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GIFT

Advancing Multifunctional Green Infrastructure in Europe

Integrating Policy, Implementation, and Monitoring for Sustainable Biodiversity and Climate Resilience

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GIFT purpose and what we delivered

GIFT advances the Interreg Europe goal

GIFT advances the Interreg Europe goal of a greener Europe by integrating forests and trees into multifunctional green infrastructure policy

Project structure and methodology

The project is structured as interregional policy learning using meetings, stakeholder groups, peer reviews, and adaptation of the GI Policy Assessment Tool

Peer Review outcomes

Peer Reviews across eight partner territories produced recommendations aimed at improving policy instruments and supporting follow-up monitoring

How the Peer Review process worked

1. Preparation of Policy Challenge Context

Each host region prepared a policy challenge context for external expert review

2. Expert Combination of Learning and Assessment

Peer Review experts combined cross-partner learning with place-specific assessment and triangulated recommendations

3. Outputs of the Peer Review

Outputs included practical guidance and transfer of approaches for implementation and monitoring

4. Follow-up Phase Focus

The follow-up phase focuses on tracking policy improvements and territorial effects

Emerging project-level results

Diverse place-specific assessments

Eight place-specific assessments covered diverse policy instruments and implementation contexts

Shared implementation logic developed

A shared implementation logic was developed: map and assess, set objectives, involve stakeholders, integrate across sectors, implement, monitor, evaluate, adapt

Stronger linkage between GI and implementation

Stronger linkage between GI and practical implementation emerged, including municipal capacity, funding, landowner incentives, legal status, maintenance, and monitoring

Peer Reviews at a glance: partners and main challenges (1)

Partner region	Main policy challenge	Improvement direction
Galicja (Spain)	GI in landscape protection and AEIP/Action Plans	Connectivity, monitoring, operationalisation, participation, incentives
Fryslân (Netherlands)	Implementation of Forest and Tree Strategy	Parcel-level GIS/action, early landowner involvement, implementation stocktake
Zagreb (Croatia)	Monitoring of urban forest ecology	Permanent standardized monitoring, indicator species, long-term comparison

Peer Reviews at a glance: partners and main challenges (2)

Partner region	Main policy challenge	Improvement direction
Saxony/Leipzig (Germany)	Biodiversity Programme implementation and monitoring	Clear indicators, connectivity, restoration, financing, results-oriented monitoring
Rimini (Italy)	Implementing GI components of the PTAV	Baselines and targets, municipal support, biodiversity quality, maintenance budgets, incentives
Flanders (Belgium)	Bocage stewardship and GIS decision support	Economic viability, interoperable GIS, iterative review, end-user testing

Peer Reviews at a glance: partners and main challenges (3)

Partner region	Main policy challenge	Improvement direction
Kranj/Gorenjska (Slovenia)	Green systems and standards in spatial planning	Participation, sociotope mapping, measurable indicators, PDCA monitoring
Västra Götaland/Alingsås (Sweden)	Regional GI action plan to municipal tree/woodland policy	Legitimacy, ownership, earlier transparent participation, trusted intermediaries
Cross-case	From GI recognition to implementation	Operationalisation through connectivity, mapping, participation, financing, capacity, monitoring

Main feature & result: Galicia (Spain) — multifunctional landscape management

Integration into Landscape Law

GI is integrated into the Landscape Law implementation, especially AEIP methodology and Landscape Action Plans

Ecological Connectivity Importance

Ecological connectivity is treated as a fundamental component of both GI and landscape policy, not a side issue

Operational Recommendations

Practical operational recommendations include participatory updates, GIS layers linking biodiversity hotspots and cultural heritage, riparian vegetation mapping, and possible ecosystem-service payment mechanisms

Main feature & result: Fryslân (Netherlands) — bridging strategy and spatial implementation

Gap in Strategy and Implementation

The Forest and Tree Strategy is ambitious, but the review identifies a gap between strategic ambition and parcel-level GIS/action

Importance of Dialogue and Early Involvement

Dialogue is positioned as necessary but must produce concrete action points and management agreements with early landowner involvement

Clarifying the Planning Gap

A planning gap is clarified: GIS supports evidence, but does not by itself establish an ecological network concept, priority areas, sequencing, or trade-offs

Main feature & result: Zagreb (Croatia) — building evidence before evaluating policy

Focus on Ecological Assessment Methodology

The focus is ecological assessment methodology for Maksimir Park and a longer-term monitoring system for Zagreb's urban forest biodiversity

Recommendations for Monitoring Enhancement

Reviewers recommend increasing the number of plots and recording indicator/protected species, forest structure, tree health, and abiotic factors systematically

Importance of Long-Term Monitoring

A key lesson is that short-term assessment can set a baseline but cannot demonstrate trends; monitoring should follow a stable long-term protocol with periodic methodological review

Main feature & result: Saxony/Leipzig (Germany) — from strategic commitment to demonstrable implementation

Recognition of the Biodiversity Programme

The Biodiversity Programme is recognized for bottom-up initiatives and for connecting ecological, economic, and social dimensions

Review Highlights for Improvement

The review calls for stronger measurable implementation, habitat connectivity attention, coordination, and financing

Emphasis on Effectiveness Monitoring

Effectiveness monitoring is emphasized, including clearer indicators and monitoring that demonstrates results rather than only confirming that measures started

Main feature & result: Rimini (Italy) — making a broad territorial plan implementable

Integration of PTAV with broader urban strategies

The Wide Area Territorial Plan (PTAV) links GI to climate adaptation, ecosystem services, circular urban metabolism, public space, soft mobility, and municipal planning

Complexity in GI implementation

The review finds GI is broad and implementation is complex, with insufficient specification of desired habitat types and attention to objective conflicts

Quality versus quantity in biodiversity improvement

A central distinction is quality versus quantity: biodiversity improvement requires structural quality, species diversity, invasive-species control, maintenance, and resilience—supported by baselines and measurable goals

Main feature & result: Flanders (Belgium) — stewardship and GIS decision support

Review Focus

The review addresses voluntary stewardship for the Bocage cultural landscape alongside development of a GIS-supported assessment framework

Local Cooperation and Economic Viability

Strong local cooperation and trust are highlighted, while long-term economic viability is identified as a vulnerability if rural activity is not sustainable

Recommendations for GIS Tool

For the GIS tool, the recommendations include interoperability with existing spatial-data infrastructures, careful variable/scale selection, end-user identification, beta testing, long-term maintenance planning, and avoiding vendor lock-in

Main feature & result: Kranj/Gorenjska (Slovenia) — ecological and social values in planning

Advanced green systems and standards

Green systems and green standards are advanced within spatial planning, supported by strong technical foundations and existing mapping and policy integration work

Principal recommendation for participation

The principal recommendation is to complement technical definitions with participation so residents, politicians, businesses, and stakeholders develop ownership

Sociotope mapping and PDCA monitoring

Sociotope mapping is proposed to spatialize how green spaces are used and valued, while PDCA monitoring links indicators to measurable policy objectives

Main feature & result: Västra Götaland/Alingsås (Sweden) — the last mile of trust and communication

Translation of Regional Action into Municipal Policy

A regional GI action plan is translated into municipal tree and woodland policy across two governance levels

Focus on Trust and Communication Over Technical Design

The policy basis is considered strong, but recommendations focus on trust, communication, and stakeholder involvement rather than additional technical design

Key Strategies for Effective Implementation

Credible facilitators, early transparent communication, field visits and visual storytelling, and ensuring dialogue genuinely influences decisions are emphasized

Cross-country finding: operationalisation is the shared challenge

Policy Ambition vs Implementation Gap

Across nearly all partners, the weakness lies between policy ambition and implementation rather than in recognizing GI itself

Various Forms of the Implementation Gap

The gap appears in different forms: strategy-to-GIS, strategy-to-implementation, plan-to-municipality, definitions-to-standards, and landscape concepts-to-operational AEIP methodology

Key Factors for Effective Implementation

Effective implementation repeatedly depends on ecological connectivity, measurable objectives, spatial mapping, stakeholder participation, sufficient financing, institutional capacity, and long-term monitoring linked to policy adaptation

Cross-country finding: mapping, governance, and evidence

Limitations of GIS and Spatial Data

GIS and spatial data are indispensable as support tools, but cannot replace governance decisions, target setting, negotiation, or legitimacy building

Requirements for Digital Tools

Digital tools require an overarching ecological and policy concept, interoperable data, identified end users, institutional ownership, and regular updating

Improvements Needed in Monitoring

Monitoring must shift from activity reporting to policy-effect evaluation, including baselines, standardized repeated observations, and effectiveness indicators

Cross-country finding: quality, connectivity, and economic viability

Connectivity as a Structural Principle

Connectivity is a structural principle across cases, from explicit ecological connectivity in Galicia and Fryslân to green-system mapping needs in Kranj and urban-forest system understanding in Zagreb

Quality and Diversity Beyond Tree Numbers

Increasing tree numbers or green-space area alone does not guarantee biodiversity outcomes; quality, connectivity, species diversity, maintenance, accessibility, and resilience matter

Economic Models for Green Infrastructure

Several cases show GI requires an explicit economic model, including ecosystem-service incentives, stewardship viability, advisory support for private owners, and compatible rural economic activity

The GIFT policy-maturity model: six stages of progress

Stage 1: Conceptual and regulatory integration (Galicia)

Stage 1 represents the foundational conceptual and regulatory integration, exemplified by Galicia, setting the base for maturity progression.

Stage 2: Strategic policy formulation (Saxony, Fryslân)

Stage 2 focuses on formulating strategic policies, as seen in Saxony and Fryslân, to establish clear directions for development.

Stage 3: Spatial operationalisation (Rimini, Kranj)

Stage 3 marks the operationalisation of strategies in spatial terms, with Rimini and Kranj as key examples of this stage.

Stage 4: Implementation tools and incentives (Flanders, Rimini, Galicia)

Stage 4 emphasizes the development and use of implementation tools and incentives, demonstrated by Flanders, Rimini, and Galicia.

Stages 5–6: Monitoring/evaluation and local institutionalisation (Zagreb, Kranj, Alingsås)

The uppermost stages 5 and 6 involve monitoring, evaluation, and local institutionalisation, with examples including Zagreb, Kranj, and Alingsås.

Stage 1 — Conceptual and regulatory integration

Embed GI in legislation and management

Embed GI in landscape legislation and management concepts so multifunctional values are structurally supported

Operationalize GI through landscape methodologies

Operationalize GI through landscape-methodology components such as AEIP identification and Landscape Action Plan preparation

Prioritize ecological connectivity

Treat ecological connectivity as a core element of landscape policy to avoid conservation-by-isolation

Stage 2 — Strategic policy formulation

Starting Point with Broad Strategies

Use broad forest and biodiversity strategies as the starting point, while planning implementation mechanisms early

Strengthening Key Elements

Strengthen coordination, finance, and effectiveness monitoring to translate commitment into action

Concrete Management Focus

Ensure the strategy leads to concrete management agreements rather than remaining a high-level vision

Stage 3 — Spatial operationalisation

Embed GI into territorial and spatial planning

Embed GI into territorial and spatial planning using standards, baselines, and measurable goals

Build an intermediate spatial/conceptual plan

Build an intermediate spatial/conceptual plan so GIS displays evidence but also supports priority-setting and sequencing

Define desired habitat types and clarify conflicts

Define desired habitat types and clarify conflicts among objectives to make broad plans implementable

Stage 4 — Implementation tools and incentives

Enable Implementation with Stewardship and Incentives

Use stewardship instruments, GIS decision support, and ecosystem-service incentives to enable implementation

Design for Usability and Maintenance

Design tools for interoperability, long-term maintenance, and end-user testing to ensure practical usability

Provide Advisory Support

Provide municipal and private-owner advisory support where capacity and economic incentives are insufficient

Stage 5 — Monitoring and policy evaluation

Establish stable long-term monitoring

Establish stable long-term monitoring protocols with repeated standardized observations

Link indicators to policy objectives

Link indicators to measurable policy objectives and evaluate trends rather than only recording activities

Avoid premature aggregation

Avoid premature aggregation into single ecological scores before monitoring parameters are validated

Stage 6 — Local institutionalisation and legitimacy

Convert ambitions into local policy

Convert regional ambitions into locally owned policy through continuous communication and genuine dialogue

Build ownership with trusted methods

Build ownership using trusted intermediaries, early transparency, and visual storytelling supported by field visits

Participation influences decisions

Ensure participation produces influence on decisions so implementation actors understand goals and limitations

Consolidated GIFT policy recommendations

Develop Spatially Explicit GI Concept

Develop a spatially explicit GI concept at the right territorial scale and define measurable objectives before implementation

Prioritise Connectivity and Stakeholder Involvement

Prioritise ecological connectivity and habitat quality, integrate GI across sectors and governance levels, and involve stakeholders early

Utilise GIS and Adaptive Management

Use GIS as evidence and coordination support with interoperable tools, establish stable monitoring, budget for maintenance, and apply adaptive management

Overall assessment: what GIFT proves

GIFT's Demonstration of Green Infrastructure

GIFT demonstrates how multifunctional green infrastructure can move from a broad European concept into region-specific policy instruments and mechanisms

The Strongest Transferable Outcome

The strongest transferable outcome is a shared governance model combining spatial integration, sectoral integration, institutional integration, and temporal integration from baseline to adaptation

Role of the Peer Review Process

The Peer Review process is positioned as a practical contribution to implementing European biodiversity, nature restoration, and climate-resilience policy

Conclusions & summary

Operationalisation is the central cross-country gap

GI recognition must become implementation through connectivity, mapping, measurable objectives, participation, financing, capacity, and long-term monitoring

GIS and data are necessary but governance is decisive

Tools need ecological concepts, interoperability, end-user definition, and institutional ownership

Better biodiversity outcomes depend on quality, connectivity, and resilience

Supported by explicit economic models and maintenance budgeting

Thank you for attention!

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