PROGRESS
Interreg Europe

European Union
European Regional
Development Fund

PROmoting the Governance of Regional Ecosystem ServiceS

FOURTH HANDBOOK OF GOOD PRACTICES

Policy theme:

Improve landscape governance for economic and environmental sustainability.

anci toscana

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I. Introduction

The objective of the PROGRESS project Third Handbook of Good Practices (GPs) is to present 6 Good Practices of project partners presented during the 4th Interregional Thematic Seminar (ITS) that took place online on 20 October 2021. The policy theme of the 4th ITS was "Improve landscape governance for economic and environmental sustainability".

The 7 selected PROGRESS Good Practices:

1. Environmental Sensitivity Mapping (ESM) Webtool to Support Strategic Environmental Assessment and Plan-making, Ireland.
2. Landscape Charter, Catalonia.
3. Forest Restoration and Amelioration Program, Catalonia.
4. LIFE VIVA GRASS – Integrated Planning Tool to ensure viability of grasslands, Latvia.
5. Land Sea Act: Latvian case study on balancing the use of land-sea resources in the Southwestern Kurzeme Region, Latvia.
6. The Green Office has an integrated approach for green Financing ecosystem developments at Budapest 12th District, Hungary.
7. Rural-Urban Governance Arrangements and Planning Instruments - Community for Food and Agro-biodiversity.

The IE definition of a good practice (GP) provides that *"The good practice is defined as an initiative (e.g., methodology, projects, processes, techniques) undertaken in one of the programmes thematic priorities which has already proved successful, and which has the potential to be transferred to a different geographic area. Proved successful is where the good practice has already provided tangible and measurable results in achieving a specific objective."*

Therefore, identification, analysis and sharing of Good Practices is a part of the PROGRESS mutual policy learning process to achieve the improvement of policy capacity or capitalization of its partners and regions. In addition, transferring of Good Practices from one partner region to another can be included in the regional action plan if it can result in a policy change.

In line with the above capitalisation objective, the PROGRESS project aims to: "*initiate a process of policy change in the partners' regions improving the implementation of the policy instruments under Structural Funds programmes and other regional strategies dedicated to the conservation of biodiversity and the maintaining nature's capacity to deliver the goods and services that we all need, through policy learning and capacity building activities*".

The idea of the Handbook of Good Practices is to further extend the capitalization and achieve spill-over effects outside the PROGRESS partners' territories to those interested parties, which might wish to transfer and implement Good Practices developed by other regions in their own area. In addition, information on the selected Good Practices will also be shared on the Interreg Europe Policy Learning Platform.

This Fourth Handbook of Good Practices is the last one of four PROGRESS handbooks describing the best Good Practices of PROGRESS partners under the four policy themes:

1. Promote the measurement of the costs and benefits of ecosystem services derived from land use.
2. Support the horizontal integration of the ecosystem concerns into the sectoral policies and plans at regional and/or national level.
3. Explore innovative financial and marketing mechanisms for payment for ecosystem services.
4. Improve landscape governance for economic and environmental sustainability.

Please, see all four PROGRESS Handbooks of Good Practices here: https://projects2014-2020.interregeurope.eu/progress/library/

II. Descriptions of Good Practices

1. Environmental Sensitivity Mapping (ESM) Webtool to Support Strategic Environmental Assessment and Plan-making

ESM Website Banner, Source: Shutterstock

The Environmental Sensitivity Mapping (ESM) Webtool is a novel decision-support tool for Strategic Environmental Assessment (SEA) and planning processes in Ireland. It is based on Geographic Information Systems (GIS) online technology and brings together more than 130 public datasets. More importantly, the ESM Webtool contains a geoprocessing widget that enables instant generation of plan-specific sensitivity maps, aiming to provide early warning of potential land-use conflicts to inform the scoping, alternatives, and impact assessment stages of SEA, and contributes to cumulative effects assessment. As well as supporting evidence-based SEA and plan-making, the tool is also useful for a wide range of other sectors and applications (e.g., environmental profiling).

Good practice general information	
Title of the practice	**Environmental Sensitivity Mapping (ESM) Webtool to Support Strategic Environmental Assessment and Plan-making**
Organisation in charge of the good practice	University College Dublin (UCD)
Description	
Short summary of the practice	Environmental sensitivity maps highlight areas where development (e.g., urban, or industrial expansion) will likely result in significant adverse effects on the environment. They provide the basis for improved landscape governance by facilitating evidence-based decision-making in support of sustainable

	development, guiding development to the right location, and helping to reduce land-use conflicts and environmental impacts. The Environmental Sensitivity Mapping (ESM) Webtool is a novel decision-support tool for Strategic Environmental Assessment (SEA) and planning processes in Ireland. It is based on Geographic Information Systems (GIS) online technology and brings together more than 130 public datasets. More importantly, the ESM Webtool contains a geoprocessing widget that enables instant generation of plan-specific sensitivity maps, aiming to provide early warning of potential land-use conflicts to inform the scoping, alternatives, and impact assessment stages of SEA, and contributes to cumulative effects assessment. As well as supporting evidence-based SEA and plan-making, the tool is also useful for a wide range of other sectors and applications (e.g., environmental profiling).
Category of the good practice	Empowering tools
Resources needed	The Environmental Sensitivity Mapping (ESM) project has received three consecutive funding grants. It was originally developed with funding from the Irish Environmental Protection Agency (EPA) under a STRIVE Fellowship (Grant No. 2013-B-FS-4) with a budget of €134,000 (32 months), with a cost extension of €67,000 (12 months) for pilot testing. Following this, €106,000 (24 months) was allocated for real-life testing and improvement. Most recently in 2021, €200,000 was secured through joint funding from the EPA and the Office of the Planning Regulator in Ireland (OPR) for maintenance, further development, and training for 3 years. The project has also been sponsored by Ordnance Survey Ireland (OSi) since 2019 through the provision of hosting and server infrastructure. The ESM Webtool was developed and is maintained by researchers at the School of Geography at UCD and the All-Island Research Observatory (AIRO) at Maynooth University. For the development of the tool, there were three core team members (including the PI as lead researcher) and a postdoctoral researcher, with oversight from an expert Steering Committee. The tool is hosted by OSi on GeoHive (https://www.geohive.ie/), the publicly accessible national data hub.
Timescale (start/end date)	The project started in February 2014 and the Webtool was launched in October 2019. This period saw the development of the tool and both, its pilot testing and real-life testing. Since then, it has been further developed (by including new functionality) and maintained (by updating the data and adding new datasets as these become available).
Strategic relevance (long term impact)	For SEA to effectively inform planning processes, a systematic and accessible approach that provides best available spatial information and ensures comparability between assessments is required. Development pressures on the landscape need to be

	efficiently examined and the potential for cumulative effects on the environment should be considered. The ESM Webtool enables the creation of environmental sensitivity maps that capture the accumulated concentration of sensitive environmental features on the landscape, which help to address some of these challenges and support development in suitable locations. Tight assessment time frames, the need to consider disparate and multiple data sources, and engaging stakeholders and the public require significant effort by consultants and plan-makers. The ESM Webtool addresses some of these time and resource pressures and provides an opportunity to streamline assessments by centralising information, facilitating public participation, enabling the creation of plan-specific maps, and providing a robust evidence base to influence better spatial planning. The ESM Webtool supports practitioners (e.g., government departments, regional assemblies, local authority planners and consultants) when undertaking SEA by enabling a systematic spatial examination of environmental considerations and their vulnerability or sensitivity, as required under the SEA Directive[1]. Underpinning this function is the aim to enhance consistency and transparency in impact assessments across planning hierarchies and sectors, as well as to facilitate participative and accountable decision-making.
Evidence of success (results achieved)	The ESM Webtool has been piloted within real-life SEAs of live plans. Following the live testing of the ESM Webtool, stakeholder feedback indicates that it has made a positive contribution to (1) the development of National policy through the National Planning Framework (NPF) and associated SEA, and (2) the early and formative stages in the development of the Regional Spatial and Economic Strategies (RSESs), and associated SEAs for the Eastern and Midland Regional Assembly (EMRA), the Southern Regional Assembly (SRA) and the Northern and Western Regional Assembly (NWRA). During the development of the RSES for the Eastern and Midland Region, for example, the ESM Webtool was used to identify and highlight the environmental constraints of proposed population growth scenarios. In this case, it allowed the EMRA planning team to create an environmental baseline for each of the settlements within the region and the creation of an 'environmental profile' that informed the growth strategy of the RSES. This information was then shared with local authorities in the region and assisted them in the preparation of their own environmental baselines at the local level. Furthermore, all stakeholders who responded to an online questionnaire on the application of the ESM Webtool unanimously

[1] Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment (SEA Directive)

	agreed that it improved the SEA process and confirmed that they would use the Webtool again in supporting SEA. More recently, the Webtool has been rolled out across the local authorities and is currently being used to support the preparation of County Development Plans and the accompanying Socio-Economic Profiles (e.g., in Counties Cork and Kildare), as well as to inform other planning decision and actions (e.g., Rural Housing Policy in Kildare, and zoned land parcel assessment in Cork).
Tangibility	Visualisation of the geographical distribution and overlay of all SEA-relevant environmental criteria (e.g., landscape features and their protection or quality status) in a dedicated interface assists exploration of the relative degrees of environmental sensitivity and the potential for cumulative effects in specific plan/programme areas. To ensure that context-specific considerations are factored in, end users are prompted to select environmental criteria relevant to the plan/programme under preparation and assessment, and to assign weights to such selected criteria based on their relative importance. Users can also upload additional county-specific datasets (e.g., information collected for specific purposes and only accessible within the local authority) into the Webtool to explore it together with the publicly available information and further expand the information available to the SEA and plan-making processes.
Durability	In response to stakeholder feedback during the pilot testing, the Webtool has been further enhanced with additional datasets and functionality, as well as more detailed user guidance. Currently, the Webtool contains 133 SEA relevant spatial datasets (it contained 90 datasets when it was first launched in October 2019), a step-by-step user manual and a video tutorial. This demonstrates that the Webtool has the flexibility to respond to evolving demands and practice over time. More importantly, funding has been secured after project completion to keep the datasets available and up to date, as well as to provide training to government departments, local authorities, consultancies and environmental NGOs for its uptake and effective use.
Visibility	To help ensure that the tool is used to inform decisions about land-use, the ESM Webtool is publicly accessible online (www.enviromap.ie), supported by funding from the Irish Environmental Protection Agency, Ordnance Survey Ireland, and the Office of the Planning Regulator. The user-friendly and interactive tool has been incorporated into Ireland's national data hub - GeoHive. Anyone, not just planners or environmental consultants, can now examine environmental, societal, and economic considerations at national, regional, and local levels, and create environmental sensitivity maps that incorporate their concerns and opinion. This supports transparent and accountable decisions across the Irish planning system. It also helps to raise environmental awareness by educating users on the relevance,

	status, and environmental protection of environmental assets. It serves as a significant educational tool within environmental assessment practice, both at professional and scholar levels. The final report and guidance manual are available on the EPA website (See 'further information' below). The ESM Webtool was officially launched at Ireland's National Environment Conference in 2019 and shortlisted for the UCD Research Impact Case Study Award (https://www.youtube.com/watch?v=6IpFPY5LjS4). It was also presented at the Irish Research Council's 'Better together: Knowledge co-production for a sustainable society' symposium and publication (https://www.ria.ie/sites/default/files/better-together-co-production-discussion-paper.pdf). The ESM Webtool has also been included as a Geohive application case study. In addition, presentations on the Webtool's development and application have been delivered at many international conferences and five related academic papers have been published in high-impact peer-reviewed international journals (see 'extra-regional impact' below). At the time of writing - on the request of the project Steering Committee - a StoryMap of Case Studies of ESM Webtool applications in real-world planning processes is being compiled. This will include real-life examples of the ESM Webtool's application, providing details on the plan-context and its application within it, environmental criteria incorporated and their justification, resulting sensitivity maps and how these have been used to inform land-use zonings and other planning related decisions.
Added Value	For the first time in Ireland, the Webtool centralises publicly available SEA-relevant spatial datasets. Planning departments in central government and local authorities, as well as environmental consultancies and NGOs, routinely use the tool to strategically examine and understand various environmental, societal, and economic issues, informing the preparation of national, regional, and local land-use plans. Before the online tool was published, environmental sensitivity mapping required GIS skills and expertise, and weeks of time and effort by a dedicated and IT skilled team, to gather and analyse spatial data from a wide range of sources, thereby producing a set of static maps in support of plan-making. This made it difficult for planners, stakeholders, and the public to scrutinise the information and to use it in an interactive and exploratory way to support various environmental assessment and plan-making stages. The tool overcomes these technological barriers by enabling centralised, interactive, and user-friendly access to over 130 national spatial datasets. Anyone, without the need for any specialised skills, can examine environmental and socio-economic considerations, and map environmentally sensitive areas to feed into decisions as to what development should happen and where.

	The tool saves time, resources and money by making relevant data readily available to all, and producing sensitivity maps in a matter of minutes. Moreover, it fosters consistency and transparency – everyone can access and examine criteria and information behind assessments and decisions, also ensuring comparability and accountability across administrative boundaries.
Effectiveness	Extensive stakeholder consultation was undertaken in the development of the ESM Webtool to guarantee the development of a focused, participative, interactive, and user-friendly Webtool. Sectoral testing validated its applicability. All feedback suggests that the Webtool provides an invaluable resource for SEA by facilitating access to multiple spatial datasets and by generating maps that graphically and meaningfully highlight potential sensitivities, pointing to where development would need to be carefully considered and sensitively planned. The mapped outputs aim to highlight the relative environmental sensitivity of different areas and can be used to provide early warning information on the potential for land-use conflicts. In so doing, the ESM Webtool can provide a critical evidence basis for sectoral planning discussions and for developing alternatives that avoid or minimise potentially incompatible or unsustainable zoning designations. The various real-life applications to date demonstrate its effectiveness in supporting SEA and plan-making.
Innovation	The ESM Webtool is a new, accessible way of mapping environmental sensitivity. The approach – the first of its kind - responds to the requirements of European legislation to assess the environmental impacts of development actions, to avoid or mitigate them (e.g., Directives 2001/42/EC and 2014/52/EU). The ESM Webtool includes a novel widget that enables instant generation of context-specific environmental sensitivity maps. The ESM widget is based on a multicriteria spatial assessment method to measure the intrinsic sensitivity of the receiving environment. It also facilitates public engagement by allowing user-defined selection of environmental criteria, as well as weights that reflect the relative importance of the criteria brought into the assessment.
Efficiency	The ESM Webtool addresses some of the common technical barriers in spatial data management by providing a free-to-use, user-friendly interface that facilitates data access and exploration. More specifically, all previous data visualisation and querying barriers associated with the need for specialised GIS skills are removed with the Webtool. Furthermore, it enables the creation of sensitivity maps in 2/3 minutes without the need for specialist IT skills - something that might have taken specialist GIS teams several weeks to generate in the past. The ESM Webtool contributes to improving the effectiveness of SEA, Environmental Impact Assessment (EIA) and Appropriate Assessment (AA) through the provision of a systematic and

	evidence-enabling online tool. In the making of the EMRA RSES for example, the ESM Webtool was used to assess potential impacts of strategic residential and employment development corridors identified within the Dublin Metropolitan Area Spatial Plan (MASP). By providing an enhanced evidence base, the ESM Webtool facilitates improved compliance with national sustainability objectives through better, more transparent, and evidence-based assessments of plans and programmes that set the basis for projects. In addition, use of the ESM Webtool creates a culture of excellence among plan- and programme-makers and SEA teams, encouraging more than legal compliance (through the incorporation of environmental sensitivity analysis, for example), and contributes to the implementation of the INSPIRE Directive[2] through data exchange and sharing, as well as to the Aarhus Convention[3] and e-governance strategies on access to environmental information.
Externality	The methodology was published as a guidance document by the EPA in 2017. Since then, planning departments in central government and local authorities, as well as environmental consultancies, have used it when preparing more than 40 land-use, energy, and tourism plans (such as the Wild Atlantic Way, the Offshore Renewable Energy Action Plan, and the Clare County Development Plan). The related online tool was launched in October 2019 and has been used by policymakers when preparing Project Ireland 2040 – National Planning Framework (NPF), and the Regional Spatial and Economic Strategies (RSESs) that guide development at national and regional levels. Currently, the tool is also being used by local authority planning departments in the review of County Development Plans and in other relevant planning assessments and decisions (See 'evidence of success' above). The project team has trained over 120 Irish planners and environmental consultants in the use of the environmental sensitivity mapping approach. The tool is also used by students across UCD Schools (including Agriculture and Food Science; Architecture, Planning and Environmental Policy; and Geography) to learn about environmental assessment. The NPF acknowledges how the Webtool was used to support informed planning: "In preparing the NPF, an Environmental Sensitivity Mapping (ESM) tool was used in the SEA and environmental assessments. ESM is a method for identifying at a strategic level, environmentally sensitive areas and to help inform cumulative and in-combination effects on the environment. It also provides a visual overview of the relative sensitivity of areas,

[2] Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE)

[3] The United Nations Economic Commission for Europe (UNECE) Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters.

	particularly where they overlap, to provide a more strategic and informed approach to planning"[4]. There are many testimonials from practitioners and experts who have used the ESM Webtool: https://www.ucd.ie/research/t4media/Gonzalez.pdf (see page 3)
Intra-regional coordination	The ESM Webtool has changed environmental assessment and planning practices in Ireland. The methodology and associated Webtool are routinely used to incorporate environmental considerations into the preparation of SEAs and land-use development plans. Many practitioners across the country have benefited from the tool. The Webtool raises environmental awareness (for example by providing easy access to local information about natural resources) and fosters participatory planning. Users can define environmental criteria and incorporate public concerns in the form of weights that emphasise the relative importance of selected criteria, to create context-specific sensitivity maps. In this way, it has enabled more environmentally inclusive, participative, and transparent planning and decision-making in Ireland. More importantly from the point of view of intra-regional coordination, the Webtool enables a systematic and consistent approach to environmental assessment and to the integration of environmental considerations into planning decisions across Ireland – both geographically (i.e., across administrative boundaries) and hierarchically (i.e., across planning tiers, from national plans to local masterplans).
Extra regional impact	Through academic publications, the ESM Webtool methodology has influenced environmental assessment research and practice around the world. The tool has been referred to as "a great reference in the field of online geodatabases supporting decision-making and environmental assessment" (international reviewer, *Environmental Impact Assessment Review*). Academic publications: ● González, A, Kelly, C and Rymszewicz, A (2020). Advancements in web-mapping tools for land-use and marine spatial planning. Transactions in GIS, 24, 253-267. DOI: 10.1111/tgis.12603 ● González, A, Gleeson, J and McCarthy, E (2019). Designing and developing a web tool to support Strategic Environmental Assessment. Environmental Modelling & Software, 111: 472-482. DOI: 10.1016/j.envsoft.2018.10.014 ● González, A and Enríquez-De-Salamanca, Á (2018). Spatial multi-criteria analysis in environmental assessment: A review and reflection on benefits and limitations. Journal of

[4] National Planning Framework, Government of Ireland, p. 155

	Environmental Assessment Policy and Management, 20(3), 1840001. DOI: 10.1142/S146433321840001X ● González, A (2017a). A conceptualisation framework for building consensus on environmental sensitivity. Journal of Environmental Management, 200: 114-122. DOI: 10.1016/j.jenvman.2017.05.061 ● González, A (2017b). Mapping environmental sensitivity: A systematic online approach to support environmental assessment and planning. Environmental Impact Assessment Review, 66: 86-98. DOI: 10.1016/j.eiar.2017.06.010 In addition to international conferences and webinars (see 'Visibility' above), the ESM Webtool team has shared the approach and contributed ideas to the development of decision support tools in Italy and Chile via online meetings.
Quality	The ESM Webtool provides an invaluable resource for SEA by facilitating access to multiple spatial datasets in a single interface (datasets that, prior to the publication of the Webtool, were accessible through multiple sources and websites). This saves SEA consultants, local authorities, and governmental departments, among others, a lot of time and effort in SEA and planning processes. It also provides a platform for the public and stakeholders to explore environmental and planning considerations, and it can serve as an educational tool. The Webtool contains novel functionality: it is the first online geoprocessing tool that enables the creation of context-specific maps by anyone, without the need for any technical GIS skills. It allows the user to combine datasets and incorporate public perceptions in a participatory way, creating plan-specific environmental sensitivity maps. These maps can inform sectoral planning discussions and decisions for developing alternatives that avoid or minimise potentially incompatible or unsustainable zonings. The Webtool has been tested by the research team in several case studies, including real-life settings, namely as part of live SEAs of the NPF and RSESs. This piloting has verified the usability of the Webtool and the veracity of the output maps. Users have confirmed that it contributes to assessment consistency and transparency and fosters evidence-based decisions.
Potential for learning or transfer	By highlighting the location of natural assets, their overlap and vulnerability, the tool provides immediate and objective information to guide development to suitable areas for environmental protection. In doing so, it places the environment at the centre of decision-making and protects lands with significant natural value from insensitive development and/or land zoning designations. For other regions, the ESM Webtool can serve as an empirical and systematic approach and as a more objective critical foundation to promote informed impact assessment and planning. It can be used

	as an example to promote and develop best practice in the implementation of EU directives and reinforce consideration of their obligations to improve landscape governance for economic and environmental sustainability.
Further information	Landing page (and access to guidance, tutorials, publications, and other relevant documentation): *https://enviromap.ie/* Direct access to the Webtool*:* *https://airomaps.geohive.ie/ESM/* Final research report: *https://www.epa.ie/pubs/reports/research/tech/research278.html* Guidance manual: *http://www.epa.ie/pubs/advice/ea/giseamanual.html* *Video: https://www.youtube.com/watch?v=pBwemNvHVkY*

Launch of the Environmental Sensitivity Mapping tool by Laura Burke, Director General of the Environmental Protection Agency, and Colin Bray, CEO of Ordnance Survey Ireland. Source: Ainhoa González

Features of the ESM Webtool, Source: Ainhoa González

Training workshop for Regional Assembly and Local Authority planners on using the Environmental Sensitivity Mapping tool. Source: Ainhoa González

2. Landscape Charter

Source: CREAF

The Landscape Charter is established by the Law 8/2005 for Protection, Management and Planning of the Landscape in Catalonia as the instrument for agreeing on strategies between public and private agents to carry out actions for the protection, management, and planning of the landscape with the aim of maintaining or improving their values. Unlike other more descriptive and prospective instruments, the Charter is an instrument of action that is based on mediation and the agreement of interests between the actors of a territory, on specific strategies to follow. The Charter is limited by its nature and geographical scope - a municipality, a commonwealth or, at most, a region preferably with unitary geographical and landscape features. The preparation of the Charter requires diagnosis, determination of landscape quality objectives and, above all, drafting and signing of the document of an agreement, in which commitments adopted by each of the signatory parties are publicly established in favour of landscape and calendar. The Landscape Charters are followed up by the Landscape Observatory of Catalonia, which ensure that they are coherent with the landscape catalogue in their ambit of action.

Good practice general information	
Title of the practice	**Landscape Charter**
Organisation in charge of the good practice	Forest Ownership Centre – Regional Ministry of Agriculture & Forest Science and Technology Centre of Catalonia
Description	
Short summary of the practice	The Law 8/2005 for Protection, Management and Planning of the Landscape defines the Charter as an instrument for agreeing on strategies between public and private agents to carry out actions for the protection, management, and planning of the landscape with the aim of maintaining or improving their values. Unlike other more descriptive and prospective instruments, the Charter is an instrument of action that is based on mediation and the agreement of interests between the actors of a territory, on specific strategies to follow. The Charter has the following functions: ● Detect dynamics of the landscape and discriminate variables

	and agents associated with these dynamics, to determine risks, opportunities, and challenges. ● Achieve a maximum possible support of organized citizenship in favour of their objectives, but also their full involvement in favour of the proposed actions. ● Execute actions within a certain period, according to a management program, so that people can enjoy a balanced and quality landscape. By its nature, the geographical scope of the Charter is limited; that is, a municipality, a commonwealth or, at most, a region preferably with unitary geographical and landscape features. The preparation of a Charter requires diagnosis, determination of landscape quality objectives and, above all, drafting and signing of the document of an agreement, in which commitments adopted by each of the signatory parties are publicly established in favour of landscape and calendar. The Landscape Charters are followed up by the Landscape Observatory of Catalonia, which ensures that they are coherent with the landscape catalogue in their ambit of action.
Category of the good practice	Enabling environment.
Resources needed	The phase of preparing the Charter and all the participation process to sign the Agreement has an average cost between 5.000 and 15.000 euros.
Timescale (start/end date)	From 2002 to present
Strategic relevance (long term impact)	The Landscape Charter must serve on the one hand, for elaborating a common frame of reference, which facilitates understanding and consensus among the actors involved in transformations and management of the landscape of a particular territory, often with inconsistent views and interests. On the other hand, diagnosis and proposals made in the Landscape Charter provide specific data that may be considered in territorial and urban planning processes initiated by regional administrations. Monitoring of the management program and execution of agreements established in a voluntary nature in the Landscape Charter should make it possible to apply and disseminate new guidelines for intervention and landscape management. All based on the recognition of the Charter as an asset of a collective interest that must promote its dynamic value for economies and local development. Finally, a progressive achievement of the objectives set out in the Charter should contribute to the consolidation of a model for the sustainable economic development of municipalities and the territory.
Evidence of success (results achieved)	Already 8 Charters are signed and in action: Vall de Camprodon (2009), Alt Penedès (2004), Berguedà (2007), Alt Empordà (in process), Priorat (2012), Lluçanès (2015 although still open to adhesions), Conca del Barberà (2020) and Garraf (2019).

Tangibility	The Decree 343/2006 from 19 September, which developed the Law 8/2005, from 8 June, on protection, management and planning of the landscape, and regulates studies and reports on landscape impact and integration, establishes what should be the content of the landscape charter: ● The diagnosis of landscape dynamics. ● The definition of landscape quality objectives to be achieved within the territorial scope covered by the landscape charter. These objectives must be consistent with quality objectives established for each of the landscape units defined in the corresponding landscape catalogues. ● Elaboration of the management program in which specific actions that various agents must undertake are specified, and in which citizen participation must be guaranteed. As established by the same Decree, the content of landscape charters must consider what is established by landscape catalogues that affect concerned areas. The content of landscape charters that have been formalized in the absence of landscape catalogues must be considered in the process of drawing up catalogues. Landscape charters must also consider municipal cultural, artistic, and natural heritage catalogues in cases where such catalogues are approved.
Durability	As a tool created by the Landscape Law, its durability is mostly assured.
Visibility	The previous General Directorate of Architecture and Landscape of a former Department of Territorial Policy and Public Works of the Catalonia Government established in 2007 a protocol to produce landscape charters that serve as guides for the implementation of this type of agreement.
Added Value:	Once the diagnosis has been made, the mediation phase must proceed. In this phase, a drafting team of the Charter sets out results of the diagnosis and defines quality objectives considering contributions and points of view expressed by various agents. The aim is to reach a maximum possible consensus on the definition of these goals organized according to the following blocks: ● Determination of general measures for the protection and / or improvement of the landscape. ● Specification of priority actions to improve the landscape in degraded areas. ● Definition of landscape criteria to contribute to current instruments of planning. ● Promotion of pilot projects to improve the landscape. ● Elaboration of codes of good practice towards the landscape destined to social or economic sectors. ● Landscape awareness and education campaigns.
Effectiveness	The uses of landscape charters are:

	● Develop a common frame of the reference that facilitates understanding and consensus among actors involved in the transformation and management of the landscape of a particular territory, often with inconsistent views and interests. ● Serve as a reference in territorial and urban planning processes launched by the administrations. ● Facilitate application and dissemination of new guidelines for intervention and landscape management based on the recognition of its character as an asset of a collective interest and its dynamic value for local economies and development.
Innovation	The landscape charter is not a simple testimonial statement of principles, but a document of a public nature and the commitment in favor of the landscape, where signatory parties undertake, in presence of society, to be a part of a collective project and to work accordingly for achieving signed commitments.
Efficiency	Numerous proofs of an efficiency of the Charter can be found in the various specific Charters signed, for example: ● Access to Interreg POCTEFA project to improve heritage at Vall de Camprodon. ● Creation of the "Lluçanès a Taula" labelling at Lluçanès. ● All town councils of the Conca de Barberà have adhered to the Charter. ● EUROPARC award for sustainable tourism at Priorat.
Externality	The landscape cannot be seen as an accidental result of the use of territory and its human resources, but it must be an important factor in making decisions about territorial processes and a prominent component for the quality of life of communities in the framework of a balanced development. In this sense, the Landscape Charter can become a collective and voluntary instrument of a social commitment that contributes to generating a new culture of the landscape of Catalonia and to improve the quality of its territory, landscape, and well-being.
Intra-regional coordination	Numerous agents of the territory (local administrations, business associations of different economic sectors, cultural entities, territorial defence associations, etc.) can be the promoters of a Landscape Charter and encourage participation in it. The process requires, however, that one of the agents assumes the role of a project leader, assuming writing, promoting the adhesion and coordinating with various parties. The Landscape Charter is followed up by the Landscape Observatory of Catalonia, which ensures that it is coherent with the landscape catalogue in their ambit of action.
Extra regional impact	This type of instrument has proven useful in other countries, such as France, in contexts like Catalonian..

Quality	Without a good knowledge about territory and landscape, their trends and dynamics that affect them, writing of the Landscape Charter cannot be undertaken with guarantees. The diagnosis of trends is aimed at detecting dynamics of the landscape object of the Charter and to discriminate the variables and agents associated with these dynamics, determining those risks that could compromise the maintenance of landscape quality. The diagnosis of trends will be based on the analysis of the following variables: ● Determination of dynamics that affect the evaluation of the landscape: ○ Territorial dynamics with an impact on the landscape. ○ Processes generating changes in the landscape. ○ Dominant evolutionary tendencies and incipient tendencies in the evolution of the landscape. ○ Legal status: regulations and protection figures with possible impact on the landscape. ● Discrimination of landscape values: ○ Main landscape values: heritage, environmental, productive, social, etc. ○ Viewpoints and main visual corridors of the unit. ○ Potentialities of the landscape. ● Detection of landscape impacts and risks: ○ Main types of impacts detected. ○ Critical points of the landscape. ○ Threats about landscape values. ● Opportunities and challenges to be achieved: ○ Main types of opportunities. ○ Existing entities and initiatives of interest to the landscape. ● Main landscape challenges.
Potential for learning or transfer	Main process is easily transferable to any European region with characteristic landscapes, easy to define.
Further information	https://territori.gencat.cat/ca/06_territori_i_urbanisme/sol_no_urbanitzable_i_paisatge/politica_de_paisatge/cartes_de_paisatge/ http://www.catpaisatge.net/monlocal/eng/cartes.php

Source: CREAF

Source: CREAF

3. Forest Restoration and Amelioration Program

Source: CREAF

The Barcelona Province Council offers technical and financial support to the city councils of the province to promote forest management to meet two basic objectives:

- Enhance the restoration of forest land affected by forest fires.
- Promote planning and management associated with priority areas for the action that have a direct impact on fire prevention.

Forest planning and management are basic for achieving the goals of restoration and fire prevention. The promotion of the use of forest biomass in municipal facilities makes it possible for a lower quality wood to have an economic outlet and, therefore, stimulate the local forest management.

Good practice general information	
Title of the practice	**Forest Restoration and Amelioration Program**
Organisation in charge of the good practice	Barcelona Province Council – Forest Fire Prevention and Agricultural Development Office
Description	
Short summary of the practice	The Barcelona Province Council offers technical and financial support to the city councils of the province to promote forest management to meet two basic objectives: - Enhance the restoration of forest land affected by forest fires. - Promote planning and management associated with priority areas for the action that have a direct impact on fire prevention. Forest planning and management are basic for achieving the goals of restoration and fire prevention. The promotion of the use of forest biomass in municipal facilities makes it possible for a lower quality wood to have an economic outlet and, therefore, stimulate the local forest management.

Category of the good practice	Enabling environment.
Resources needed	The investment for this management corresponds to € 22,794,080 since 1999.
Timescale (start/end date)	From 1999 to present
Strategic relevance (long term impact)	In the Barcelona province there are 490.000 ha of a forest vulnerable to natural disturbances, but 90% of the forested surface is a private property.
Evidence of success (results achieved)	28.887 ha of forest managed. Collaboration agreements with 20 forest owners' associations. 45 executive projects funded for the installation of biomass plants.
Tangibility	A poor management of a large part of forests in the province of Barcelona because of their low economic profitability, makes them especially susceptible to natural disturbances such as fires, snow, or wind. The Barcelona Province Council provides technical and financial support to carry out forestry actions for the prevention and, where appropriate, mitigation of the effects of forest fires. These actions have been defined from the experience of their execution and evolution of the forest mass.
Durability	As a governmental tool financed by the Provincial Council, the durability of this Program is mostly assured.
Visibility	Publication: FOREST RESTORATION AND IMPROVEMENT. Forestry work for prevention of forest fires and forest recovery. 2017. Barcelona Province Council. A practical guide for incorporating criteria of social and environmental responsibility for the use of biomass to prevent forest fires has been published by the Bioenergy Cluster of Catalonia in collaboration with the Barcelona Provincial Council.
Added Value:	Wood products derived from amelioration management have a low commercial value but the promotion of the use of forest biomass in municipal facilities stimulates the local economy.
Effectiveness	The Associations of Forest Owners develops the forest management of their lands from a previous planning at different scales. That allows to define some global aims for the association and some specific projects for existing forest typologies. The Framework Plan is the instrument of forest planning associated with forest owners. This document defines different units of action according to forest inventories and determines the objective and the type of action for each unit which will be taken to achieve it. The Plan must be approved by governing bodies of entities signing the collaboration agreement. In the case of the Forest Owners

	Association, it is approved by the General Assembly of its members. These plans are implemented through Annual Programs. The Annual Program is a tool for the development of actions and projects described in the Framework Plan. It is, therefore, a technical document that sets out, which projects in the Framework Plan will be executed every year and by which management units, as well as presents the distribution of the available budget. The Annual Program must also be approved by governing bodies of entities participating in the collaboration agreement.
Innovation	The use of forest biomass to produce thermal energy is becoming widespread throughout Europe due to significant environmental, economic, and social benefits involved.
Efficiency	Once a natural disturbance has occurred, it is necessary to carry out actions for regenerating forest mass to prevent forest fires. The actions that are carried out after the disturbance are: ● Extraction of burnt wood in areas affected by forest fires: the removal of wood promotes the proper development of natural regeneration, prevents pests and erosive phenomena. ● Clearing of pine seedlings: excessive density in the regeneration of some pine species (especially Aleppo pine) causes a stagnation of pine growth, a reduction in fertility and high risk of pests and fires. ● Selection of oak and holm oak vines: decreasing the excessive number of regrowth vines of these species favours the growth and survival of the selected individuals. ● Restoration of areas with zero or a little natural regeneration: in certain areas with a little natural regeneration, especially those of local or landscape interest, plantations with species present before the disturbance allow the restoration of the habitat. To prevent forest fires and minimize their effects, the Council encourages the following treatments: ● Thinning improvement of pine forests: the reduction of several trees in the forest leaving those that have more perspective, allows to favour the stability of the forest mass and its correct development. ● Selection cuttings in holm oak and oak groves: excessive regrowth of species, such as oak and holm oak leads to a stagnation of tree growth and a significant accumulation of fuel. ● Pasture management: the promotion and implementation of extensive livestock farming is an interesting tool to

	maintain the forest actions carried out and control the growth of the shrub layer.
Externality	When forests are managed for the prevention of fires and other natural disturbances, a low-quality wood is often obtained. However, it can have a destination as fuel. The value of such a wood allows to close a circle of local management with some very interesting benefits for the municipality. Therefore, the Barcelona Provincial Council establishes contacts between local actors to close the natural circle of production and consumption of biomass in the same municipality or nearby municipalities.
Intra-regional coordination	The forest management of the Province of Barcelona is closely linked to the fact that 98% of the forest area is privately owned and distributed among more than 43,000 owners. This circumstance has required the search for formulas that allow the participation of all the agents involved from this territory. At the same time, projects with a wide territorial scope can be carried out for improving the forest surface of municipalities. A very interesting formula is that of Forest Owners Associations: non-profit organizations with the aim of grouping owners with common interests for forest management. For more than 15 years, the Barcelona Province Council has been participating in a long-term collaboration agreement (20-25 years) with associations of forest owners and town councils of corresponding municipalities. Currently, the Barcelona Provincial Council participates in 18 collaboration agreements with Associations of Forest Owners of the province of Barcelona and the City Councils.
Extra regional impact	None.
Quality	The project DINFORREST, Ecological evaluation of the results of forestry practices to enhance forest recovery and resilience after extensive wildfires, carried out all-over 2018, analysed the performance of the Forest Restoration and Amelioration Program. The main objective of the Forest Restoration and Amelioration Program was the improvement of a natural regeneration of forests affected by natural disturbances looking for a greater resilience to possible new fires, guaranteeing, at the same time, exploitation, and provision of other ecosystem services (biodiversity, carbon sequestration). CREAF, the public research centre, carried out analysis and monitoring of the forest dynamics after these forestry practices and collaborated for the dissemination of its results.
Potential for learning or transfer	The program is based on the analysis of easily available information and the existence of organized Associations of Forest Owners.

	External benefits related to circular economy of forest products can serve as an incentive for the implementation of the program.
Further information	https://www.diba.cat/en/web/incendis/rmf

Source: CREAF

4. LIFE VIVA GRASS – Integrated Planning Tool to ensure viability of grasslands

The project "Integrated planning tool to ensure viability of grasslands" (acronym – LIFE Viva Grass) aims to prevent the loss of High Nature Value grasslands and increase the effectiveness of semi-natural grassland management by developing the Integrated Planning Tool (Tool). The Tool applies the ecosystem services approach to support decision making and land use planning by strengthening linkages between social, economic, environmental aspects in rural development policies and grassland management. This project also demonstrates opportunities for the multifunctional use of grasslands' ecosystem services as a basis for the sustainable development of rural areas.

Latvian meadow in the summer. Source: https://vivagrass.eu/integrated-planning-tool/vivagrass-planner/

Good practice general information	
Title of the practice	**LIFE VIVA GRASS – Integrated Planning Tool to ensure viability of grasslands**
Organisation in charge of the good practice	Baltic Environmental Forum (BEF) / University of Latvia
Description	
Short summary of the practice	The project "Integrated planning tool to ensure viability of grasslands" (acronym – LIFE Viva Grass) aims to prevent the loss of High Nature Value grasslands and increase the effectiveness of semi-natural grassland management by developing the Integrated Planning Tool (Tool). The Tool applies the ecosystem services approach to support decision making and land use planning by strengthening linkages between social, economic, environmental aspects in rural development policies and grassland management.

	The project also demonstrates opportunities for the multifunctional use of grasslands' ecosystem services as a basis for the sustainable development of rural areas. The LIFE Viva Grass was implemented in the three Baltic States demonstrating the integrated planning solutions for sustainable grassland management and application of the Viva Grass tool in 9 case study areas (two farms, four municipalities, two protected areas and one county). The Tool was implemented by 16 partners including NGOs, scientific institutions, IT company, local authorities, and protected areas administrations. The project was led by the Baltic Environmental Forum – Lithuania.
Category of the good practice	Empowering tools; Information dissemination and awareness rising.
Resources needed	The total (spent) budget of the LIFE Viva Grass project: 2 650 756€ **The direct costs of the action on development of the Tool**: 342 696 € (including ~ 297 000 € for personnel, ~15 000 € for equipment and some other minor costs for travel and external assistance). This calculation does not include the costs for testing and demonstrating tool application in the case study areas, as well as all dissemination activities, development and implementation of training program etc. **The core team of the tool development** included following project partners: JSC Hnit-Baltic (authorized Esri Inc. - distributor and leader of GIS software supply in the Baltic States, in charge for programming of the tool) and experts on ecosystem services, geography, landscape ecology, nature conservation from BEF-Lithuania, BEF -Latvia, University of Latvia and Estonian University of Life Sciences. The Tool development also involved consultations with various other experts and stakeholders and testing of various options on how to build in a real life applicable decision support systems for land use planning and grassland management.
Timescale (start/end date)	June 2014 – April 2019
Strategic relevance (long term impact)	We cannot look at the grassland ecosystem only from a nature's viewpoint. As grasslands survive only in the synergy between nature and humans, there are many factors that influence human motivation and possibilities for grassland management. Some of them usually are not fully considered but crucial to keep people to stay in the countryside. Particularly, socioeconomic aspects are very important: demographic structure, infrastructure, availability of kindergartens and schools. At present, many younger people migrate away from the countryside due to unfavourable socioeconomic conditions; the remaining generation gets older and has no capacity to properly manage grasslands. The Tool has been developed within the project holistically looking at the processes in the countryside and helping to find the best grassland management solutions by considering both, natural and socioeconomic factors of a site.

	Furthermore, the LIFE Viva Grass project contributed to the implementation of the EU Environmental Policy (particularly the Target 2 of the EU Biodiversity Strategy 2020), which calls for knowledge building and gaining practical experience in mapping and assessment of the grassland ecosystem services (MAES) at the both, local and regional levels. The project and the Tool also contributed to the ongoing national processes of biophysical baseline mapping and assessment of the state and functions of ecosystems, as well as to the development of new Strategic Plans for the implementation of the EU Common Agricultural Policy (CAP beyond 2020) in Estonia, Latvia, and Lithuania.
Evidence of success (results achieved)	The Tool is tested in nine case study areas across the three Baltic States (two farms, four municipalities, two protected areas and one county), each of them having a different spatial and thematic scale, as well as different data availability. Furthermore, the tool provides an assessment of the agro-ecosystem service potential within the entire area of Lithuania, Latvia, and Estonia. Thus, the tool demonstrates the applicability of ecosystem services related information at different planning scales and contexts.
Tangibility	The Tool is designed as a support for decision making and planning on the sustainable use and management of grasslands. It enables integration of grassland ecosystem services into planning and decision making by linking biophysical grassland data (e.g. land quality, relief, land use/habitat types) with expert estimates of the ecosystem services, as well as a socio-economic context. The tool is integrated into an online GIS working environment and allows users: 1) to assess the supply and trade-offs of grassland ecosystem services in user-defined areas; 2) to develop ecosystem-based grassland management and planning scenarios. The Tool consists of three modules: - “Viva Grass Viewer”- gives an overview on agro-ecosystem services potential at each single land plot within entire territory of Lithuania, Latvia and Estonia. It also groups similar ecosystem services in bundles, highlights trade-offs and indicates ecosystem service hotspots and cold spots from local to national levels. - “Viva Grass BioEnergy” - a tool for assessing grass biomass as energy resources (area, production, calorific potential for district heating) and informing relevant planners & stakeholders about areas/sites with the highest potential of using grass in energy production (i.e., heating). By including socio-economic information (number of inhabitants in block houses, location of district heating plants) it also enables the assessment of possible demand for energy/heating. - “Viva Grass Planner” - enables professional users to carry out advanced prioritization and classification of areas based on the ecosystem service supply and other context related data, thus providing input to land use/spatial planning and decision making at different scales.

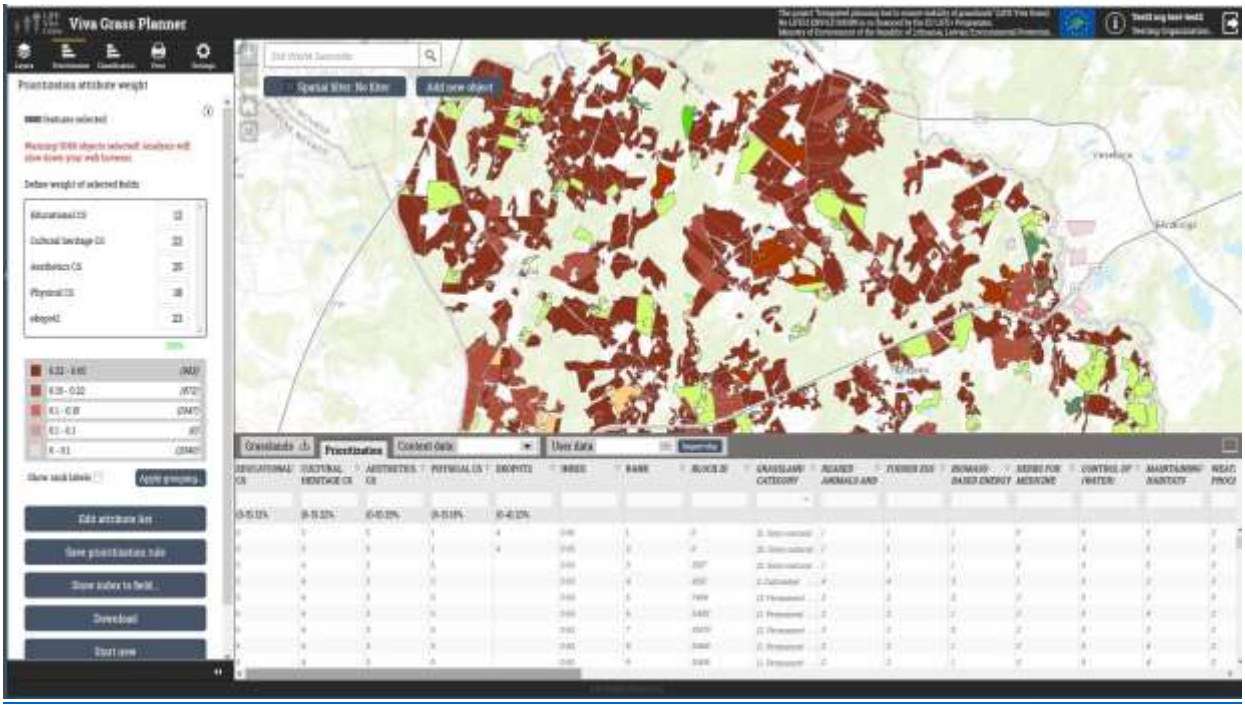
	Testing of the Tool within the nine case study areas contributed to producing the following project outputs: ● Recommendations on applying the Viva Grass Tool to the farm's management; ● Management plan to support sustainable management of grasslands of the Kurese nature farm (Estonia) by combining organic beef farming, nature conservation, and nature tourism; ● Long-term grassland management plan for the farm "Šovītes" (Latvia); ● Consolidated recommendations on applying the Integrating Planning Tool to the protected area level are developed and documented; ● Recommendations on the nature tourism development for the Šilutė district (Lithuania); ● Recommendations for Ogre local authority (Latvia) on the improvement of a local development policy for management of grasslands; ● Recommendations for spatial planning documents of Cēsis municipality (Latvia) in relation to the landscape maintenance and governance; ● Recommendations for Saaremaa municipality (Estonia) on implementing the Green Network at the local level; ● Recommendations on incorporating grassland ecosystem services into environmental management and spatial planning in Lääne County (Estonia); ● Report on potential for biomass and energy production from semi-natural grasslands in Lääne County (Estonia); ● LIFE Viva Grass Recommendations on Ecosystem-based Planning and Grassland Management. All outputs available: https://vivagrass.eu/downloads/
Durability	The "Viva Grass Tool" provides a framework for integrating available knowledge on the ES supply potential at different planning levels and contexts and integrates a great demonstration value in itself: The "Viva Grass Viewer" offers an easy-to-use decision-making support system for ecosystem-based land use planning at a local scale as well as the contextual information for spatial planning documents of the municipality or regional scale (e.g. overview on distribution of ES, "cold/hot" spot analysis, etc.). This information can be used for the assessment of existing situation, identification of highly valuable or sensitive areas from ecological perspective and development of suitable planning solutions. The "Viva Grass Planner" provides support in prioritisation and classification of areas based on user defined criteria and management requirements, which can serve for specific planning contexts/objectives, e.g. identification of areas for landscape maintenance or green infrastructure improvement. The Tool (Viewer and Planner) can be used also in management planning of protected areas, by prioritisation of areas of specific values and management needs, development of functional zoning and assessing

	socio-economic benefits of nature conservation measures. The information and data analysis provided by the Tool can also support the national level strategic planning, e.g. agriculture policy by defining target areas for rural support interventions. All the knowledge (logics, methodology and tools) used for data preparation and better data visualization in the Tool is summarized in the LIFE Viva Grass home page (https://vivagrass.eu/integrated-planning-tool/), which provides an overview on the structure of the Tool and its three modules of application, data products and self-learning platform (including user manual), and data management tools: 1) Creation of data aggregation; 2) Basemap creation methodology; 3) Tools for Viva Grass basemap creation. Data management tools can be used either to better understand the construction of the Tool or to inspire relevant stakeholders for further scientific research in the field of ecosystem services, GIS tool development, GIS application in nature conservation, etc. Transparency of the know-how behind the development of the Tool ensures its potential improvements making it more elastic and durable in the future.
Visibility	The Tool was demonstrated at numerous stakeholder events, as well as at the whole day lecture courses for municipal planners, academics, and practitioners in all regions of all Baltic States. By the end of the project a total of 479 persons have been trained. The international community was introduced with the Tool at the LIFE Viva Grass Session held within the Ecosystem Services Partnership (ESP) Europe conference 2018 in San Sebastian, Spain as well as several other workshops and conferences. Information about the Tool is available at: - Project website, including video teaching guide and teaching materials in national languages. - Printed brochure "Integrated planning approach and Viva Grass Integrated Planning Tool". - Scientific publication: Vinogradovs I., et al., 2020. Integrating ecosystem services into decision support for management of agroecosystems: Viva Grass tool. One Ecosystem 5: e53504. https://doi.org/10.3897/oneeco.5.e53504
Added Value:	The Tool combines information on land use (semi-natural, permanent, and cultivated grasslands, arable land), data on natural conditions (land quality and slope), and expert assessments of ecosystem services in different grassland types to create distribution maps of ecosystem services. Furthermore, the Tool offers the spatial visualisation of ecosystem services' bundles and trade-offs, as well as hotspot and cold spot areas, which help to make decisions on the most beneficial use of grasslands from nature's as well as society's point of view. The tool incorporates data for the entire area of Estonia, Latvia and Lithuania, which means that it can be applied for any location in these countries. Application possibilities of the Tool

	are not limited to the 9 demo areas – it can be applied for different planning and decision-making situations everywhere. A long list of useful and reusable datasets was created when developing the Tool and it's 3 modules. Those datasets themselves are valuable results since they incorporate new information and loads of know-how from research, spatial analysis, ecosystem service assessment, data analysis and visualization; and they can be widely reused or adapted for related research, analyses and planning solutions. This data covers three Baltic countries – Lithuania, Latvia, and Estonia – and it can help to implement integrated planning and ecosystem service approaches in various planning processes.
Effectiveness	The Tool provides relatively simple and cost-effective decision support system based on the data sets available in the three Baltic states (i.e. IACS data, soil maps and relief models) which is enough flexible to be adjusted to user needs by uploading additional data and defining specific decision-making contexts. The Tool can be applied at different decision-making levels – from single farm management, municipality, or regional level development planning, up to national level, for example, in the development of new agriculture support schemes (targeting measures applied for areas with suitable agri-environmental conditions and the highest potential of ES supply). The Tool offers three modules: "Viva Grass Viewer", "Viva Grass BioEnergy", and "Viva Grass Planner", each designed for different user groups and contexts of decision-making. There is developed Self-learning platform (https://vivagrass.eu/self-learning-platform/) for users of the Tool. It helps to learn how to use the Tool, introduces concepts of ecosystem services and integrated planning, and shows how ecosystem services supply changes according to different management practices. Self-learning platform consists of 1) Theory content (https://vivagrass.eu/lessons-cat/theory/); 2) Self-directed practical lessons (https://vivagrass.eu/lessons-cat/practice/); and 3) User manual of the Tool (https://vivagrass.eu/wp-content/uploads/2019/09/life-viva-grass-user-manual_en-version-compressed.pdf).
Innovation	Although, the integrated ecosystem service-based tools were not a novelty in the Western Europe, USA and other developed countries around the world, such tools were not adopted in the Baltic States at the time when the project was starting. The project has demonstrated innovative approaches for the application of the ecosystem service concept in land-use planning within the Baltic context. It also contributed to overall efforts of international researchers' community for conceptualisation and mainstreaming of the ecosystem service approach in land-use planning. The novelty of the Tool is that it allows analysing ES at the field level (the service providing area is delineated by declared fields of farmers extracted from the Integrated Administration and Control System (IACS) set up in each of the EU member states to administer and control direct payments). Thus, it can directly support farmers in decision making

	on the most suitable land management practice for increasing the ecosystem service supply, as well as it can be used in development and implementation of the result based agri-environmental measures.
Efficiency	Efficiency of this good practice is evaluated as semi-strong, because of non-adaptable planning policy and practice. Due to complexity of the issue and limited experience in applying ecosystem service approach in the land-use planning and management within the Baltic States at the beginning of the project, the building of the Tool was very complicated, time and human resource demanding process. Up to 2 years were required to agree on the conceptual framework of the Tool, approach for assessment of ecosystem services and decision support models. The next 2-3 years were spent on developing programming solutions, data input and testing of the Tool in the case study areas. Use of the Tool is relatively easy and cost-effective, particularly the "Viva Grass Viewer" module, which does not require specific skills and software. Slightly more complicated is the application of the "Viva Grass Planner" module, which requires basic skills in GIS. The potential for Tool's application in the spatial planning is well recognized by the Baltic planning authorities. However, due to the novelty and complexity of the concept, as well as non-flexible planning system and encouraging legal framework, planners and decision makers might still lack interest or capacities for its implementation in the real life planning situations.
Externality	The Tool has been applied for incorporating the ecosystem service assessment in the planning process – Landscape and Green Infrastructure Plan of the Zemgale Planning Region (Interreg project "ENGRAVE"), as well as in the ecosystem service assessment in the Southwestern Kurzeme coastal area (Interreg project "Land-Sea-Act"). It was also used as a consulting tool for the development of proposals of result based agri-environment schemes. The Tool is also used for the study process in courses on Landscape ecology and Natural Capital by the University of Latvia. The Estonian National MAES process (under the acronym of ELME) has taken up the Viva Grass tools and modules as potential methods for the national ES mapping and assessment.
Intra-regional coordination	Project activities were coordinated by numerous partners' meetings, stakeholder engagement events, specialized conferences, lecture courses and seminars. Altogether, 63 round-table discussions with different stakeholders ranging from local to national levels in all countries were held during the project lifetime, as well as 25 visitors' days organized in the pilot project areas. The cross-national team of the core experts involved in the development of the Tool were meeting regularly during the entire period of the project implementation.

Extra regional impact	The project partners were presenting the Tool and other project outputs in 17 international events, including scientific conferences and networking meetings with other LIFE projects. Two scientific papers were published in the journal “One Ecosystem”.
Quality	The quality of this good practice was achieved by the involvement of the most prominent researchers and experts in the areas of ecosystem services, landscape ecology, soil and agro-sciences, and GIS based web application programming in the Baltic States, as well as consulting with wide range of stakeholders/potential end-users of the Tool. Thus, the development of the Tool was trans-disciplinary and iterative process using the best available knowledge, data and up to date online technologies.
Potential for learning or transfer	The potential of learning about the Tool and its application is ensured by a set of teaching materials available at the project’s home page in the sections “Tool” and “Self-learning platform”. The information about these materials is provided in the sections “Durability” and “Effectiveness”. Although, the Tool was developed and applied on the territory of the three Baltic States, this is possible to calculate ecosystem services’ values of agro-ecosystems in an automated way. Technically, the Tool is not territory bound, which means that it can be adapted to any other country outside the Baltics, given that the required data is available. Data sets used in the calculation of ecosystem services include land quality assessment index, historical soil maps specific for the Eastern Europe, digital elevation model (Light Detection and Ranging (LiDAR) data) and IACS (Integrated Administration and Control System) data. Therefore, transferability of the Tool to other countries/ regions is limited by the availability of those data sets.
Further information	https://vivagrass.eu/



Viva Grass Planner: http://www.vivagrass.eu/integrated-planning-tool/vivagrass-planner/

Latvian grassland in Madliena. Source: https://vivagrass.eu/integrated-planning-tool/vivagrass-planner/

5. Land Sea Act: Latvian case study on balancing the use of land-sea resources in the Southwestern Kurzeme Region

The project Land-Sea-Act aims to bring together stakeholders involved in the coastal management and planning to find solutions for the Maritime Spatial Planning and Blue Growth challenges around the Baltic Sea for elaborating the Multi-level Governance Agenda on the Blue Growth and Spatial Planning in the Baltic Sea Region. The project guides national, regional and local authorities, as well as stakeholders of various sectors aiming to 1) improve transnational cooperation and facilitate knowledge exchange to foster Blue Growth; 2) raise awareness, knowledge and skills to enhance the Blue Growth initiatives and integrated development in the coastal areas; 3) balance the development of new sea uses with the coastal community interests by improving the coastal governance.

The Baltic Sea coast near Jūrmalciems, Latvia. Source: https://www.bef.lv/projekti/land-sea-act-en/

Good practice general information	
Title of the practice	**Land Sea Act: Latvian case study on balancing the use of land-sea resources in the Southwestern Kurzeme Region**
Organisation in charge of the good practice	Lead partner of the project: Ministry of Environmental Protection and Regional Development, Latvia. Partner in charge for the Southwestern Kurzeme Region's case study (GP example): Baltic Environmental Forum – Latvia.
Description	
Short summary of the practice	The project Land-Sea-Act aims to bring together stakeholders involved in coastal management and planning to find solutions for Maritime Spatial Planning and Blue Growth challenges around the Baltic Sea, and to elaborate the Multi-level Governance Agenda on Blue Growth and Spatial Planning in the Baltic Sea Region. The project guides national, regional, and local authorities, as well as

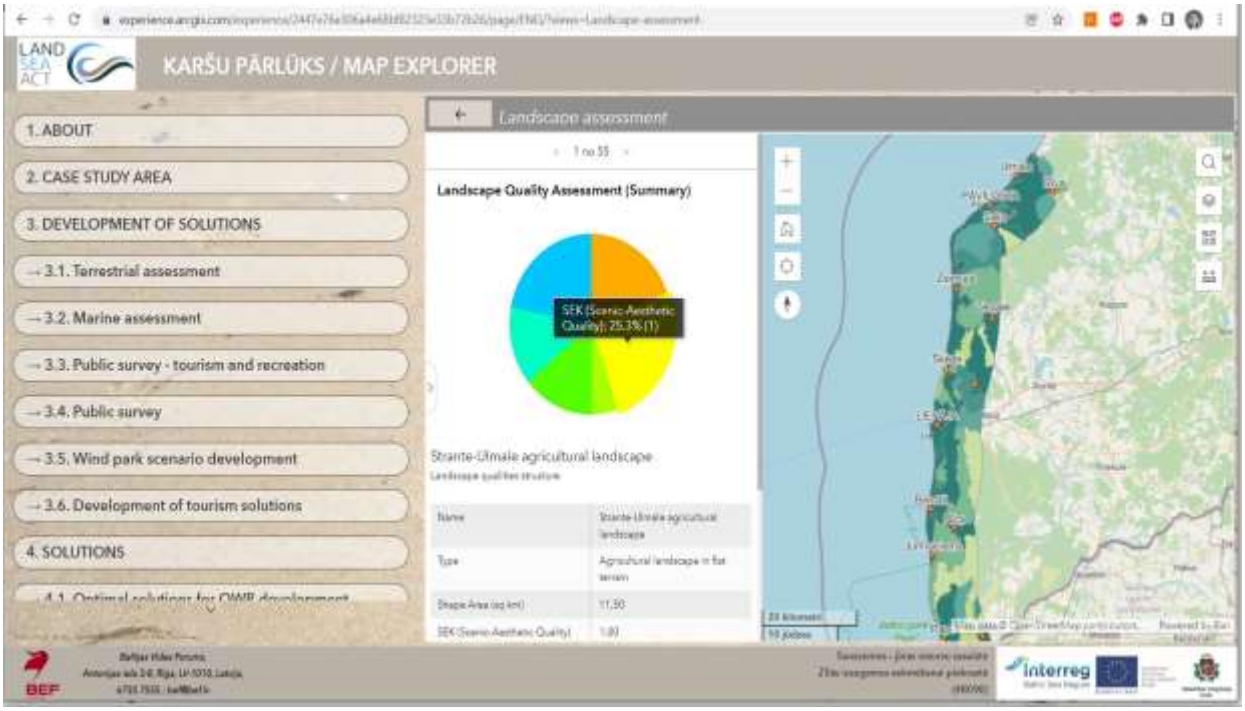
	stakeholders of various sectors aiming to 1) improve transnational cooperation and facilitate knowledge exchange to foster the Blue Growth; 2) raise awareness, knowledge and skills to enhance the Blue Growth initiatives and integrated development in the coastal areas; 3) balance the development of new sea uses with coastal community interests by improving the coastal governance. The project has worked on good practice examples within two main governance areas: ● Spatial planning solutions for addressing development trade-offs in coastal areas (Estonian, Latvian, Polish and German case studies). ● Embedded entrepreneurship for vital coastal areas and Blue Growth (Danish and Swedish case studies). **Latvian case study** in the coastal area of the Southwestern Kurzeme coast aims to support the sustainable development of this coastal area by balancing national interests of the renewable (wind) energy production at sea with local interests in the development of coastal tourism, preservation of landscape value and environmental quality. The case study has proposed optimum solutions for locating offshore wind parks and tourism development within the case study area. This was achieved by (i) mapping and assessment of the coastal landscapes and ecosystem services, (ii) active stakeholder engagement in formulating coastal development challenges, values, and interests of local communities, (iii) participatory scenario building and (iv) assessing impact of the proposed scenarios to coastal ecosystems, services, and landscape.
Category of the good practice	Empowering tools; Sustainability instruments.
Resources needed	Total project costs: 2.21 million EUR, including ERDF co-financing of 1.76 million EUR Costs related to working on the Latvian case study: ~110 000 EUR. The project team involved 3 senior experts (maritime and coastal spatial planning, landscape, and ecosystem service assessment), 2 junior experts (GIS and social surveys) and 1 communication expert.
Timescale (start/end date)	January 2019 – December 2021
Strategic relevance (long term impact)	The project Land-Sea-Act focuses on sustainable development and maritime spatial planning in coastal areas of the Baltic Sea Region. Many coastal areas are faced with man-made challenges, such as declining fish stocks, effects of climate change and environmental degradation leading to economic losses and population migration. The Land-Sea-Act aims to counteract this by developing new concepts for sustainable use of the coastal habitat and its resources. Integrated planning in marine areas and on land often isn't coherent. Such a coherence is a key challenge and at the same time – precondition for the Blue Growth. Another challenge is to recognize relationships and inter-dependencies between marine ecosystems,

	landscapes, social and cultural values, and economic sectors by considering interactions between land and sea.
Evidence of success (results achieved)	Project has the following results: 1) increased capacity and cooperation of stakeholders in the Baltic Sea Region regarding Blue Growth and spatial planning; 2) 6 case studies outputs, including the Report on strategic solutions for balanced use of land-sea resources (Latvian case study), the Report on integrating cultural values in the maritime spatial planning and "Blue Growth" (Polish case study), the Report on the climate change adaptation meeting sustainable tourism (German case study), the Report on trade-offs in mobility and tourism planning (Estonian case study), Guidelines for the harbour business development (Danish case study) and the Maritime strategy for coastal economy of the Gothenburg Region (Swedish case study); 3) Guiding materials for various coastal stakeholders on land-sea interaction in maritime spatial planning, land-based spatial planning and addressing Blue Growth challenges.
Tangibility	**Latvian case study:** The Baltic Environmental Forum-Latvia experts mapped and evaluated 1052 km^2 of the coastal landscape (120 km long coastal stretch including terrestrial part up to 10 km inland - the entire coastal part of the Dienvidkurzeme municipality). Within this area 11 terrestrial landscape types and 55 landscape units were identified. At the shore 5 landscape types and 17 landscape units were identified. In addition, 3 seascape types and 13 seascape units were identified in the adjacent Latvian territorial waters and the Exclusive Economic Zone. Landscape qualities were assessed in each terrestrial and shoreline landscape unit. In total, 17 ecosystem services were assessed in each of terrestrial landscape units and 12 ecosystem services within marine part – at the level of each seascape unit. The expert work was complemented with an active stakeholders' engagement activities to collect local knowledge on landscape and recreational values, as well as to discuss experienced challenges and interests in the development of coastal areas. This work has included 3 stakeholders' workshops and 3 surveys with different contents and groups of respondents. One survey had nationally representative sample of respondents (1000 people) aiming to assess the contribution of the South Kurzeme coastal ecosystems to human well-being. During the 2nd stakeholders' workshop four scenarios of the offshore wind park locations were developed. The project experts assessed impacts of the proposed scenarios to benthic habitats, ecosystem service supply and coastal landscapes. Based on the assessment results two optional solutions were elaborated: **Optimum 2030** – one plot covering 160,52 km^2 with 800 MW energy production capacity, which corresponds to the offshore renewable energy production targets of Latvia by 2030; and **Optimum 2050** - two plots with the total area of 365.71 km^2, which together with the Optimum 2030 is

	providing 2.9 GW energy production capacity corresponding to the offshore wind energy estimates for Latvia by 2050. Furthermore, solutions for sustainable tourism development were elaborated based on the cultural ecosystem service assessment results and clustering of the inland landscape units by the dominant landscape qualities. Recommendations were proposed for adjusting/targeting tourism development to site specific values/landscape qualities.
Durability	The approaches and methods tested and developed within the Land-Sea-Act case study in the Southwestern Kurzeme can be replicated in other parts of the country at the regional as well as, potentially, can be up-scaled at the national level or the scale of the Baltic Sea Region. For example, the approach for assessment of ecosystem services and landscape qualities can be applied in other coastal areas to support tourism development and spatial planning. In Latvia such information can be integrated in thematic planning documents on different levels, as well as used for the development plans of regions or municipalities. The approach for assessing trade-offs between coastal ecosystems can be replicated also to other countries in EU and beyond, especially where the baseline mapping of ecosystem services and landscape qualities is already performed. Methods employed to assess the impact of offshore wind parks on marine ecosystem structures and services (as well as the proposed solutions) can be used for maritime spatial planning or strategic environmental assessment of the sea use plans at national or sea-basin scale. The approach tested by the Latvian case study has good potential to be replicated at the Baltic Sea Region, where harmonised data sets on marine ecosystem components are compiled by the HELCOM Map and Data Service.
Visibility	The overall information about all cases studies of the Land-Sea-Act project is presented at the project website: https://land-sea.eu/ Detailed information about results of the Latvian case study is presented at the Land-Sea-Act map explorer. Work on the Land-Sea-Act cases studies was frequently presented at local stakeholders' meetings, as well as different national and international fora, e.g., 4th Baltic MSP forum, meetings organised by the Capacity4MSP project. Latvian cases study was presented also at the meetings of Latvian coastal municipalities, as well as at the 3rd Ecosystem Service Partnership Europe Conference.
Added Value:	The project guides national, regional, and local authorities, as well as stakeholders of various sectors to improve transnational cooperation and facilitate knowledge exchange to foster the Blue Growth; to raise awareness, knowledge, and skills to enhance Blue Growth initiatives and integrated development in coastal areas; and to balance the development of new sea uses with coastal community interests by improving the coastal governance. In demonstration cases the project partners and involved stakeholders closely collaborate to explore and recommend new flexible governance practices for the coastal

	management. The project activities lead to additional knowledge and improved skills to solve common land-sea interaction challenges.
Effectiveness	The project results provide practical knowledge to competent authorities and planners from national to local levels on methods for addressing different issues of land-sea interactions. This knowledge is collated in the "Compendium of Methodologies on How to Address Land-Sea Interactions and Development Trade-offs in Coastal Areas".
Innovation	Despite a high importance of the land-sea interactions on the EU policy agenda, a well-established methodological framework on how to address these interactions in maritime and terrestrial spatial planning is still missing. Therefore, each of the Land-Sea-Act case studies have tested some new approaches for addressing specific challenges or trade-offs at the land-sea interface in partners' case studies. **The Latvian case study** has tested the application of ecosystem service framework for balancing coastal development interests, as well as developed a novel approach for using the assessment of cultural ecosystem services and landscape qualities for targeting sustainable tourism development to site specific values, which could be up taken during elaboration of the municipality thematic plans or development programmes.
Efficiency	**In the Latvian case study,** a relatively high number of resources were invested to assess qualities of coastal landscapes. Even though various available spatial data sets were used in this assessment, the assessment of a landscape quality involves intensive field works to assess some of landscape qualities (e.g., aesthetic value) at each landscape unit. Therefore, the replication of this method to other areas would require field works and involvement of landscape experts. Also, elaboration of the framework for ecosystem service assessment, including a set of indicators and related data sets, and the algorithms for assessing impacts to ecosystem structures and provided services was time consuming iterative process. However, the assessment framework developed by the project expert team could be relatively easy transferable to other areas, thus providing an efficient use of project results.
Externality	Methodologies developed and experience gained by the Land-Sea-Act case studies are actively shared at different fora (as noted before). An international online training for planners was organised on 20-21 October 2021 to exchange experience and approaches developed by project's case studies. The obtained experience and knowledge is collated in the Synthesis Report on the case studies and in the "Compendium of Methodologies on How to Address Land-Sea Interactions and Development Trade-offs in Coastal Areas" (https://land-sea.eu/results/).
Intra-regional coordination	Regular online coordination meetings of the Land-Sea-Act case studies have been organized to discuss the progress and ensure

	synergies of the outputs. Furthermore, information exchange was ensured at the partners' meetings and different international events, seminars, and conferences.
Extra regional impact	Work on the Land-Sea-Act cases studies was frequently presented at different international online events, e.g., 4th Baltic MSP forum, Planning forum meetings organised by the Capacity4MSP project, which involved participants from all over the Europe. The Latvian cases study was presented at the 3rd Ecosystem Service Partnership Europe Conference (7-9 June 2021, Tartu) – hybrid event with participants from all over the world.
Quality	Quality of the Latvian good practice was ensured by the involvement of competent experts and stakeholders, use of the best available data and up to date online technologies.
Potential for learning or transfer	See sections "Durability" and "Efficiency".
Further information	https://land-sea.eu/ https://experience.arcgis.com/experience/2447e76e306a4e68bf82323e33b72b26/



Example of the landscape assessment. Source: https://www.bef.lv/projekti/land-sea-act-en/

The Baltic Sea costs near Jūrmalciems. Source: https://www.bef.lv/projekti/land-sea-act-en/

6. The Green Office as an integrated approach for going green Financing ecosystem developments at Budapest 12th District

Bee pasture maintained by the Municipality of Hegyvidék. Source: https://zold.hegyvidek.hu/

Insect hotel in the Municipality of Hegyvidék. Source: https://zold.hegyvidek.hu/

This Good practice presents the possibility of setting up a team, dedicated to protecting and maintaining the ecosystem of a given geographical area within a city. The Green Office was established in 2016 as a department of the municipality. Its role is to carry out administrative environmental tasks, import successful ecosystem management practices and raise awareness of the importance of responsible use of the local ecosystem. Budapest has a dual management system: in addition to the central government, the 23 districts of the city are managed by their local governments. The 12th district, called Hegyvidék (Highlands), is the greenest district in the capital. Its territory is hilly, partly suburban area. The per capita green area is about 170 m^2 and the total population is about 58,000 inhabitants. Hegyvidék can be divided into three zones: a densely built-up zone in the center, a mostly residential zone, and a forest zone called Normafa. As the greenest part of the city, Hegyvidék has a huge responsibility to maintain the green space, to communicate properly with the population and to raise awareness of environmental issues and climate change. Due to its privileged environmental position, the office should serve as a good practice for other districts and settlements. The mission of the Office is to cooperate closely with the citizens instead of simply operating an administrative unit.

Good practice general information	
Title of the practice	**The Green Office as an integrated approach for going green** Financing ecosystem developments at Budapest 12th District
Organisation in charge of the good practice	Green Office of Municipality of Budapest, 12th District (Hungary), further referred as 'Hegyvidék'
Description	

Short summary of the practice	Good practice presents the possibility of setting up a team, dedicated to protecting and maintaining the ecosystem of a given geographical area within a city. The role of the Green Office is to carry out administrative environmental tasks, import successful ecosystem management practices and raise awareness of the importance of responsible use of the local ecosystem. To understand the need for its establishment, we should be familiar with the local geographical and governmental circumstances. Budapest has a dual management system: in addition to the central government, the 23 districts of the city are managed by their local governments. The 12th district, called Hegyvidék (Highlands), is the greenest district in the capital. Its territory is hilly, partly suburban area. The per capita green area is about 170 m^2 and the total population is about 58,000 inhabitants. Hegyvidék can be divided into three zones: a densely built-up zone in the center, a mostly residential zone, and a forest zone called Normafa. As the greenest part of the city, Hegyvidék has a huge responsibility to maintain the green space, to communicate properly with the population and to raise awareness of environmental issues and climate change. Due to its privileged environmental position, the office should serve as a good practice for other districts and settlements. To meet this need, the Green Office was established in 2016 as a department of the municipality. The good practice also shows how the capacity of the team has been increased over the last 5 years and what financial resources have been mobilized to achieve the goals, where the financial and professional contribution of international projects has played a key role. The mission of the Office is to cooperate closely with the citizens instead of simply operating an administrative unit.
Category of the good practice	Empowering tools
Resources needed	Before the establishment of the office, only 1 person worked on green tasks, located at the municipality building. He mainly focused on administrative issues. In 2016, two international projects (Urban Green Belts, TOGETHER) gave a push to set up the team with 5 employees. The staff increased continuously as new tasks appeared. From 2017, 7 employees worked for the office, while today the office employs 9 persons, and 1 international project manager from the Municipality supports their work. This increase was mainly financed by international projects, but 2 persons joined the office due to a legal change: in 2020, the Government relocated the building authorities (previously working as a department of local municipalities) to the Government Offices; 2 employees of this unit joined the office. The qualifications and skills of the team members are diverse (e.g. environmental engineers, urban planners, psychologist).

	The budget of the office consists of the contribution of the municipality and the budget of thematic projects. The latter source provides an opportunity to motivate employees with bonuses. For special thematic tasks, the office regularly involves external experts as well.
Timescale (start/end date)	Ongoing; the office was launched at late 2016.
Strategic relevance (long term impact)	Hegyvidék is the greenest district of Hungary's capital, a desirable place for habitation and popular destination for other citizens and tourists. The maintenance of its environmental quality is a great responsibility. The office needs to coordinate actions in a complex environment where lot of actors have different interests: in addition to Normafa, a large green area, lot of fragmented green spaces are also located in 12th district, which are owned by different actors. Involving these actors to decision making, harmonizing their needs are tasks that have strategic relevance. Also, the operation of the office is in line with the priorities set in different environmental regulations, they deliver tasks defined in the Environmental Program 2017-2022, and manage the elaboration of a well-cadaster and tree-cadaster. Their activities support the achievement of the goals set in the SECAP of the district, which has joined the Covenant of Mayors in 2016. In the forthcoming years, the implementation of the Climate Strategy (in progress) will be their new duty. Harmonizing the operation of the office with the above-mentioned strategies is also important from financial aspects, as remarkable part of the operational expenditures is covered by international projects, and the funding programs require the correspondence to local, regional, and national level strategic documents. Also, these considerations guarantee that the day-to-day activities won't only serve ad-hoc interests and administrative duties, but they are integrated parts of long-term, legitimized processes.
Evidence of success (results achieved)	On one hand, the evidence of success can be measured by the results of the office's activities, which successfully developed strategies, delivers its official tasks, takes part in several international projects, and in addition it capitalizes from the knowledge gained from these co-operations by organizing awareness raising events for residents and developing expert platforms. The office was involved into several international co-operations, such as the TOGETHER project (Interreg CENTRAL), BeePathNet (URBACT), and became coordinator in the Urban Green Belts project (Interreg CENTRAL), Health&GreenSpace (URBACT) and a recently approved LIFE proposal. This development shows the staff became more experienced in project writing and

	management. Also, during the past years, the staff gained expertise in wide-range of interventions: community involvement, green space management, energy efficiency in public buildings, smart metering, DSM tools (demand-side management), green roofs, awareness-raising programs and activities, festival events, street actions, educational programs and competitions, climate change, SECAP, green and communal waste management, biodiversity in the urban area, planting trees and tree saplings, pollinator-friendly gardens and trees application, urban-beekeeping, health-responsive green space planning and management, multilevel governance, networking with other municipalities and universities, NGOs, business sectors. Probably the most obvious evidence for success is that many other districts visit them to learn about the processes, everyday operation. This shows that the office gained a great reputation in the past years.
Tangibility	Delivering the tasks that belong to the four pillars of activities (see above) brought tangible results. The capacity and knowledge of the team makes it possible to properly manage all legal/administrative duties: half of the staff is working on tasks related to abandoned waste treatments, noise and vibration protection issues, logging activities, ragweed, and allergic weed control tasks. The office also collects hazardous waste once a year for free. Regarding organization of awareness raising and motivational programs for residents and addressing local needs, the regularity of these events and the networks established (e.g., in BeePathNet project) also show visible results. The regular community programs with the citizens are tangible results themselves, but the outcomes of these trainings and networking events - such as the renewed green public spaces, where residents started to take care of the plants – are also great examples for tangibility. The office also recognized the need of exchanging experiences with other departments, experts, and municipalities of other districts, therefore they launched the so-called KöZöld Forum in 2017, where predefined topics (regulations, projects, technical questions) are discussed among the members regularly. This event became a tradition. Regarding investments, the office also reached remarkable results: in TOGETHER project several public buildings were equipped with smart meters to measure the electricity and heat consumption, identify leakages and lavish use of energy. The system contributes to save energy at the municipality, which also makes it possible to use the saved financial sources for developments (e.g., by establishing a revolving fund).

Durability	The durability of the office and its results are ensured both from political and financial point of view. The municipality is engaged to support green programs, maintaining the ecosystem quality of the district, and the results of the office showed that this organizational structure is successful. The financial sustainability is ensured on one hand by the financial contributions of the municipality, and on the other hand the repetitive successes of international projects.
Visibility	Visibility and communication are probably the strongest skill of the office. They focus on diverse target groups: the office organizes forums, trainings for citizens, establishes links between entrepreneurs and the residents to raise awareness on eco-friendly products, and they also started to build network among different municipal departments and authorities to consult on ecosystem issues. The main communication channel is the webpage of the office (https://zold.hegyvidek.hu/about-us). In addition to posting news and introducing their services, their projects, events are also described, and the office provides different guidelines – e.g., for waste management at home (https://www.hegyvidek.hu/download.php?docID=55387) They are also active in the social media site of the district (https://www.facebook.com/Hegyvidek), and also in the online and offline version of the local gazette, Hegyvidék Újság (https://www.hegyvidekujsag.hu/). The office reaches the citizens by targeted messages as well. If a resident visits the office to manage an administrative question, his contact details may be registered in the database of the office. A staff member is dedicated to deliver the communication tasks. Some examples for awareness raising programs: Composting program, where residents also attend at trainings. Residential shredding, where 4300 m3 branches, green waste is shredded annually. Protecting horse chestnut trees by spraying 400 trees/year and injecting 200 trees/year. This program provides pest control of these trees for a reduced (50%) price. The Small Green Space Stewardship program support residents to take care of public green spaces. By the development of bee pastures, the office provides a colorful blend of pollen and nectar flowers to offer forage for honeybees, bumblebees, and other pollinators. At this program the adequate signing has a special importance, otherwise the citizens do not recognize the function of these green areas.

	Programs in kindergartens: Kindergartens are regulated by municipality directive (schools are maintained in a different system, municipality cannot influence their operation – even though, they contribute to the organisation of online sustainability competitions). The office organises education in high gardens, honey breakfasts. Thematic walks – where they explain the importance of different plants, pollinators, and motivate residents to get involved into the maintenance of the ecosystem. International projects also provide a great communication possibility towards foreign institutions, national level organisations and the wider public.
Added Value:	The main added value of good practice is that green activities are dedicated to an office, highlighting the importance of ecosystem management, and ensuring that adequate capacity is available. They are in a separate building, and the design of the office (bean bags, paper furniture) also tells the visitor about their environmentally friendly, networking activities. Due to their activities, citizens became involved in green space management programs, the office could successfully adopt participative planning in ecosystem management. From financial point of view their added value is shown by the international projects they won. These project budgets made it possible to hire new members and finance small-scale investments and plenty of awareness raising programs. These projects also bring up-to-date knowledge about green space management trends. From political aspect, the office and its successful operation provides a prestige for the district. Other districts visit the office regularly to learn about its operation. This positive image and their experience in transnational projects increase the chance to be involved in new projects, or approve proposals submitted by the office.
Effectiveness	The operation of the office is flexible. For specific tasks (events, analyses, proposal writing) the office involves other departments or external experts. This is a cost-efficient solution, which also provides adequate professional knowledge to manage their duties. In the past 5 years of the office, a pool of reliable, distinguished experts could be set up. The office elaborates complex programs, which also contribute to the effectiveness of the management of different thematic areas of ecosystem maintenance and development. Some examples: - Tree program is composed of a tree-cadaster, the fruitful Hegyvidék (planting) program and tree sapling activities.

	- Water: The office maps the water flows, plans water retention systems. They plan to map 16 springs and deliver water quality and water flow testing. The number of approved international projects shows the effectiveness of proposal writing and project management. The office even coordinated two URBACT projects as lead partner, and they also take this position in their new LIFE+ proposal, which was recently approved.
Innovation	The innovative communication actions of the office made it possible to bring green space management closer to residents. The office introduced a participative planning approach by joint development of green spaces, planting, bee pastures, urban meadow, thematic walks. Their Facebook was booming when they planted 5000 tulips with a mole sign, saying that something will grow there. As a result, local inhabitants became more committed to maintain and even restore their natural environment. They involve different actors to deliver attractive communication tools, such as the Art School of Buda, which created a comic book for pupils to draw attention on the importance of energy saving. The office also plans to establish a local grant for residents and private entrepreneurs to create green places: patios, balconies, green roofs, green walls. Their cooperation with other department also follows a novel approach. To minimize conflicts and lack of information, the office organises trainings for other administrative units about cooperating in a specific project. Roles, responsibilities, hierarchies (manager may become the temporary 'boss' of a head of a department in a given project) are discussed at these events.
Efficiency	See at Effectiveness.
Externality	The office works with other departments, external experts on specific tasks, and they also cooperate with diverse foreign institutions in their international projects. They set up sound contacts with the managing authorities and control bodies of the relevant EU programs. Networking is a core competence and activity of the office: they organize regular consultations on ecosystem management issues with other departments and authorities. Besides, the office provides trainings and public events for citizens and entrepreneurs (e.g. bee-keepers). They are open to share their experiences with other districts and settlement, who often visit them for advice (e.g. Budafok Municipality)

Intra-regional coordination	The office is in close contact with the Association of Climate Friendly cities (https://klimabarat.hu/). Its membership covers the country. They have established permanent contacts with research institutes, schools, and some SMEs - the latter target group is not even in the focus of the office, as there is no industrial activity in the district. Nevertheless, their green space award program has started as the initiative of an entrepreneur, which also finances the awards anonymously. Some of their consultancy events, like the KöZöld Forum, are regularly organized. Also, the office share experiences with large facilities like hospitals of the district on the experiences of SECAP implementation.
Extra regional impact	Their extra-regional impact is provided by the successful international co-operations: ● Health&Greenspace as Lead Partner in URBACT-APN (2019-2022) - health-responsive green space planning and management ● BeePathNet as Project Partner in URBACT-TN (2018-2021) – urban-beekeeping, biodiversity, educational programmes ● Urban GreenUP as Associated Partner in Horizon2020 (2020-) – nature-based solutions ● UGB as Lead Partner in Interreg-CE (2016-2019) – green space management using GIS, and participatory approach ● TOGETHER as Project Partner in Interreg-CE (2016-2019) – increasing public building energy efficiency with soft solutions These projects provide possibility to invite foreign, recognized speakers for awareness raising events, and set up networks such as BeePathNet. On the other hand, they share their green space management experiences and citizen involvement approach with their partners.
Quality	Needs and feedbacks of the residents is regularly analyzed by surveys. The priorities of different ecosystem problems are set by also considering these feedbacks. This process increases the satisfaction of the inhabitants. The office involves external experts for different specific tasks. The quality of their work is ensured as their contributions were already evaluated in previous co-operations. By now, the office has been able to build a reliable pool of experts. The outstanding quality of their work is underpinned by the many contact requests they receive, to share their experiences with other Hungarian districts and settlements.

Potential for learning or transfer	Other regions might learn from the composition of the team, that is composed of enthusiastic members with diverse qualifications and skills. The size of the office may vary from city to city - 9 employees are not initially required. As the workload increases, the size of the office can be slowly increased by involving new financial resources and projects. However, it is very important to employ staff members, who have a deep knowledge on the district/area. This is important on one hand for the preparation of decisions, on the other hand it increases the creditability of the office. The office needs to put special emphasis on day-to-day communication with the public, but it also needs to communicate regularly with the management of the municipality and other relevant departments to harmonize activities and create consensus for different interventions. Political will is inevitably important for the sound operation. It can be gained by introducing the sound communication with citizens, the successes of international co-operations, the integration of new approaches, and the prestige that was created in the past 5 years by the above-mentioned factors.
Further information	https://zold.hegyvidek.hu/about-us

Third prize winner of a contest of nature-based gardens for private garden owners.
Source: https://zold.hegyvidek.hu/

7. Rural-Urban Governance Arrangements and Planning Instruments - Community for Food and Agro-biodiversity

Garfagnana landscape of Toskana and an example of the agro-biodiversity heritage - variety of beans. Source: https://comunitadelcibo.it/

The Community for Food and Agro-biodiversity has been established in December 2017 in the mountainous area of Garfagnana, in the Province of Lucca, in the wake of the national Law no. 194/2015. This Law regulates the protection and valorisation of biodiversity of agriculture and food. The Food Community represents multi-actor, cross-sectoral and network governance arrangement. The Law is intended for the coordination of public and private initiatives already in place, as well as the promotion of new projects for conservation and valorisation of local agro-biodiversity. A relatively isolated localisation of the territory of Garfagnana, enclosed between two mountain ranges (Apuan Alps and Appennine), has given a rise to high biodiversity and a community strong sense of identity. On this basis, the Food Community has been established as the natural further step of a path that local actors – the Union of Municipalities and Custodian Farmers in the first place – have started several decades ago.

Good practice general information	
Title of the practice	**Rural-Urban Governance Arrangements and Planning Instruments - Community for Food and Agro-biodiversity**
Organisation in charge of the good practice	**Community for Food and Agro-biodiversity of Garfagnana**
Description	
Short summary of the practice	The Community for Food and Agro-biodiversity has been established in December 2017 in the mountainous area of Garfagnana, in the Province of Lucca, in the wake of the national Law no. 194/2015. This Law regulates the protection and

	valorisation of biodiversity of agriculture and food. The Food Community represents multi-actor, cross-sectoral and network governance arrangement. The Law is intended for the coordination of public and private initiatives already in place, as well as the promotion of new projects for conservation and valorisation of local agro-biodiversity. A relatively isolated localisation of the territory of Garfagnana, enclosed between two mountain ranges (Apuan Alps and Appennine), has given a rise to high biodiversity and a community strong sense of identity. On this basis, the Food Community has been established as the natural further step of a path that local actors – the Union of Municipalities and Custodian Farmers in the first place – have started several decades ago.
Category of the good practice	Sustainability instruments
Resources needed	Please specify the amount of funding/financial resources used and/or the human resources required to set up and to run the practice.
Timescale (start/end date)	December 2017 – ongoing
Strategic relevance (long term impact)	A rich variety of rare and local varieties of crops, livestock, and micro-organisms to be protected constitutes the agro-biodiversity heritage of Garfagnana. The main challenge for the local community, given the economic opportunities potentially presented by a valuable valorisation of such resources. For this purpose, the Regional Law No 64, 2004, concerning the protection and conservation of agro-biodiversity, has set the ground for the creation of a network of Custodian Farmers and the foundation of the Germplasm Bank for ex-situ conservation of local species. Currently, the local gene Bank collection includes 28 herbaceous varieties, 185 traditional fruit varieties and 50 vines, whereas 38 Custodian Farmers are in the operation in this area of the Province of Lucca. The National Law no. 194/2015 establishes, besides already mentioned Germplasm Banks and Food Communities, the National Registry of agro-biodiversity, the National Network of agro-biodiversity and routes/itineraries for the promotion and valorisation of biodiversity of agricultural and food interest.
Evidence of success (results achieved)	Following the Regional Law 50/97 on the protection of native germplasm which provides for the establishment of a regional conservation and safety system, it was established in 2008 at the "La Piana" center in Camporgiano, an agro-forestry nursery managed by Association of Municipalities of Garfagnana, the local branch of the regional germplasm bank for the ex situ conservation of the ancient varieties collected. To date, the bank conserves the seeds of 28 herbaceous varieties (cereals,

	vegetables, legumes), and, in special collection fields, 185 varieties of ancient fruits and over 50 local vines. The Union of Municipalities of Garfagnana boasts a large group of 38 Guardian Growers, spread throughout the territory, which represent a defence for biodiversity and a very significant relational network. The establishment of a Community of food and biodiversity of agricultural and alimentary interest (envisaged by Law 194/2015) is a further and natural step forward. It is identified as an innovative path potentially capable of re-enhancing, and therefore making it economically sustainable, small and very small productions with a high traditional and identity value, which otherwise risk gradually disappearing.
Tangibility	The Community for Food and Agro-biodiversity in Garfagnana has been established in December 2017 and several commitments between local stakeholders have been concluded. Starting from the creation of a discussion space with the Identification of actors to be involved, the Community has agreed in shared values and objectives through the establishment of the Chart of the Community. The following step has been the enlargement of the alliance as the Community has opened up to the territory with the signature of the Pact for the Land in which local authorities and institutions, agricultural associations and other national associations are involved. As a result, the Strategic Plan for 2018-2020 has translated objectives into actions.
Durability	For the years 2018-2020, the Strategic Plan of the Community for Food and Agro-biodiversity aims at: • enhancing knowledge on local agro-biodiversity through its network; • reinforcing the network for conservation and valorisation of local agro-biodiversity. • providing marketing opportunities for local agro-biodiverse products.
Visibility	One of the main objectives of the Strategic Plan is to provide marketing opportunities for local agro-biodiverse products. The visibility of the Community for Food and Agro-biodiversity is ensured also via the communication activities of the Rural Development Plan of the Tuscany Region.
Added Value:	The Community for Food and Agrobiodiversity is: - a key element for supporting ecosystem services provision through maintenance and dissemination of historical and cultural values of agricultural biodiversity, local knowledge and traditions; - an opportunity to set up new farm enterprises, more aware of the necessity to develop multifunctional, more resilient models of farms; - to reconnect local production with local consumption to get it out as a "niche" dimension because the agro-biodiversity products are

	still largely perceived – if known – as either expensive or for tourists.
Effectiveness	Communities for Food are a rather recent and innovative governance arrangement; as such, a comprehensive assessment of their effectiveness and implications is not available yet. However, several positive elements encourage its operation around Garfagnana. The growth of tourism, in the first place, which is mainly rural and nature tourism. Excursionists, rural tourists, and more responsible tourists, in general, are willing to engage with the local production – to consume and buy local products, to get a sense of the place but also have the aim of supporting a local economy. The second interconnected element is the reputation of this territory, which is based on nature and authenticity. Thirdly, financial resources linked to specific territorial policies (Rural Development Plan, Leader program, Inner Areas) have specific incentives for new locality models able to improve the quality of life in small towns.
Innovation	The importance of agro-biodiversity encompasses socio-cultural, economic and environmental elements. A deeply rooted connection between agriculture, food and culture permeates the territory of Garfagnana, where the constitution of the Community for Food has been anticipated and facilitated by a long-term presence of relations among a broad range of local actors. Local communities' attachment to traditions and local gastronomy within this area also underpins the central role assigned to the protection of agro-biodiversity. The role of social innovation, interpreted as the ability to facilitate stakeholders' interaction at different levels, is crucial to understand the development of a "new locality" space inspired by the Food Community. In addition, a role of the ICT is fundamental to make the system more efficient and effective (procurement logistics, cooperation methods, transfer of technical knowledge and problem solving, dissemination of services, etc.).
Efficiency	General aims of the Food Community are to promote studies on agro-biodiversity and raise awareness on the role that agro-biodiversity might play as a pivotal element of traditional local culture. In addition, the Food Community aims at encouraging the creation of networks of small producers, processors and retailers within ad hoc short food supply chains intended for the valorisation of such local products.
Externality	The Community puts forth action and actors with relative instruments and competences – encompassing tourism, culture, education and training, food services.
Intra-regional coordination	The path towards the creation of the Community requires a strong intra-regional coordination between various stakeholders involved. Different steps required to establish the Community from the establishment of the Chart of the Community to the Pact

	for the Land and the Strategic Plan are based on the involvement of Custodian Farmers, the food chain's operators and civil society organisations working on food and agro-biodiversity, as well as public bodies and institutions, farmers' unions and other national organisations. The Tuscany Region is also highly involved in this process which is strongly supported by the Rural Development Plan. On December 2017, there were 54 subscribers of the Chart of the Community, when the Food Community was set up.
Extra regional impact	Being rather recent and innovative governance arrangement, this good practice doesn't have any extra regional impact yet.
Quality	The creation of Food Communities is a key element for supporting ecosystem services provision through maintenance and dissemination of historical and cultural values of agricultural biodiversity, local knowledge, and traditions. In addition, it represents an opportunity to set up new farm enterprises being more aware of the necessity to develop multifunctional, more resilient models of farms. Reconnecting with local consumption is also crucial for this model of production to go beyond its "niche" dimension. Agro-biodiversity products are still largely perceived as either expensive or made for tourists.
Potential for learning or transfer	This good practice has been identified as an innovative path potentially capable of re-enhancing, and, therefore, making it economically sustainable, small, and very small productions with highly traditional and identical value, which otherwise has a risk to disappear gradually. Several positive elements encourage their operation around Garfagnana and could be as well factors to be taken into consideration for the transfer and scalability of this experience in other EU regions. Among them, one element to be mentioned is the growth of tourism, which is mainly rural and nature tourism. Another element is the presence of territories having a high reputation in terms of nature and authenticity. Thirdly, financial resources linked to specific territorial policies are needed to provide specific incentives for new locality models able to improve the quality of life in small towns.
Further information	Sismondi Rural Studies Laboratory (2017). Food and biodiversity community planning manual of agricultural and alimentary interest, available online at http://germoplasma.arsia.toscana.it/Download/Manuale%20Comunita%20Cibo.pdf