

DELIVERABLE D.T1.2.1

**REPORT ON COMMON METHODOLOGY OF
SPECIFIC INTEGRATED FUA ENVIRONMENTAL
MANAGEMENT PLANS**

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Authors: Maroš Finka, Vladimír Ondrejčka, Lubomír Jamečný, and other LUMAT project partners



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B. The objective

The objective of the Activity A.T1.2 and Activity A.T1.5 the output of which is this **Deliverable D.T1.2.1 Report on common methodology of specific integrated FUA environmental management plans** has been to create the common understanding and methodology frameworks for the development of strategies, plans and instruments of comprehensive management dedicated to sustainable development and environment embedded into the integrative land management in FUAs

The conceptual approach for the common methodology of specific integrated FUA environmental management plans has been based on:

- Integrated management of urban development in the functional urban areas (FUAs) 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 planes

This methodology is based on the **Document of the common functional areas integrated environmental management strategy (FAIEMS)** framing integrative development management in FUAs which was formulated as a result of the knowledge gained and on the partners' experience with the aim to help to elaborate specific documents addressed to various types of urban and peri-urban relationships. The LUMAT project consortium "capitalized" in this methodology broad joint experience from previous common collaborative projects (e.g. LUDA, CIRCUSE and others), tacis knowledge and first practical experiences of the partners from integrative management at the supra-local level.



C. Common methodology of specific integrated FUA environmental management plans

C.1. Definition of the task for the development of common methodology of specific integrative FUA environmental management plans

The sense of the development of common methodology of the elaboration of specific integrated FUA environmental management plans has been to create a methodologic framework for the development of integrative planning documents for the FUA sustainable development mirroring common problems and challenges for all partner countries on one hand, on the other hand providing the guidelines for integrating them with the local, regional and national specifics. In the same time to create the platform for the development of the Action plans, especially for their analytic and strategic part providing the base for implementation oriented programming part as the core of the action plans for integrated land and soil management for FUAs in Central European cities as planned in the Output O. T2.1.

The problems and challenges to be addressed were as follows:

- Exposure of urban agglomerations to rapid urban growth effects, combination of suburbanisation and re-urbanisation processes in European countries
- Increasingly complex and unsustainable environments
- Unsustainable consumption and production patterns, pressure on soil and land exploitation
- Loss of biodiversity and growing pressure on ecosystems
- Exposure to natural and man-made disasters, climate change and related risks
- Necessity to reinterpret the concept of FUA as very formal normative concept not reflecting the complexity of urban/peri-urban interrelations in to the form able to address real problems of environmental management including the land and soil management and the treats between different demands on use of resources the space incl.
- The necessity to address the problem of the carrying capacity of the territory (soil productivity, vulnerability to floods, availability of drinking water, etc.) including the development of a set of more appropriate criteria for the environmental assessment of the peri-urban interface than the conventional zoning criteria based on density, morphology and urban and rural uses of the territory.
- The expansion of cities' ecological footprints with important implications for the peri-urban interface in terms of both increasing pressures on its carrying capacity



and missing production opportunities, for instance when food is imported from distant regions rather than supplied from the city's hinterland.

- **Uneven process of urbanization** taking place in these areas generally accompanied by land speculation, shifting economic activities of higher productivity, intensive use of agro-chemicals and fertilizers, mining or quarrying activities for the supply of building materials, social groups are heterogeneous and in constant transition
- The **composition and interests of different groups** tending to change over time, in a process characterized by the fluctuating incorporation of new stakeholders.
- **Difficulty to establish clear and more or less permanent institutional arrangements** that deal effectively with the long- term management of natural resources and the enhancement of the livelihoods of those living and working in the peri-urban interface.
- **Variety of sectoral and overlapping institutions** with different spatial and physical remits
- **Absence of clear articulation or leadership** from government structures, the problem of institutional fragmentation, FUA as share territory of more than one administrative unit
- **Weak links and limited municipal power in sectors** such as transport, water, energy, solid and liquid waste management, and land-use planning often resulting in uncertainty as to which institution administers which specific area or activity.
- **Lack of strategic orientation of the short- and mid-term planning documents including the action plans.** This strategic orientation is perceived as the precondition for achieving long-term sustainability on one hand and synergy effects of different measures/interventions across all sectors and subjects of FUA development

C.2. The framing principles for the development of specific integrative FUA environmental management plans

Planning is understood as basic management function involving formulation of plans to achieve **optimum balance of needs or demands with the available resources**. The planning process identifies the goals or objectives to be achieved, formulates strategies to achieve them, arranges or creates the means required, and implements, directs, and monitors all steps in their proper sequence.

The executive management with the tool of Action plans focuses on efficient implementation of planned 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.



The most important principles framing the common methodology of specific integrated FUA environmental management plans were discussed 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 used 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 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 has 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 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 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.**

D. The logic of the process of specific integrated FUA environmental management plans` development

As stated above, the LUMAT project, reflecting the specifics of FUA in the project consortium countries and lack of strategic planning tools at the level of FUAs in these countries, is interconnecting the strategic planning and operationally oriented programming in the Action plans elaborated in the WP 2. The process of the development of integrated FUA environmental management plan as a tool of common integrative functional urban areas` development strategic management is with this position directly interlinked with the practical implementation and involvement of the whole scale of stakeholders in it. This is reflecting the logic of the project cycle creating the core of integrative management process framed by 5 guiding principles:

1. The main feature of strategic part of the action plans represented by specific integrated FUA environmental management plan is its strategic mid-term up to long-term character linked to direct implementation. It means the complexity of the process starting with diagnosis, via visioning, prospecting - planning and programming and ending with implementing and monitoring.
2. The integrated FUA environmental management plan is 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.
3. The 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 Action plans
4. The basic principle of integrated FUA environmental management is the broad involvement of all stakeholders in FUAs into the decision making and



implementation activities reflecting their different capacities for this involvement and collaboration. This is the challenge and imperative for the process of the development of the integrated environmental management plans.

5. The integrated FUA environmental management plan should follow the logic of gradual development with synergy effects between different interventions coordinated in the time and space. In the same time its architecture creates preconditions for flexible use and reacting to internal and external shocks understood as disturbances as well as the potentials for revolutionary improvements.

The core quality followed by the project cycle which creates the backbone of integrated FUA environmental management is the quality of life in the FUAs with the special focus on eco-system services as the precondition for sustainability of the quality of life. The project cycle includes the appraisal phase with the identification of the problems, their system ties, causalities and synergies, the hierarchy, spatial extend and affection of different stakeholders.

This phase is followed by the phase of engagement focused on identification and addressing the stakeholders relevant for respective issue being it a problem or a challenge. Important is to analyse natural and institutional responsibilities, capacities (decision making, implementation) as well as capacities for collaboration and based on this to identify the most proper hierarchical level for the development of the strategy, decision making, strategy implementation, actions in the harmony with the concept of polycentric multilevel governance.

The development of integrated FUA environmental management plans as a part of the development of Action plans is understood as the participatory process involving the stakeholder following their individual engagement and capacity. The development of the integrated plans follows the logic of Goal Oriented Collaborative Planning starting with the diagnosis, continuing with the visioning, planning, programming and continuing into the implementation. The process is closely interconnected with the individual and collective decision making. The required quality of the decision making independently from the character of it depends on availability/accessibility of proper information, involvement of relevant stakeholders and their capacities. In this context the inherent part of integrated FUA environmental management plans is the process of building up the capacities of stakeholders for active e participation in its execution.

The involvement of different stakeholders into the decision making is the precondition for their active participation in the implementation phase. The model of integrated FUAs management is based on sharing the responsibilities not only in the phase of decision making but first of all in the phase of implementation activating individual financial, human, organisational and institutional capacities of respective stakeholders.

The project cycle is an iterative process in which important role plays permanent monitoring and feedback allowing in the combination with flexibility of strategies reflecting directly the success assessment in which perceived quality by the public plays important role in addition to objective indicators of the progress. The basic consolidation



phase can be understood as the process of permanent adjustment of the strategy to changing external preconditions as well as reflecting the feedback from the monitoring of the progress of the implementation of the strategy.

D.1. The scheme of the process of specific integrated FUA environmental management plan development

Integrative planning for core urban area and peri-urban areas cannot simply be based on the extrapolation of planning approaches and tools applied parallel in rural and urban areas. In this concept it is based on the **construction of an approach that responds to the specific environment, social, economic and institutional aspects of the peri-urban interface.** (Allen, A., Environmental planning and management of the peri-urban interface: perspectives on an emerging field in Environment & Urbanization, Vol 15 No 1 April 2003).

The core platform for integrative planning of FUA development creates spatial planning as mid-term up to long term planning including strategic socio-economic development planning, landscape planning and land-use planning. Building up on this platform, the system of comprehensive and/or sectoral strategic action plans creates the interface between strategic planning and implementation practice. As the FUA in majority of countries are not reflected in the administrative territorial organisation and hierarchy of the land-use planning documents, specific integrated FUA environmental management plans represent informal instrument complementary to the strategic development documents approved by respective subjects of hierarchically organised territorial governance.

The methodology of the elaboration of integrated FUA environmental management plans as the part of Action plans was in terms of the main stages of the standard reporting format developed based on the model of Collaborative Strategic Goal Oriented Planning (Curwell, S at al., 2004, Methodology for the Comparative Analysis of Sustainable Evaluation of LUDA, LUDA is a research project of Key Action 4 "City of Tomorrow & Cultural Heritage" from the programme "Energy, Environment and Sustainable Development" within the Fifth Framework Programme of the European Union. <http://www.luda-project.net>). The CoSGOP approach forms the strategic and operational framework of the LUMAT methodology for the development of integrative FUA development plans in terms of the planning and development processes.



Table 1. Phases of the CoSGOP (Curwell, S at al., 2004)

Main Steps		Stages
Benchmarking (retrospective methods)		1. Analysis of problems and potentials' - diagnosis (including SWOT analysis, core problems regarding environmental, economic and social aspects)
		2. Stakeholder analysis and formation of framework for co-operation
Visioning (prospective methods)		3. Analysis of goals and alternatives (including elaboration of scenarios),
Predicting (prospective methods)	Planning	4. Plans development and interests' mediation, (including mediation of joint objectives, definition of priorities, strategy development),
	Programming/plan operationalising	
Implementing (project management methods)		6. Implementation of proposed measures, realisation of programmed activities, coordination of activities and measures between stakeholders in real time and space
Monitoring and adjustment (retrospective methods)		7. Programme implementation monitoring (investigation and assessment of the implementation process and feed-back including strategic impact assessment, ex-ante evaluation).
		8. Permanent development monitoring (sustainability development assessment)
		9. Adjustment of the strategies in accordance with the monitoring results

The core of the scheme of CoSGOP is the logic flow of steps including the elements of diagnosis, stakeholder analysis, identification of problems and potentials, development of vision, definition of goals, planning and programming, ex ante impact assessment, project implementation and monitoring, ex post assessment, adjustment embedded



within the methodology. More detailed description of the programming and operationalising is the object of the WP2 of the LUMAT project.

As part of the methodology it is important to identify the possible methods and techniques to be employed as well as identification who is responsible in respective phase of the process or involved, especially involved in the decision making process. and operational aspect of the plan, project or programme.

D.2. Descriptions of stages and elements within the process

Situation Analysis

Following the principle to build sustainable FUA development on use and capitalisation of local and supra/local potentials, important part of the proposed algorithm of the development of integrated FUA environmental management plans is the analytical phase.

The diagnosis is an initial step to identify and monitor emerging issues and signals of change in the internal and external environment of FUA. Important part of the diagnosis is the identification of the drivers of these changes. The drivers and issues can be developed through the use of the different scanning techniques. The diagnosis should be not limited to the collection of background data concerned with the FUA (GIS data, statistical data, analytical documents, photos) but should include in deep analyses in order to understand the processes in the FUA (its functioning and developing including the role of different driving forces, players, effected subjects) not only as state of art description but as development trends as well. Data collection tools, comparative methods (e.g. benchmarking) generic visioning techniques and other prospective methods are employed at this stage. Procedures such as strategic environmental assessment may also start at this stage in conjunction with the plan development process.

The information collected in the diagnosis phase contributes towards the decision concerning the focus of integrated FUA environmental management plan aligned with the sustainable development objectives and the major actors to be involved in delivering the plan and its implementation activities. That because important part of the situation analysis is a stakeholder analysis and this should be carrying out as a resource assessment for the plan development. The information collected in the diagnosis phase should relate to the institutional (institutions and legal background) framework, funding resources (public and private, local, regional, national, European), cooperation capacities in the FUA. A resource assessment should be carried out simultaneously in order to assess the potentials and limitations in terms of renewable and not renewable natural resources, financial and human capital, time span, etc.

The core issues are the identification of potentials and definition of problems. Based on this not only the definition of development strategy, its goals, structures,



instrument but as well the definition of progress indicators can be formulated. These two elements form a reciprocal relationship: problems and potentials will be used as the basis for a sub-set of issues integrated in the developed indicator set; the core indicators will be used as part of a SWOT analysis in order to identify the problems and potentials of the FUA.

Formulation of a vision and strategy for the plan

This phase is the most interactive stage of the FUA environmental management process in terms of assessment and devising a plan. Goals, alternatives how to react to the identified challenges, problems and potentials of the FUA, expected outcomes of the plan and the associated objectives and targets should be developed and assessed from the point of their coherence, achievability, and responsibilities. Usually some scenarios are generated, discussed and assessed. The linked necessary interventions should be tested against policy options and identified consequences.

This is important for deciding how particular objectives can be attained in terms of medium to long-term goals of FUA environmental management and development as such.

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 will involve 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.

The objectives of the plan should be used as a benchmark against which the performance of alternatives of actions in the action plans should be appraised.

Implementation

After the design of integrative plan, assessment of alternative options and formulation of executive (programming/operational) part of the action plan/plans including the definition of priority action areas based on socio-economic and environmental goals for FUA development the prioritisation of pilot or flagship projects should be carried out in close collaboration with the stakeholders. Their involvement and division of responsibilities and work is crucial including the agreement on organisation of responsibilities to implement the plan as whole and particular projects.

Important is to keep the political frameworks in mind - in terms of socio-economic related activities and their impacts are less likely to be felt in the short-term so it is more likely that community based initiatives will be employed at the outset to encourage social inclusion and local and regional governance.



The effects of the activities/actions/projects relying on good land management in terms of securing sustainable land use, resource management, utilisation of proper types and densities, and providing efficient services, safe and efficient transport and infrastructure are much more long-term effects, so they have to be balanced with the short term effects in order to safeguard political acceptance. The use of progress indicators and efficient public participation are essential to ensure political support for integrative FUA development management including sustainable land and soil management.

Monitoring and flexible adjustment to dynamic development of framework preconditions and new requirements should be inherent part of the core strategy of the integrative FUA environmental management plans.

E. Public participation

Public participation is a tool which enables local people, representatives of the interest groups, entrepreneurs, non-governmental organisations to get involved in the planning and delivery of innovative local solutions to local problems, empowering stakeholders in decision-making. In this context is public participation of special importance for integrated environmental management especially in the fuzzy soft spaces as FUAs. The implementation of the Action plans for FUA is directly depending on the participation of the whole scale of stakeholders.

The analysis of relevant subject for public participation has to use both a multi-criteria and multi-factor approach, which includes, as its main objectives, involvement, mediation and facilitation of information and participation. Despite the underlying principle is the same across the scales and sectors, the legal background needs to be reflected in different respected phases as needed in accordance with the law.

The integrated FUA environmental management plans frames integrative approach considering all relevant subject of FUA development (especially from the point of view of environment) continuous consultation in various stages of environmental management plan production to be the most appropriate since this approach also respects to the highest degree the requirements of *the Aarhus Convention on Access to Information, Public Participation and Access to Justice, and the Convention on Biodiversity* (the management of land and water and living resources as a social choice). Stakeholders should be involved when all options are still open and engagement should continue throughout the planning process.

According to Eurosite Management Planning Toolkit, the consensual/participative management planning approach can be achieved in different ways:

- consultation before drafting of the plan begins
- cooperative working during the whole drafting process



- consultation following various stages of plan production
- consultation on completed draft plans.

Basically, stakeholders are divided stakeholders in “inside and external stakeholders”, but this first subdivision can be deepened by a further distinction in three main levels:

- Level 1- the actors who have direct relations to the environmental management
- Level 2- the stakeholders that may influence or be influenced by the managerial processes and their effects directly, or unmediated
- Level 3 - people who interact with the process of environmental management in an indirect way

The **directly involved stakeholders** include the subjects who are affected by the decisions in direct way, i.e. the decision regards them and their interests or properties. These include owners, responsible bodies, decision makers, private subjects, enterprises or investors.

A second group comprises of subjects who are **not directly affected by the decisions**, for example groups or individuals who have interest in environmental issues in general.

There are different tools for involvement of these two groups, nevertheless, independently from this division the logic remains the same, to achieve collective decision making in form of **partnership empowerment**. In phases one to four, the mediators are needed to moderate the discussion and mediate the interests, the phase five considers mediators to become stakeholders as well and the dialogue shall take place in form of partnership in which all actors are considered stakeholders.

The objective of the procedure of public participation is to engage the stakeholders in the processes of the FUA environmental management starting with the planning and programming, via practical implementation up to the monitoring. This needs to be done in gradual steps as it is continuous process with its internal logics. The procedure has 5 main steps in which the decision makers are engaging with the stakeholders with one initial phase of stakeholder mapping which provides the essential early information about the stakeholders of the project.

All the steps need to be performed as one is related to another, from a passive process to an active one. The whole process of participation is a process of trust building between the decision maker and stakeholders, inherently a two-way process. It is crucial to make stakeholders feel listened to and appreciated in practice, not only in theory for the whole duration of the process.

Following Figure describes the phases of the procedure and its internal logics and Table 2 provides a sheet of main phases with brief explanation of each phase which is to be used by practitioners as a tool for running the procedure in the projects.



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).