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**Implementation of the pilot SEA of the Orhei Town Master Plan
Strategic Environmental Assessment (SEA) of the Master Plan
of the Municipality of Orhei
SEA Environmental Report (summary)**



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Chisinau-Orhei, April-June 2015

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Background

Strategic Environmental Assessment (SEA) effectively promotes sustainable development by mainstreaming environment into economic development at a national and local level. SEA is a well-established, practical and efficient planning and environmental governance tool/system set out in the UNECE Protocol on SEA to the Convention on Environmental Impact Assessment (EIA) in a Transboundary Context. It ensures that development plans in key sectors such as energy, water and waste management with likely significant adverse environmental impacts are efficiently developed taking into account environmental (and health) considerations. The Government of Moldova selected the Master Plan of Orhei Town as a strategic document for a pilot application of SEA procedure.

The pilot SEA took place in parallel with the process of updating the Master Plan of Orhei so that the SEA-driven consultations as well as analyses prepared by SEA team served to optimization of the Master Plan from the environmental point of view.

The SEA process took place between July 2014 and May 2015, and had following phases:

- Establishment of SEA team, initial consultations and identification of stakeholders
- Scoping (identification of key relevant environmental concerns), including public Scoping Workshop, targeted consultations, and preparation of Scoping Report
- Environmental baseline analysis
- Evaluation of risks and potential for cumulative environmental effects, and considering alternatives
- Development of recommendations for mitigation measures and environmental monitoring
- Preparation of SEA Environmental Report and conducting public consultations

At every stage the work of expert team included working meetings with local stakeholders and site visits in Orhei.

The Orhei Master Plan preparation Process

The Master Plan is subject to an environmental assessment during its preparation, and before adoption. This includes the drawing up of an environmental report in which the likely significant effects on the environment and the reasonable alternatives are identified, and the carrying out of consultations (with the public, the environmental authorities, and with other states in the case of transboundary impacts). The environmental report and the results of the consultations are taken into account before adoption.

The Orhei municipal authorities took decision to update the existing Master Plan (approved in 2008). The overall goal of the development of the Orhei Master Plan (amended version) is to reflect the current social and economic development situation in the Orhei city and to update the existing Master Plan.

The amendments/updated Master Plan are developed by the ISC Land Support Systems, under the coordination of the Chief Architect of the city. The development of the Updated Master Plan of Orhei started in the spring of 2014. The objectives and plans of this work were presented and discussed during the Workshop on SEA in Moldova, 29-31 July 2014.

There were planned two public consultations of the draft plan:

- Mid December 2014 for the identification/coordination with general public of the options and alternatives for the proposed amendments/ changes and development proposals (in parallel with the public consultations of the SEA Scoping Report).
- In May 2015 for the discussion of the final draft of the Updated Master Plan and SEA Environmental Report.

The content and the main objectives of the Master plan

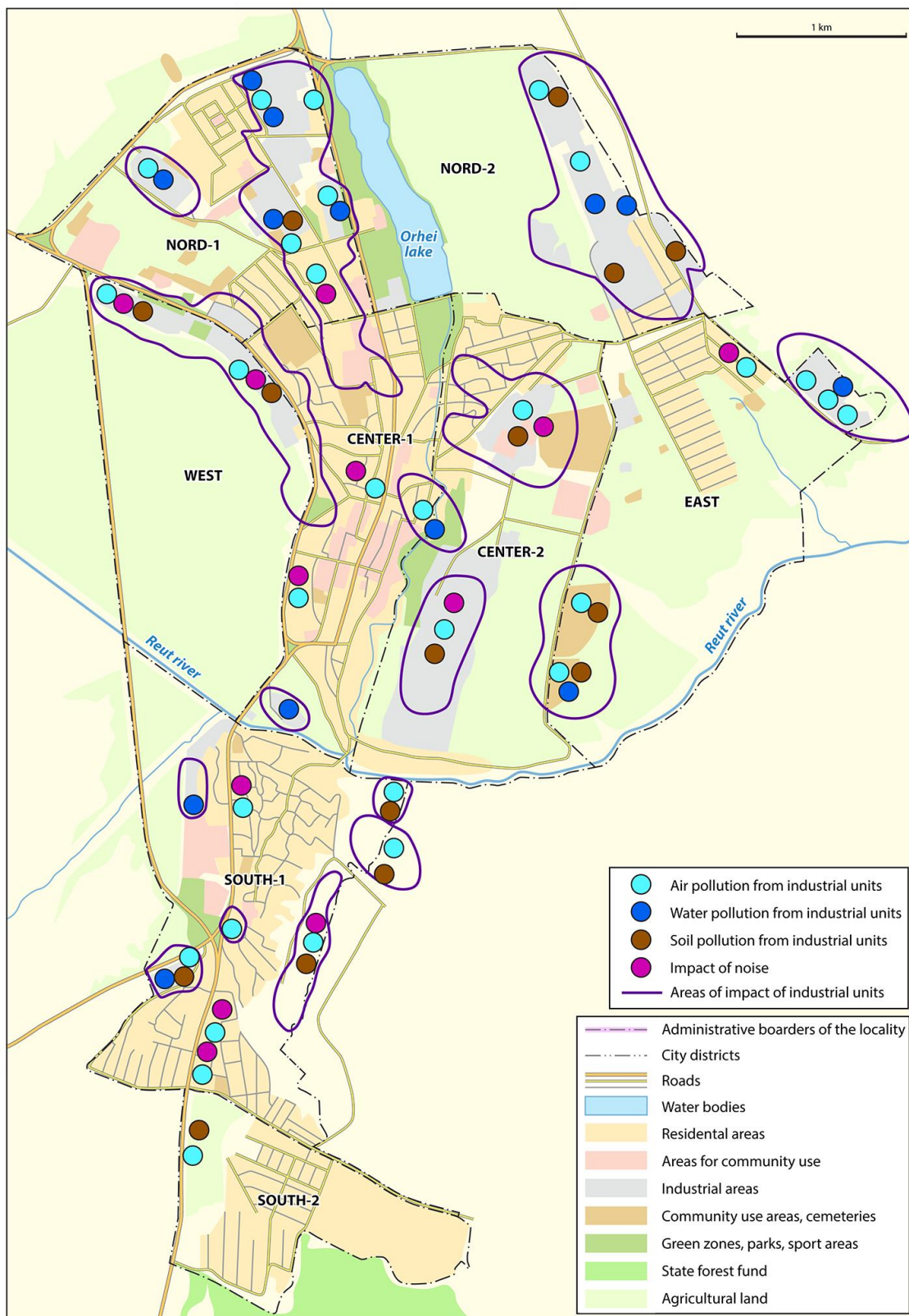
The overall goal of the development of the Orhei Master Plan (2015) is to reflect the current social and economic development situation in the Orhei city and to update the existing Master Plan (approved in 2008). The new 2015 Master Plan includes the digitized cadastral information, further develops functional zoning and takes into the consideration the national and local development and sectorial strategies and plans, relevant for the locality.

Key environmental problems of the city identified

The SEA process assisted with the identification of major environmental and public health concerns in Orhei. An overview of key problems including identification of specific localities where these problems are most relevant has been prepared in order to focus the assessment.

Among the prominent problems are the following:

- Degradation of soils (including slope slides) limits the area available for spatial development, as well as it contributes to the loss of biodiversity.
- A specific problem of Orhei city, which create barriers for the development of the city and has an environmental and health impact, is the presence of the open stone mines within the city limits.
- Existence of the flooding areas (during the heavy rains damage to urbanized areas are experienced) creates limitations for the development of the city, worsens the sanitary condition of the city as well as reduces the quality of water resources.
- The pollution from transport is the most critical in the central part of the city, and on the segment of the national highway, on the crossroads at the entrance and exit of the by-pass road.
- Water pollution is caused by the discharges of insufficiently-treated and contaminated wastewater into water bodies. A direct discharge of the rain waters into surface water bodies, the inefficiency of the existing old waste water treatment plant are the main sources of pollution in the basins of the Raut, Ivanos, Vatici Rivers and in the city lake.
- Pollution from the disposal of municipal wastes took place due to the poor state of the existing landfill, which does not meet the legal requirements, and its improper management,
- The loss of biodiversity takes place due to several reasons, including the vulnerability of the landscape to erosion and landslides
- Lack of management and maintenance of the Nature and Paleontological Monument „Defile Orhei” (natural area protected by state with a surface of 100 ha, near the Orhei city centre)



Map II.3 Zones of existing impacts of industrial sector on the environment

Mitigation measures proposed by the SEA

The SEA experts evaluated individual components of the Master Plan in order to identify potential for negative environmental impacts of the planned developments as well as potential conflicts with environmental policy goals established in other strategic documents. This allowed to formulate (in discussion with planners) number of measures to prevent, reduce or mitigate identified potential negative consequences for the environment and public health, which should be of priority in the context of the Master Plan implementation. Thus the municipality of Orhei shall plan and ensure realization (investment) of the following actions:

- Development a system of drainage, which will reduce water pollution, and improve environmental and sanitary conditions of the city;
- Expansion of water and sanitation systems to increase the population's access to quality water sources that will help to improve public health, increase the access of the population and enterprises of different economic sectors to sewerage systems, enabling connection to the new wastewater treatment plant. These measures will help to reduce pollution from households and industry to groundwater and surface water resources;
- Closure and reclamation of existing landfill and old treatment plant to achieve positive effect on all components of the environment, including human health, improvement the overall environmental and aesthetic condition of the city;
- Closure of stone quarries in the city center - including employment of legal and administrative measures taken by the local authorities, as well as enforcing the land reclamation, which should be carried out by the owner of concerned quarries. This action will significantly reduce emissions of pollutants into the air, and reduce the noise;
- Modernization of waste management infrastructure (provision of platforms and containers for separate waste collection, etc.) in order to help to reduce pollution, increase of utilization of secondary resources, and the implementation of environmentally sound approaches in the field of waste management;
- Modernization of road infrastructure (development of road junctions, the new urban development schemes, intra-roads, bypass) in order to reduce emissions from vehicles in certain problem areas of roads, to lower impact of traffic on the city center and to redirect transit traffic to the bypass road. These measures will contribute to the capacity of the network and reduce accidents on the roads. It is necessary to provide for the creation of parking areas for motor vehicles, especially in the central part of the city;
- Creation of a single scheme of green areas including the expansion of green areas, forestation of water protection belts of rivers Raut, Ivanos, Vatici, and city lake area, development of recreation areas. Significant proportion of the green zone to be dedicated for pedestrian and bicycle paths, and playgrounds. This action will help to improve the quality of the components of the environment, including health, improve the urban landscape of the city. It is necessary to clearly delineate and respect the boundaries of green zones.

A number of measures of an administrative nature, which can not be included within the framework of the Master Plan but will contribute to its implementation, are also proposed. The need for the following measures was identified during the process of SEA in the phase of data collection and analysis of the current situation:

- Ensure basic monitoring of air quality in the city center and on the highway of national significance and the monitoring of water quality (environmental and health indicators). Monitoring on these components is necessary in order to ensure a proper implementation of the Master Plan as well as for the effective work of local authorities, environmental and health authorities in order to produce informed decisions to improve the situation in these areas.
- The development of a management plan for the natural monument "Defileul Orhei" and delimitation of its boundaries in the territory will improve the safety and protection of the monument;
- Strengthening control of compliance with environmental requirements for new facilities and during construction. This measure is critical for avoiding the above identified risks of negative impacts, as the environmental authorities shall respect the functional zoning provided by the Master Plan, but at the same time define and enforce conditions ensuring that the individual or cumulative impacts from economic activities will not trigger worsening of the overall environmental situation;
- Introduction of changes in statistical reporting in the field of environment in order to obtain data not only in the district as a whole, but also for the city level. The problem of the absence of specific statistical data is typical of other cities of the republic. Ideally for each level of ordinarily conducted planning processes shall be a corresponding level of the official environmental reporting, so that the planning authorities (and other relevant stakeholders) have adequate detailed information from official sources;
- Active exploration of funding resources for the investment in environmental protection measures. The implementation of the decisions of the Master Plan and implementation of recommended environmental protection measures will require substantial investments. This can be achieved by mobilizing the local budget, local environmental fund, the participation of business, by attracting funds from the National Environmental Fund, the investment of national and international financial institutions.

SEA evaluation of available alternatives

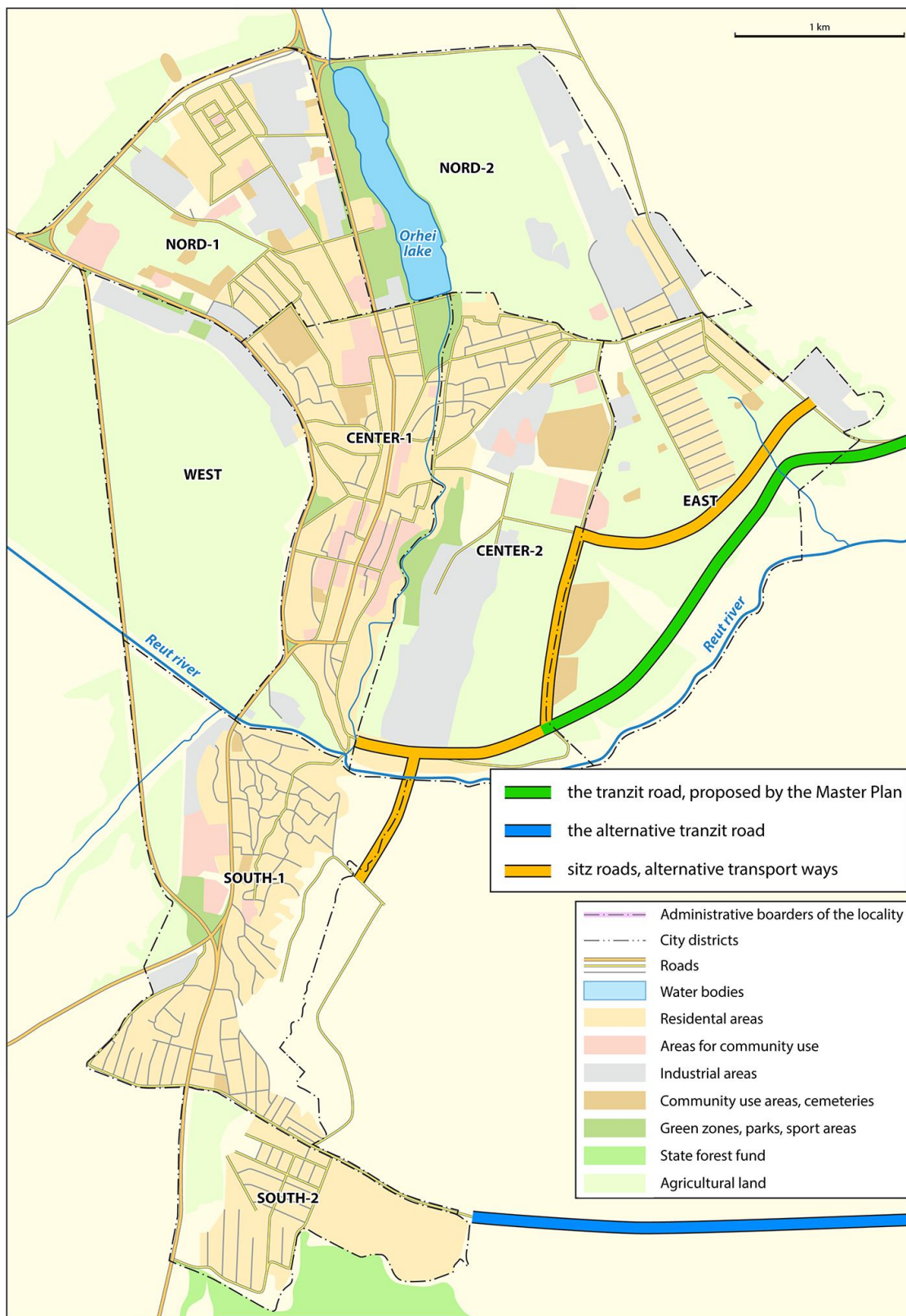
In the context of the strategic environmental assessment of the Orhei Master Plan the following three perspectives were adopted to examine available alternatives and their environmental implications.

1. "Zero/ no-development option";
2. Comparison of the Master Plan Orhei 2015 and Master Plan of 2008;
3. Alternative proposals for the bypass road in the framework of 2015 Master Plan.

Conducted expert evaluation of formulated complex development options indicated that the current 2015 Master Plan proposal carries the largest potential for addressing environmental concerns related to Orhei's spatial development. The theoretical no-development option would have zero environmental impacts related to any new spatial development, on the other hand, it would not allow for addressing already existing problems (air quality, waste management, water pollution, etc.) requiring development and re-configuration of the city infrastructure.

A comparison of estimated environmental effects associated with different functional designation of several territories in the 2015 Master Plan proposal in comparison with the Master Plan adopted in 2008 indicated superiority of draft Master Plan of 2015 in most of the related parameters.

During the development of the SEA it has appeared necessary to consider alternatives regarding the placement of a bypass road, proposed by the developers of the new Master Plan. The evaluation of the potential environmental impact of the planned road construction indicated risk of spatial conflict and potentially significant impact on the paleontological monument protected by the state "Defileul Orhei." Therefore, the SEA has established a requirement - to change the scheme to avoid conflict with the protection zone of the paleontological monument. As a result, the proposal was taken into consideration and the alternative routing of the bypass was introduced.



Map VIII. 2 Alternative proposals concerning the transport network development the Master Plan Orhei 2015

Problems encountered in conducting the SEA and limits of the adopted approach

The pilot application of the strategic environmental assessment has naturally encountered number of obstacles and difficulties resulting from the lack of legislative and institutional arrangements as well as from lack of practical experience with such complex process among all involved stakeholders.

Major problems in conducting the pilot SEA:

- Lack or limited availability of disaggregated data at the city level for the major sectors of concern (environmental protection, health, transport, social, industry, green areas) due to the national/rayon level set up of collection of statistical data and rayon-structured environmental and health authorities. Developed tables or requests for data remained partially uncompleted, especially for the health sector;
- Lack of knowledge and experience on which environmental factors to consider, what are the potential environmental impacts, and how to achieve integrated policy-making.
- Institutional and organizational difficulties-need for effective coordination among and within authorities departments.
- Public involvement is limited.
- Lack of clear accountability for application and the policy EA process.

Added value of the SEA process

The SEA team has made significant effort to deliver added value not only form the point of view of conduction of the SEA process in line with the established international standards and producing high quality deliverables such as the SEA Report, but also to effectively contribute to the high quality of the planning (i.e. Master Plan development) process itself. The following aspects of the SEA process can be listed in this context:

- The SEA process provided support to the Master Plan development team in the identification of the major environmental problems and in obtaining new data, necessary for the environmental chapter and environment related maps of the Master Plan (e.g. new maps and borders of the natural monument, river basin protection zones, data on businesses in the territory).
- SEA facilitated the dialogue between local authorities and municipal services in the city, environmental and health authorities have participated on the Master Plan development and environmental problems evaluation through the SEA-initiated consultations;

- The local priority environmental problems were highlighted and will be presented at the national level, where solutions could be found, actions planned or funds made available or mobilized from internal or external sources
- Local authorities identified some gaps in their agenda (e.g. lack of clear division of responsibilities on certain issues), in the field of environment and urban planning, which partially were already reflected during the Master Plan and SEA process. Other identified issues will be likely solved through the development of the Local Environmental Action Plan or integration of the main issues (landfill, highway) in the sectorial development plans at the national/regional level;
- Data gaps identified during the evaluation helped to formulate the needs to change/upgrade the data collection schemes for rayon and national statistical reporting, as well as the internal/departmental and administrative needs for specific data which have not been subject of regular statistics. The absence of data on level of noise and impact of the stone mines operations on the surrounding urban areas can be an example;
- Measures and indicators for the monitoring of the performance of the new Master Plan from environmental point of view were developed in the framework of the SEA (see chapter 9).
- Cooperation between central environmental authorities and local public authorities was enlarged;
- Central environmental authorities learned more about particular problems of the rayon centre/Orhei city, which face similar problems in its development and environmental protection as many other localities, but have its specific;
- The SEA facilitated identification of potential for improvement in the existing draft Law on SEA in Moldova, namely in aspects concerning scoping phase of SEA process, system of monitoring and evaluation, the roles of the environmental inspection in providing control and monitoring of the implementation of the recommendations stipulated in the SEA Report, financial issues, institutional system on SEA at local authorities, public consultations and awareness campaign, data sources availability, etc:

Lessons learned

- Local authorities (the mayor and his office) recognised the importance and supported the SEA process, but could not influence all stakeholders or solve all problems, which need significant funding or decision making at Government/Parliament level.
- The SEA process have to be accompanied with a well structured and funded information and awareness campaign, focused on the major target groups, vulnerable people, gender, etc.
- The SEA process should be based on cooperation approach between LPA, SEA team and the program / plan elaboration team; such approach will bring to the sustainable decision.
- The SEA would benefit from allocating more time for the joint work of the planning team, SEA team, authorities and local environmental and health institutions, provided that the relevant institutions are ready to actively take part in the planning deliberations.
- A Master Plan of the city is a very complex and complicated document (considering the complexity of information conveyed in maps), which makes the related SEA particularly demanding in terms of structuring the SEA process and involvement of experts in urban/territorial planning;
- Technical and methodological support from the international SEA consultants (especially with EU experience) was crucial for the strengthening of the capacity of the local team, development of the documents and efficient implementation of the pilot project.

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