Carmagolese". The Action Plan intends to test the functioning of the management model and at the same time solve some specific FUA environmental problems;

C. defining ways to resolve/mitigate conflicts between different land use needs.

The priorities are:

1. Involving all the Municipalities of the FUA in the integrated management of the territory (also starting from cooperation experiences at the level of the vast area already underway), to obtain a structure able to dialogue in a constant and constructive way. The objective is to identify strategies, solutions and actions that guarantee a return in terms of environmentally sustainable socio-economic growth for the entire FUA;
2. Combining the green areas protection needs with development, including brownfields retraining and re-use (disused or underused production areas), and the enhancement of areas with high environmental and landscape value;
3. Using, for the management, the existing municipal technical structures, without additional costs;
4. Providing the FUA with support tools for data sharing, monitoring of activities on land and decision-making process;
5. Providing the FUA with a "proposals/projects package" ready to be candidates when appropriate economic resources become available;
6. Providing contributions to metropolitan strategic planning and metropolitan general spatial planning;
7. Strengthen the FUA identity within the metropolitan context.

In addressing these issues, the soil protection and the ecosystem services value improvement involved in the transformation of the territory are priority.

Planning and Strategic Framework

Methodology

Description of method for enhancing the integrated environmental management in the component of land and soil, description by steps

- Collect information on land, soil, environment state (baseline)
- Highlighting the main local and supra-local problems, needs and opportunities for FUA development
- Share information with the entire territory of the FUA (through the filing and mapping/InViTo) and open the discussion with administrators, technicians, citizens
- Identify action and priorities
- Identify the resources
- Activate an integrated management structure (formalized through the signing of a letter of intent) for the planning and implementation of interventions

- Share identified solutions and best practices with the other Homogeneous Zones with the support of the central CMTo structure

The use of tool (InViTo, LUMATO, etc.)

Which tool has been used, how it has been applied, which results it gave.

The InViTo tool was used for:

- mapping in a homogeneous way the information on the soil and the environment of the different municipalities, integrated the information with those coming from CMTo, Region and other sources (Environmental Agency, ...)
- Open the discussion with local administrators and technicians, illustrate problems, local projects,..
- Propose different solutions and scenarios
- Identify priorities for action
- Communicate with citizens and stakeholders

Strategies for the implementation, Timeline and funding programme

The timeline definition for the actions implementation is strictly linked at available funds.

The strategy of Action Plan intended proceed with simpler model, without other superstructures.

The entity entitled to intercept financial resources will be (in addition to the single municipality) the Homogeneous Zone as a whole (as recognized by the Statute of the Metropolitan City of Turin). In this respect, the proposed management model is also aimed to facilitate public (Regional, National, European) and private (banking foundations) financial resources interception thanks to the identified projects significance. For example, some banking foundations, support strategic development projects addressed to supra-municipal spatial area. (i.e. Compagnia di San Paolo, Cassa di Risparmio di Torino).

For the implementation of projects, the municipalities are thinking about financial compensation targeted re-utilization of the urbanization costs envisaged by the implementation of the municipal building plan.

Expected impacts

Starting from the consideration that territorial planning must satisfy different kinds of interests of and must resolve conflicts between different kinds of land use (protection of the green areas, productive fields, residence, ...), the CMTo Action Plan is based on the idea that an effective supra-municipal management plays a fundamental role in the pursuit of sustainable development in environmental, social and economic terms.

The implementation of Action Plans aims at improving the FUA public administration management and solve supra-local issues through a participatory and shared approach.

The approach proposed for the Z.O. includes a new planning model that includes the use of user-friendly tools for municipal technicians who do not have specific skills in the GIS environment, nor much time to devote to their training. It also supports integrated environmental planning through the application of a new approach that provides the possibility of assigning an economic value to ecosystem services (ESs) and to implement forms of "payment" of the ESs in order to maintain/improve the ESs quality .

Conclusions

The final impact that is expected by the implementation of the Pilot Actions included in the Action Plan is to improve the attractiveness of the whole territory, by enhancing the existing landscape and environmental elements, and abandoning the productive vocation. The objective is to transform the territory of the HZs, and therefore of the whole CMTo, into a more quality place where people want to live and work.

REPORT ON ACTION PLANS

VOITSBERG FUA

Deliverables D.C.5.2

Version 1
10 2018

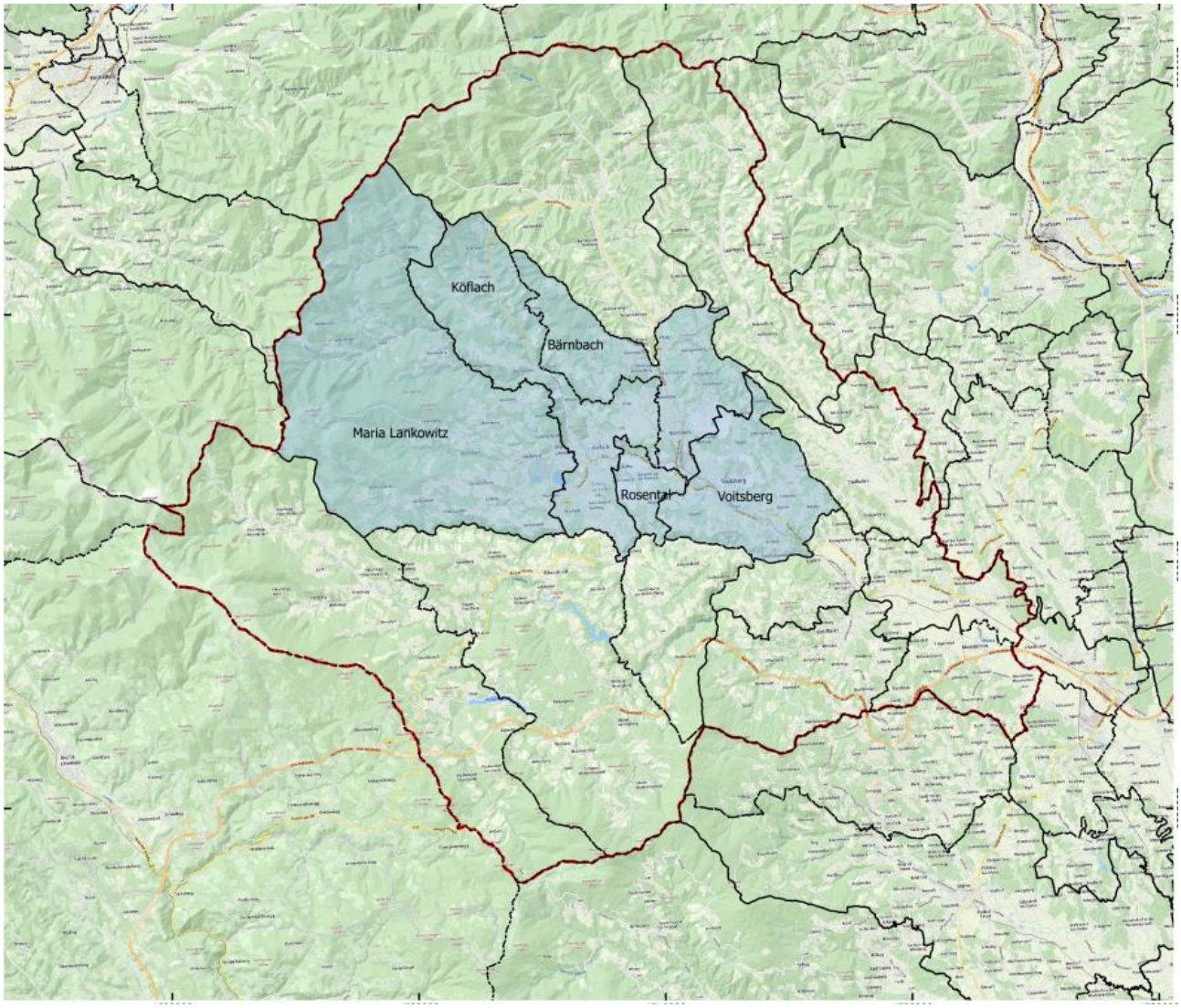
Authors:

- Anton Schabl
- Johannes Binder
- Claudia Krobath

Index

1. THE FUA IN VOITSBERG

LUMAT Partner	PP06	Energy Centre Lipizzanerheimat GmbH, Austria
FUA's name – City - Country		



Population	29.500
Area	210 km^2
Density	140,57 / km^2
Current Land Use	Forests: 59%, green areas: 15.4%, urban areas: 11.5%, agricultural areas: 11.3%, industrial areas: 1.5%
Administrative Structure	5 municipalities, organised in Regional Development Association (REV)

1.1 Current Status

Administration

The Austrian pilot-region is a union of five communities "Kernraumallianz Lipizzanerheimat" – Voitsberg, Köflach, Bänbach Rosental, Maria Lankowitz - and represents a typical shrinking region. The crucial organization is the Regional Development Association "Lipizzanerheimat" (REV), which consists of these 5 communities.

With the new City-regional land management, which will start in 2019 the necessary administrative structures for the FUA should use the existing structures. The necessary harmonization is in preparation.

Use of the area

The region of Voitsberg is a traditional former coal mining region and is now facing structural transition. Today, service industries have a share with about 60% of the industrial strength of the region. Around the 5 municipalities all other municipalities are focused on agrarian production, but there is an ongoing change of the structure (reduction of full-time farmers to part-time farmers).

Land use is represented by the respective local zoning plans, which are revised every 10 years. Due to the municipal mergers in 2016 and a planned community merger, there are changes.

In the last few years the municipalities in the region have developed several project ideas in the context of urban development, sustainable energy systems, brownfield regeneration The District of Voitsberg expects to intensify the regeneration through the LUMAT activities and the dialog with public and private stakeholders on new usage concepts, interim use options and financial models for reengaging the initiative on the model sites:

- many plots of land and buildings which are unused or underused due to the decline of heavy industry
- the plots of land, which are grouped together under the term "brownfields" shall be brought back into use according to the regional framework for development.
- economic transformation and the reuse of brownfields ("more jobs")

Environment

An important goal of the LUMAT Action Plan for the Lipizzanerheimat is to communicate and integrate the experience of stakeholders and the current status of the evaluated threats to land and soil into an integrated environmental management strategy. A concept of ecosystem services is to be achieved through a process of experts and stakeholder involvement, which will aim for a more sustainable approach to land and soil in the region. There are currently four identified threats which will be displayed in a newly developed tool for the pilot area Lipizzanerheimat. The threats identified and their definitions in the LUMAT project include:

- Brownfields (mostly former mining areas) – using the methodology developed in the CENTRAL EUROPE CircUse project
- Flooding hazard risks – sites which are threatened to be under water given the data available for the HQ 100 flood (flooding event occurrence = ca. every one hundred years)
- uncompetitiveness of brownfield areas due no clear situation with the mining company as land owner

- urban sprawl (typically for the region – spatial planning is not always harmonized).

The evaluation of the identified threats in the territorial context is based on the available data on threats within the GIS Steiermark.

FUA identity

Elements of FUA identity, Citizens and stakeholders involved

Based on the results of a LUMAT workshop within the partnership the following table shows the criteria for The FUA identity for the FUA Voitsberg:

Country: Austria FUA: Voitsberg – region	**Common features**	**Common problems**	**Common potential**
1.Demographic: population, density of the population, migration, demographic trends	Shrinking population	1)Lack of workforce, 2) Aging society, 3)Negative birth rate, 4) ageing population	Migration is positive
2.Functional: functional relationships, type of common functions	1) REV - Regional Development Association, 2) EU Regional Management, 3) WOF (economic offensive), chambers and social partners, agriculture, economic, trade	Different political parties, information exchange doesn't always work	Working on common solutions without political influences' , capacity building works
3.Planning: land use, type (state) of built-up areas, soil sealing, peri-urban relationships,	New requirements for the planning region "Steirischer Zentralraum", land use planning on municipal level	1) No common strategy for 5 municipalities, 2) no strategy for soil sealing, 3) peri-urban relationship with Graz is still in the development	1)Stronger planning partnership, 2)peri-urban relationaship partly via the Leader Programme, 3) planning for the "Steirischer Zentralraum" expects good ideas
4.Economic: number and character of firms (entities, SME), GDP, industry decline GDP lower as average in Styria	Industry (metallurgy, Electro parts -automotive industry), glass industry Trade, handicraft, public-administration, Tourism (Lipizzan stud Piber), health = > jobs	Lack of professionals in Metallurgy industry	Education (ABV)
5.Infrastructural: level of technical infrastructure/water/sewage system/roads/ railways/ Peripheral located; Traffic	Beside the main routes	Bad connection to motor way	Electrification of Railways and better connection to Styria Railway system (Graz)
6.Social: education, Professional structure & skills; Sleeping region (educated young people migrate to Graz or others)	Technician apprentice-ship with higher school certificate, Apprenticeship with A-level, commercial academy	Missing science technical college & Universities	High qualify. ABV, Education system through the leading companies

7.Management: politics will co-operate with neighboring administrative units, common strategic vision, ability to solve conflicts	Regulation Central region Styria, Leader Region "Lipizzaner Heimat"	Weak cooperation among 5 municipalities, and weak cooperation with Graz	Better cooperation with Graz, realization by LUMAT
8.Spatial Cohesion: continuity of ecological systems, lack of „spatial island"	Low awareness raising for connected ecological systems	Reduction of agriculture areas (based by settlements), weak recultivated mining areas, fragmentation, conflicts of usage	realisation of LUMAT

Process of cooperation:

The key stakeholders are to be involved with periodic information events (for example, periodical information at the REV meetings, information to the mayors, close contact with the regional management).

When developing the implementation strategy, the objectives or requirements of the regional programs (SDR, Regional Development Program, Leader) should be taken into account:

- Close co-operation with the Regional Development Association Lipizzanerheimat (REV)
- Several stakeholder workshops (decision maker, mayors, land owner/mining company, etc.)
- Individual meetings with mayors/heads of administration (5 municipalities of the "Kernraumallianz")
- Close co-operation with actual running project "Stadtregionales Flächenmanagement (SRFM)" of the REV

A close contact to the planning department of the Styrian Administration is important.

1.2 Action plan

FUA objectives and priorities

How to set the objectives and priorities:

- Joint introductory workshop with the local stakeholders (including landowners)
- One-on-one interviews with the mayors and / or heads of office and / or construction manager
- Preparation of a project proposal per municipality
- Identification of funding opportunities for the implementation of the proposals
- Coordination with the region

Problems which must be solved:

- landowner in most of the cases is the mining company – no commitment with the municipalities concerning the price for the land
- no common land use policy of the municipalities (will be established)

Objectives:

- Improved use of under-used areas related to the theme of "gardening" (including job creation)
- Networking existing gardens and parks for better use ("recreation area")
- Coordination with current or planned projects (via RMSZR)

Priorities:

- Project with job creation

Each of the Kernraumallianz municipality has to be involved.

Planning and Strategic Framework

As a first step in the development of an action plan, surveys of potential threats / threats in the region were foreseen. An update of the data of CircUse takes place.

In a second step, the definition and setup of monitoring activities takes place:

- Workshop (s) in the region
- Catalog of measures
- Needs of the companies
- Creation of proposal list
- Involvement of decision makers

In addition, the field of administration / governance is dealt with, with a focus on

- Impact on regional development (coordination with regional management)
- Pilot project(s) - coordinate with the communities.

Methodology

Requirements to be considered:

- Respecting the new planning strategy of the “Styrian Central Region” (2016-06)
- Modifying the regional development concept
- Respecting the specific characteristics of the 5 municipalities

Interaction with local stakeholders:

- Close co-operation with the Regional Development Association Lipizzanerheimat (REV)
- Several stakeholder workshops (decision maker, mayors, land owner/mining company, etc.)
- Individual meetings with mayors/heads of administration (5 municipalities of the “Kernraumallianz”)
- Close co-operation with actual running project “Stadtregionales Flächenmanagement (SRFM)” of the REV

Ideally, each community contributes a "flagship project" to the broad topic of gardens:

- Köflach: "vertical gardening" - Cooling of buildings by plants (green roofs - new approach!)

- Voitsberg: Development of a community garden, connection to existing parks (for example energy park) and gardens (Schloßberg)
- Bärnbach: Energy optimization of an office property with 1600 m2 usable area with a special greening
- Rosental: vegetable cultivation in glasshouses on a former ash deposit using mine water for heating
- Maria Lankowitz: new garden design at the basilica (topic wedding garden)
- Maria Lankowitz: Extension of vegetable cultivation at the prison (increase self-sufficiency, including training of inmates)
- „Garden route“: creation of a connection of all garden and park elements over the cycle way network currently under development with regard to a recreational area for the region and Graz

Important requirements for the use of land as well as possible business settlements:

- Preparation of a mediation process region – mining company because of the problems in the last years concerning the provision / sale of land owned by the mining company (high priority!)
- Concept of introducing land as "equity" to business settlements

The use of tool (InViTo, LUMATO, etc.)

The management of soil and land in functional urban areas in the LUMAT regions is mostly based on GIS tools In Austria these tools and data are stored, managed and distributed via the GIS of the provinces.

Use of the tools in Voitsberg region

Because of the requirements and conditions of the GIS Steiermark as the working tool on municipal and provincial level these tools will have no great opportunities for implementation. Compatibility with the Landes-GIS is mandatory; all spatial data or data exchange must be coordinated with it. In spite of this the two tools were tested.

Strategies for the implementation, Timeline and funding programme

Collaboration and coordination with another ongoing project in the region "City-functional land management" (also seen as a continuation of the land management agency of CircUse) –requirement of the REV. These structures haveto be used as soon as they are implemented.

Until then, the information will be sent to the REV, which is the relevant decision maker in the region. Administrative structures in the respective communities can be used for activities (see contact person per municipality).

For the implementation of the planned actions / projects different funding possibilities can be claimed:

- The Lipizzanerheimat is also a LEADER region, the mayors can still submit applications under the approved LEADER program 2014-2020
- As part of the new Styrian Provincial and Regional Development Act 2018, applications can be submitted from the summer of 2018 onwards
- The Austrian Rural Development Program 2014 - 2020 offers specific subsidies for "village renewal" (see Action Plan for Maria Lankowitz).

The political representatives and stakeholder of the region are members of the different boards and can influence the specific programs.

Conclusions

EC is not allowed to create a new administrative structure for LUMAT (condition for the co-financing by the office of the Styrian Government), so EC has to find a “creative solution” on which EC is working intensively. For this solution a need the political acceptance by the region which is in the moment not so easy to get it.

As of June, there will be a budget decision of the Province of Styria for the SZR by the provincial government, which will for the first time make available regional budget resources for certain implementations (e.g. city-regional city location agency). On the basis of this allocation projects can be prepared in the following.

As the planned actions have been developed in close contact with the communities, the municipalities will also try to implement them in their full content.

REPORT ON ACTION PLANS

TRNAVA FUA

Deliverables D.C.5.2

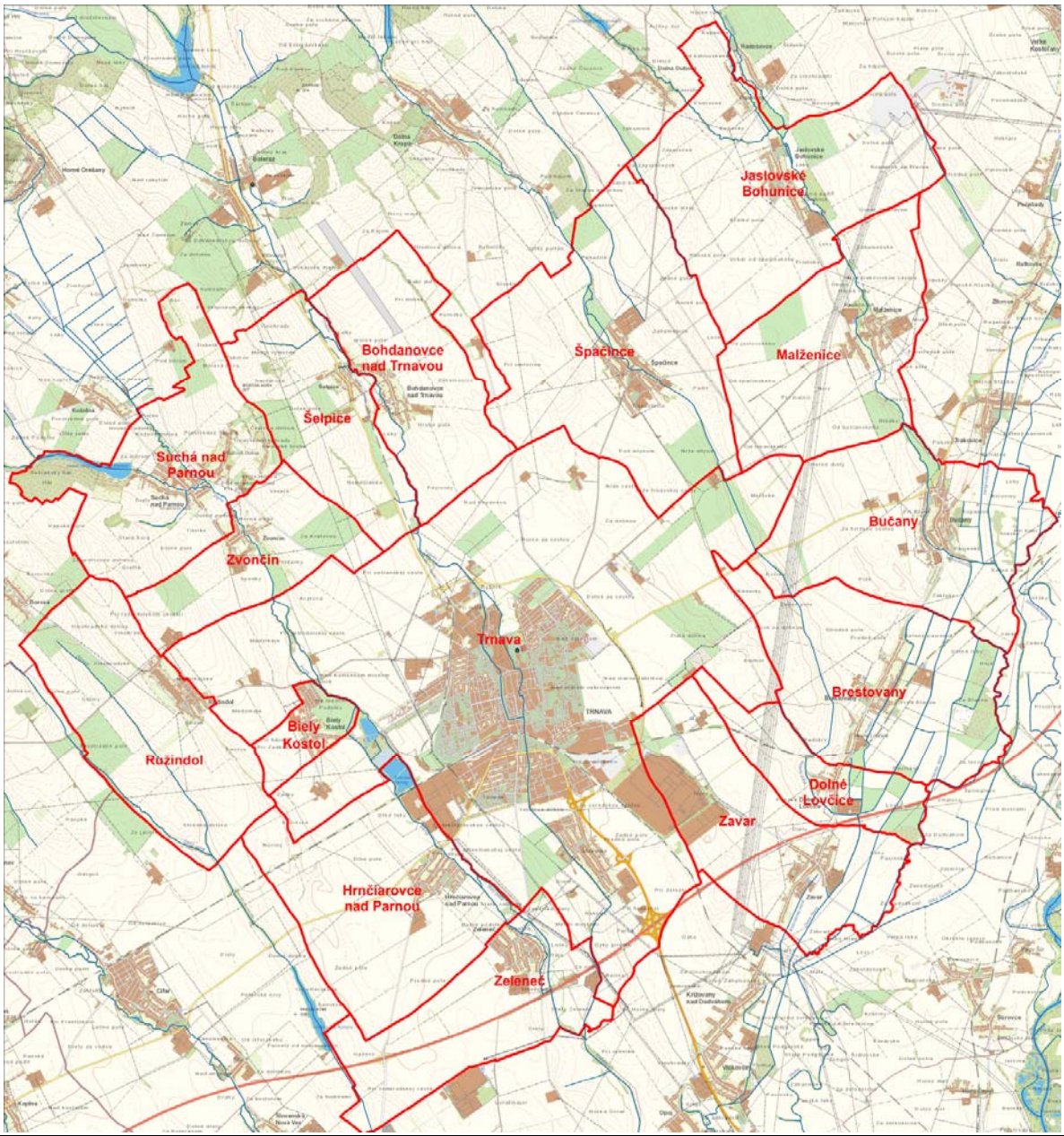
Version 1
10 2018

PP8 City of Trnava: Ing. arch. Tomáš Guniš, Ing. Jarmila Garaiová, Mgr. Zuzana Luptáková

Index

1. THE FUA IN TRNAVA, SLOVAKIA

LUMAT Partner	PP8	City of Trnava, Slovakia
Functional Urban Area Trnava, Slovakia		



Population	92 287 inhabitants
Area	Approximately 283 km^2
Density	341 inhabitants per km^2
Current Land Use	➢ Agricultural production, mainly growing of densely sown corns, maize and sunflower; ➢ Wine production, fruit raising and gardening;

	➢ Industrial production, mainly machine, automotive, food and textile industry; ➢ Important industrial node with close vicinity of the Slovak and Austrian capital cities and important transport corridors towards the northeast parts of Slovakia; ➢ Important energy production area with presence of nuclear power plant in Jaslovske Bohunice municipality.
Administrative Structure	➢ Trnava city as a core city of the Trnava FUA and the regional capital city of the Trnava region; ➢ Apart from the Trnava city, the Trnava FUA consists of other 15 municipalities; ➢ In 2016 Trnava city settled association of municipalities included in the Trnava FUA, so called ZOMOT association.

1.1 Current Status

Administration

As mentioned above the Trnava FUA consist of all together 16 municipalities, out of which the biggest is regional capital city Trnava which had 64 252 inhabitants by 30.6.2017. On the basis of Strategy for Spatial Development in Slovakia 2001 as amended by KURS 2011 and in line with respective EU legislation, with aim to safeguard and support sustainable integrated spatial and urban development, the Trnava FUA was set up in 2016 consisting of the core city Trnava and further 15 surrounding municipalities including Biely Kostol, Bohdanovce nad Trnavou, Brestovany, Bučany, Dolné Lovčice, Hrnčiarovce nad Parnou, Jaslovské Bohunice, Malženice, Šelpice, Špačince, Zavar, Zeleneč, Zvončín. On the basis of local relations and functional links, the Trnava FUA was extended with the municipalities Ružindol and Suchá nad Parnou.

In order to set up management structure enhancing and securing integrated approach towards the FUA Trnava development, ZOMOT association was set up in 2016 by Trnava city. This inter-municipal association plays and will play a key role in safeguarding coordination, networking, mutual communication and transfer of know-how within Trnava FUA municipalities in order sustainable and integrated approach including also integrated environmental management will be continuously applied in the process of the area development in its broadest context. Thus, the ZOMOT association is the main management and administration structure for the Trnava FUA – its members are all the above given municipalities represented by their mayors. The ZOMOT association office has two representatives – head of the office and administrative employee executing every day management and related communication.

However, responsibility for administration and management of individual municipal areas in the Trnava FUA, resp. their cadastral areas, lays with the municipalities themselves, which are in line with the Slovak law, basic spatial and administrative self-governing units. Every municipality has its own plenary assembly and a mayor voted by their inhabitants every four years. Moreover, every municipality / city has its municipal/ city office which serve as a main executive authority being responsible for many local competences including issue of spatial and building permits, maintenance of the whole municipal/city area, to mention some of them.

Use of the area

The FUA Trnava is located on the Danubian lowland belonging to flatty areas with a very suitable climatic conditions and high-quality soils, mainly mucks and brown soils what favors to intensive agricultural

production, characterized by growing of densely sown corns, maize and sunflower mostly. Also wine production, fruit raising and gardening is largely present. However, FUA Trnava belongs also to one of the most industrially developed areas in Slovakia, mainly due to machine and automotive industry, as well as food and textile production. Moreover, due to presence of nuclear power plant in municipality of Jaslovské Bohunice this region is important from energy production point of view. Furthermore, vicinity of the Slovak capital Bratislava and in broader context also of the Austrian capital Vienna as well as presence of further important transport corridors mainly to Žilina and Košice in the northeast of Slovakia, makes this area important transport node. In summary, this area can be characterized as a territory intensively used by industrial and agricultural activities with specific environmental problems coming from highly contaminated environment, e.g. quite high degree of air, water and soil contamination, soil sealing and degradation. FUA Trnava belongs to areas strongly influenced by anthropogenic activities, with consequently low degree of ecological stability and rather low quality of environment.

Environment

As partially mentioned above, in the Trnava there is a prevailing abundance of agricultural land, i.e. 80% of the whole area. Almost all this area is represented by arable land intensively used for growing of cereals and forage plants, e.g. wheat, barley, maize, sunflower and rape. With regard to natural eco-stabilizing elements in the Trnava FUA, these are mainly water and wood ecosystems presented. Regarding water ecosystems, mostly they are represented by water courses (e. g. Horný Dudváh, Blava, Trnávka, Parná, Krupský Potok) and water reservoirs (e. g. Suchá and Parnou) favorable for fish farming, water sports and recreation activities.

However, the Trnava FUA, resp. Trnava region in a broader context, is known as region with a very little presence of wood ecosystems and permanent grasslands – wood ecosystems represent only 1,1 % of the whole Trnava FUA area and permanent grassland only 3,86 % of it. Thus, the Trnava FUA with a very little presence of natural eco-stabilizing elements belong to regions with the lowest ecological stability in Slovakia. Moreover, as also mentioned above, due to intensive anthropogenic activities (agriculture, industry, transport) environment in the Trnava FUA is characterized by rather high degree of ground and underground water, air and soil contamination, together with considerable local water and air erosion, low retention ability of this area and its drying out caused by climate change. Moreover, current trends in management and use of the Trnava FUA area are not very favorable – there is an increasing urban sprawl, extensive urbanization and inappropriate human interventions in local river basins resulting in accelerated surface water outlet concentrating water in local river courses increasing threat of floods. An important side effect of these phenomena is also oversized drying out and overwarming of the whole area and the whole process is not sustainable anymore.

Within the Trnava FUA Action Plan elaboration an analysis of ecosystem services was performed, and the following ecosystem services were depicted as relevant for the Trnava FUA area:

Supply (production) ecosystem services:

- Biomass for food production – i.e. provision of soil for agricultural production and the provision of harvest itself (including gardening);
- Water for drinking and for technical purposes – i.e. provision of drinking water, water for irrigation, industry, etc.

Regulative a supportive ecosystem services:

- Air quality regulation – i.e. improving the quality of air, hygienic and wellbeing benefits;
- Water quality regulation – i.e. improving the quality of groundwater and surface water, again hygienic and wellbeing benefits;
- Water flow control, flood protection – i.e. water retention and drainage and flood control;
- Micro and regional climate regulation – i.e. local climate regulation;
- Support of natural soil composition – i.e. erosion regulation;

- Support for biodiversity, life cycles, pest control – i.e. protection of biotope, biodiversity, etc.

Cultural and aesthetic ecosystem services:

- Services related to provision of recreation, sport, relax and leisure activities;
- Services related to provision of cultural, moral and intellectual aspects of life.

FUA identity

As mentioned above, the Trnava FUA has been set up in 2016 consisting of 16 municipalities together with the reginal capital city Trnava, which is also constituent member of the ZOMOT association set up again in 2016 associating all the Trnava FUA municipalities. With regard to its position the Trnava FUA is located in metropolitan region of Bratislava (40 km far from Bratislava and 100 km far from Vienna) belonging to so called Central European region in a broader context which has more than 4,5 mil. of inhabitants and the main poles of growth: Bratislava, Brno and Vienna.

Due to this suitable position, suitable natural and climate conditions as well as historical factors, the Trnava FUA belongs to "richer", more developed and competitive parts of Slovakia, with higher population density and well developed economic, social and transport infrastructure in comparison to regions in the northeast and southeast of Slovakia. In generally, in the Trnava FUA urban settlements inhabitants living in cities prevail. The average number of inhabitants in the Trnava FUA municipalities is 2872 inhabitants, while average population density is 341 inhabitants /km$^{2.}$ However, in Trnava city itself there is an obvious trend in declining number of inhabitants within 2010 – 2016 in comparison to majority of the Trnava FUA municipalities where the number of inhabitants has been continuously rising, what indicates a process of suburbanization.

1.2 Action plan

FUA objectives and priorities

In line with the ZOMOT association statutes, general, however, also the overwhelming objective of the Trnava FUA are to initiate, support and implement an integrated development of the Trnava FUA area in its broadest context, including the main pillars of 2020 agenda, i.e. local economic and social development well balanced with local environmental protection. Such integrated development should be based on the program of economic and social development which is a strategic midterm document mutually elaborated for the Trnava FUA for a period of 2016 – 2023. This document is the most important strategic platform for both integrated development of the Trnava FUA area as well as for fundraising of external financial sources mainly from EU funds within current programming period of 2014 – 2020 – and this is the second important objective of the Trnava FUA and its managing and administrative structure (the ZOMOT association) – to prepare and implement integrated development projects co-financed from external, mainly EU funds.

Planning and Strategic Framework

In Slovakia spatial planning was delegated to the Ministry of Environment in 1990 with clear definition that it is an important tool of environmental protection. However, since 2002 competence of spatial planning at national level had been several times shifted. Nowadays, competence of spatial planning "without ecological aspects" is under the Slovak Ministry of Transport and Construction, and competence of spatial planning including all "ecological aspects" has stayed with the Ministry of Environment. Nevertheless, concrete execution role of spatial planning lays with municipalities, which are responsible for development of their spatial planning strategies. Cities as well as municipalities are legislatively obliged to develop their spatial masterplans and update them every four years. However, in case they do incorporate partial changes and updates of their master plan continuously in line with actual needs, they

do not have to do these “four years” amendments. This is a case of Trnava city which has the latest spatial masterplan elaborated by 30.6.2015 and since then the city updates it continuously in line with arisen needs. All changes of master plans in case of cities as well as municipalities must be approved by their plenary assemblies.

In accordance with the above given institutional framework, the following priorities for the Trnava FUA region were selected in the above mentioned mutual program of economic and social development:

- Economic development: 1. Transport and better accessibility; 2. General development including tourism and preservation of cultural heritage; 3. Better conditions for investors including elaboration of complex up to date analysis of current investment conditions and support of local production, 4. Marketing including development of current marketing strategy for the Trnava FUA.
- Socially and environmentally responsible region: 1. High quality regional and local education system including enlargement of existing capacities of basic and infant schools and enhancing their cooperation; development of complex up to date strategy for educational policy; 2. Accessible high quality social services including development of the social center for the whole FUA region and elaboration of complex up to date social strategy; 3. Climate change adaptation including effective flood protection and water management and revitalization of Parna river basement; 4. Effective waste management including mainly introduction of effective schemes of municipal waste management; 5. Remediation of environmental burdens including revitalization of greenfields and brownfields.
- Effective public administration and Integrated land and resources management: 1. Effective and open public administration including open and E-government; 2. Effective integrated environmental and land use management.

Methodology

Action plan for integrated environmental management for the Trnava FUA represents up to date unique pilot study providing basic characteristics of this area, evaluation of its potential using methodology of ecosystem services, identification and specification of potential and recent geoecosystems, evaluation of services and benefits of identified geoecosystems together with analysis of endangering and supporting factors. Moreover, inventory of investment plans and projects, identification of land use conflicts and vice versa mutual synergies was given there together with vision on the direction of integrated environmental management in Trnava FUA.

The main principles to be applied in planning, management and decision-making process in order to enhance integrated environmental management in the Trnava FUA in relation to environmental protection including sustainable land use and sustainable use of ecosystem services were selected and linked to the following main areas:

- protected areas and areas with natural resources protection;
- areas negatively influenced by stress factors and areas without negative influence of stress factors derived mainly from human activities;
- areas of hygienic protection of agricultural objects;
- areas with polluted surface waters (mainly water courses);
- protection zones of transport corridors;
- areas threatened by surface runoff;
- areas endangered by landslides;
- areas largely endangered by negative impacts of climate change, wind erosion and extensive drying out;
- areas with the lowest ecological stability.

The use of tool (InViTo, LUMATO, etc)

During the Trnava FUA Action Plan, an outsourced company responsible for its development used web GIS tool to elaborate all maps accompanying its textual part. However, also an inVito tool has been used for the very first time to investigate its possibilities for the integrated environmental management in the Trnava FUA.

The first "results", resp. the process and the first "findings" from the work with the inVito tool during the process of Action Plan development were introduced to local stakeholders and decision makers at the 2.4.1 and 2.7.1 workshops taken place in February 2018 in the ZOMOT association premises in Trnava as well as during the Slovak two days local training taken place in September 2018 at the Trnava City Hall. The authors of the Trnava FUA Action Plan succeeded in "feeding" the inVito tool with selected data from the Trnava FUA and got basic "impressions" concluding the inVito tool and IT systems currently used in the Trnava city (Cora Geo WebGIS and Bentley Microstation) could be well compatible, however, the work with inVito tool should be further processed, investigated and fine-tuned in cooperation with the tool authors.

In future perspective, after adding more information-bearing layers, the InVito tool could be well used as an analytical as well as visualization tool supporting decision making process in the Trnava city as well as in the Trnava FUA mainly during the process of integrated projects preparation and implementation.

Strategies for the implementation, Timeline and funding programme

Although well-developed theoretical basis of integrated environmental management, in Slovakia currently the most prevailing practical approach is still sectoral, i.e. environmental planning, management and protection is still divided between all basic environmental components such as water, air, soil, fauna, flora, natural resources and waste. Thus, one of the key steps in relation to enhance integrated approach in environmental planning and management in Slovakia starts with analysis and deeper integration of existing legal and executive tools which encompass the following main fields:

- nature and landscape protection;
- spatial planning including landscape and ecological planning and ÚSES (i.e. spatial systems of ecological stability);
- landscape planning with regard to European Landscape Agreement;
- land reforms;
- wood/forestry planning and management;
- ground and underground water and water basins management;
- flood protection;
- integrated pollution prevention and control (IPPC);
- environmental impact assessment (EIA) and strategic environmental assessment (SEA).

The above given requires concrete steps and actions at national level (top-down approach), which, however, could be accelerated also from local/regional level. The Trnava FUA and its Action Plan developed under the LUMAT project could well accelerate such bottom-up initiative. In line with the above given, the Action Plan of integrated environmental management for the Trnava FUA encompasses measures in the following key aspects:

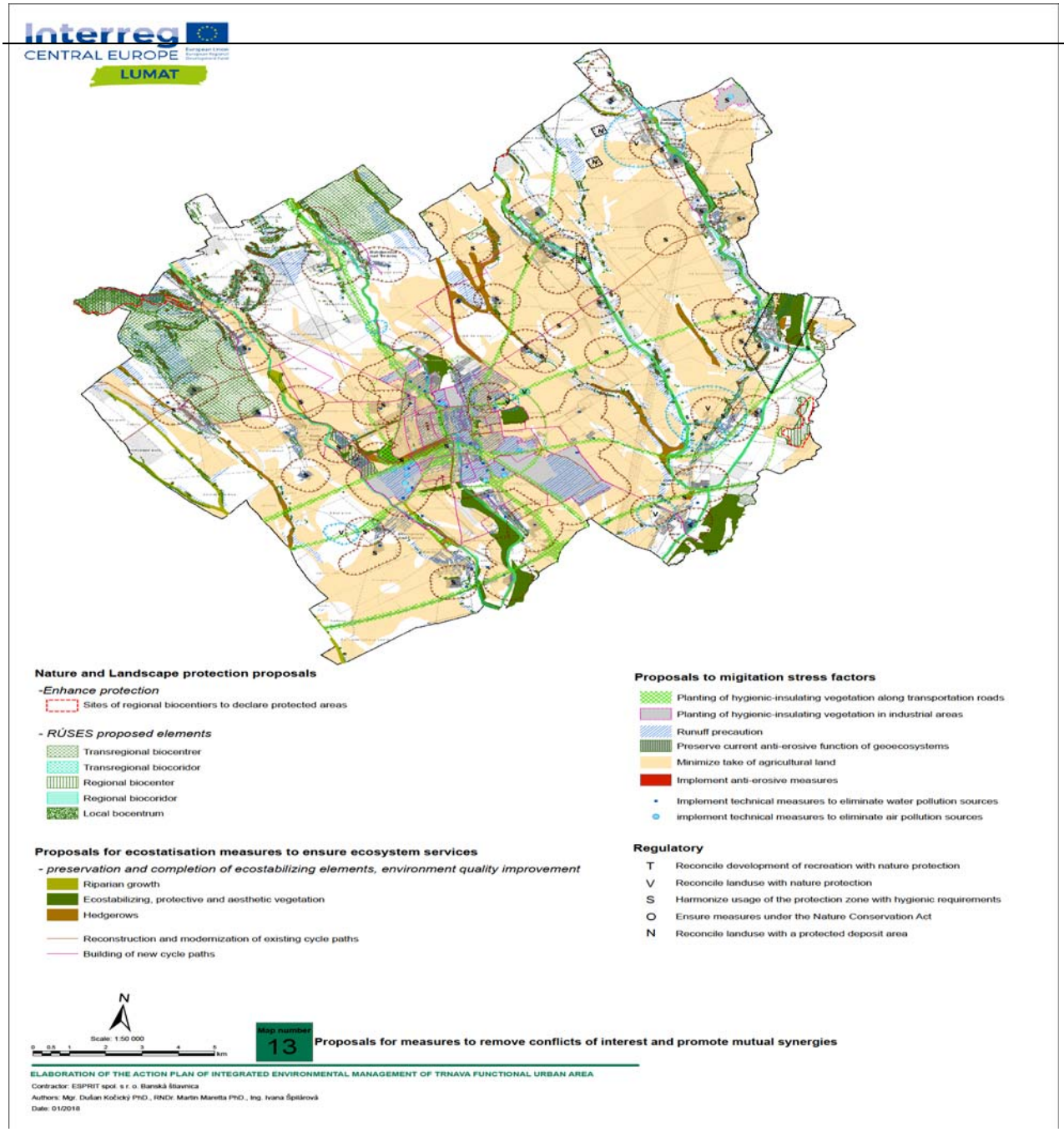
- nature and landscape protection;
- eco-stabilizing measures safeguarding sustainable use of ecosystem services;
- mitigation of the stress factors negative influence;
- development of spatial information system.

Furthermore, in every key aspect given above, the Trnava FUA Action Plan describes framework actions to be implemented. However, these actions should be further detailed into concrete investment intentions and integrated projects at the Trnava FUA level, resp. at level of the Trnava FUA municipalities.

Regarding funding for implementation of such integrated projects, definitely, they will be implemented more less only with support from external financial sources as in general, they are quite large and expensive infrastructure projects. This external financial support is represented mainly by EU funds (the Slovak national operational programs within EŠIF 2014 – 2020, interregional or cross border cooperation programs or Norwegian/EHP funds) or by the Slovak national subsidies managed by individual Slovak ministries, from which, however, could be co-financed smaller investment or soft projects.

Regarding timeframe, in line with the above given, it is expected that these integrated projects will be prepared and implemented during this programming period 2014-2020 as well as during the following programming period, which should be under preparation already now. Support from the subsidy mechanisms of the Slovak ministries is not divided into so called "programming periods" in generally, it is determined with the scope of the Slovak governmental program.

Just to illustrate measures proposed within the Trnava FUA Action Plan the following map can be seen:



Expected impacts and Conclusions

In accordance with the above given it can be concluded that the Trnava FUA Action Plan for integrated environmental management represents a pilot midterm strategic document developed for the Trnava FUA for the very first time - so far there has not yet been developed so complex analysis of current state of environment in the Trnava FUA as well as of actual analysis of processes in the field of integrated environmental management and drafted framework actions to enhance such integrated attitude toward the land use planning in this area. Moreover, an aspect of integrated environmental management is quite unique element here, because it is a specific topic not frequently elaborated in strategic documents and here this document developed under the UMAT projects has done its pioneer work.

Thus, expected impacts of the Trnava FUA Action Plan could be seen both at national as well as at regional level, as this document can serve as a best practice example for other Slovak FUAs (regional level) and to support drawing more attention to this topic and contributing to institutional and legislation changes at national level. And at local level, i.e. at level of the Trnava FUA itself, it is expected that this document will serve as the main instrument in planning and decision making in the process of preparation and implementation of integrated projects in the Trnava FUA safeguarding its integrated development in relation to sustainable use of natural resources. The Action Plan was elaborated in March 2018 and it can be found on http://www.trnava.sk/userfiles/file/Ak%C4%8Dn%C3%BD%20pl%C3%A1n%20MFO%20Trnava%20LUMAT.pdf where the Action Plan with an English concise summary can be found and on http://www.trnava.sk/sk/clanok/strategicke-dokumenty where under the point 9. “mapy” can be found map annexes.

REPORT ON ACTION PLANS

OSTRAVA FUA

Deliverables D.C.5.2

Version 1
10 2018

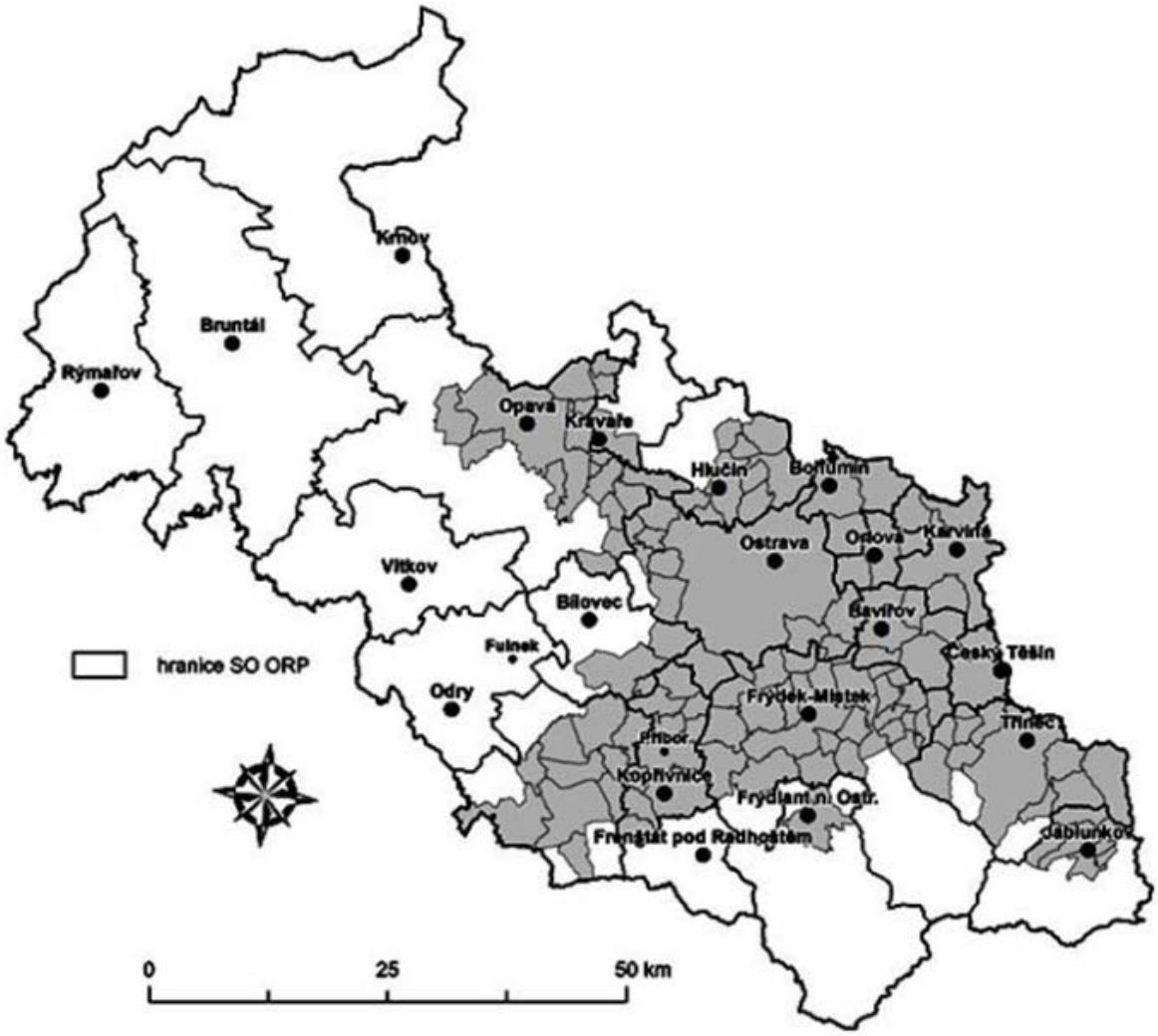
PP9: Ivo Veselý, Tereza Majstriková, Natalie Szeligová, Barbara Vojvodíková, Blanka Marková

PP10 Lenka Tichá, Ludmila Pěgřimková

Index

1. THE FUA IN CZECH REPUBLIC

LUMAT Partner	PP9, PP10	Institution's IURS - Institute for Sustainable Development of Settlements | **Moravian-Silesian Investment and Development** , Czech republic
FUA's name – Ostrava –Czech republic		



Population	965 338 inhabitants
Area	1949,74 km2.
Density	496 obyv./km2 inhabitants per km2
Current Land Use	Urban areas, industrial areas, forest mixes, agricultural activities
Administrative Structure	Part of Moravian Silesian region

1.1 Current Status

Administration

FUA Ostrava is part of the Moravian-Silesian region. Implementation of the Action Plan is focused on the level of the Region and therefore the key authorities (Regional Assembly, Regional Council) of the Region are mentioned here.

Regional Assembly

The Regional Assembly performs self-government, its legal assignment is to submit bills to the Chamber of Deputies, submit proposals to the Constitutional Court to annul legislation, issue generally binding regulations of the Region, coordinate the development of the territorial area, approve territorial planning documents, determine the extent of basic transport services for the region, make decisions on international cooperation, approve the regional budget, establish and dissolve state-funded institutions, etc.

Regional Council

The Regional Council is the executive body of the Region within the area of independent authority; the Council prepares proposals and documents for meetings of the Regional Assembly.

Use of the area

The Spatial Development Principles of the Moravian-Silesian Region, even in its update from year 2015, generally describe brownfields as areas whose use should serve to protect agricultural land, the document deals only with the industrial zone RPZ-1 Nad Barborou (92.3ha) in order to establish a strategic industrial zone, in relation only a part identified as RPZ-3 Barbora - Area for the location of "Regional Integrated Center for Utilization of Municipal waste" is mentioned with an energy source directly linked to the Nad Barborou zone.

In the area of strategic planning at the regional level, the Development Strategy of the Moravian-Silesian Region for the years 2009 - 2020 update from year 2012 deals with brownfields in general. Specifically, it mentions only one brownfield in the territory of Ostrava, namely the Hrušov site.

Environment

As part of the project solution, it was verified that brownfields are a threat to environmental management in the area. On the one hand threat from the point of view of contamination, but also there are opportunity to protected agricultural land (soil). In the preparation of Action plans identification and evaluation was made in relation to the individual components of the environment, including the socio-economic component of the FUA Ostrava. Area differences and increase of buildings between 2006 and 2016 have been calculated using the GIS analysis performed by the author with use of CÚZK data. The result of the calculation is the fact that, during this period, in the more precise delimitation of the Ostrava agglomeration there was an increase of buildings with total area of approximately 202.8 ha, In FUA Ostrava, a total of 238 locations have been identified to have brownfield features These are formerly used or underused areas which for their future development need an intervention for their future development, they need intervention. These are, therefore, seemingly easily accessible and usable sites. A number of regenerations of brownfields took place in FUA Ostrava in the last decade, and yet, more than 200 ha of agricultural land were consumed. Brownfields within FUA Ostrava represent 665 hectares of land

Elements of FUA identity, Citizens and stakeholders involved

FUA Ostrava is an area historically influenced by industrial activity. These are mining and heavy industry. The inhabitants live mostly in cities and the whole territory has a polycentric structure. The main stakeholders are the Region, municipalities, landowners - several large owners, universities, entrepreneurs and the public. Public interest is high, especially the young generation has a positive relationship to the region and is interested in its development

1.2 Action plan

FUA objectives and priorities

The main objective of the Action Plan, to be implemented through sub-targets, is to facilitate the regeneration or re-use of brownfield sites. Specifically, improve possibility of temporary brownfields utilization, prevent new brownfields emergence through private sector and public sector support. At the same time, an increase in awareness of the extent of potential risks arising from the existence of historically used sites will be monitored.

By achieving the main objective, the region will also pursue other partial goals:

- Improving the environment.
- Reduction of loss of agricultural land.

- Local reduction of air pollutant concentrations by increasing the share of green areas.

- Reduction of potential hazards resulting from historically created but only partially acknowledged contamination of the soil environment.

- Reintroduction of unused localities into functions of the municipalities / cities.

Priorities 1 - Use of the legislative initiative to create a legislative environment for brownfield regeneration support

Priorities 2 – A dedicated fund for brownfields regeneration support

Priorities 3 – Mapping brownfield sites and managing their database, mapping sites with assumed contamination, and defining priorities for solution.

Priorities 4 - Initiation and activation of owners and promotion of brownfields problematic for the public.

Priorities 5 - Supporting human capital in brownfield regeneration problematic

Planning and Strategic Framework

This Action Plan is prepared for the needs of the Moravian-Silesian Region. There fore, its focus is in line with the key planning documents of the Region

They are - The Development Principles and Development Strategy of the Moravian-Silesian Region

Development Principles are the zonal planning document for the entire region. They mainly set the fundamental requirements for effectively and efficiently organization of areas and corridors of supra-local importance, especially public works areas and corridors (transportation and technical infrastructure, production and storage, etc.) and publicly beneficial measures (flood control, land-based ecological stability system, etc.).

The Strategy for Development of the Moravian-Silesian Region in 2009-2020 (hereinafter the “Strategy”) has been prepared as a mid-term strategic document to meet conditions provided in Act 248/2000 Coll., on promoting regional development

Methodology

The implementation method is based on the horizontal I vertical participation system. On the horizontal level, it is about creating a working group - see more text.

The vertical level implies the cooperation of individual municipalities with the region, the cooperation between the stakeholders and the constructive entry of the public.

It is clear that the coordination role must be taken over by the Moravian-Silesian Investment and Development. As a Project Partner, it is motivated to support the implementation of the Action Plan

The use of tool (InViTo, LUMATO, etc)

The concrete implementation tool for FUA Ostrava is the web site

A web-site has been prepared directly for the needs of FUA Ostrava with overlap to the Moravian-Silesian Region.

This is an interactive environment with the possibility of public access.

Visitors may

1) Read the Action Plan and comment it (discuss about it)

2) Input new brownfields including photos and related information

3) Input examples of successful brownfield revitalizations including photos

4) Suggest future use for individual brownfields

5) Add comments to the individual brownfields

6) Lookup brownfields

7) Input project intention for brownfield regenerations

8) Communicate with MSID agency – send questions, comments, students can send internship inquiries, diploma works, etc.

The goal is to strengthen public involvement in the brownfield regeneration process

Strategies for the implementation, Timeline and funding programme

The strategy for the implementation of the Action Plan is closely related to the process of its creation. A number of analyses, including an analysis of the organizational structure in the area of self-government at FUA Ostrava, were prepared for the preparation of the strategy. The conclusions of the evaluation showed two ways for a possible implementation. And it either bottom up a system based on individual municipalities. This system would imply the possibility of agreement and joint action of more than 100 municipalities, which is not realistic. Therefore, the second is the top down system, passing the implementation to the parent level - to the region level.

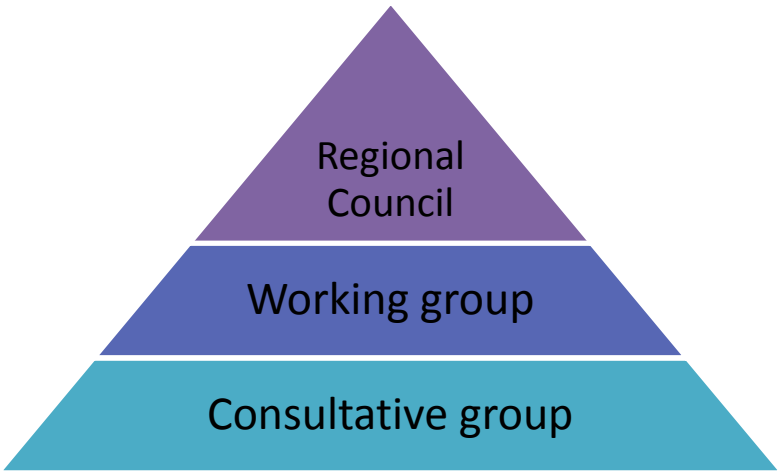
Implementation group has three levels:

Regional Council - executive body of the region in the area of independent competence. The Council is preparing proposals and documents for meetings of the Regional Assembly, therefore it is most suitable for implementation itself.

Working group - executive group preparing background documents for the Council. The Working group is proposed with respect to the current organizational structure of the Region, with the rule that in case of change the agenda is transferred to the successor department. The Working group will be composed of representatives of the Department of Land-use Planning and Building Regulations (Land-use planning section), Department of Regional Development and Tourism (Regional Development Section), Department of Environment and Agriculture and Moravian-Silesian Investment and Development agency. The task of

the Working group will be to specify measures and activities to be decided by the Council. At the same time, it will fulfill its tasks as a result of the Council's decision. It will monitor the results of implementation of already implemented activities and measures. This information they will hand out to the Council of the Region. The Working group will also be in contact with the Consultative group.

Consultative group - prepares suggestions for the Working group. It will consist of citizens, non-profit organizations, private business sphere, experts and public administrations (municipalities, associations of municipalities, region). The main task of the Consultative group is to monitor the impacts of the actions already undertaken and to propose modifications and amendments to the Action Plan in reaction to the current situation.



Expected impacts

The action plan aims to streamline and accelerate the brownfield regeneration process. This will have a positive impact on the environmental situation of the entire region (FUA Ostrava) and the improvement of ecosystem services. Improving the environment will have a positive impact on all the inhabitants of the region, therefore it will have a positive impact on all the target groups

Conclusions

The first important step in the implementation is letter of commitment

The Moravian-Silesian Region, by letter dated 11 October 2018, accepted the commitment to establish a Working Group. The Working Group will continue with Moravian-Silesian Investment and Development agency organizational support in the preparation of individual steps towards the gradual implementation of each Priority (Action) of Action Plan

REPORT ON ACTION PLAN KRANJ FUA

Deliverables D.C.5.2

Version 1
10 2018

PP11 Urban Planning Institute of the Republic of Slovenia: Barbara Mušič, Boštjan Cotič

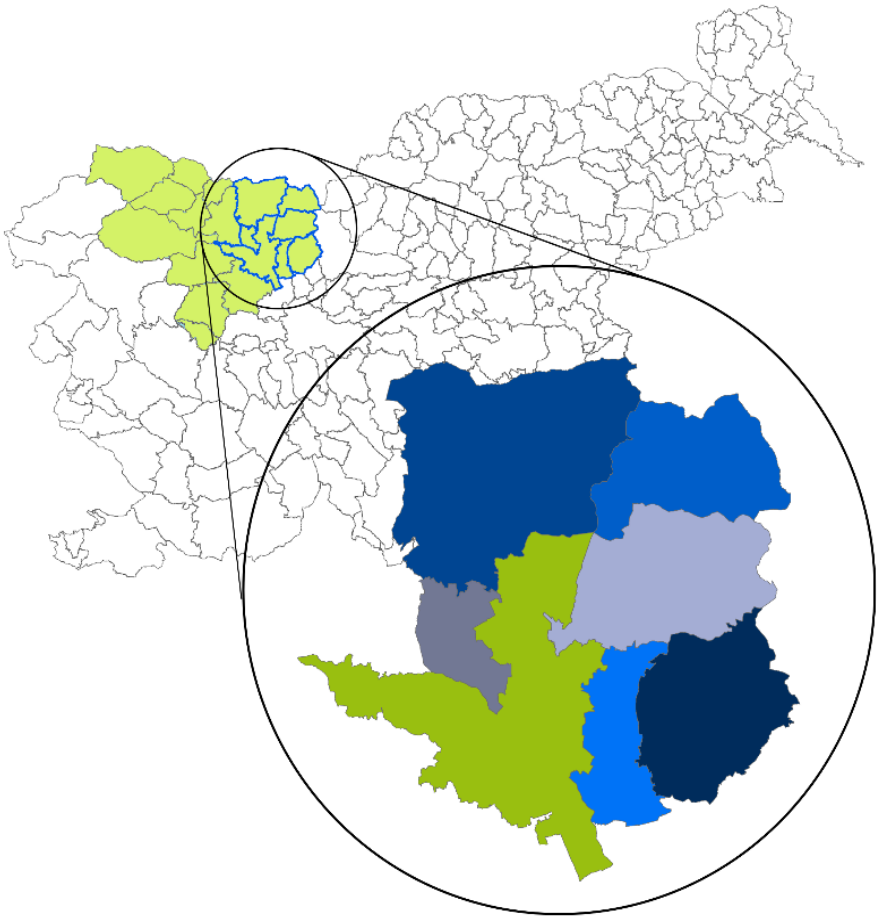
PP12 Republic of Slovenia, Ministry of Environment and Spatial Planning: Tomaž Miklavčič, Nina Uršič

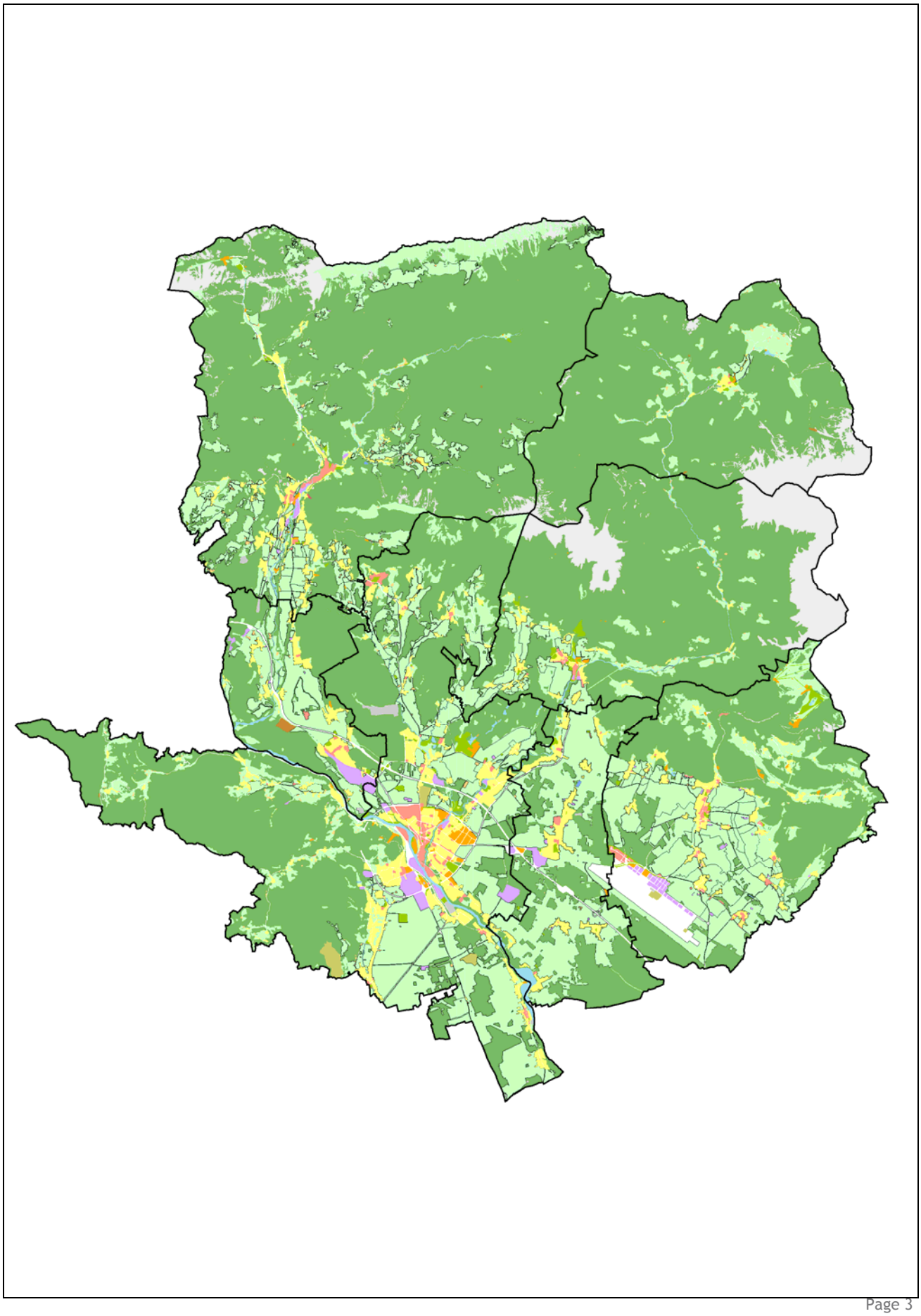
PP13 City of Kranj: Janez Ziherl, Ana Ahčin, Marija Ahačič Premrl

Index

1. THE FUA KRANJ

LUMAT Partner	PP13	City of Kranj, Slovenia
FUA's name – FUA Kranj		





Population	96.658
Area	708,7 km2
Density	145,14
Current Land Use	
Administrative Structure	City municipality Kranj, Municipality Šenčur, Municipality Preddvor, Municipality Naklo, Municipality Cerklje na Gorenjskem, Municipality Jezersko, Municipality Tržič Part of NUTS3: SI042 Upper Carniola Statistical Region (Gorenjska statistična regija)

1.1 Current Status

Administration

The functional urban area (FUA) of Kranj is located in the Gorenjska region in north-western part of Slovenia. The Gorenjska statistical region is divided into two parts managed by two Regional development agencies, the RAGOR for upper, north-western part and BSC Kranj for lower, south-eastern part of the Gorenjska region. The City of Kranj is the capital city of the of the Gorenjska region.

Use of the area

In general, the Spatial development plans in Slovenia use the state's legislation's determination, that settlement's development is to be provided also with Degraded urban areas (DUA) renewal and determine renewal for some specific areas of DUA but on the other side, there are very few guidelines for business zones development in spatial development plans in the FUA Kranj.

Apart from Spatial development plans, the City of Kranj and the Municipality of Tržič have documents called Urban Development Strategy, that focus also on treating DUA and business zones development, including objectives and some actions.

Environment

In FUA Kranj there are several threats on soil and land identified:

- brownfields (large areas of former textile industry in FUA Kranj, more than 100 ha just in Kranj),
- land contamination,
- high water and flood hazard (presence of settlement structures in flood zone areas),
- over-fertilisation (intensive farming close to urban areas and on protected areas for drinking water),
- soil erosion (mountainous area and climate change),

- urban sprawl and soil sealing (despite large number of brownfields and underused areas, new greenfield developments are identified).

FUA identity

For the LUMAT project, the FUA Kranj was selected as an un-institutionalised area of intervention located in the lower Gorenjska region. It is a highly industrialized area.

The FUA Kranj area was defined based on OECD criteria and eco-system services approach. There are several eco-system services with important impact on the quality of life spreading across more municipalities. Protected forest of Udinboršt and supply of fresh drinking water are recognized as two the most important ones.

In the FUA Kranj there are the following municipalities:

City municipality Kranj,

Municipality Šenčur,

Municipality Preddvor,

Municipality Naklo,

Municipality Cerklje na Gorenjskem,

Municipality Jezersko,

Municipality Tržič.

1.2 Action plan

FUA objectives and priorities

The scope of the Action plan for the FUA Kranj is dedicated to the development of strategies, plans and instruments of comprehensive management dedicated to sustainable development and environment embedded into the integrative land management in FUA.

The Action Plan for integrated environmental management for the FUA Kranj is focused on the development of the Master Plan for developing industrial zones which are now either degraded or without any communal infrastructure as part of the Functional Area Integrated Environmental Management Strategy. The Action plan of the FUA Kranj have to be understood not as formal instrument but as a steering instrument, an efficient tool used following the interest of the whole scale of stakeholders, first of all municipalities representing public interest.

Priority objectives include:

- Efficient management of business zones, and
- Encouraging the renovation of degraded and underused areas.

(Sub)-objectives include:

- Conservation and efficient management of natural resources,
- Ensuring the quality of the living and working environment,
- Integrated management of business and economic zones,
- Re-activation of degraded and underused areas and prevention of new brownfields,
- Promoting sustainable mobility for business zones,

- Restrictive approach to greenfield developments and supporting approach to brownfields,
- Supporting the consolidation of ownership structure in zones with fragmented ownership.

Planning and Strategic Framework

The findings of the Action plan of the FUA Kranj like identified threats, provisions of services as development potentials of degraded areas together with identified tools and measures should be in the mid and long term perspective directly usable in designing and implementing regional and local municipal spatial and development plans as programmes.

The vision and strategy for the plan as the most interactive stage of the process is devoted to the development of goals, alternatives how to react to the identified challenges, potentials and problems of the FUA. Expected outcomes of the plan and associated objectives and targets should be developed and assessed from the point of their coherence, achievability and responsibilities of actors. Usually scenarios are generated, discussed and assessed. the linked interventions should be tested against policy options and identified consequences.

The second part of the planning phase is focused on preparatory work for plan implementation. The main instruments are the action plan, programs and projects, which are in detail described by the programming/operational part of the Action plan. The Action plan involves a series of projects and sub-projects which will include diverse interventions in the form of regulations, investments, physical developments, socio-economic and environmental measures.

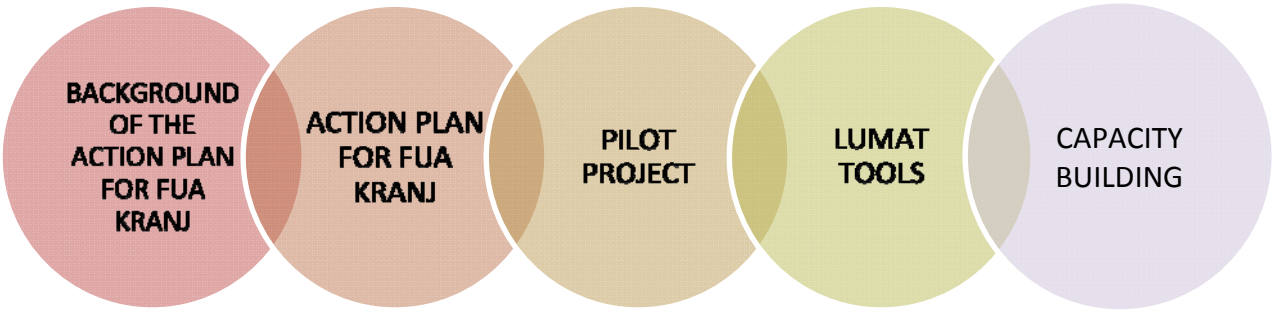
Methodology

The development of the Action plan for the FUA Kranj is based on the multidisciplinary approach which includes interdisciplinary content, stakeholder processes of elaboration as well as scientific inputs on governance and ecosystem services in the form of decision support tools.

The methodology of the FUA environmental management plan of Kranj is based on:

- integrated management of urban development in the functional urban area of Kranj understood as a tool for optimization of land-use management overarching sectoral policies,
- incorporation of the concept of ecosystem services as the framework for the integration of different optimization functions representing variety of interests and stakeholders in FUA with the focus on sustainable soil and land use
- polycentric multilevel governance as the basic management model for cooperation management of the city core and its suburban areas and institutional framework for the development and implementation of integrated FUA plan of Kranj.

The Action plan of Kranj FUA is divided into following main sections:



The use of tool (InViTo, LUMATO, etc)

The development of the LUMAT Action plan of the FUA Kranj was supported by the use on the open source web GIS based platform called InViTO.

The main DSS tool used in the FUA Kranj was Invito GIS tool. With the Invito GIS tool, we were able to integrate all data from different GIS data sources used in FUA Kranj mentioned above. Integrated data with graphical representation was used to better communicate proposed actions with stakeholders. The LUMATO tool was presented just to local authorities within the FUA Kranj as a possible additional DSS tool which can be integrated with their existing GIS environment.

Further use of presented methodological approach (LUMATO) is considered in the process of preparation of the regional development strategy. This document, that will also use the other project results as an expert input, is going to be prepared as a part of Slovenian regional development programme for 2021-2027.

Strategies for the implementation, Timeline and funding programme

Successful implementation of the FUA Kranj Action Plan require a very well-prepared management strategy. From the experience of other partners in the LUMAT partnership, but also experience from all Slovenian partners, the main issue to be handled was to define an institution or create (choose) a network, that would implement the Action plan. As this means new tasks for every potential (managerial) organisation or a network, the main objective of the implementation strategy was to find a right stakeholder who's daily responsibilities could relate to the topics of the Action plan. To avoid later difficulties, Slovenian partners already discussed about potential key stakeholders for the implementation of the FUA Kranj Action plan at the beginning of the process. During the process, the most appropriate key stakeholder for the Management structure responsible for implementation the Regional Development Agency of Gorenjska Region was identified. Engaging the Regional Development Agency of Gorenjska at the beginning of the development of the FUA Kranj Action plan, was important to get their interest in the topic and to define possibilities for the implementation of the Action plan. Also, the early inclusive process was important for the definition of realistic tasks and roles, that the Regional Development Agency could do to support the implementation of the FUA Kranj Action plan. In January 2018, the Letter of intent was signed by the director of the Regional Development Agency of the Gorenjska Region. One of the important goals was also the sustainability of the results and the Management structure, so the results of the Action plan are prepared in a way, that it can be used as an expert basis for the preparation of the new spatial document (according to the new spatial planning legislation, valid from 1.6.2018 on), the

Regional Strategic Spatial plan. The document, that will be prepared by the same Regional development agency.

Expected impacts

The main objective of the Kranj FUA action plan is focused on inner urban development, preventing greenfield developments and urban sprawl and searching synergies within FUA municipalities with their public and private stakeholders.

The FUA Kranj Action plan will be used as an expert basis for regional development programme, regional spatial development strategy (new spatial legislation, 2017) and other local development documents. This will ensure sustainability of the FUA Kranj Action plan after the end of the LUMAT project. The Regional development agency of the Gorenjska region, who also covers the role of business support centre, was identified and engaged as the Management and monitoring organisation for the FUA Kranj Action plan implementation.

Conclusions

One of the most important result of the project will be the establishment of communication and cooperation between individual stakeholders at different levels. By raising awareness and sharing experiences, the project will build on the acquired new knowledge and build trust among stakeholders. At the same time, comprehensive action and management plans will enable a balanced and economically efficient development of new economic zones and reactivation, revitalization of existing degraded areas. The desire is to raise the interest and offer a tool that will stimulate the participation of stakeholders and enable the successful and comprehensive development of functional urban areas. The goal is to establish a methodology that can be applied to each FUA depending on the specific areas of the territory.