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SPECTRA

Planning Studies

Central European Journal
of Spatial and Landscape
Planning

2

2017



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Publisher: STU Bratislava,

SPECTRA Centre of Excellence EU

Layout and Printing: ROAD Bratislava, 2017

ISSN 1338-0370

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THIS ISSUE WAS SUPPORTED BY:

THIS CONTRIBUTION IS THE RESULT OF THE PROJECT IMPLEMENTATION: SPECTRA+ NO. 26240120002 "CENTRE OF EXCELLENCE FOR THE DEVELOPMENT OF SETTLEMENT INFRASTRUCTURE OF KNOWLEDGE ECONOMY" SUPPORTED BY THE RESEARCH & DEVELOPMENT OPERATIONAL PROGRAMME FUNDED BY THE ERDF



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INTRODUCTION TO INTEGRATED ENVIRONMENTAL MANAGEMENT IN FUA

This paper is based on the INTERREG CE89 LUMAT project “Implementation of Sustainable Land Use in Integrated Environmental Management of Functional Urban Areas” solved under the programme priority 3. Cooperating on natural and cultural resources for sustainable growth in CENTRAL EUROPE and its specific objective 3.3 To improve environmental management of functional urban areas to make them more livable places in the years 2016 – 2019 and led by the IETU Katowice, PL.

The LUMAT project objective is the implementation of sustainable land use and pilot projects in integrated environmental management in 7 Central European Functional Urban Areas (FUAs).

The WPT.1 “Methodology, Trainings and Common Understanding of Land Use in Integrated Environmental Management” has been under the responsibility of the Slovak University of Technology in Bratislava, SPECTRA Centre of Excellence EU where several deliverables have been elaborated with the focus on common methodology of specific integrated FUA environmental management, strategy and action plans. This paper is comprehensive result of the theoretical approach to these issues.

Key words: integrated environmental management, FUA – Functional Urban Area, eco-system service, sustainable soil and land use, action plans

Introduction

Crucial success factor of the development and implementation of integrated environmental management in the FUAs is human capacity closely linked not only to the scientific knowledge available, but to the public awareness and proper development of knowledge and skills at different levels and in different groups of stakeholders in FUAs. Development of these capacities is the main aim of the training.

The key point in this development is the understanding of the conceptual approach for the integrated environmental management based on:

- Integrated management of urban development in the functional urban areas (FUAs) understood as a tool for optimization of land-use management overarching sectorial 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 plans-

- The broad involvement of all stakeholders in FUAs into the decision making and implementation activities reflecting their different capacities for this involvement and collaboration, as the basic principle of integrated FUA environmental management, is a challenge and imperative for the process of the development of the integrated environmental management plans.
- The development of integrated FUA environmental management plans as a part of the development of Action plans understood as the participatory process involving the stakeholder following their individual engagement and capacity.

The second important aspect which should be a part of the core content of human capacity development action represents the capacity for concept implementation. The methodology proposed by LUMAT Project is based on the common functional areas integrated environmental management strategy (FAIEMS) framing integrative development management in FUAs. The LUMAT project consortium “capitalized” in this methodology broad joint experience from previous common collaborative projects (e.g. LUDA, CIRCUSE and others), tacit knowledge and first practical experiences of the partners from integrative management at the supra-local level.



The most important tools for the implementation of the proposed strategy represents the elaboration and fulfillment of integrated environmental management plans and Action plans.

Integrated FUA environmental management plan creates the platform for integration of different interests, aspects, potentials, limits in the space/territory of the FUAs across different hierarchical territorial levels, sectors of policies, stakeholders. The LUMAT methodology of specific integrated FUA environmental management plans with functional urban areas as the functional territorial units defined based on analyses of natural ties of interdependences and collaboration between core city and municipalities in the peri-urban areas institutionalised or based on national policies implementation (including adopting the OECD methodology) (top-down approach) or based on collaboration agreements framing, in addition to horizontal cooperation between core city (core cities) and municipalities in the peri-urban area based on practical implementation of multilevel governance principle in the decision making (e.g. re-division of responsibilities based on efficiency and optimisation of problem solving level).

The most important principles framing the development of integrated FUA environmental management plans formulated by LUMAT project are as follows:

- The integrated environmental management plans for FUA should be understood as inherent part and important tool of common integrative FUAs development management. Being aware about not existing institutionalisation of the FUAs in majority of European countries the integrated FUA environment management plans can be understood as an informal tool framing the cooperation of municipalities in the spatial development of FUA.
- The integrated environmental management plans for FUAs should create strategic framework for short- up to mid-term implementation oriented action plans and can be elaborated as the first part of the action plans with the mid- and long-term perspective. They have to be understood not as formal instrument but as efficient tool, following the interest of the whole scale of stakeholders, first of all municipalities representing public interest.
- The main target of integrative environmental management plans is via the definition of a vision, mid- and long-term strategic goals, implementation principles, driving forces and required synergies to safeguard sustainable well-being and quality of life, through environmentally sound development in urban and peri-urban areas of FUA with special focus on sustainable use of all resources – natural, human, technologic, monetary
- The strategies represented by the plans should be focused on sustainable development, based on use and capitalisation of local and supralocal potentials, as driving force for solving the identified problems.
- Important goal defined by the integrated environmental management plans for FUAs has to be creation and maintaining of well-connected and well-distributed networks of open, multi-purpose, safe, inclusive, accessible, green and high quality public spaces.
- The integrated environmental management plans have to focus on the use the capacities of the core city/cities of FUA fulfilling their territorial functions across administrative boundaries and in the same time the cooperative capacities of all structures of territorial governance in the area.
- One of the most important goals of the integrative plans is the integration of urban and rural functions promoting sustainable management and use of natural resources and land, ensuring reliable supply and value chains that connect urban and rural supply and demand to foster equitable regional development across the urban-rural continuum and fill the social, economic, and territorial gaps
- The integrated environmental management plans have to promote the development of functional and structural spatial frameworks for sustainable use of natural resources and land via achieving appropriate compactness and density, polycentrism, and mixed uses, triggering the economies of scale and agglomeration, strengthening supra-local food system, enhancing resource efficiency, urban resilience, and environmental sustainability.
- The integrated environmental management plans have to prioritize circular economy in broader sense, including urban renewal, land re-use, flexibility and adaptability of the build structures while facilitating ecosystem conservation, regeneration, restoration and resilience in the face of new and emerging challenges.
- The integrated environmental management plans have to support provision of accessible and well-connected infrastructure and services, sustainable population densities, and compact design and integration of new neighbourhoods in the urban fabric, preventing urban sprawl and marginalization.
- The integrated environmental management plans have to be understood as the tools to facilitate sustainable management of natural resources in urban and peri-urban areas in a manner that protects and improves the urban ecosystem and environmental services, reduces greenhouse gas



emissions and air pollution, and promotes disaster risk reduction and management, supports the development of disaster risk reduction.

- The integrated environmental management plans have to be built on smart city region approach, which makes use of opportunities from digitalization, clean energy and technologies, as well as innovative transport technologies, thus providing options for inhabitants to make more environmentally friendly choices and boost sustainable economic growth and enabling urban as well as peri-urban settlements to improve their service delivery.
- One of the important dimensions of the integrative planning is the preservation and promotion of ecological and social function of land and foster ecosystem-based solutions to ensure sustainable consumption and production patterns; so that the ecosystem's regenerative capacity is not exceeded.
- One of the most important fields of the integrated environmental management plans is land use planning, combining urban extensions with adequate densities and compactness, preventing and containing urban sprawl as well as preventing unnecessary land use change and the loss of productive land and fragile and important ecosystems.
- Integrated environmental management plan for the FUA has to frame sustainable management of particular resources and safeguard the interlinks and synergies between them — including land, water (oceans, seas, and freshwater), energy, materials, forests, and food
- Integrated environmental management plan has to pay particular attention to the environmentally sound management and minimization of all waste, hazardous chemicals, including air and short-lived climate pollutants, greenhouse gases, and noise in a way that considers urban-rural linkages and functional supply and value chains vis-à-vis environmental impact and sustainability,
- One of the dimensions of integration followed by the integrated environmental management plans for the FUAs is the integration of short-term and long-term urban and territorial planning processes and spatial development practices that incorporate integrated water resources planning and management, considering the urban-rural continuum at the local and territorial scales, and including the participation of relevant stakeholders and communities.
- The The integrated environmental management plans for the FUAs have to generate the shift from reactive to more proactive risk-based, all-hazards and all-of-society approaches, such as raising public awareness of the risk and promoting ex-ante investments to prevent risks and build resilience, while also ensuring timely and effective local responses, to address the immediate needs of inhabitants affected by natural and man-made disasters, and conflicts.

Integrated FUA environmental management plan is action oriented, it means the outputs from the planning, decision making and executing processes are the real improvements in the FUAs as the effects from managerial interventions across different levels of decision making, different target systems (ecosystems, infrastructural systems, social and economic systems) and different subjects involved. They are directly addressed by second – executive part of the planning for integrative environmental management – development of Action plans.

Action plans as the executive management tools focus on efficient implementation of necessary (by the strategy defined) interventions (e.g. investments, regulations, subsidies...) and harmonisation of various activities driven by different stakeholders of FUA development. The main reference quality related to the executive management is represented by the goals defined by the strategy of FUA development aimed on achievement improvement of the quality of life and its sustainability.