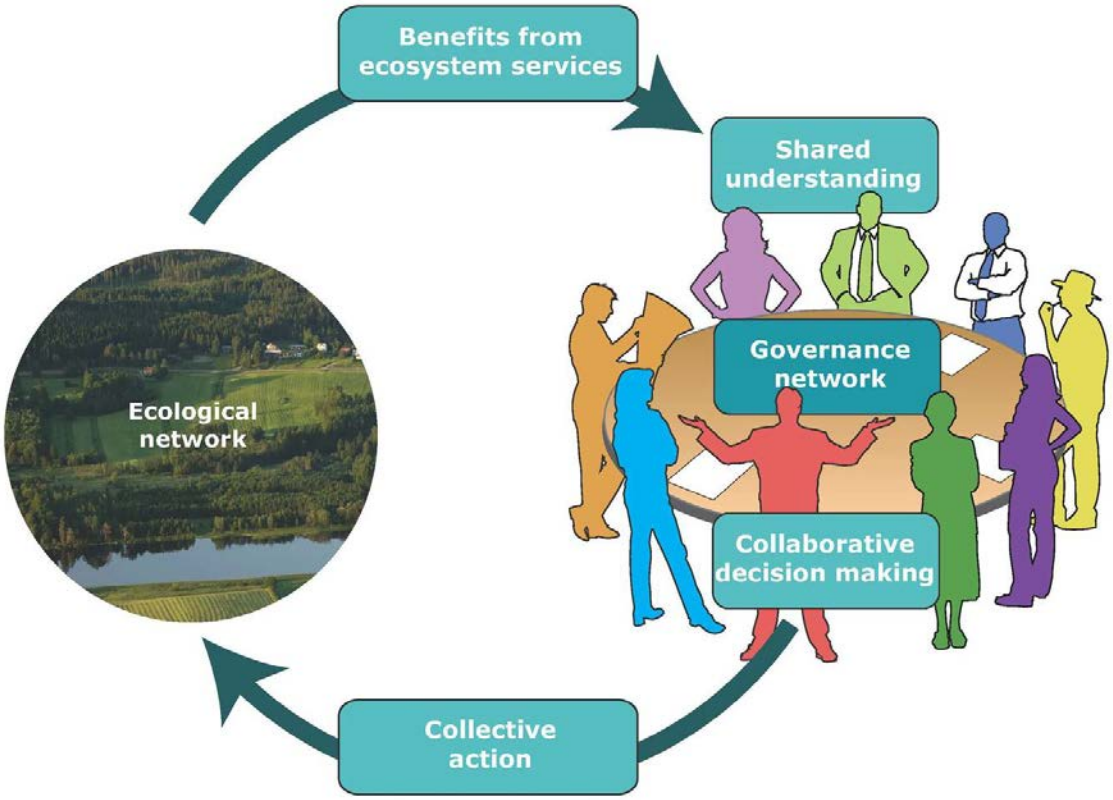
GIFT-T!
Green Infrastructure For Tomorrow - Together!

GIFT-T! learning:

the final WP1 report



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This report synthesizes the learning achievements of the GIFT-T! project to inform governmental staff, professional landscape planners and mediators in participatory planning, as well as members of social networks engaged in Green Infrastructure planning practice (GIFT-T! output 1.3.2).

*The emphasis here is on what we have learned as the essence of the GIFT-T! approach. Here you read **why** you may want to apply our method. **How** to apply it in your case, you are able to learn in the interactive manual and tools presented at the GIFT-T! website www.gift-t.eu.*

This report captures the intensive exchange of experiences and deliberations in the GIFT-T! partner team, as we went through applications of the prototype approach in our five case studies. All members of the team contributed to the content. Ingrid Coninx conducted the interviews for chapter six.

This is the final report of GIFT-T! Work Package 1.

Alterra, Wageningen, July 2015

Contents

1. What did the GIFT-T! project aim to achieve?

Contributing to implementing sustainable growth in local areas

As stated in the Lisbon and Gothenburg Strategies, the European Union wants to grow prosperity within a context of sustainability. The Lisbon strategy promotes the territory as "the most competitive and dynamic knowledge-based economy in the world". An important challenge is to ensure the sustainable use of environmental resources for long term benefits delivered by ecosystem services. The EU developed a strategy based on fostering Green Infrastructure to provide these services. Green Infrastructure is a broad concept, which includes both protected areas (e.g. Natura 2000 areas) and networks of landscape elements in multifunctional landscapes which are owned and used by a variety of stakeholders. We focus on developing *Green Infrastructure* in such multifunctional landscapes, including rural, urban and peri-urban landscapes. These stakeholders vary in their environmental attitude, they vary in how they frame sustainability, they vary in how they interfere with and depend on the landscape in which they live and work.

Therefore, this EU policy needs to be implemented through *coordinated action on the local level.* EU research groups found that progress in achieving the Lisbon strategy was challenged due to poor coordination and by conflicting priorities. The intention of the GIFT-T! project has been to align seemingly conflicting priorities between prosperity, strong communities and environmental health, between private and collective interests, and between national and local level.

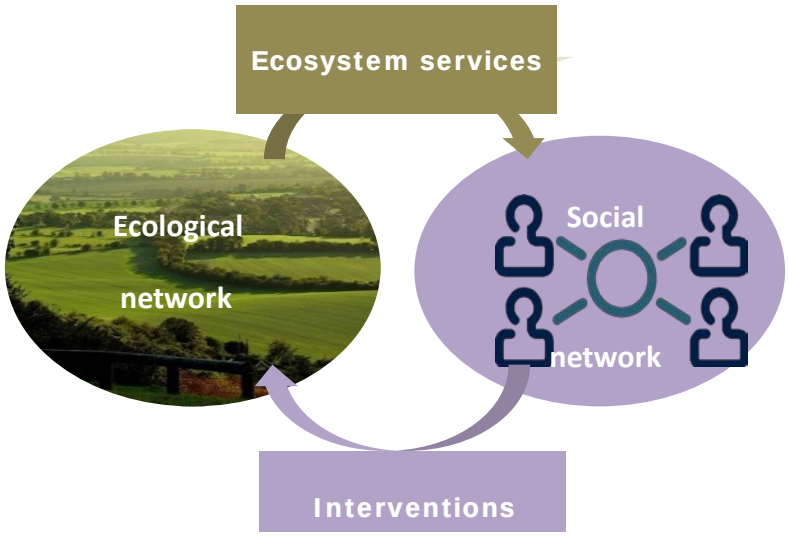
GIFT-T! aims to achieve this by offering an approach to assist communities to foster their living environment, based on the interactive development of social and ecological networks. GIFT-T! has addressed this territorial challenge of contributing to *sustainable development* by testing and developing the approach on real life transnational case studies across NW Europe. GIFT-T!'s actions focus on new ways of engaging with local and regional stakeholders. We learned how the GIFT-T! approach could assist social networks in understanding how the properties of the ecological networks (further called green infrastructure), which determine the provision of landscape benefits to humans, can be adjusted and reshaped to meet future economic and social demands and environmental challenges, including climate change.

Transnational cooperation was central to our work, as we recognized the variety of planning cultures, land use patterns and economic drivers across NW Europe. As a team, we assembled a comprehensive prototype method from building blocks already available with the partners, and improved this prototype by applying it in our real life case study areas. Because the five case study areas encompass a gradient of developed to undeveloped land, and also a variety of planning systems and protocols, we propose that what we learn about the effectiveness and impact of our method will ensure that the final method is robust enough to apply in landscape governance across NW Europe.

2. Social learning, the essence of community-based Green Infrastructure Planning

Planning of Green Infrastructure (GI) with the aim to generate benefits from the landscape is as solving a complex problem. It involves a variety of actors with different values and mind sets, and different visions on problems and solutions. In science there is growing consensus that for solving such complex problems, creating partnerships between governments and local communities is more effective than a strategy based on hierarchical governance. Making use of local knowledge and high levels of involvement of local communities appear to result in more sustainable solutions. New concepts of environmental management have been proposed in which governments and stakeholder networks go through a common learning process, e.g. adaptive co-governance, landscape governance, and community based landscape planning. These concepts make use of emerging interdisciplinary theory, such as social-ecological systems.

In GIFT-T! we develop a practical approach based on this theory. The landscape is considered as the result of the interaction between humans and nature. We see the GI as the physical part of the system, providing to the social system benefits that result from the functioning of landscapes (ecosystem services). If actors in the social system perceive these benefits as valuable, they may decide to improve the GI to create more value. This decision making process is thought to start with exchange of information about landscape benefits and the conditions they require, followed by a common process of determining a need for added value, resulting in a decision to adapt the landscape. We see both the GI and the social system as networks, systems consisting of interacting functional units (landscape elements or actors) with a spatial structure. The GI network and the social network are interdependent to create a social-ecological network.



As both ecological and social changes take a long time, planning GI for landscape benefits is navigating for the right direction rather than a pre-set pathway towards a fixed goal. A method to support such a navigating process should therefore aim for an adaptive method that fosters the formation of social networks and their capacity to learn.

GIFT-T! is based on co-governance

Governance scientists distinguish three types of governance: hierarchical (state-led) governance, co-governance and self-governance. The latter two governance models are considered to deal better with the complexity of managing the environment. In *co-governance*, local actors communicate, collaborate and co-operate without a dominating public actor. The government and users share responsibility and make arrangements about how to cooperate. For example, this may take the shape of a public-private partnership. In *self-governance*, local communities govern themselves independently of the higher level instances, but taking into account laws and rules.

GIFT-T! aims to empower local communities in governing their landscape without a strong hierarchical role of the government. Therefore, GIFT-T! deviates from conventional practices in developing green infrastructure in the following points:

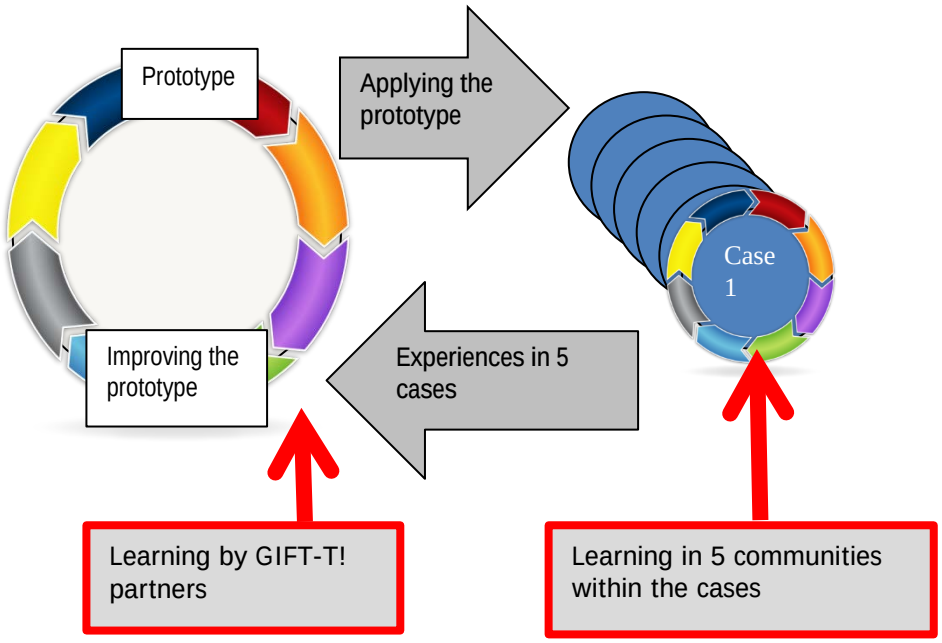
- GIFT-T! considers green infrastructure as an ecological network that has a mutual and spatially explicit relationship with the social network of land owners and land users. Hence, development is key, rather than protective rules.
- GIFT-T! does not take current policy measures as a context. Instead, we seek for measures that can be taken at the local level, by engaged citizens, entrepreneurs and companies, in collaboration with local and regional governments. Hence, GIFT-T! seeks to promotes creativity and responsibility among actors and a willingness to cooperate at the landscape level.
- GIFT-T! is opportunity-oriented rather than problem oriented. We focus on opportunities to create solutions that are rooted in social-ecological systems.
- GIFT-T! does not seek for a generalized science-driven method and toolbox, but rather aims to offer a method and tools that stimulate social-learning. Key is to incorporate local knowledge, to create ownership and be flexible to the specific context of an area.
- GIFT-T! assumes that value of ecosystems services has more aspects than economic value. We distinguish social-cultural and sustainability values as well.
- GIFT-T! generates non-governmental funding.

3. How GIFT-T! learning was organized

GIFT-T! learning occurred within the GIFT-T! partnership, but also in the social networks in the five case areas.

Learning by the GIFT-T! partners. The learning outcome is defined as the insight gained and improvements made with reference to the approach and tools partners had developed at the start of the project. The assemblage of all then available methods and tools is called *the prototype, d*escribed at the start of the GIFT-T! project. This description served as the reference-base for documenting improvements which we discovered to be necessary or advisable by applying the prototype. Learning developed if a partner applied an existing tool either in their own case area but in the new GIFT-T! context, or in the new physical and social-economic context of another case area. Furthermore, we learned as a group by commonly reflecting on experiences of individual partners, by analysing differences and similarities between cases, by placing observations by partners in a new shared context created as a group. The lead-partner had a key role by offering new perspectives and by asking questions that invited reflection. Chapters four and five of this report summarize the main learning points of the GIFT-T! partners.

Learning within the social networks of the case study areas entailed increased understanding and competence building in five local communities in Belgium (2), The Netherlands (1) and the United Kingdom (2). Groups of selected actors became aware of opportunities to use the natural systems in their living and working landscape in a sustainable human-nature interaction. They learned how to incorporate this awareness in their deliberations, decision-making, and individual and collective action. They learned to think in adaptive landscape management (where needs and wishes can be fostered) and became aware of their mutual interdependence. The result of this learning process found its expression in the local GI business plan. It is also nicely illustrated by two films with interviews (available on the GIFT-T! website) and in chapter six of this report.



How did we learn?

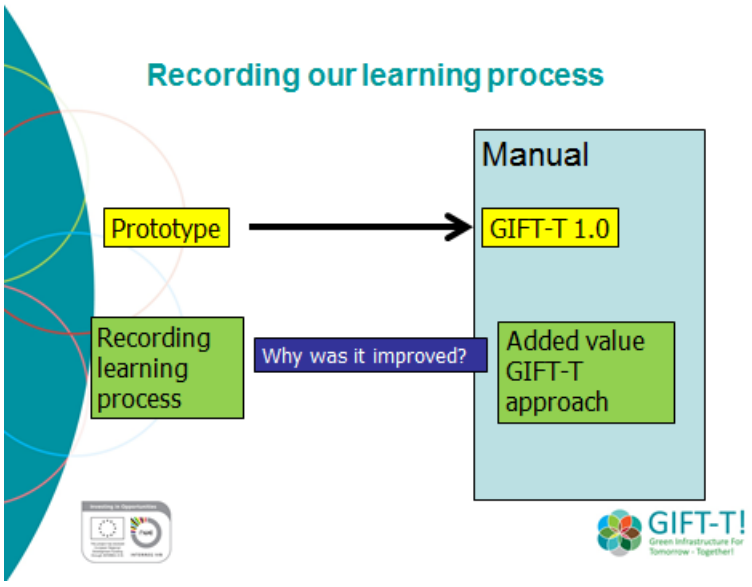
Main learning methods:

- *Applying the prototype*. We started off by describing the prototype method – and considered any deviation as a source of learning. Why was a new tool used instead of a tool from the prototype? Because conditions in the case differed from the conditions for which the tool had been developed? Because of application at another scale? Etc.

- *Reflexive monitoring* – aim focussed at process in case studies. A periodic session was held with each partner of the GIFT-T! partnership, asking reflective questions, aiming to understand if processes were on track toward the GIFT-T! goals and ambitions, aiming to understand difficulties and exploring potential solutions.

- *Cross-partner application of tools*. The lead partner aimed for creating opportunities for cross-partner cooperation in using tools, and recorded the findings about the usability of the tool in other areas.

- *GIFT-T! partner meetings* were used to evaluate progress in the different cases, to compare similarities and differences, and conclude about learning points leading to adaptations in the prototype or in its underlying assumptions.



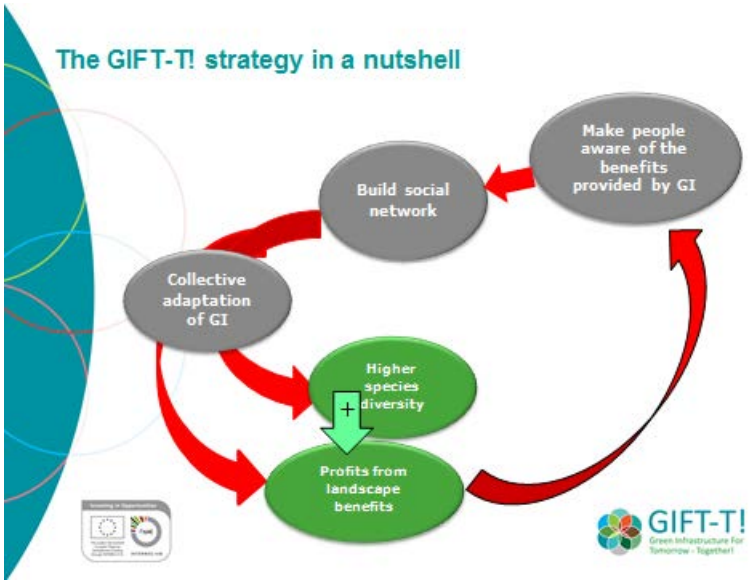
4. The 10 main learning points

1. GIFT-T! invokes transitions by social learning

Applying GIFT-T! implies rethinking of hierarchical Green Infrastructure planning in which the government has the lead. GIFT-T! stimulates collaborative relations between governments, companies and citizen groups by social learning.

The basic assumptions of GIFT-T! are far from common place. GIFT-T! frames the nature-human relationship as a social-ecological system. In this view owners and users of the landscape together benefit from natural processes concentrated within the Green Infrastructure. Within the social network, social learning leads to shared ownership, shared understanding and collaborative decision making. Subsequently, the GI is adapted to stimulate preferred benefits. We assume this also results in improved conditions for biodiversity, which is important for effective and reliable services. Feed-backs of gained improvements may stimulate social network growth and further adaptations in the GI.

- We see humans and nature as partners in a long term cooperation
- By consequence, governments, private companies and citizens need to play roles they are not used to
- Such a transition bears on visionary frontrunner groups. These groups need to convince actors in more conventional structures of the advantages of the proposed innovation
- Best practices and business cases are very helpful
- Obviously, a GIFT-T! transition takes more time than an INTERREG-project period. To mainstream the GIFT-T! approach, both companies and governments need an inside-company trajectory to test, to experiment, to learn. Time should be spend to do this.



2. The concepts Green Infrastructure and Ecosystems Services together build bridges between actors with widely different values and beliefs to work on a common future.

By putting these two concepts central, GIFT-T! creates an essential condition for collaboration. Togetherness: individual and common desires and values converge if actors become aware of the variety of benefits Green Infrastructure may provide. In a social learning process people with different backgrounds and attitudes towards nature and sustainability discover they share a common interest in developing Green Infrastructure. Each one for their own reason, but together they create common value for a sustainable future.

- The benefits of ecosystem services can be communicated in different ways – emphasising economic, social, sustainable use. Let the frame depend on the perception of the person you communicate with.
- The term "ecosystem service" is only understood by a selective type of actors (e.g. ecologically trained experts). Most people do not easily associate it with their own living environment. Use alternative terms such as landscape services, landscape benefits, landscape functions, etc.

Because a single Green Infrasructure potentially provides many ecosystem services, it is of interest to a wide variety of stakeholders differing in individual interests and views on the public domain. These stakeholders have therefore shared interests in adapting the Green Infrastructure.

3. The GIFT-T! approach distinguishes two inter-connected levels of spatial scale: local and regional

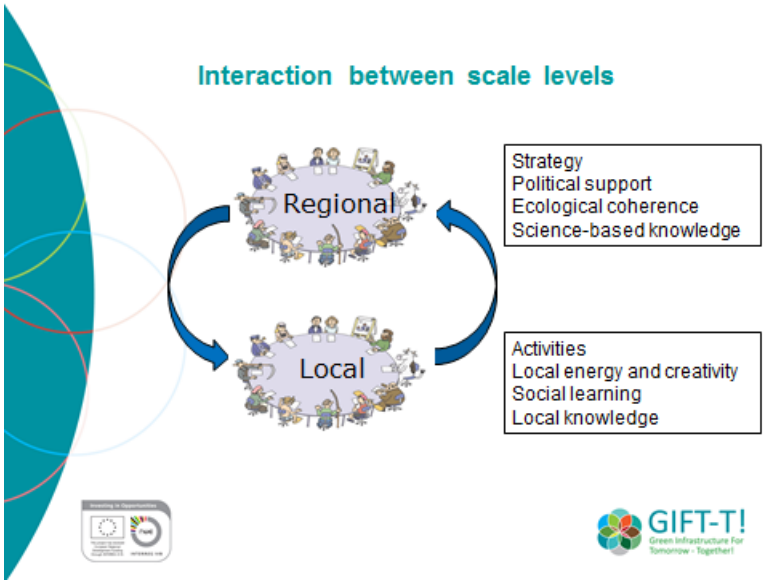
Both scales are pivotal to obtain sustainability, and so is their interaction.

The local scale is where most of the ownership is created among citizens, farmers, municipalities and enterprises, the focus here is enhancing collective action. At this level science-based information becomes salient and legitimate if connected to local knowledge and in the context of local values.

The regional scale is important for creating political support and finances, giving inspiration to local communities and ensuring spatial coherence (and thus ensuring biodiversity levels required for many ecosystem services). At this level science-based information entails environmental conditions and currently delivered services by the landscape. This information becomes salient and legitimate in the context of policy aims.

For effective and reliable choices about enhancing ecosystem services (ES) by GI, and for incorporating higher level policy targets, the two levels of spatial scale should be interconnected. GIFT-T! creates feedbacks between these two levels, by information flows to lower level processes, and by making visible what local level social and ecological processes contribute to regional scale coherence.

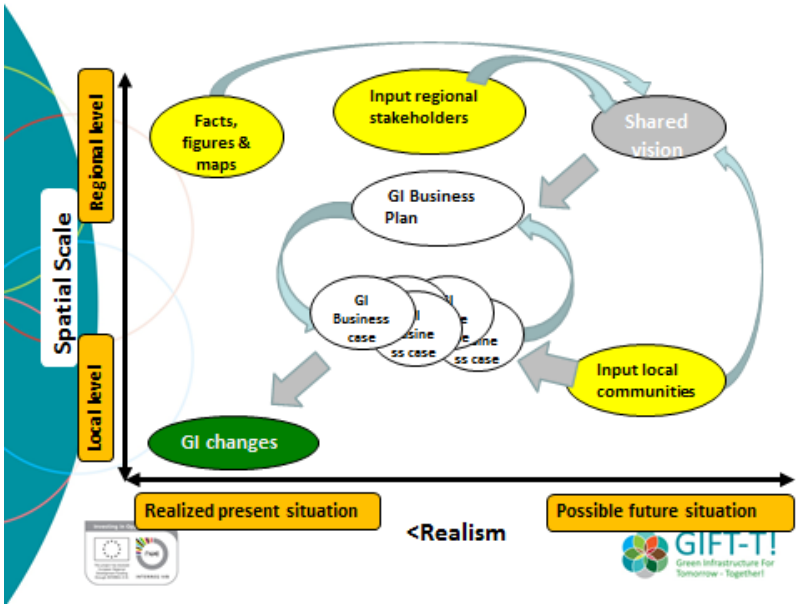
- Most benefits require extensive and well-connected GI. For example because the landscape functions which provide the benefits depend on species diversity for effectiveness and reliability. Therefore, to be effective, local activities need to contribute to a larger scale GI. In reverse, goal setting at the local level need to correspond with the regional ecological and social-economic context.
- Local governments need regional governments in order to get things done – to get resources and to initiate regional process.



4. Co-governance arrangements need to connect the regional and local scale level. Information flows facilitate the interaction between social and ecological processes at the two scale levels.

In organizing information flows to inspire lower level communities, there are trade-offs between ensuring well-informed decisions and the creation of ownership, creativity in finding solutions and self-governance. A way to mitigate this tension is to ensure that information flows can be combined with local knowledge and decisions can be amended by local preferences. In the GIFT-T! approach the interaction between the two scale levels is formalized in two related documents: the GI business plan (regional) and the GI business case (local). Such feed backs create a cyclic process.

- Information on landscape conditions related with the production of benefits often requires some professional background, or a professional bridging the gap.
- Without giving information as input in the planning process actors tend to overlook a number of potential services that they might be interested in for creating added value.
- A crucial characteristic of information to be acceptable and useful is that it connects common interests with individual interests. As the local community process is a negotiation process, it is important that information shows a range of options from which to choose, instead of showing a single way out.
- The larger and more diverse the area, the more difficult it gets to create engagement and ownership at the local level only by providing regional scale information. Online participatory processes are significant in developing support.
- GIFT-T! created an analytical tool for interpreting lower level GI adaptation in terms of improvements in the regional ecological network for indicator species. This information can be used to inspire additional local level efforts.

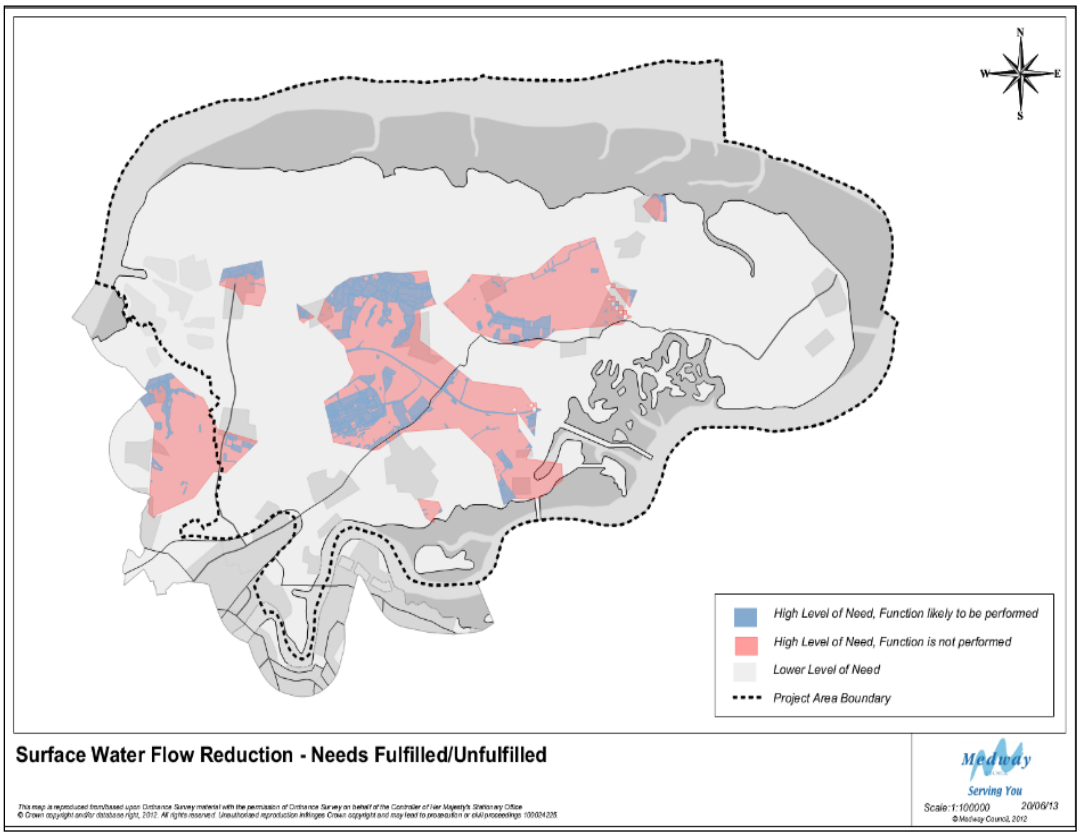


The GIFT-T! work process expressed in terms of the degree of realism (horizontal axis) and level of scale (vertical axis).

5. Tools link the scale levels

Tools most effectively match the participatory GIFT-T! process if they are flexible to incorporate local/regional knowledge and individual choices.

- Different scale levels have different tools.
- Mapping tools link the small world to the wider regional system. For example, maps can show where in the area benefits from the landscape can most effectively be enhanced by investing in GI. Also, a biodiversity connectivity scan informs local actor groups about collectively made progress and shows at the same time the best places to improve GI from a biodiversity perspective.
- Local best practices may be inspiring to other local groups and thus spread across the area.

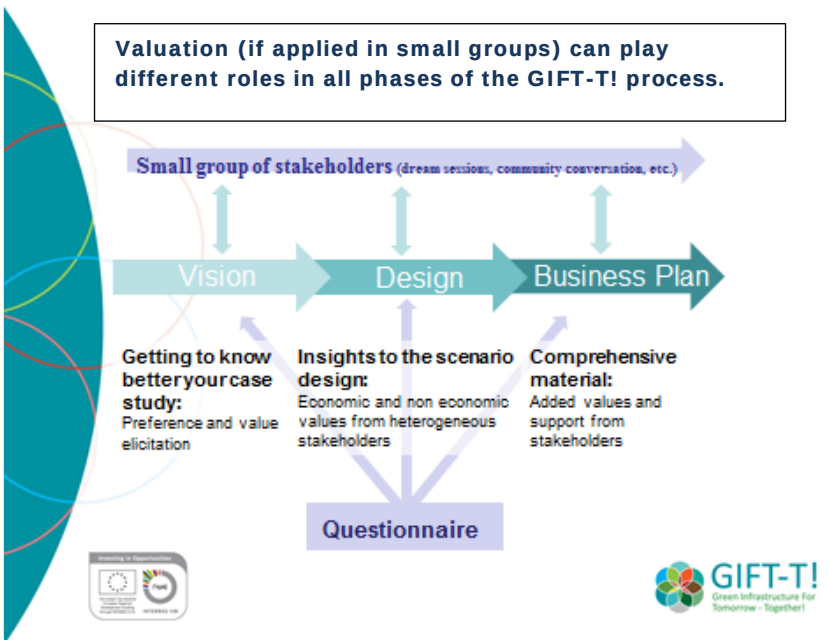


Map of Hoo peninsula indicating high levels of needs for the service of surface water flow reduction. Blue colour: service provided. Pink colour: service not provided.

6. GIFT-T! requires innovative valuation approaches

The ecosystem services valuation methods that are currently available in science are based on economic value and on pre-set generic algorithms. While monetary units are relevant for negotiation in networks of public authorities, they are of limited value to local level social networks. Actors in social networks appreciate landscape benefits for a variety of motives, including socio-cultural and sustainability motives. Moreover, generic algorithms about values attributed to GI are difficult to translate to individual interests, and therefore do not trigger action at the local scale. Current valuation methods have therefore limited value in building up social networks and fostering social learning and collaboration.

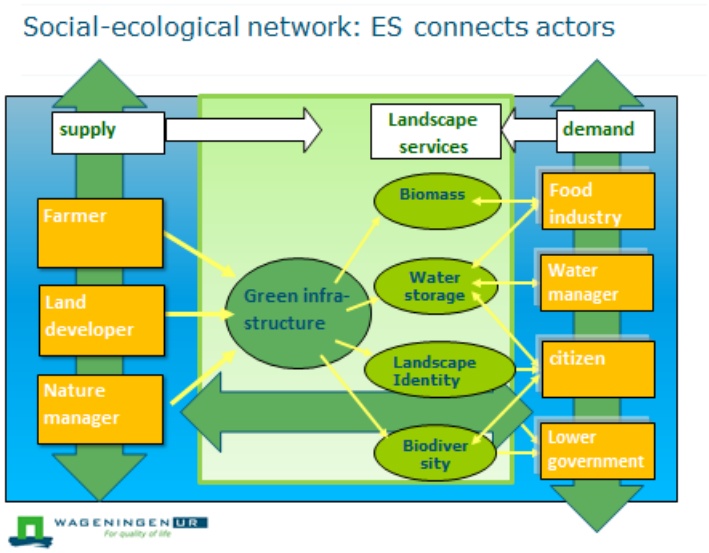
- Valuation contributes throughout all stages of the GIFT-T! approach. It may be used to harvest stakeholders' wishes and desires as input in vision building, to compare the value generated by designed scenario alternatives, or demonstrate that benefits of the proposed GI are worth its implementation.
- Valuation fosters engagement and investment from stakeholders by making explicit multiple benefits by an improved and sustainable use of the GI.
- Because humans do not make decision solely based on strict economical rational, we need a broader set of values to attract and engage a greater variety of stakeholders within the GI planning dialogue.
- Size of the area of which ecosystem services are valued influences the valuation method. Interactive and adaptive valuation methods are labour intensive because of face to face contacts, and are therefore applicable on local scale level only.



7. Every Green Infrastructure needs a social network

The social network is the basis for social learning. Within the social network the common vision on the desired landscape benefits of tomorrow needs to take shape. It is also the arena to make arrangements about collaborative implementation. In the GIFT-T! approach social networks are indispensable both at the local and regional level. Locally, land owners (e.g. farmers, industries) and land users (citizens, tourists, food industries) are important players in the social network. Regionally, policy makers, large enterprises and organizations (such as NGO's and health organizations) are important.

- GIFT-T! builds on social networks. The social network characteristically contains actors with diverging interests. GIFT-T! tools based on social learning facilitate bridging such gaps in interests and invoke collective ownership of the planning process and its aims.
- Processes within the social network can be enhanced by distinguishing the roles of supplier and demander for ecosystem services. It helps actors to detect their role, create coalitions and structure negotiations.
- In the social network leadership is essential. Governments may play such a role, as well as bridging organizations or citizen collectives.
- Information on landscape benefits and the need to manage them on the landscape level may develop the social network's capacity of self-governance.

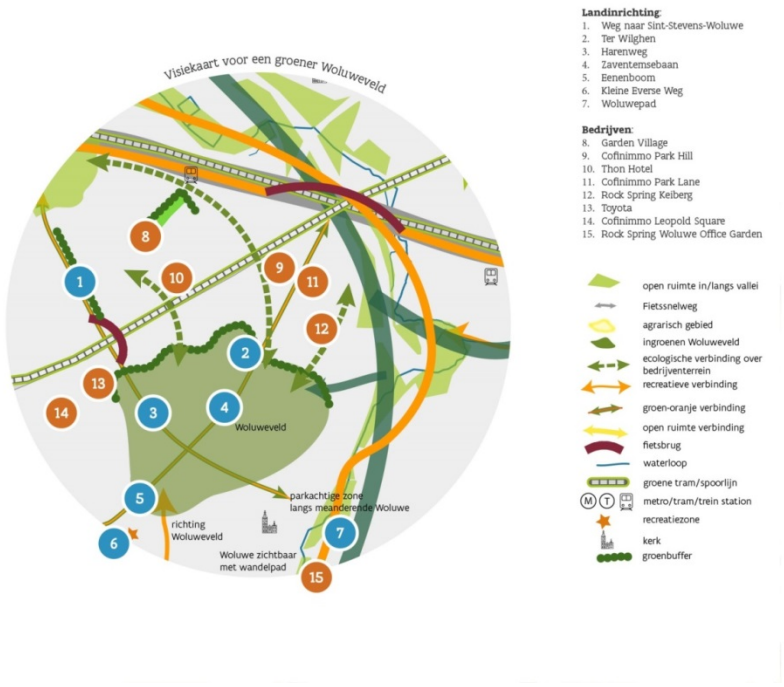


Distinguishing supplier and demander roles enhances collaborative relations, coalitions and negotiations in social-ecological networks

8. Private companies are catalysts in the social network.

Private companies may be catalyst or leaders by setting an example to other companies, by connecting local and regional social networks or by generating a demand for services. They are also able to finance investments.

- Motives to engage in Green Infrastructure enhancement are variable.
- A company may redesign its own plot for better mental health of its personnel, or invest in the wider landscape to create a good relationship with neighbouring communities.
- Also, companies may want to reduce their use of resources by incorporating the use of GI benefits into their product chain.
- Companies do not engage with GI for short-term monetary yield only.
- Specific GIFT-T! tools have been developed to engage companies.

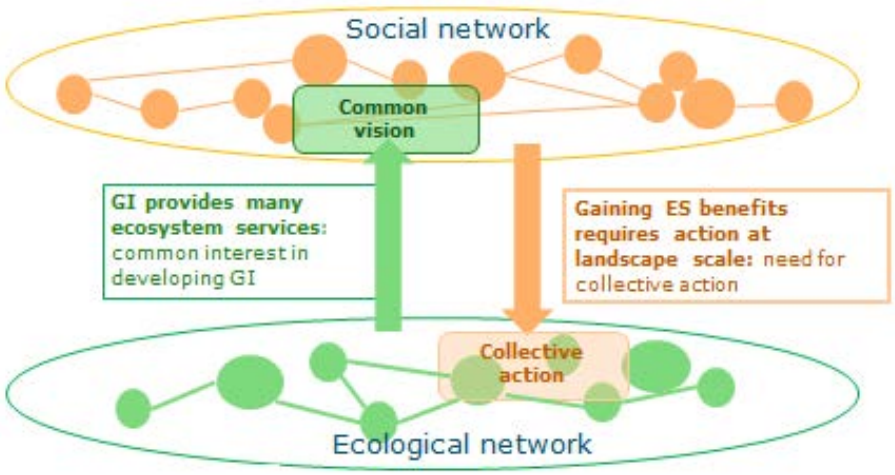


In the Woluwe area near Brussels (B) various governmental bodies and private companies together have created a GI business plan encompassing fourteen local initiatives, among which seven by private companies.

9. Building the social network increases the probability that the GIFT-T! process continues after the project has stopped.

With a strong social network there is a better chance that collaborative activities continue by the time the GIFT-T! project has stopped. GIFT-T! fosters the learning capacity of social networks by tools that stimulate information exchange and collective decision making. The GI Business Plan (GIBP) and the local business cases (in interaction) stimulate network connections, because the shared vision is turned into concrete actions and arrangements.

- The long term vision has a binding and bridging role in the social network, enhancing collective action to move in the same direction anywhere in the planning area. Working on the implementation of the long term vision enforces the social network, for example its capacity to exchange information.
- In an ideal world, the GIBP is the outcome of the social network activities to create the long term vision. However, in larger areas many local social networks create demands for the long term, and these have to be integrated to become a regional level GIBP. In doing so local ownership is (partially) lost.
- Most business cases came out of the social network activities at the local level. The making of a business case brings in new partners and thus renews the social network. We think this is important for continuity of the process.

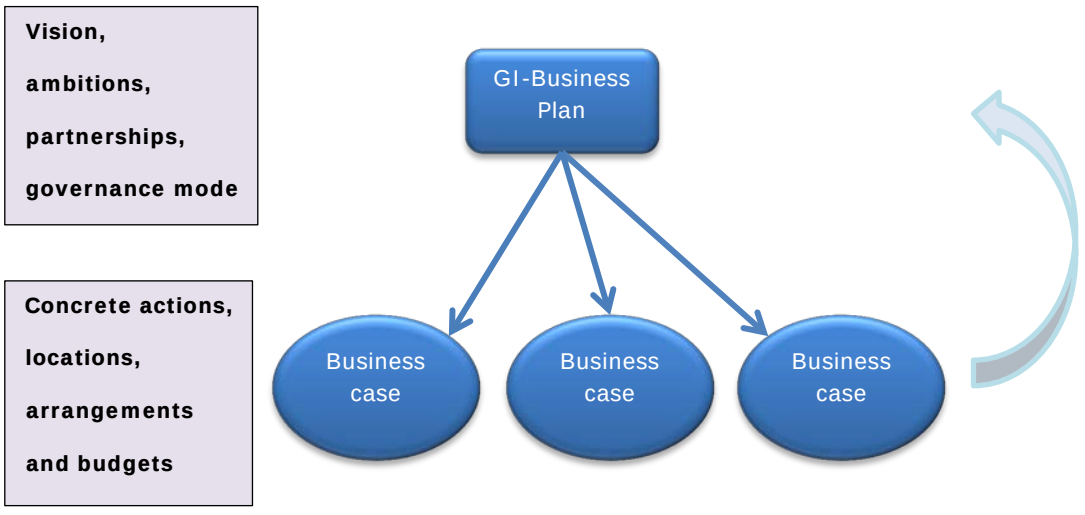


Information fosters social-ecological network development: Information that GI networks provides many services enhances collaborative visions; Information that ecosystem service provision depends on the scale level of a landscape area enhances collective action.

10. The GIBP is a strategic document including the long term vision for the whole area

In the Green Infrastructure Business Plan the long term vision is turned into action. The GIBP is an inspirational document, with a paragraph on planned action to enhance commitment.

- Resulting from a bottom-up process, the GIBP captures the common line in how people envisioned GI as a provider of demanded benefits, as it emerged from separate community based sessions, on line discussions and other web-based interactions. For example, South-Holland has captured a storyline for the future out of a series of dream sessions they organized with local communities and some sectoral groups. The main aim of the GIBP is to turn this vision into concrete activities (business cases).
- The scale level depends on the size of the planning area. If the planning area is large and heterogeneous (e.g. economically, available budgets, different ecosystem services demanded), several GIBP's are recommended for better cohesion and commitment, with one or more cross-cutting projects for ensuring large scale cohesion. For example, in South-Holland 4 GIBP's were developed. The construction of a social-ecological network for pollinators ("the bee landscape") created a cross-cutting connection.
- To continue its inspirational role in the social network, monitoring of advances in GI implementation and resulting ecosystem services is helpful, if not essential. For example, the assessment tool for progress in connectivity for biodiversity can be used to inform communities how they have improved conditions for biodiversity.
- The GIBP generates business cases. These are projects aimed at implementation of the GIBP in smaller parts of the area. The relationship between GIBP and GI Business cases is cyclic: feed-back from the projects inspires the next phase of the GIBP.



5. Evaluation of project team learning

In science three levels of learning are distinguished. We take this classification as a background to evaluate learning by the GIFT-T! partnership. *(Based on and partly quoted from Pahl-Wostl 2009, A conceptual framework for analysing adaptive capacity and multi-level learning processes in resource governance regimes, Global Environmental Change 19:354-365).*

Single loop learning

In single loop learning actors question if they do things right. Single loop learning refers to an incremental improvement of methods and tools without questioning the underlying assumptions. The performance of tools is refined without changing guiding assumptions. For example: learning how maps about ecosystem services can be made technically better and more instructive, while the assumption that maps are effective forms of communication is maintained.

Examples of single loop learning:

- *Making existing tools more universally applicable.* The Mersey Forest (TMF) team (UK) started GIFT-T! with a well-developed and operational GIS-based information system. Evidently, the regional conditions and aims of the TMF area were reflected in the prototype of this system, with an emphasis on trees and their benefits. This information system was applied in Medway (Hoo Peninsula, Kent, UK) and in South-Holland (NL). These applications showed how the TMF data base could be adjusted to become generally applicable.
- *Making existing tools more effective*. The prototype dream sessions in South-Holland were based on the assumption that needs and wishes of participants could be better captured if no information on ecosystem services was provided beforehand. The learning point here was that important services were missed because attendants were not explicitly aware of their potential benefits; social-cultural services dominated. South-Holland developed an animation film to provide information on the full range of ES.
- *The prototype mapping method proved to be adaptable to take account of local mapping differences and to incorporate local knowledge.* Awareness of this flexibility and its dimensions has grown as a result of the project, including for the original developers of the method – to the extent that it is now seen as a set of principles rather than a set of instructions. For example, as a result of the application of the prototype the number of GI-functions (originally based on the Millennium Ecosystem Assessment) was extended from 28 to 35.

Double-loop learning

Double loop-learning refers to a change in the frame of reference and to questioning guiding assumptions. For example: in GIFT-T! the assumption that technical information about landscape functions on a regional scale level can be understood, used and accepted by actors in local social networks is now questioned.

Examples of double loop-learning:

- *Existing tools may not work in a community-based context*. Existing tools for valuation of ecosystem services could not be used in local GI planning. The tools were based on assumptions that the perception of value is universal and

moreover is largely associated with money. Actors could not attribute significance to information about generic economic value within the context of their situation. We developed an innovative conceptual framework for valuation of GI, which started from the assumption that value is created in social interaction in groups of stakeholders with different background and mind sets. We also experimented with stakeholder-based approaches in various cases.

- *Existing tools need community-based complementary tools*. In The Mersey Forest a well-developed GIS-based information system had been developed by which the need for developing ecosystem services could be determined based on evidence in which landscape functioning and policy aims were combined. During the GIFT-T! project the insight rose how direct information from citizens and other users of the landscape could be made a valuable extra source of information, providing direct evidence of locations were ecosystem services were demanded. Based on the experience of South-Holland, an interactive web-site was developed on which citizens and local organizations could express their demands. This was an essentially new extension of the TMF-approach.
- *Assumptions about the role of tools in the planning process changed*. In the GIFT-T! prototype the role of valuation was connected to diagnosis. We learned that the use of valuation tools also could develop consciousness about GI benefits. Actors became aware of challenges and opportunities from their GI. Building on the eye-opening process of valuation, GIFT-T! has taken this opportunity to encourage and invite actors to get involved in the GI improvement and to develop a shared sustainable vision. Valuation also contributed to social network coherence by stimulating deliberations among actors. People learned about each other's values, learned to accept differences between them and got inspired by new insights about value of GI-benefits. Thirdly, valuation in a bottom-up process encouraged engagement and investment. Valuation results provide evidence for added value of improving GI, and show that a sustainable use of the GI outweigh associated costs. Therefore, in a bottom-up process valuation plays a role in all stages of the planning process: creating awareness, binding actors, engaging them in collective action.

Triple loop learning

In triple loop learning governance norms and protocols are changed, thus contributing to transitions of the whole regime. These transformations require the recognition that prevailing paradigms and structural constraints impede an effective reframing of resource governance and management practices. New actor groups come into play, boundaries and power structures are changed, new regulatory frameworks are introduced.

Examples of triple-loop learning:

- *Co-governance.* The current paradigm in natural resource governance is that only the central government is capable of overseeing all implications on large scale levels of natural resource management and therefore of making well-informed and evidence-based decisions. By consequence, it is the national government that should be responsible for decision-making. In GIFT-T! we discovered how enterprises could cooperate with governmental bodies to create co-governance networks. For example in the Brussels case Woluwe and in the South-Holland case enterprises and governmental actors cooperated in creating a social-ecological network to foster landscape benefits.
- *The role of enterprises in natural resource government brought in new values.* This type of learning is constrained by (for example) assumptions on the generality of dominant values, such as that all companies mainly aim for monetary values. The innovation in GIFT-T! was that the planning aims for the case area were framed from a point of view of the benefits of the surroundings business enterprises, which formed the main part of the social network built up in

the area. This brought in a dominant focus on benefits and values that companies perceive when joining a GI planning activity. Conservation aims completely moved to the background, and experiments were done with using new ways of valuation and new forms of agreements between partners in the network.

- *Social-ecological networks as a planning mechanism*. The current paradigm in ecosystem services planning is that it should be based on a transparent analysis of functions and needs, followed by well-informed rational decision-making. In South-Holland we reversed the order of thinking and started off with building a social network of actors which was based on two assumptions: many people care about the fate of bees and other pollinators, a mixed network of actors in a peri-urban corridor (private companies, municipalities, citizen organizations) would be more responsive to GI and ES than a more homogeneous group of farmers elsewhere in the area. So here we used a single ES to bring people together and as a source of inspiration. We also used it as an object of social learning by providing guidelines for creating pollinator networks that would be robust and sustainable enough to ensure pollination in the future. Additional ES's were used to enlarge the support. In design workshops actors discovered together how they could solve the bee problem. We learned that starting off with one ES that emotionally binds people in a common action and offering information on the need to create a solution together could be an interesting alternative to a full evidence-based analysis.

6. From a stakeholder's perspective: capturing the added value of GIFT-T!

A mix of stakeholders were asked about their appreciation and the impact of being engaged with the GIFT-T! project. We interviewed one politician, two researchers, two volunteers, three interest groups, six entrepreneurs, five public officers of municipalities.

In the following you find a summary of the interviews, structured according to a series of subjects. The analysis reveals mainly positive findings. The interviewer has tried to trigger critical reflection in various ways, but only ended up with rather positive findings.

A certain bias in the selection of stakeholders can't be ruled out. GIFT-T! partners may have unconsciously selected those stakeholders they know well, for example stakeholders that have become partner because they are positive about the GIFT-T! project. People that are critical about the GIFT-T! approach may have been associated less well with the social network that has been build.

Raising awareness, understanding and capacity building to benefit from GI

"Understanding what Green Infrastructure provides to society"

GIFT-T! helped to create an understanding of what GI can provide to society. This resulted in a larger awareness of the relevance of GI for well-being and economy.

Businesses indicated that because of GIFT-T!, they became more aware of the potential of the environment related to their employees. They gained more knowledge about how to develop GI in a way to benefit from it. The vouchers (*a tool used by VLM in the Woluwe case to commit local companies to invest*) helped to clarify the options and to select the GI that fits the best to the company's strategy. *(Based on interviews with nature interest groups and volunteers.)*

"Momentum of policy transition"

Because of the opportunity to make sense together on GI and ecosystem services, multiple stakeholders understand the meaning and the momentum was achieved to integrate ecosystem services in policy. *(Based on interview with politician.)*

"Empowering: increased knowledge and capacity building"

GIFT-T! creates an opportunity to include and provide professionals. As for instance, the politician of the small municipality appreciated the GIFT-T! project and EU funding because it allows to get science and research involved, increasing the level of understanding of all stakeholders. Highly relevant are people that are able to translate science to practice and vice versa. Small municipalities do not have resources to carry out research projects, but the knowledge is highly valuable. GIFT-T! made this possible.

Also local nature organisations and land owner groups have appreciated the discussions on research findings and have indicated that they better understand the area, how areas relate to each other and what ecosystem services they provide to society.

Other professionals that GIFT-T! did provide are specialists helping volunteering groups to plant trees for instance. Because of these specialists, the volunteering groups were able to plant much more trees then they usually do. In addition, the specialists helped, with their expertise and advice, to make the environment better, nicer. *(Based on interviews with politician and local volunteers.)*

Enhancing collaboration: shared knowledge, shared vision, shared resources, collective action

"Bringing people together"

GIFT-T! made it possible to bring people from different societal domains together by providing time and events to get to know each other. Enterprises used the GIFT-T! events and workshops as a way to get in touch with public officers and local residents. *(Based on all interviews except business.)*

"Collective action"

Concrete collaborative projects were defined in GIFT-T! and some local stakeholders have indicated to be highly willing to follow-up and to contribute to the projects that matter to them. *(Based on interview with volunteer.)*

"Integrated vision, decreased fragmentation and social support"

GIFT-T! has helped case study regions to develop an integrated vision on GI and the actions will result in less fragmentation of GI and open spaces in the future. There is an awareness that GI has to be connected, has the biggest quality and provides most ecosystem services. There is strong collaboration and people are willing to support the vision.

Municipalities also indicated that GIFT-T! made it possible to develop a vision based on the wishes and energy of the society. It enables public officers to bring people together and to develop a vision that is socially supported. *(Based on interviews with nature interest groups, volunteers and public officers.)*

"Joint resources and attracting non-public funding"

GIFT-T! as a process, helps to bring actors together and stimulates them to bring their resources together to carry out the developed projects. In certain cases, even private actors have agreed to contribute to GI development. The total budget for managing and developing GI has increased. *(Based on interview with public officers of municipalities.)*

"Other ways of doing research and making science"

Because of the complexity and the experimental stage, the research that has been used in the GIFT-T! case studies is action research, including an explorative attitude of researchers and commissioners, aiming to come up with solutions. A lot of time has been spend on making sense together in order to get a common understanding on GI, ecosystem services and what it can mean in the area. A politician has indicated that this was a though process but that he was happy he stayed tuned in because now he thoroughly understands, he can help to share the GIFT-T! story as one of the ambassadors. Researchers have valued GIFT-T! because their models could be tested and validated by these practical case studies. *(Based on interview with researcher and politician.)*

Innovation in governance: co-governance, involving companies, scale-level crossing methods and tools

"Developing business opportunities"

It is appreciated that the GIFT-T! approach enables municipalities to deal with special requests of companies to develop their business, in a way that it contributes to GI on the one hand and on the delivery and the use of ecosystem services on the other hand. *(Based on interview with public officers of municipalities.)*

"Increased efficiency"

A politician of a small municipality appreciated the GIFT-T! approach because it contributes to setting-up a regional collaboration network that was able to integrate multiple local collaborations. This decreased the number of collaboration the municipality had to be involved with, and therefore increased the time to do other things. *(Based on interview with politician.)*

"Development of new instruments and arrangements"

Because of differently approaching the environment in terms of demanders and suppliers of ecosystem services, new ideas are popping up in enabling connection as for instance a banking system with dreams and needs about GI. Another type of arrangement is among public authorities that are involved in developing and managing the environment. They jointly decided to come up with a framework on how to collaborate with each other and with non-public actors that are willing to contribute to GI development.

One of the public officers of a municipality also indicated that it was a struggle to get a grip on what the GIFT-T! approach was about. Several conversations with the province were needed to get an understanding. The vagueness and the learning by doing approach is another way to build up a relation, which takes time and patience. Because of the newness of the GIFT-T! approach, the criteria of the collaboration were not clear. As a result the two actors jointly elaborated the collaboration criteria. *(Based on interviews with interest group and public officers of municipality.)*

"Other ways of communicating science"

The involved researchers also indicated that they appreciated GIFT-T! because they were challenged to communicate their research in a way that the knowledge could be understood by practitioners. Researcher have explored other ways of communication with maps, pictures and presentations. (*Based on interviews with researchers.)*

7. Questions that still need an answer

- It is not yet obvious who should take the lead in making connections between scale levels, for example connecting local social networks with policy networks. In GIFT-T! this was done by the provincial government, by large enterprises (such as Heineken NL) and by boundary organizations such as TMF and VLM.
- How can long term thinking be incorporated in the GIFT-T! method to ensure that a future GI is adaptive to change (e.g. climate change, political-societal change)?
- Concepts like resilience and adaptive capacity may be helpful to incorporate sustainability into long term ambition plans. For example, how can it be ensured that the GI does not lose its capacity to deliver services for which there is no demand by present generations. Should this potential be incorporated into the long term ambition?
- Dreams are unrealistic by definition. Information on future changes in the area driven by large scale causes may inhibit creativity in dreaming innovative solutions, but may also prevent disappointment about solutions not being realistic causing actors to abandon the social network. Similar problem exists for design sessions. How do such sessions incorporate inevitable future changes?
- There is a strong need for developing methods on valuation of Green Infrastructure that are based on economic, social and sustainability values, incorporate local stakeholder perspectives on value, and fosters awareness of value in all phases of the planning process.
- An underrated characteristic of GI is its flexible structure. A GI network can take a variety of shapes and still provide ecosystem services at the same functional level. This means there is a variety of solutions to adapt the GI, and the one best fitting the local conditions and preferences can be chosen. It also means that GI may gradually be reshaped (losing some area here and gaining some area there) without losing its potential to provide services. This principle can be used to operationalize the concept of adaptive capacity in planning.
- The GIFT-T! achievements have not been very strong on collaborative design on the local level. This activity should aim for a cost-effective improvement of the GI network in a way that fits the local culture, economy and landscape character. Such an activity should enforce the social network and its learning capacity.
- Feed-back to actor networks about achievements has not been elaborated in GIFT-T! but surely is important for collective learning. The tool for assessing progress in connectivity can inform local and regional actor networks about their achievements to strengthen biodiversity as the functional basis for ecosystem services. Mapping methods used in the diagnosis phase can also be applied as a monitoring method. No insight was gained about their effectiveness about their effectiveness in practice.
- Our experiment with the pollinator landscape, where we started off the planning process by creating a social networks around one ecosystem service that was expected to generate a feeling of urgency requires further investigation. Which are the strengths and weaknesses of focussing on just one or a few services in terms of optimizing social network building but also in terms of missing essential services or opportunities?

8. Why GIFT-T! is different

GIFT-T! = Green Infrastructure for Tomorrow-Together!

GIFT-T! contributes to the capacity of human society to create a sustainable "*tomorrow*". With GIFT-T! we aim to contribute to a system innovation in managing our environment. More than many other GI planning approaches, GIFT-T! responds to the upcoming decentralization of governmental power and the increasing role of knowledge in our society. That is why the social network and its interaction with the GI network is put central as a governance basis, why methods and tools are aimed at stimulating social learning and responsibility for taking action, why the interaction between local and regional levels of scale is so prominent in our approach.

The "together" component is specified as:

- Nature and society together: GIFT-T! goes beyond protection of biodiversity in specific sites towards placing nature in the core of human society.
- Responsible together: governments share responsibilities with local governance networks.
- Governing together: rule-based governance is replaced by a multi-level governance mechanism based on demand and supply of GI benefits, supported by information.
- Paying together: a narrow focus on governmental subsidies develops into mixed private-public payments, creating extra budgets.

GIFT-T! facilitates this system innovation in several ways:

- *By redefining the human-nature relationship.* The use of ecosystem services that are provided by Green Infrastructure emphasizes nature as the human life support system, and landscape as the place where human and natural processes interact in creating benefit to society.
- *By focussing on opportunities*. GIFT-T! focuses on future demands rather than on current problems. The making of a shared vision creates energy and engagement, new insights and new solutions.
- *By enhancing social networks*. The GIFT-T! method is likely to facilitate collective and coordinated action because they show how individual and collective benefits are simultaneously gained by Green Infrastructure.
- *By providing science-based knowledge* about how and where the Green Infrastructure provides benefits and how it can be adapted for better performance. Essentially, this knowledge can be complemented by local knowledge to create ownership and foster social learning.
- *By clarifying relationships between actors in landscape governance*. GIFT-T! analyses the network of providers and users of landscape services, specifies who is investing and who is benefiting by enforcing GI. It shows local actors how they can organize themselves according to these roles. This facilitates financial arrangements between users and providers.
- *By enhancing corporate social and environmental responsibility.* By applying GIFT-T!, enterprises may detect how they can frame their investments in Green Infrastructure as a contribution to sustainable regional development.

The GIFT-T! approach and its toolbox appeared to be robust and transparent in urban and rural landscapes, at local and regional level of scale. It is evidence-based, supported by spatial data bases and proofed methods from interdisciplinary science.

Appendix - Scientific papers for further background

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