



# THE STIEMERPROGRAMME

of the CITY OF GENK

# NATURE-BASED SOLUTIONS FRAMEWORK REPORT

October 2019

Connecting Nature

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## Table of Contents

<b>Table of Contents</b> .....	<b>3</b>
<b>Preface</b> .....	<b>5</b>
<b>1 Introduction</b> .....	<b>7</b>
1.1 The city of Genk .....	7
1.2 The Stiemer valley in Genk .....	8
1.3 The Stiemer programme .....	11
<b>2 Solutions</b> .....	<b>14</b>
2.1 Nature-based solutions as a solution strategy .....	14
2.2 Solution strategy of the Stiemer programme .....	14
<b>3 Indicators</b> .....	<b>27</b>
3.1 Why to use indicators to monitor the impact of the Stiemer programme? .....	27
3.2 First steps towards a monitoring strategy for the Stiemer programme .....	27
3.3 Reflections.....	28
<b>4 Governance</b> .....	<b>29</b>
4.1 Project organisation: experimental phase.....	29
4.2 Towards a new governance model .....	31
<b>5 Co-creation</b> .....	<b>33</b>
5.1 Co-creation objectives and context.....	33
5.2 Principles of co-creation.....	35
5.3 Instruments and activities of co-creation .....	36
5.4 Reflection .....	39
<b>6 Financing</b> .....	<b>41</b>
6.1 Lessons learned from nature-based solutions financing in Genk .....	41
6.2 Opportunities for innovation.....	41
6.3 Planning financing and business model of Stiemer valley .....	43
6.4 Reflection: opportunities and barriers .....	44

<b>7</b>	<b>Economic development and entrepreneurship .....</b>	<b>45</b>
7.1	Role of entrepreneurs in the search for natural solutions .....	45
7.2	Stiemer deals as a catalyst for economic development and entrepreneurship .....	45
7.3	Slagmolen, Stalenstraat and Vennestraat as business hubs in the Stiemer valley .....	46
<b>8</b>	<b>Learning process .....</b>	<b>47</b>
8.1	The reflexive monitoring methodology .....	47
8.2	Visualising the Stiemer programme: the Stiemer loft. ....	47
8.3	Reflexive monitoring: a continuous learning process.....	48
8.4	The Stiemer Conclave.....	50
8.5	Reflection on the learning process.....	51

## Preface

The redevelopment of the Stiemer valley is an urban development programme of the city of Genk with the aim of upgrading the urban valley area of the Stiemer to a multifunctional blue-green artery that increases resilience and quality of life in the city.

Through the European project Connecting Nature, the city of Genk receives funding from the European Commission to demonstrate how a project like the Stiemer programme can use nature-based solutions in the transformation to a sustainable city. *Nature-based solutions* are interventions based on green and nature that, in addition to ecological benefits, also offer an answer to social and economic issues.

Nature-based solutions are not solely a new concept in urban development, they also require an *innovative process* of urban development. To this end, the nature-based solutions framework, as depicted in Figure 1, has been developed by the Connecting Nature project. This framework provides a tool showing cities how to integrate nature-based solutions into their policies and how to implement them in a sustainable and effective way. The framework has been developed jointly by the various partners within Connecting Nature.

### --CONNECTING NATURE FRAMEWORK--

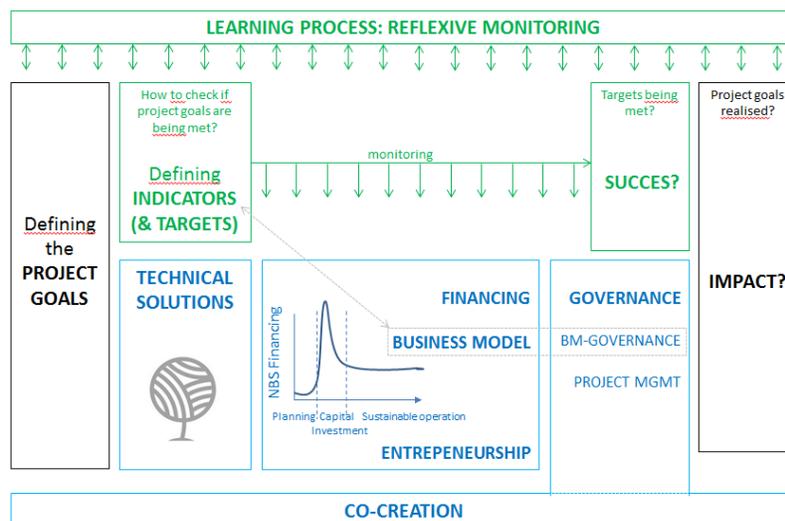


Figure 1 - Connecting Nature Framework (Source: Connecting Nature)

This document outlines Genk's Stiemer programme from the perspective of this nature-based solutions framework. It describes how the city of Genk is trying to innovate in order to maximise the positive impact of nature-based solutions.

This report gives an overview of a learning process that is still on-going. As such, the report should be seen as a snapshot in time focussing on the learning lessons currently known, thereby looking forward to the next stages. However, the insights, learning lessons and conclusions will continue to evolve. This nature-based solutions framework report is a report by cities and for cities: it is written from the perspective of the city of Genk, and is primarily

intended for other cities with an interest in nature-based solutions and for the actors that operate in the nature-based innovation ecosystem of the city of Genk.

This brings us to the goal of this report: by sharing the learning process and learning lessons from the Stiemer programme we hope to strengthen and accelerate the implementation of nature-based solutions in Genk and other cities.

# 1 Introduction

## 1.1 The city of Genk

The City of Genk is a relatively small city in Flanders (Belgium) with a population of about 65.000 residents. Genk is an atypical city: at the same time, it is one of Flanders's greenest and most industrial cities.

The city is marked by its mining history. At the start of the 20<sup>th</sup> century, Genk was just a small village characterized by a landscape of heathland and small brook valleys. When coal was discovered in the ground, Genk transformed into a mining city centred around the 3 mining sites that were erected. Coal has had an enormous impact not only on Genk's economy, but also on its

- landscape: e.g. slagheaps, pine forests as resource for reinforcing the mining galleries
- Spatial development: a polycentric growth leading to a *network* city
- Population: different labour migrations waves resulting to population growth and a high degree of diversity; currently 54% of the population has a different background, and 85 nationalities are represented in the city

The decline of the mining industry and the eventual closing of the mining sites in the second half of the 20<sup>th</sup> century have forced Genk to reinvent itself. Mass production industry centred around the Ford car manufacturing factory temporarily provided an alternative. However, when the Ford Factory recently closed down in 2012 leading to the loss of 14.000 jobs, Genk once more faced a transition. Despite the adversity, Genk and the surrounding region managed to turn hardship into opportunity.

For the last decade, the city of Genk has invested in a new redevelopment strategy to drive this transition. To a large extent, this redevelopment is building upon the mining heritage. The three former mining sites have been transformed in innovation hubs for new economies such as sustainable energy, smart technology, creativity, ... (C-Mine, Thor, La Biomista). Together with other hubs around art, healthcare, innovation, etc. spread over the city, they form a mechanism of cog-wheels that drive the city (see Figure 2).

In this again polycentric model of a *network* city, 2 more layers are considered very valuable in the development of Genk.

- The people of Genk. The city of Genk has always considered its human and social capital as an important asset. There is a long tradition of citizen participation in Genk.
- The landscape of Genk. In a network city, the interwoven green and open space provides a source of natural capital with great potential to revitalise the city. Answers to many challenges that the city of Genk faces could potentially be found in this layer of the landscape. Nature-based solutions are therefore considered as an important part of the city's future.

The Stiemer valley is an important zone in this latter layer. The Stiemer is an 8km long brook flowing through the heart of Genk, from North-East to South-West. Its valley can be seen as connecting different districts, neighbourhoods and strategic hubs in the network city Genk.

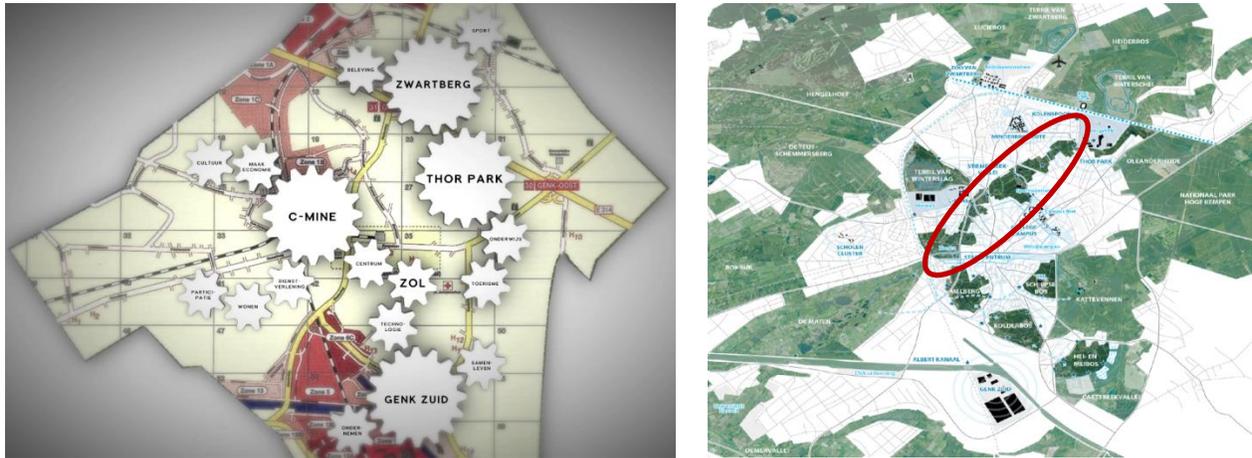


Figure 2 - Genk as a network city. Multiple drivers propelling the city (left) and the landscape with Stiemer valley as central entity (right) (Source: city of Genk)

## 1.2 The Stiemer valley in Genk

Until the end of the nineteenth century the area around Genk was a little developed region. The sandy, arid lands were not suited for agriculture. Small settlements had emerged along the brook valleys. The Stiemer that runs diagonally through the city was back then an 8 km stretch of farming activities through Genk. The mining industry and urbanisation that followed completely enclosed the valley and put it under severe pressure.

In the seventies the stream was straightened (see Figure 3) and largely lost contact with its valley. The people living around literally turned their back to the stream and seemed to have forgotten about it. In that period, sewage systems were constructed in the surrounding neighbourhoods, bringing waste water to the underground collector pipes on both sides of the Stiemer. The overflow systems on these collectors were linked to the Stiemer and as urbanisation increased, sewage overflows became more frequent. Even during moderate rainfall, waste water mixed with rainwater flows into the Stiemer, with a negative impact on the water, the environment and the neighbouring people. The accelerated and massive discharge of rainwater from the valley also causes flooding and drying of the valley ecosystem.



*Figure 3 - The Stiemer as a straightened canal (Source: city of Genk)*

It was only until the nineties that a local nature organisation brought the importance of the Stiemer valley under the attention. At some locations the valley still contained valuable natural elements. As a result large parts were protected as a recognized nature reserve in 2006.

The city started to realise more and more that the valley could be an important blue-green connection with a lot of potential. They created a partnership and lobbied to get support from the regional authorities. The Flemish Plan Programme Stiemer Valley (2010) of the Flemish Land Agency was born. Under impulse of this plan two areas in the valley were developed: Schansbroek, the source area of the Stiemer and Slagmolen, the area around an old water mill downstream at the other end of the city. In both areas, a nature-based redesign of the area has been implemented recently as can be seen in Figure 4.



*Figure 4 - Schansbroek park (top) and Slagmolen area (bottom) (Source: city of Genk)*

These developments boosted the development and revealed the need for an integral vision for the entire valley. In the period 2016-2019 a spatial masterplan with an integral long-term vision was drawn up in collaboration with the consortium Tractebel, ADR Architects/Georges Descombes and IMDC. This plan is a strategic toolbox for a step-by-step, spatial transformation of the area in which climate adaptation, biodiversity, recreation, social cohesion and sustainable mobility are important themes. See Figure 5 for an illustration.



*Figure 5- Visualisation from the Masterplan by Tractebel and partners (Source: Masterplan Stiemervallei, Tractebel and partners)*

## 1.3 The Stiemer programme

It is now the city's ambition to start implementing this vision. To this end, an ambitious Stiemer programme containing the objectives and strategies for this long term development has been developed. The Stiemer programme is broad and layered, which is why we speak of a programme and no longer a project. Fuelled by Connecting Nature, the scope expanded to include ecological, economic and social impact.

### 1.3.1 Objectives of the Stiemer programme

To be able to encompass these different aspects, a number of strategic objectives were formulated at programme level.

#### Overall objective

As part of the development strategy of the city of Genk, develop a multifunctional blue-green urban valley that increases the quality of life and the resilience of the city.

#### Strategic objectives:

- *Connect nature with nature*
  - Boost ecology and increase biodiversity in the valley
- *Connect nature with people*
  - Recover a climate resilient and natural water system in the urban valley to prepare the city for climate change
  - Enable a sustainable use of the valley
    - Valley as connector: create walking and bicycle paths in the valley to connect city sites and neighbourhoods. Connections for soft mobility and slow tourism.
    - Valley as destination: provide recreational opportunities for people.
  - Maximize the social return on investment by fostering initiatives, educational activities and co-operation that add value to the valley
- *Connect people with people*
  - Strengthen social cohesion across the multiple layers of diversity in the valley
  - Create a public culture in the valley that fuels people to embrace 'their' valley
- *Connect entrepreneurship with nature*
  - Explore, identify and boost economic opportunities linked to the valley

#### How?

Propelling a co-creative city making project building upon the ownership, engagement and activation of a variety of usual and non-usual stakeholders.

### 1.3.2 Link to the city's strategic agenda

The Stiemer programme objectives closely match the urban agenda of the city of Genk. Genk wants to be a sustainable city and a pioneer in Flanders in the fields of greenery, ecology and nature. The Stiemer programme can make an important contribution to this.

In December 2017, the city of Genk signed the new *Covenant of Mayor* on climate and energy. Hereby the city of Genk commits to - in addition to reducing CO2 emissions - adapting to the effects of climate change by increasing resilience by 2030. A city-wide climate adaptation strategy is being developed for this. The Stiemer programme can be seen as the flagship project within the adaptation policy of the city of Genk: a programme in which new strategies can be tested and demonstrated.

In February 2017, the city of Genk endorsed the United Nations *Sustainable Development Goals* (SDG). By maximally aligning Genk's local policy with this global sustainable development agenda, the city of Genk hopes to be able to realize the more sustainable policy impact. The SDGs form a guiding framework for drawing up the Genk 2020-2025 policy plan. Due to the broad scope of objectives, the Stiemer programme can be seen as a horizontal and integral project that contributes to various SDGs, as depicted in Figure 6.



Figure 6 – Overview of SDGs the Stiemer Programme is contributing to.

### 1.3.3 Local policy context

The development of the Stiemer valley is a long-term ambition for the city of Genk. There has been a long lasting continuity at the policy level in Genk, ensuring that Stiemer continuously remained in focus. The coalition agreement drafted after the most recent local elections (2019-2024, *“Connecting Genk together”*) mentions the development of the Stiemer valley as an important link between the city sites and neighbourhoods in Genk as network city. The wish to realize the vision in phases is adopted in this agreement between the ruling parties. This has been translated in the 2020-2025 strategic policy plan of the city of Genk: the Stiemer valley is included as a strategic action plan under the policy objective 'Genk will become more climate and environmentally friendly'. The Stiemer valley will be positioned as a climate adaptation

project, but it will also try to respond to other policy priorities such as strengthening social cohesion, economic development and making the city together.

By sustained efforts, the city succeeded in positioning the development of the Stiemer valley on other policy levels; in 2010 at the Flemish level and since 2017 also at the European level via Connecting Nature. The development of the valley will probably continue to be relevant at these levels in the future, given its ambition to improve the quality of life and resilience of the city in the light of climate change with natural solutions.

The level of ambition grew over the years from a cycle path along the stream to a multifunctional, climate-robust valley park. Responding to opportunities and constantly striving for an integral approach, the city was slowly but surely building the Stiemer programme. The preparation of a spatial vision for the future from 2016 marked an important milestone. The co-creative development of this integral vision brought many partners from various disciplines together, resulting in a rich, multi-layered vision. This process strengthened the city in its belief of the importance of multidisciplinary partnerships, participation and co-creation. Driven by Connecting Nature, the development in 2017 was explicitly named as a co-creative urban project. Connecting Nature will also further enrich and strengthen the further process.

#### **1.3.4 Innovations**

The Stiemer programme is being approached as an innovative urban development process. The main innovations of the Stiemer programme are:

- Social innovation: the Stiemer deals (see Section 2.2.2)
- Governance innovation: an elaborate multi-stakeholder model (see Section 4)
- Process innovation: co-creation as core principle (see Section 5)
- Technical innovation: a systemic approach based on SUDS (see Section 2.2.1)
- Economic innovation: adopting a dedicated strategy on entrepreneurship (see section 7)
- Learning innovation: an elaborate learning strategy (see section 8)

## 2 Solutions

### 2.1 Nature-based solutions as a solution strategy

In the development of the Stiemer valley, the city of Genk embraces the concept of nature-based solutions as a solution strategy. Nature-based solutions are interventions based on green (nature) and blue (water) that provide social and economic value in addition to ecological benefits. Since the Stiemer programme objectives span these 3 areas, nature-based solutions offer an attractive solution strategy.

An explicit part of the concept of nature-based solutions is the term *solutions*. By this, nature-based solutions have a more functional focus on blue and green than other terms such as *green-blue infrastructure*. Such an instrumental approach offers opportunities for urban development. By seeing nature as a solution strategy, nature-based solutions become an alternative that can be considered in comparison with traditional solution strategies. In urban development - also in Genk - traditional solutions such as technology-based solutions or grey infrastructure are still often used.

Nature-based solutions distinguish themselves from more traditional solutions in two ways:

- **Multifunctional** : Green-blue interventions offer multiple benefits (ecosystem services) at the same time. E.g. the Stiemer valley as a green-blue artery will also contribute to a better air quality, although this is not a specific objective of the Stiemer programme. Technology-based solutions are typically mono-functional.
- **Appreciation in time**: Natural ecosystems, under the right conditions, become stronger as they age, increasing the value of the benefits they deliver. Technology, on the other hand, depreciates from day one, which means that the value it provides systematically decreases.

Early in the process of the development of the Stiemer valley, there was a belief in nature-based solutions as a solution strategy, although we initially adopted the term *ecosystem services*. Together with various local actors and Flemish universities (the ECOPLAN project), research was carried out in the period 2014-2015 on how ecosystem services could form a basis for development. From that moment on it was clear that the multiple benefits of green and blue solutions offered great potential for the Stiemer valley.

### 2.2 Solution strategy of the Stiemer programme

The nature-based solution strategy for the redevelopment is contained in the implementation strategy of the Stiemer programme. The Stiemer programme can be seen as the vehicle that governs all initiatives and actions related to the redevelopment of the area. The Stiemer programme has grown out of the need of streamlining and connecting all different initiatives, especially since we are fully in the transition from the vision and planning phase to the implementation phase.

A graphical interpretation of the implementation strategy is depicted in Figure 7 below.

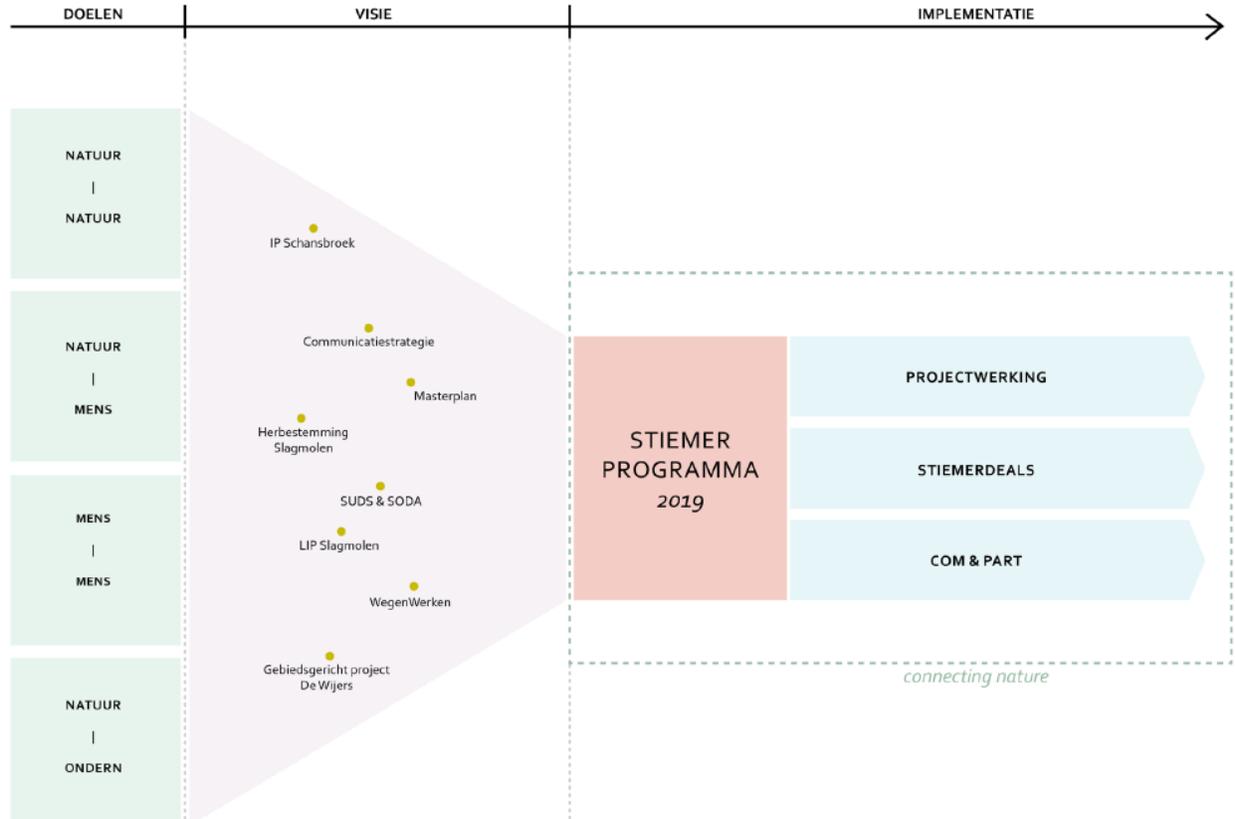


Figure 7 - Stiemer programme implementation strategy (Source: Masterplan Stiemervallei, Tractebel and partners)

The nature-based solutions implementation strategy of the Stiemer programme is based on 3 pillars:

- *Spatial transformation strategy*: pilot projects
- *Socio-economic transformation strategy*: Stiemer deals
- *Supporting strategies*: Communication and participation

### 2.2.1 Spatial transformation strategy: pilot projects

One of the main initiatives leading to the Stiemer programme and its implementation strategy is the spatial masterplan of the Stiemer valley that has been developed by the 'Tractebel-Descombes-IMDC' consortium in the 2016-2019 period, in collaboration with the city of Genk and many stakeholders. The masterplan has investigated how the challenges in terms of ecology, hydrology; topology, urbanization, social context, ... of the area can be translated into a *spatial transformation strategy*. The use of nature-based solutions is a central element in this spatial transformation. The final report of this master plan is available and can be seen as a good addition to this report. It contains an elaborate overview of the different nature-based interventions and strategies that can be adopted to transform the Stiemer valley.

In short, the masterplan consists of a set of design and development principles around the themes of ecology, water, connections and public culture. Detailed strategies for this include, for example, the construction of a parallel natural stream, the deployment of sustainable urban drainage systems (SUDS) in the wide valley area, the creation of walking trails, and the development of public garden areas in the valley. The master plan describes how these strategies can be spatially integrated into a linear park by means of a sequence of different zones, alternating between nature areas, linear gardens and urban valley edges, being the areas where urbanization and greenery overlap the most.

These design and development principles have been concretised in a solution strategy consisting of different pilot projects. At short term, four pilot projects have been identified as to compose a balanced set of projects contributing to the broad range of programme goals. Below, an overview of the 4 projects can be found.

### **Pilot project 1: GARDENS OF WATERSCHEI**

*General objective:* Creating a green lung for the Waterschei district, in which nature development, integrated water management, recreational use and synergy between city and valley go hand in hand.



*Figure 8 - Pilot project 1: Gardens of Waterschei (artist impression) (Source: Masterplan Stiemervallei, Tractebel and partners)*

Strategic objectives:

- A more natural water system in the valley has been restored.

- The biodiversity and nature experience in the Waterschei area have been increased.
- The connection between Waterschei and other districts has improved.
- Possibilities for visiting and recreation in the valley have been increased.
- Entrepreneurs of Stalenstraat organize activities in the valley, concentrated at certain locations

*Innovative character:*

This pilot project is innovative in terms of both content and process. For example:

- Re-naturalization and reuse of the Stiemer.
- New techniques for overflow treatment.
- Integrated project and cooperation between different governments according to an area-oriented approach.
- Strengthen socio-economic activities and innovations at Stalenstraat and Thorpark

**Pilot project 2: THE VALLEY ROUTE**

A spatial connection between city and valley providing an intense relationship with nature, water and people.

*General objective:* The development of a continuous cycle route connecting the city both spatially and mentally. A connection that which invites to a variety of experiences and that contributes to a switch in mobility culture.



*Figure 9 - Pilot project 2: Examples of how the valley route could be designed (Source: Masterplan Stiemervallei, Tractebel and partners)*

*Strategic objectives*

- A continuous cycle route that is safe, autonomous, experiential and comfortable has been developed.

- The connection with the strategic city sites and neighbourhoods has been strengthened.
- The route invites to experience Genk's cultural and natural assets in various ways

*Innovative character:*

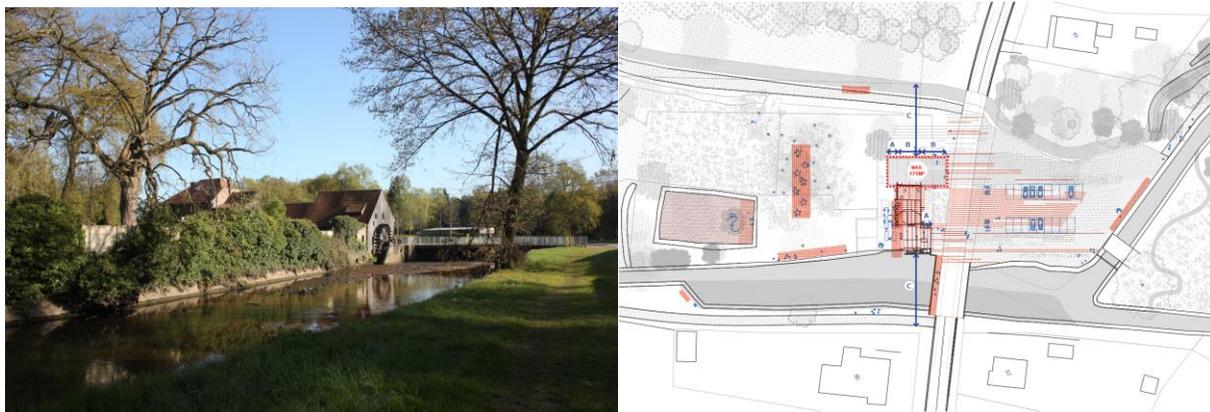
The pilot project is innovative because the valley route is seen as more than a path. For example:

- Shaping the valley route tailored to the specific spatial context (e.g. lighting, choice of materials, equipment, etc.)
- Developing new types of mobility hubs and promoting more sustainable forms of mobility within the car-oriented city of Genk.
- Shaping the valley route as a public space in which visiting, meeting and social interaction are possible.

**Pilot project 3: SLAGMOLEN**

A protected watermill as a social catalyst and gateway to a unique landscape of ponds;

*General objective:* Preservation and enhancement of the ecological, hydrological, landscape, social, recreational and heritage value of the Slagmolen site by redesigning the building and redesigning the environment.



*Figure 10 - Pilot project 3: Slagmolen (Source: city of Genk)*

*Strategic objectives:*

- The ecological value of the Slagmolen site has been strengthened.
- The landscape value of the site has been strengthened
- The hydrological value of the site has been strengthened.
- The recreational and tourist value of the Slagmolen site has been strengthened.
- The heritage value of the Slagmolen building has been preserved, strengthened and made accessible to the public.
- The social value of the Slagmolen building has been rebuilt.
- The economic value of the Slagmolen building has been preserved and strengthened.

*Innovative nature:*

This pilot project is innovative in the field of programming and process operation, focusing on:

- Preservation of cultural heritage through development.
- Economic development with social and ecological added value.
- A public space with a strong interaction between local and regional scale, building and outdoor space.
- Integrated project operation and horizontal cooperation between partners.

**Pilot project 4: SUDS&SODA**

Sustainable urban drainage systems (SUDS) as a driver for a vital and climate-robust city districts in the broader Stiemer valley.

*General objective:* Demonstrating and testing natural solutions for local water reuse and decentralized rainwater infiltration in Waterschei-Noord as a strategy for sustainable water management, climate-proof neighbourhoods and as a solution for the overflow problem on the Stiemer

*Strategic objectives:*

- The natural water system in the Stiemer valley and Waterschei-Noord has been restored.
- Local residents have a positive attitude towards water and greenery and play an active role.
- The introduction of SUDS creates a strong added value for the living environment.
- New entrepreneurship related to SUDS was actively explored and encouraged.
- A scalable SUDS strategy has been developed in response to the governance financing challenges in integrated water management.

*Innovative nature:*

This pilot project is innovative in terms of both content and process. For example:

- Infiltration, buffering and reuse of rainwater on public and private domain
- Natural solutions for rainwater management with strong added value for the living environment
- Co-creation with citizens.
- A change of behaviour with regard to water and water management.
- New alliances between local and supra-local water partners.
- Exploring the role of government and entrepreneurs

**2.2.2 Socio-economic transformation strategy: Stiemer deals**

In Genk we are convinced that the solution strategy must be broader than just the spatial and technical implementation of nature-based solutions. More is needed to effectively realize the

social and economic added value of the nature-based solutions. Socio-economic added value does not automatically follow from implementation on the ground. This can be partly overcome by focusing on co-creation and smart governance in the planning process. However, based on our experience in the Stiemer programme, we are convinced that we should not only include co-creation or cooperation as a *principle*, but also explicitly look for solutions that offer an answer to the challenge of how to effectively realize the socio-economic added value.

The socio-economic goals in the Stiemer programme are described as 'bringing the valley to life through initiatives and activities', 'stimulating economic opportunities' and 'strengthening social cohesion' as part of the objectives of connecting 'people with nature' and 'nature with entrepreneurship'. This offers opportunities for social innovation in the valley area. To this end, a solution strategy for social innovation has been elaborated around the *Stiemer deals* concept.

The *Stiemer deal* concept is a solution to stimulate social innovation in the Stiemer valley and a way to allow multiple & diverse actors to take ownership within the programme. The concept is depicted in Figure 11.

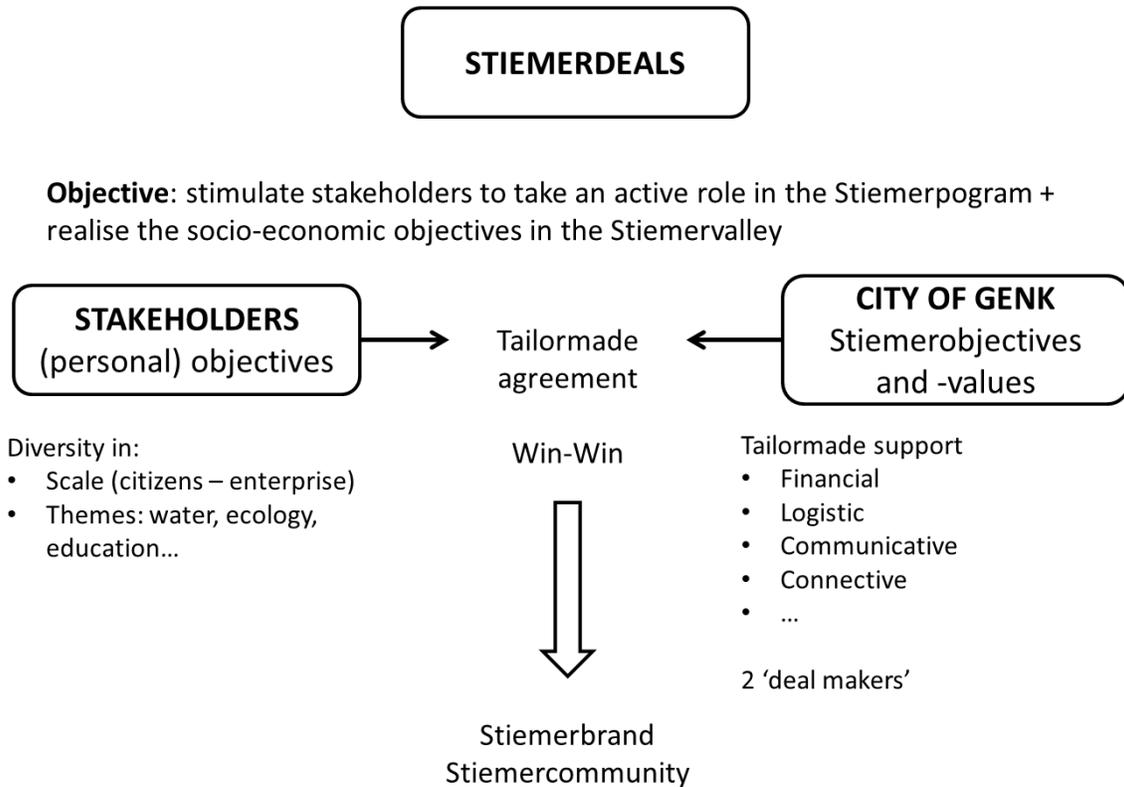


Figure 11 - Stiemer deals concept

A Stiemer deal is a voluntary agreement between the Stiemer programme (city of Genk) and a partner (other city services, citizens, organizations, companies) in which both parties help each other to achieve their objectives (or dreams) so that this agreement is a win-win situation for both parties. In this tailor-made agreement, clear agreements are made about the objective of

the deal, the mutual expectations, the division of roles, the mutual commitment and contribution, the results to be pursued and the related actions.

In this way, deals can be widely used in the Stiemer programme, both for very small-scale initiatives by citizens and for companies in the large pilot projects as part of the spatial transformation strategy. Thematically, the possibilities are broad, as long as they can be linked to at least one of the objectives of the Stiemer programme.

A tailor-made agreement means that the role of the city can have multiple interpretations. The support from the city can range from guidance, communication, financial or material support, etc. Where possible, use will be made of existing support measures within the portfolio of the city. If a deal requires a type of support that the city of Genk currently is not providing, new support measures will be developed. As the demand for financial support is expected to be a frequent request, the creation of a Stiemer Fund is seen as a future development (see also Section 6).

The various Stiemer deals can evolve into a strong *Stiemer brand*. This offers a great opportunity for community and capacity building for the various actors in the deals leading up to a *Stiemer community*.

The concept of the Stiemer deals will be further developed and refined by on-going practice and through discussions with stakeholders. The deals, the experience and knowledge gained are disseminated to the public via the website and the Facebook page of the Stiemer valley.

This socio-economic transformation strategy of Stiemer deals is being managed by a team of two people. A dedicated project leader on *social innovation*, assisted by a consultant on *nature-based business development*, are identifying, initiating, managing and monitoring the Stiemer deals, often in collaboration with other city departments.

### **Example: Stiemer ice cream**

Crème Le Lis & Nostalgie, an ice cream parlour in the Stiemer valley, developed Stiemer ice cream inspired by one of the *Friends of the Stiemer* (see section 2.2.3.2): a great success for the ice cream parlour, which has become an ambassador of the Stiemer programme. The role of the city of Genk in this deal is mainly communication and promotion, e.g. by giving the opportunity to join different Stiemer events.



Figure 12- Stiemer deal example: Stiemer ice cream (Source: city of Genk)

### Example: Creating a bare foot path in the Stiemervalley

In the preparation of a Stiemer event MPI Luchtballon, a school for special needs education, created a bare foot path in the Stiemervalley. The city of Genk inspired the teachers with the idea and provided the necessary equipment. The teachers and children made the foot path from scratch.



Figure 13- Steamer deal example: Creating a bare foot path (Source: MPI Luchtballon)

### Example: Nature management by psychological vulnerable people

De Start, an organization for psychologically vulnerable people, adopted a grassland in the Stiemervalley in cooperation with Natuurpunt, the ngo that manages most of the Stiemervalley. The people of De Start will maintain the area, check the Galloway cows regularly, maybe organize activities with other participants of De Start, etc. The city of Genk connected both partners and supported the coming about of this cooperation.

## Reflection

The concept of Stiemer deals is still young when writing this text. There is still plenty to experiment with. It is still early to draw conclusions on this.

### 2.2.3 Supporting strategies: Communication and participation

We believe in connecting different disciplines and stakeholders; in uniting different interests and visions. We find constructive, horizontal cooperation between various stakeholders essential to find an answer to the complex and ambitious challenges in the Stiemer programme.

Support, involvement and ownership are central principles in the process. To this end, we try to focus on a solid network with enthusiastic and motivated people. We regard creativity, inspiration and a positive atmosphere as important ingredients for constructive cooperation.

We are convinced that strong communication with the right look and feel is needed to keep a long-term project alive, to generate enthusiasm and to generate the necessary involvement.

The city of Genk is therefore strongly committed to communication and participation. In view of the strategic importance, these elements were included as a separate strategy in the implementation strategy. This strategy supports and facilitates the two aforementioned solution strategies.

#### 2.2.3.1 Communication

A professional communication strategy and recognizable visual identity are important elements to reach and involve stakeholders. The overarching objectives of the communication strategy are the strategic positioning of the Stiemer programme, to raise awareness of the valley, to create support among and to activate stakeholders.

Our strategy is divided into three phases that are deployed simultaneously:

- The **cognitive phase** aims to create visibility and pride in the target group. For the Stiemer valley, this means that Genk people know the Stiemer valley and that local residents are proud of 'their' Stiemer. Ex. development of a hiking guide with neighbourhood walks for the Stiemer valley. Many Genk residents discovered an unknown area in their own city through this guide.
- In the **affective phase**, involvement is sought through education and co-creation. We strive for different actors to make use of the Stiemer valley and for various activities with a public character to take place in the valley. E.g. Stiemer safari; this was an event in which the city and citizens / organizations joined forces. The city organized a cycling

tour and the other actors organized activities on this route e.g. duck fishing, geocaching, painting workshop, etc.

- The goal for the **conversion phase** is active participation. We strive that citizens of Genk use the valley, that companies see the valley as an interesting opportunity for their business activity, that residents, companies and other actors spontaneously contact them to organize something in the valley, that tourists visit the Stiemer valley during their visit to the city of Genk and that children actively experience the Stiemer valley. E.g. 'Het Kompas' a primary school often organizes outdoor activities in the valley with its pupils and shares their photos via Facebook.

In order to achieve the aforementioned goals, the focus is on communication via various media (website, Facebook, Instagram, posters, etc.), but also on organizing various events. To reach the less obvious target groups, we actively look for collaborations with suitable partners. Examples include an organization that provides meaningful daytime activities for psychologically vulnerable people that does nature management in the Stiemer valley through which they get to know the valley and the accompanying dynamics better. Or a school that reaches many vulnerable families organizes an autumn walk in the Stiemer valley, so that the children can later take their parents into the valley.

This communication strategy was developed by an external communication agency. Sufficient resources and capacity are needed for implementation both within the project team and within the city's department of communication. A structural cooperation with the department of communication is ensured by the organisation of a so-called Stiemer promotion team, in which also a colleague of the department of communication is represented.

### Example: Stiemer safari

In 2017, the city organized a bicycle tour in the Stiemer valley with the aim of allowing more people from Genk to discover the valley. This safari was the reason to motivate different citizens and associations to organize an activity in the valley along the route. The activities reflected the rich diversity of people, nature and landscape in the valley. Children were able to fish plastic ducklings in the stream, a number of people told stories from the past, a geocaching route was laid, etc. The city focused on motivating, connecting actors and logistically supporting the activities. After the safari all volunteers were thanked via a barbecue in the valley. A number of volunteers became *Friends of the Stiemer* (see section 5) in 2018.



Figure 14 – Stiemer safari (Source: city of Genk)

### 2.2.3.2 Participation

In order to fully develop the potential of the Stiemer valley, the involvement of the people of Genk is essential. Creating space and time for participation ensures

- a better policy by generating more and better insights by using the knowledge and experience of citizens, organizations, partners, knowledge institutions ...
- a more effective policy due to greater support
- a more legitimate policy due to the higher democratic level
- more impact by using more social capital.

As participation is an important principle of the Stiemer programme, this is included in every element of the programme by deliberately designing a process in which citizens, organisations, external and internal partners can play an active role.

- In each of the four pilot projects originating from the master plan, participation will be adopted as an element in the implementation strategy.
- The aspect of participation is always considered within the Stiemer deals and, if possible, included in the deal. If co-creation would be an added value in a Stiemer deal, then this would be stimulated. E.g. an entrepreneur who wants to transform her street into a green, car free street was stimulated to involve all the residents.
- In addition to the participation that is embedded in projects or deals, a citizen platform has been created, called *the Friends of the Stiemer* (see section 5).

Apart from the Friends of the Stiemer, the other participation moments have no periodic character because they are built into the processes of the different projects. The project leader on social innovation takes responsibility for this in close collaboration with the department of neighbourhood development to guarantee that we can reach as many people as possible from Genk. To facilitate this cross-departmental collaboration, the project leader on social innovation works in the offices of the department of neighbourhood development one day a week. By bridging this gap, we avoid to only reach the 'usual suspects'.

#### **Example: Stiemer quiz**

During the development of the spatial master plan, the city experimented with various forms of citizen participation. For example, bicycle tours and neighbourhood dialogues were organized. In this conceptual phase of the project it was not obvious to involve the people of Genk in all its diversity. Mainly white older people were reached. To appeal to more different target groups, a quiz was organized in which the content of the master plan was communicated in a playful, accessible way. However, we also failed to achieve more non-usual suspects through this new concept. Involving all ages and cultures remains a major challenge in the further development of the project.



*Figure 15 - Stiemer quiz*

## 3 Indicators

### 3.1 Why to use indicators to monitor the impact of the Stiemer programme?

Including indicators to assess the impacts of the nature-based solutions in Genk allows to assess the strengths and weaknesses of the interventions in achieving Genk's city objectives and provide an essential tool for adapting design and implementation features in real time, thus increasing their performance. The gathering of evidence over time can inform the decision-making and choices we make when designing and implementing interventions for urban regeneration and resilience, as well as building the case for investments in nature-based solutions. It helps to convince investors that nature-based solutions can deliver on the multiple objectives and interests their stakeholders have. Finally, the evaluation process helps to innovate how we plan for urban resilience and regeneration by presenting ecological, social and economic objectives in an integrative way and linking it to the different departments that can benefit from the intervention(s) of the Stiemer programme.

The processes of co-production, implementation and maintenance of Genk will be monitored and evaluated in order to understand and capture those elements that contribute to their success, and build the evidence-base regarding benefits, synergies between these, as well as trade-offs, and thus inform knowledge-based practice in the future.

### 3.2 First steps towards a monitoring strategy for the Stiemer programme

A first step was to select indicators for different impact categories – health and wellbeing, social cohesion, environmental, economic. It was important to identify indicators that are already used as well as indicators that could be used for evaluating the impact on the objectives of the Stiemer programme.

Different steps have been taken:

- In order to select most suitable indicators, an exercise has been made to link the Stiemer programme objectives to the strategic city objectives.
- Guided by the various academic experts of the Connecting Nature consortium, indicator selection exercises on the broad range of topics have been made. Long lists of possible indicators have been drafted by the academic partners based on existing indicators across Europe and beyond. In co-creation with the cities, these long lists have been reduced and tailored to the specific needs and characteristics of Genk and the Stiemer valley.
- A local stakeholder workshop on indicators has been organised in Genk. Together with experts from nearby academic institutes, a workshop on possible indicators for the Stiemer programme has been held. Coordination of the workshop was done by the Flemish Institute for Nature and Forest (INBO) in collaboration with the Stiemer team. Goal of this workshop was to identify suitable indicators, reveal the existence of possible available data sets, identify measurement and monitoring expertise and capacity

amongst all participants, and explore future collaborations on indicators and monitoring.

The output of all these exercises is currently being put together. Based on this information, the first preliminary sets of indicators will be translated into a final set of indicators for the Stiemer programme. After the final selection of indicators is finished, existing data gathering methods will be defined and possible data gaps where new data collection will be identified, leading to a comprehensive monitoring strategy.

### **3.3 Reflections**

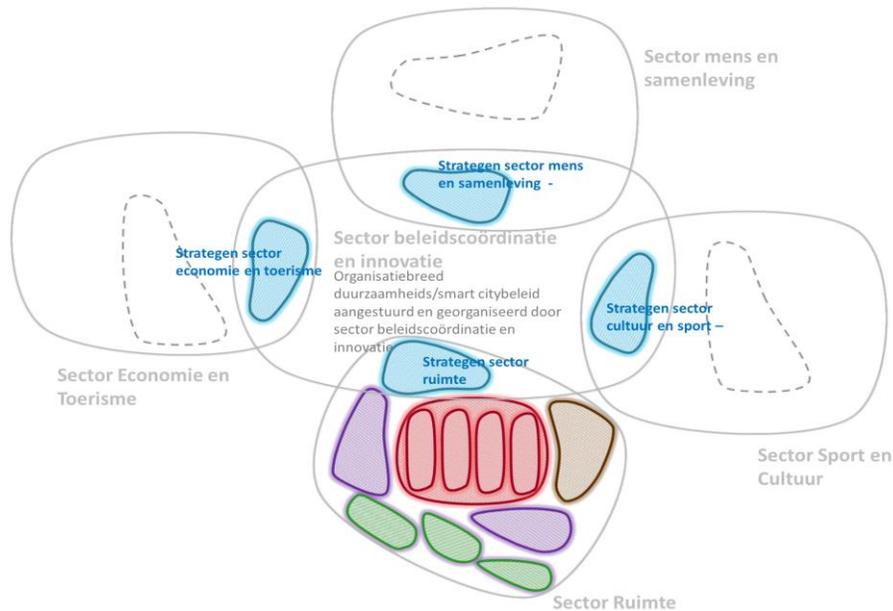
The city of Genk and the Stiemer team has limited experience with indicators and monitoring. As a result, developing an elaborate monitoring strategy is a challenging task, especially given the wide spectrum of objectives. There clearly is a knowledge or experience gap in selecting suitable indicators and metrics, and in monitoring them. This certainly is the case for a smaller sized city as Genk where limited capacity in terms of experience, knowledge, tools, instruments, budget, etc. on indicators is available. Capacity will have to be build up.

## 4 Governance

The complex, long-term Stiemer programme with a social, ecological and economic dimension in which, in addition, a multitude of actors must play a role, requires a well-considered and flexible organisation model. An effective organisation is needed to achieve the Stiemer objectives and generate the desired impact.

### 4.1 Project organisation: experimental phase

Over the years, the Stiemer valley project grew on the one hand through the ambitious, opportunity-driven approach and on the other hand through the geographic and thematic spread to a plethora of small and large projects and visions. This strong, organic growth posed an organizational challenge on the *small department of environment & sustainable development*, which since the start has taken on project leadership within the city of Genk. The department of environment & sustainable development consists of 12 persons responsible for policy making, advising and executing projects on green infrastructure, climate, and sustainable development. Furthermore also the exploitation of the nature education centre and nature conservation are core tasks of this department. The department is part of the bigger spatial department that consists of 11 departments as presented in Figure 16. Next to the spatial department there are 4 other strategic departments within the city of Genk: economy and tourism, social, sports and culture, policy coordination and innovation.



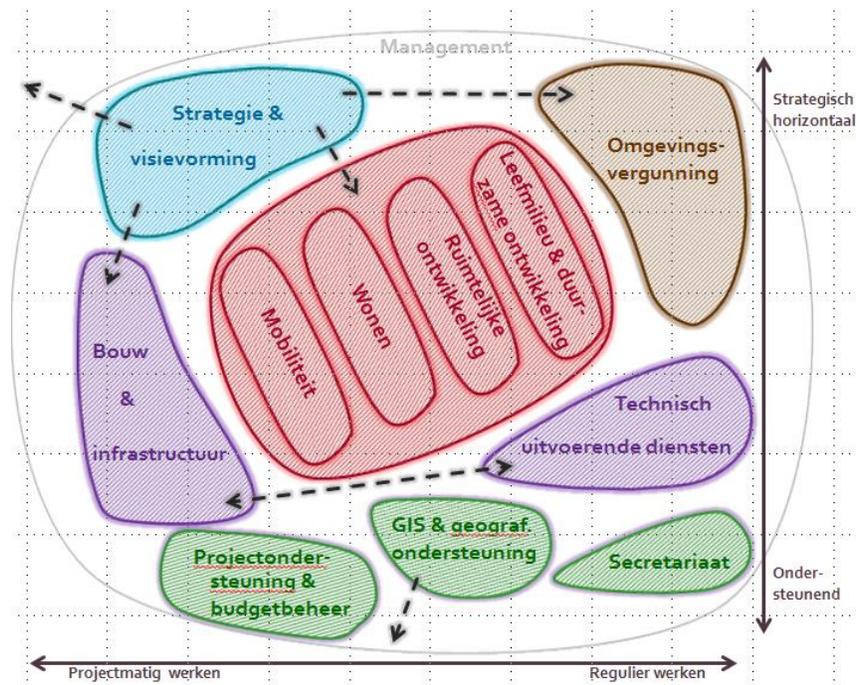


Figure 16 - Organogram of city of Genk's spatial department

At first the various subprojects were followed up and controlled as good as possible by the project manager of the Stiemer valley, being the head of department of the department of environment and sustainable development. The making of an integrated vision for the valley was one of these subprojects that required a different approach and we carefully started to experiment with working horizontally. A small working group with colleagues from the spatial department and social department together with the project manager closely followed up the master planning process. During this process several other experts with different experience and knowledge were brought in to strengthen the strategies on ecology, trajectories, water and public culture. These were colleagues from the four of the strategic city departments, external administrations and organisations, experts from knowledge institutions, etc.. This organization, mainly depending on one project manager, was considered unsustainable in the long term and certainly in the implementation phase.

Lessons learned in this phase of experimental horizontal working:

- It is important to clearly define roles and tasks, to officialise them in mandates and regularly discuss and evaluate;
- To improve ownership in different departments, it helps to assign responsibilities based on project objectives that are clearly linked to their own objectives;
- Involving experts and colleagues from different departments with other knowledge and experience is not only valuable to enrich the strategies but also because by being involved they start to automatically link their own projects with the Stiemer programme

## 4.2 Towards a new governance model

Linked to the implementation strategy of the Stiemer programme, there was a need for a clear and integrated *governance model*.

For the realisation of the Stiemer programme, the city of Genk wants to be the driving force behind a new and innovative development trajectory in which citizens, companies and organizations can take the lead.

The governance model that was created is based on the quintuple helix model. For the development of the Stiemer valley the following actors play an important role:

- Experts from regional administrations (City, Province, Region)
- Experts from universities
- Experts and volunteers from nature conservation organisation (ngo)
- Citizens brought together in the co-creation platform 'Friends of the Stiemer'
- Citizens, NGO's, entrepreneurs, etc.

Within the City of Genk colleagues from the following 4 strategic departments will take up a role in the Stiemer programme:

- Spatial department
- Social department
- Economy and tourism department
- Sports and culture department.

The strategic objectives of these departments are closely linked to the objectives of the Stiemer programme. These objectives are related to urban planning, soft mobility, recreation and tourism, nature conservation, climate change/adaptation, social cohesion, economic development, etc.

The Stiemer programme is managed by the environmental department and steered at the strategic level in the city of Genk. The city will mainly focus on the realization of the four large, integrated pilot projects in the valley. In addition, the city will actively inspire other stakeholders through communication and participation. To effectively activate these stakeholders, the city will use the Stiemer deal concept to forge new alliances as a driver for a social, cultural and economic upgrading of the valley.

### 4.2.1 Governance model for the pilot projects

In order to realise the four pilot projects as part of the implementation strategy, the city sets up a clear, workable project structure. An integral approach is taken as the starting point. As a result, experts in ecological, social, hydrological, economic aspects and colleagues from different departments etc. are involved. The City of Genk is the *initiator* of and actively involves partners who bring in experience, knowledge and potentially financing.

For each of the four pilot projects, a structure containing a *working*, *advisory* and *steering* body is developed.

The daily project management is in the hands of 2 city employees who form a strong *duo*. These 2 persons are the working body, take on an equal, active role and strongly believe in their project. The 2 employees come from different departments in the light of horizontal project operation.

An *advisory group* composed of internal and external thematic experts, enriches and strengthens the project. They are consulted by the project managers whenever relevant.

Finally, a *steering committee* ensures the monitoring of milestones in the project and strategic management. This steering group is composed of representatives from the policy makers, city of Genk's management team, and external, thematic experts.

#### 4.2.2 Governance of the Stiemer deals

Through *Stiemer deals*, the city of Genk wants other actors - citizens, organizations, knowledge institutions, companies, project developers - to play an active role in the development of the Stiemer valley (see also Section 2.2.2). In that sense, Stiemer deals can be seen as a governance model. The role and task distribution between city and stakeholders is made explicit in a deal. A light and flexible project structure is custom designed in which the city receives a certain role. Depending on the deal, this can be a facilitating, inspiring, connecting or supervising role.

Stiemer deals are a new concept within the city that is being experimented with within the Stiemer programme. Resources by Connecting Nature make allow to experiment with this concept. Concerning the governance of the Stiemer deals: the active search for deals will be done on the one hand by *the project leader on social innovation* for deals with citizens, associations, civil society etc. and on the other by the *consultant on nature-based business development* for deals with companies, governments, investment companies, etc. These 'deal makers' work closely with city of Genk's departments of neighbourhood and economy. If the experiment is successful, the aim is to embed this approach in these city departments.

#### 4.2.3 High-level governance of the Stiemer programme

The Stiemer programme consists of the 3 aforementioned implementation strategies. A small, multidisciplinary team consisting of 3 people in the department of environment and sustainable development is responsible for the monitoring and management of the programme overarching these different implementation strategies. The researchers from the Connecting Nature consortium inspire and challenge this team to innovate. They enrich and strengthen the implementation process with their scientific knowledge and international experience.

A *core team* of city of Genk's policymakers and management team members follow and steer the Stiemer programme at this highest level. This is an informal structure where there is room for an open discussion about milestones and strategic direction.

## 5 Co-creation

### 5.1 Co-creation objectives and context

#### 5.1.1 Objectives

The city of Genk assumes that all Genk residents can contribute to Genk, to the development of and the coexistence in the city. Participation, in the broad sense, is seen as the responsibility of every citizen of Genk. The city designs its own processes, both internally and externally, as participatory as possible and gives citizens the space they need to set up initiatives to maximize the experience, talents and energy of citizens, experts and other actors in society. As an added value, this gives increased social cohesion in society and the development of the talent of the people of Genk. The citizens help to shape their own society through participation.

With regard to the goals of the Stiemer programme (see Section 1.3.1), the role of the city of Genk in the Stiemer programme is made explicit as a *driving force behind a process in which citizens, companies and organizations can take the lead*. This implies that participation and co-creation are important principles of the programme in all the implementation strategies, both at strategic and operational level.

We aim for a co-creative development programme that builds on ownership, engagement and activation of the usual and unusual stakeholders. The process is at least as important as the end result. With this co-creative approach we strive for:

- Creating support and involvement of stakeholders
- Collecting relevant information and knowledge
- Exploring together the possibilities from the various perspectives of stakeholders with the objective to connect and unite these different views and interests.
- Activating stakeholders in shaping the valley park in terms of financing, development, management, etc.
- Creating buzz with the people of Genk

#### 5.1.2 Target audience

Different target groups are involved in this co-creative process depending on the objective of the project phase; at strategic, tactical and operational level. All target groups from the quintuple helix model are represented and selected based on their expertise, experience and importance;

- Academics: colleges, universities and research institutes
- Economic actors: local entrepreneurs
- Government: internal departments of the city of Genk, the province, the Flemish Government
- Civil society and media: citizens, associations, organizations, local media
- Natural environment: the Stiemer valley and all its ecosystems

## Quintuple Helix

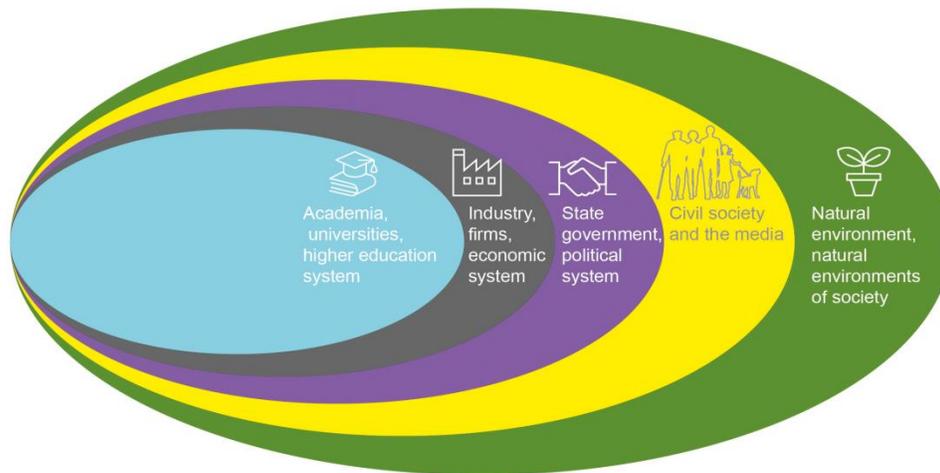


Figure 17 - The quintuple helix model

The degree to which each target group is involved and the choice of the instruments used depends on the objective of the project, the phase in which the project is located, the powers that play a role and the importance of the target group and the project. Sometimes the involvement is limited to informing or consulting; sometimes there is co-creation and in the future perhaps delegation or self-government (see Figure 18). Stakeholders are involved through a variety of activities (see Section 5.3). For example in the design study of the pilot project ‘Gardens of Waterschei’ only a limited number of citizens (mostly neighbours and entrepreneurs) will be asked to give their input on the area. In this phase our objective is collecting knowledge. In a next phase the actual plan for the area will be co-created with the whole neighbourhood and a broader range of partners.

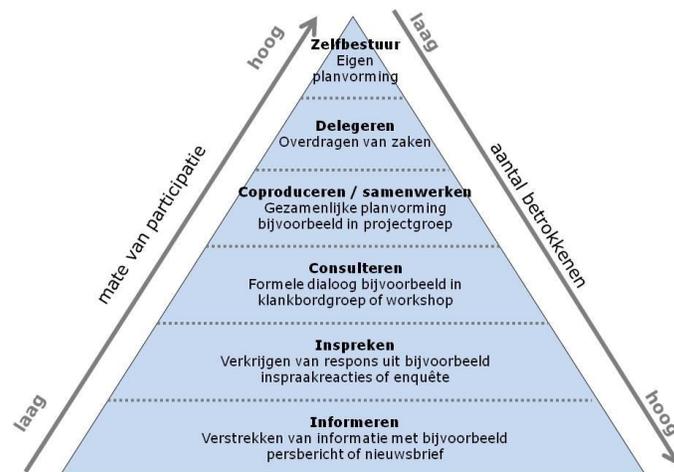


Figure 18 - Levels of participation

## 5.2 Principles of co-creation

The principles for co-creation offered by Connecting Nature form a guideline for shaping the co-creative process in the development of the Stiemer valley. These principles are a useful help in the design of co-creation processes as they ‘force’ you to think about certain elements of the creation process and outcome that otherwise would be overseen or forgotten along the process. Openness, for example, is a principle that needs constant attention to avoid a process that is limited to what or who is already known.

### 5.2.1 Process principles

- *Inclusiveness*: By involving different actors, both internal and external, we include and connect different types of knowledge, sources and capacities and we can help break open pillars. In the design of the co-creation activities we strive for open and horizontal cooperation in a creative, inspiring and positive atmosphere. These different actors are identified via a thorough stakeholder mapping in which the leading question is “Who can influence the topic or who is influenced by the topic?”.
- *Openness*: We remain alert to always involving new actors and new types of knowledge and thus enriching the process. The knowledge produced in the Stiemer programme is actively shared with the actors involved in the various co-creative activities and with the public in communication about the Stiemer programme, such as the website.
- *Legitimacy*: By involving different actors around different themes, from different domains, from the concrete context ... we ensure that the knowledge that is introduced into the co-creative process is legitimate and reliable. The involvement of these experts and visions at the same time makes an important contribution to the legitimacy of the outcome, as it results from thorough exercises and discussions based on different and sometimes opposing opinions.

### 5.2.2 Outcome principles

- *Applicable knowledge*: From experience we learned that striving for applicable knowledge is important to make progress. In co-creative activities we use activating formats, we ask the 'right questions' ... A good picture of the desired outcome helps the preparation of these activities. We are currently using the momentum of policy planning to include the knowledge from the Stiemer programme.
- *Meaningful knowledge*: As we strive for a common approach, involvement and ownership of all actors involved, it is important to generate an outcome that is valuable to them and that allows them to take action. We notice that partners use the knowledge created in the activities, both in terms of content and process. We also learned from experience that it is important to explicitly define the division of roles. Otherwise, we run the risk that some may withdraw into an advisory role.
- *Extending institutions*: To make it possible for the knowledge that we have acquired from the Stiemer programme to be given a place in various policy plans, agendas and institutions, we are actively seeking cooperation with internal and external actors; in the form of Stiemer deals (see Section 2.2.2). An instrument to guarantee this principle is

our Stiemer loft, a creative workplace with a lot of material about the Stiemer programme (see Section 8.2). The space is increasingly being used by other colleagues and services, making the knowledge visible to them and hopefully useful for other agendas and stimulating collaborations.

### 5.3 Instruments and activities of co-creation

As stated earlier, we use various activities and instruments for co-creation depending on the formulated objectives. Describing all activities already used chronologically would lead us too far. Nor a timeline would clarify very much, as a lot of different processes are happening at the same time in the Stiemer valley. For illustration purposes we cite a few examples. Some of the processes and activities were initiated by the Stiemer team such as the development of the spatial masterplan (Section 5.3.1), other present themselves as interesting opportunities e.g. the junior team (Section 5.3.2).

#### 5.3.1 Development of the spatial masterplan

Prior to and during the development of the spatial masterplan of the Stiemer valley, stakeholders (internal city departments, external partners, citizens, ...) were involved because of their knowledge and experience. From 2016 to 2018 they were invited to think about the Stiemer valley in various ways; via bicycle tours, workshops, neighbourhood dialogues, and a Stiemer quiz. But also the project structure that was developed around the development of the master plan included the guarantee of a co-creative process through the involvement of various partners who each have a dedicated role or task in the development of the Stiemer valley.

The different activities can be arranged according to the intended objectives:

- Explore local dynamics: neighbourhood dialogues...
- Vision and strategy development: project groups, workshops, brainstorming...
- Promoting team spirit and cooperation: meetings with *Friends of the Stiemer* (see Section 5.3.3)
- Mobilizing actors and networks: bike rides with colleagues and external partners, Stiemer safari (public event), press presentation...



Figure 19 – Co-production activities

### 5.3.2 Junior team

The junior team is an annual trajectory at the youth department of the city of Genk. A number of pupils of the sixth grade consider the question of making a certain aspect in the city more child-friendly for a few months. In 2018, the Junior Team thought about creating opportunities to make the Stiemer valley more accessible to children. Out of the ten proposals formulated by the Junior Team, three were selected for implementation. The implementation of these proposals also takes place in co-creation with the Stiemer team, the youth department of the city and with the cooperation of the children of the Junior Team (and other stakeholders if possible).

The co-creation process of the Junior team was designed by the Participatory Design department of the Luca School of Arts in Genk. Various methods were used in this process. These activities can be arranged according to the intended objectives:

- Explore local dynamics: hiking in the Stiemer valley with a guide
- Developing ideas: making collages of ideas
- Promote team spirit and collaboration: fun, informal activities
- Mobilizing actors and networks: proposing ideas to other children in Genk during holiday activities

In this co-creative process, the target group (children) themselves is one of the partners, so that the result and the accumulated knowledge is relevant, usable and adjusted and the impact thereof is greater.

From these successful collaborations we learned the importance of shared ownership and the importance of the possibility for both partners to pursue their own goals. This important learning lesson led us, among other things, to the development of the Stiemer deals concept (see Section 2.2.2).



Figure 20 - Junior team (Source: city of Genk)

### 5.3.3 Friends of the Stiemer

The Friends of the Stiemer were created in November 2018. This is a group of citizens who are interested in the Stiemer programme, often based on their relationship with the Stiemer. This citizen panel is an experiment that is being designed together with them. The role and composition of this group is not fixed. The Friends follow the course of the Stiemer programme

in an open process. They think and participate, determine the agenda and are ambassadors for the Stiemer.

The profile of a Friend of the Stiemer is determined, but can be filled in in different ways. A large diversity of personalities (thinkers, doers, former youngsters, ties with the Stiemer ...) offers a guarantee for the inclusiveness of different types of knowledge.

### Profile of a Friend of the Stiemer

*A Friend of the Stiemer:*

- *is critical, but constructive*
- *can think outside his/her garden and neighbourhood*
- *wants to think and do (taking part in activities, mobilising their own network, helping to spread out Stiemer news...)*

With the Friends of the Stiemer we are able to:

- Capture the citizen agenda and view of the urban agenda regarding the Stiemer
- Send information antennae, make it resonate, and receive it back
- Giving insights into the processes that underlie sometimes slow and sometimes unpredictable turns in such a trajectory, to people with a heart for and interest in the Stiemer
- In coproduction also come to communicative initiatives and events

The Friends of the Stiemer want to be informed, know what is happening in the valley and why. In addition, they really want to be consulted. From their knowledge of the valley, they feel that they can supplement the city. This is done in four-monthly meetings and via a monthly newsletter. Depending on the theme, the different levels of participation will be discussed. The greatest chance of co-creation is shaping the Friends of the Stiemer together. This means that they can contribute to different objectives, such as: explore local dynamics, developing ideas, building team spirit and collaboration, mobilising actors and networks...



Figure 21 - Friends of the Stiemer (Source: city of Genk)

### 5.3.4 Pilot project: Gardens of Waterschei

The Gardens of Waterschei form an area where nature development and nature experience go hand in hand with recreational shared use and sustainable water management.

*The surrounding neighbourhoods are oriented towards the valley. Transitional spaces (terraces, gardens, connections ...) develop a productive relationship between the city and the valley. Both physically and mentally, the area connects Waterschei-South with Old-Waterschei and the Thor-Park. (Source: Stiemer valley Master Plan).*

The vision on the Gardens of Waterschei was developed in the masterplan, but needs a more specific design study. In September 2019 the first steps for this study and the according co-creation process are being formulated. Stakeholders in this process are: entrepreneurs of the nearby shopping street Stalenstraat, department of economy of the city of Genk, the Stiemer team, nature conservation ngo *Natuurpunt*, Friends of the Stiemer, local residents, the department of district development of the city of Genk...

The first step in the co-creation process will be a walk through the Stiemer valley with some residents and entrepreneurs living close to the Stiemer in order to explore the local dynamics and to collect local knowledge for the design study. This will also be a first attempt to mobilise actors and networks in the area.

The following co-creation activity still has to be designed, but will address all the residents and entrepreneurs of the Waterschei area.

## 5.4 Reflection

Up to now, the aim has always been to include participation moments in every phase and every step of the Stiemer programme. Once a transition is made to implementation, the chances of participation and co-financing will only increase. The process with the junior team is a good example of this. A number of partners were already involved in the process with the junior team. But many more (and other) partners can enthusiastically play an active role in the realization of a concrete proposal.

It is a challenge to involve all actors in the quintuple helix. The co-creative process of the development of the Stiemer valley is a permanent learning process. This learning is actively discussed during the internal reflexive monitoring meetings. We share the most important learning lessons so far.

### 5.4.1 Shared ownership across city departments

Co-creation requires a new type of collaboration across the various departments, which often goes against the usual course of events. Shared ownership is a necessary condition for this. Colleagues from other departments often limit themselves to an advisory role in which they do not assume duties or responsibilities. Shared ownership is difficult to achieve. The lack of confidence in a project also complicates a co-creative process in which everyone plays an equal role.

Based on this experience, we will take a number of steps in the future to achieve this:

- In the design of a co-creative process, we put the right person in the right place. The right person isn't always the head of a department. And the right place e.g. can be as a project leader, rather than a member of the advisory committee.
- In the governance structure we clearly define the roles, responsibilities and expectations. In the future we distinguish three main roles within the projects and the programme: advising, guiding and implementing.
- Within the pilot projects from the master plan we work with a duo leadership from different services.
- In long-term development programmes we try to avoid planning fatigue and to keep the dynamics high.

#### 5.4.2 Inclusivity principle

It is a challenge to design co-creative processes in which all stakeholders can participate on an equal basis in a safe atmosphere. To date, we have no experience with co-creation in which all target groups from the quintuple helix participate simultaneously. Achieving a good representation of the Genk population is also a challenge, especially when it comes to citizens with an immigrant origin and disadvantaged groups.

In the future we certainly want to guarantee this principle as well as possible by making time for a thorough preparation of the process and the activities to generate active involvement of all desired stakeholders.

## 6 Financing

### 6.1 Lessons learned from nature-based solutions financing in Genk

The development of the Stiemer valley has been on the city agenda since the nineties. A first important accelerator in the development was the cooperation with the Flemish Land Agency (VLM). This was achieved by lobbying of the city together with a nature conservation ngo. This cooperation with the regional authorities not only brought us the experience and capacity of a strong regional authority, but also extra public funding. Funding was received from the regional government in Flanders and from the European Life project Green4Grey, a project that was initiated by VLM. City of Genk partly co-financed. This mix of public funding from different levels was used for the capital investment in 2 areas in the valley - Schansbroek and Slagmolen – and to draw up a spatial masterplan for the entire valley. The operational costs are mainly carried by the city.

For a relatively small city administration it remains a challenge to attract funding. Funding application is mainly in the hands of the project managers of the different departments and is not strategically supported. The knowledge and experience is spread over the organization and insufficiently captured/shared. Moreover the knowledge on funding channels is limited. To tackle this the city aims at contracting an experienced consultant for assistance in detection of appropriate funding channels and drawing up proposals.

The dependency on public funding is a risk and we are convinced that we should look for other financing opportunities. In other major strategic city projects business models were created with third parties, but within our environmental department this is not common practice. Therefore the skills regarding financing and business models were added to the Connecting Nature Team: a *nature-based business consultant* was hired. This consultant is meant to bridge this knowledge gap and strengthen the cooperation with the department of economy department.

### 6.2 Opportunities for innovation

From a financing, governance and business model point of view the concept of Stiemer deals can be considered as innovative. A Stiemer deal has a collaborative governance structure between the public sector and external actors. Currently it is a bottom-up stakeholder led innovation. City of Genk is able to experiment with this concept due to the opportunity to hire a project leader on social innovation, funded by the European project Connecting Nature.

Examples of (potential) Stiemer deals with a financing component:

- for the development of the urban valley edges, a deal can be concluded with a project developer to realize a higher housing density on condition he also invests in public space.
- Citizen science project Stiemerlab: researchers of LucaSchoolofArts took the initiative to draw up a proposal for receiving funding for doing water investigations with citizens. City of Genk is partner in this project but did not contribute financially.

The 'Slagmolen' is the oldest building in the city and strategically located in the urban fabric of Genk, at the end of the Stiemer valley. Genk wants to develop the watermill in a unique, educational experience hot spot with attention to heritage, art and nature. In a supra-local context, the site will become a welcome point for the De Wijers, a unique pond area of 700 ha around the cities of Hasselt and Genk. From a city perspective the site has a lot of potential as shown in the *nature-based solution business model canvas* (See Figure 22)

### Business Model Canvas - Slagmolen

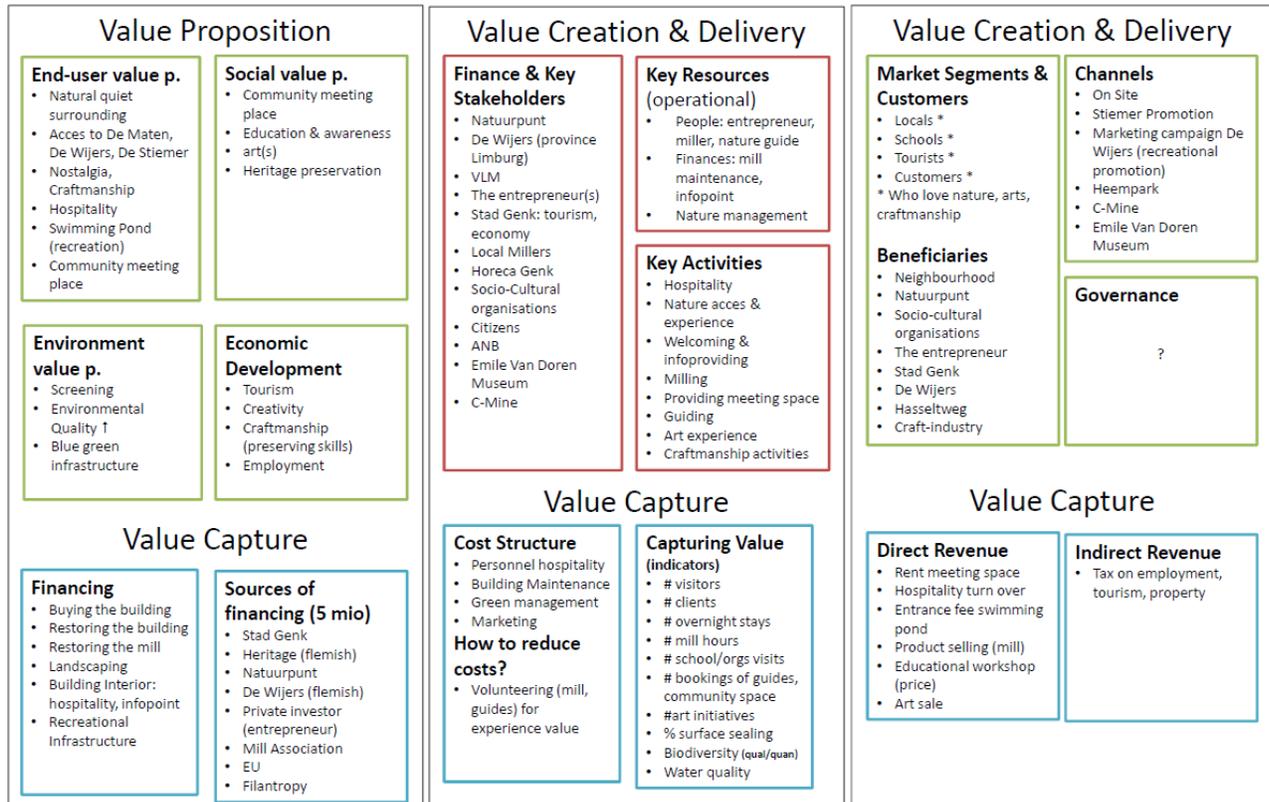


Figure 22 - nature based solution business model canvas for the Slagmolen

The city of Genk wants to purchase the site on condition there is a perspective on a profitable business model for exploitation. Currently there are two parties interested in the exploitation of the site: a nature conservation ngo (Natuurpunt) and a social entrepreneur who currently has an ice-cream parlour. The business consultant is exploring the possibilities of co-creating a business model with these and if necessary other parties. This collaborative approach will mean reduced dependency on public sector funding for on-going operations which will contribute to a more sustainable business model. The business model canvas approach will be used to build a common understanding between partners.

### 6.3 Planning financing and business model of Stiemer valley

In the 2020-2025 policy period, the focus will be on implementing 4 pilot projects as catalysts for the spatial transformation of the valley. The city will play a leading role in these projects and the city will draw up an investment plan.

The 2020-2025 pilot projects are estimated at a total budget of € 13.8 million. For every project a financing strategy has been determined.

- **Slagmolen - De Wijers reception gate as a social catalyst: € 3.2 million**  
For the Slagmolen site there is still around € 400,000 Flemish subsidy for land development available for phase 2, which could be used to finance parts of the landscaping. Furthermore, for the restoration / renovation of the mill and a small part of the mill building, which are protected as a monument, there are Flemish heritage subsidies available. Finally, third-party financing is also sought since they have to take on an operation. After all, the city made the purchase of the mill building conditional that it only proceeds with the purchase if a profitable business model is available.
- **Gardens of Waterschei - a green lung for Waterschei (excluding overflow treatment): € 3.6 million**  
This project meets the conditions for an urban renewal project of Flemish Urban Policy. This project will be put forward as a possible urban renewal project for Genk during the consultation with the person in charge of this subsidy channel. In view of the multifaceted objectives in this project and the integrated, innovative nature, we believe that a European subsidy can also be attracted. Possibly a subsidiologist could detect the most suitable EU subsidy programme for us.
- **Valley route - connecting and experiencing through the Stiemer valley: € 2.5 million**  
We will try to recognize this route as a supra-local functional cycle route network and in that case the province will subsidize 90% of the path. Furthermore, this route has an added value on a regional scale by connecting 2 tourist poles, namely the National Park 'Hoge Kempen' and De Wijers. An investment vehicle called 'Limburg Strong Brand' is potentially interested in investing in this route.
- **SUDS & SODA - towards a vital and climate-robust neighbourhood: € 4.5 million**  
In March 2018, the city of Genk, together with the "water partners", submitted the project proposal "SUDS & SODA" to the European "Urban Innovative Actions (UIA)" initiative. Unfortunately, the grant was not awarded. In the following months, Genk looked for alternative sources of financing. At the end of 2018, the city submitted a proposal to receive a Flemish subsidy for a limited part of the SUDS & SODA project which was granted. This part of the project was christened "WIJWATER".  
In parallel, the Stiemer team is negotiating with VMM to partly finance this pilot project through regular subsidy channels. In theory, this project does not fully match the current water policy. However, all water partners believe that this pilot project indicates the right direction for future sustainable water management in Flanders. They informed us they will finance a part of the project. Plan is to also convince the other water partners to co-invest.

These projects are taken up in the draft policy plan and budget of 2020-2025. Budget will be decided upon end 2019. The financing part by the city of Genk is split over capital investment budget and operational budget within the spatial department (nature management, bicycle connections, roads and water-related investments).

Given the limited investment capacity of the city, attracting external financing will certainly be a priority. There are various small grants at provincial and regional level channels for nature, water, recreational infrastructure, etc. It is important to tap into various subsidy channels in integrated projects. As a number of government agencies have been closely involved with the Stiemer valley for many years, these partners regularly identify potential channels and also help with lobbying. These grants often require co-financing from the city: e.g. a subsidy of 50% was obtained for the construction of the tree house of the Junior Team (see Section 5.3.2) and associated upgrading of the environment for a total investment cost of € 50,000. These are limited amounts but often provide a major incentive for carrying out concrete actions in collaboration with various partners (for the tree house, 3 different partners were involved: Natuurpunt, Luca School of Arts, Gigos youth work). Larger financing channels are available at European level e.g. Life +, Interreg, ERDF. However in a small scale city as Genk, limited capacity is available for attract this type of funding.

In addition, critical thinking about the role of the city versus other actors is crucial to arrive at innovative, hybrid business models. After all, other actors can also play a role in the development of the valley and help to invest. In order to move forward with this ambition the business consultant was added to the Connecting Nature team.

#### **6.4 Reflection: opportunities and barriers**

- External funding is an important leverage to form partnerships and speed up projects;
- A strong dependency on public funding is a risk
- It is important to secure sufficient capacity and budget at city level in a policy plan
- It is hard to move from theory to practice, from creating a business model canvas to implementation. A dedicated person with the right experience is necessary to make implementation plans.
- Lobbying on political level can be powerful in obtaining funding
- A strong partnership build on trust is a necessary starting point for co-creating business models

## **7 Economic development and entrepreneurship**

One of the goals of the Stiemer programme is to connect nature with entrepreneurship. This means exploring and stimulating economic opportunities linked to the Stiemer valley and their development. This is not a simple task for the Stiemer programme. The Connecting Nature team has little experience or expertise in the explicit pursuit of economic goals in the context of a spatial transformation process. This gap can be filled through means of the European project Connecting Nature by starting cooperation with the business development consultant. This person will actively seek opportunities for economic development as part of the Stiemer programme and will attempt to stimulate entrepreneurship.

### **7.1 Role of entrepreneurs in the search for natural solutions**

The goal of 'connecting nature with entrepreneurship' was included inspired by Connecting Nature. Europe has the ambition to become the world leader in 'natural solutions' for complex societal challenges. Natural solutions are more sustainable in comparison with technical solutions, increase in value over time and are multifunctional. A smart government enters into alliances with all sections of society in its search for these solutions. The business community and entrepreneurs can potentially play an important role as innovators, service providers or product developers.

The overflow problem in the Stiemer is such a complex problem where a role can also be played by entrepreneurs. For example, the solution in the form of decentralized, multifunctional water management (SuDS) still offers many opportunities for new entrepreneurship. The implementation of SuDS requires integrated planning, cost-efficient solutions for reuse and infiltration, specific maintenance, etc. Moreover, this transition is not only necessary in the Stiemer valley but also on a wider scale in Flanders. The City of Genk wants to actively explore and encourage entrepreneurship related to SuDS in the Stiemer programme.

### **7.2 Stiemer deals as a catalyst for economic development and entrepreneurship**

The development of the Stiemer valley into an attractive blue-green artery means an upgrade of a neglected part of the city. Increasing the attractiveness of the valley can reflect on the environment and create a new dynamic between city and valley bring. More people and activities in the valley can generate more economic activities in the valley and / or the adjacent urban fabric. In many spatial transformation processes, this is an indirect goal or side effect that is often achieved organically and spontaneously. The Stiemer programme sees the stimulation of economic development and entrepreneurship as a direct goal and will actively develop a strategy for this. One of the elements in this strategy is the conclusion of voting deals with companies and entrepreneurs who see opportunities in linking their goals to the Stiemer goals. The focus on creating social added value with respect for the natural environment is a guiding principle here.

### 7.3 Slagmolen, Stalenstraat and Vennestraat as business hubs in the Stiemer valley

In the Stiemer valley there are a number of places with a clear economic fabric or with potential in that direction today: Stalenstraat and Vennestraat as the former trading streets of the mining sites in Waterschei and Winterslag, located on the edge of the Stiemer valley. The historic site of Slagmolen with the potential as a unique place, strategically located in the Stiemer valley, between the city centre and a nature reserve.

During the mining era, Vennestraat and Stalenstraat flourished. However after the closure of the mines in Genk, the trading activity decreased. The city is committed to revitalise these streets, which was already successfully completed for Vennestraat. Mentally and physically linking these streets to the nearby Stiemer valley could provide a considerable added value in the reinforcement of these streets. The Stiemer could connect these streets with other parts of Genk in by providing slow mobility connections way. Moreover, the landscape qualities of the valley can increase the experience and quality of life of the streets as blue-green fingers.

Where Vennestraat has undergone a successful transformation in recent years into 'street of the senses', *Stalenstraat* is still in search of an identity and its development strategy. One of the elements of this identity could be the green identity of the Stiemer valley, located in the 'backyard' of the Stalenstraat. Making a clear and attractive connection between the trading activities and the green valley could contribute to the revitalizing the Stalenstraat, the physical connection of Thor Park (refurbished mining site of Waterschei) and Stalenstraat via the Stiemer valley is also considered a potential catalyst for strengthening the businesses in the Stalenstraat.

A physical link between *Vennestraat* and Stiemer valley is less evident due to the presence of a busy traffic way in between. A pedestrian tunnel at the Hoefstadstraat, a side street of the Vennestraat, may offer opportunities. Hoefstadstraat is a breeding ground for various initiatives such as a bio market, a sustainable restaurant, a community garden and a living lab. A number of local actors see opportunities to increase the perception and attractiveness of the street by making it greener, car-free and better aligned with the Stiemer valley and the rest of Genk. The city will help realize this ambition through a Stiemer deal.

## 8 Learning process

This chapter describes how the Stiemer programme team monitors and evaluates the implementation of their nature-based solution strategy.

It is essential to pay constant attention to the process, and to closely monitor and evaluate it. Reflection is a key concept here: by regularly zooming out and reflecting on simple questions such as “What are we actually doing?”, getting lost in complexity could be prevented.

### 8.1 The reflexive monitoring methodology

Innovative urban development projects such as the Stiemer programme are characterized by a high degree of complexity at different levels. The Stiemer programme is a transdisciplinary project with a wide range of objectives (multi-issue), in collaboration with a multiple stakeholder (multi-actor), and comprising various scales and policy levels (multi-level). The complexity is closely related to the urban development *process*. It is not just about *what* happens, but also about *how* things happen and *why*.

One of the most important challenges in such projects, if not the most important, is getting grip on the complexity. This can be split into two levels.

1. System analysis : the need for insight into the complexity and understanding the system
2. Influencing the system: based on these insights, one aims to be able to influence the system and accelerate towards the desired impact.

For this, a learning process is needed. A learning process based on *reflection* for analysing the system, and based on *reflexivity* in order to be able to contribute to the systemic change.

In complex projects, reflection and reflexivity are often done implicitly and intuitively, without further attention. Within the Stiemer programme, we try to integrate reflection and reflexivity explicitly by adopting it as an integral aspect of the programme. We believe this contributes to more efficient processes and more effective results.

In the learning strategy of the Stiemer programme, three different elements can be distinguished: 1) the Stiemer loft, 2) reflexive monitoring, 3) the Stiemer Conclave

### 8.2 Visualising the Stiemer programme: the Stiemer loft.

The Stiemer loft is a creative space in the town hall, dedicated to and for the Stiemer programme. Shortly after the start of the Connecting Nature project, we have taken the liberty to *squat* an empty loft-like room in the town hall and set it up as the Stiemer loft, using recycled office material, plants, seats, etc. that were found in the town hall. The Stiemer loft is used as the meeting space for project meetings, workshops, brainstorming sessions in the context of the Stiemer programme.

This approach may seem rebellious and impulsive, but it has been a thoughtful and strategic choice. We have done this for 2 reasons:

- *From 1D to 2D* . The typical tools in traditional policy making can be considered as one-dimensional: word processing software, email, rigid meeting structures, etc. This makes it difficult to clearly capture, document, communicate and hence fully grasp the complexity of the Stiemer programme. We were looking for a space in which we could visualize the complexity by mapping the information in 2D. As an alternative to traditional approaches, we started to unravel the complexity of the project by making different schemes, maps and diagrams and sticking them to the Stiemer loft's wall. This contains system analyses, project timelines, stakeholder diagrams, geographical maps, etc. This information is permanently present on the walls and is regularly updated or renewed. On one hand, these exercises allowed us to gain a lot of insight into the programme and its underlying systems, and to look at things in different ways. On the other hand, the Stiemer loft makes it easy to give project partners or other stakeholders the necessary insight: walking them from poster to poster allows you to tell the story of the Stiemer in a clear, powerful and enthusiastic way.
- *Promoting a different way of working*. We are convinced that a different way of working is needed to effectively achieve the goals of the Stiemer programme. The Stiemer loft is meant to be an incubator for this: the space has a different atmosphere than all other spaces of the town hall, and we deliberately experience with creative methodologies for the activities in the loft. We believe we are succeeding in creating a different vibe around the Stiemer programme. In many cases this is contagious and leads to enthusiasm. In some cases, however, this also leads to resistance.

### 8.3 Reflexive monitoring: a continuous learning process

To closely monitor the process of the Stiemer programme, we use the technique of reflexive monitoring. Reflexive monitoring allows you to continuously monitor what you do, how you do it and why you do it, and to take follow-up actions based on these insights.

Reflection and reflexivity are central to reflective monitoring. Reflexive monitoring essentially comes down to adopting a reflexive mind-set and thereby creating the habit of framing things that happen within the project context in a broader perspective. Reflexive monitoring offers tools to stimulate the necessary reflection, to integrate the learning process into the project, and to act upon the learning lessons.

The city of Genk, in collaboration with VITO, gained initial experience with reflexive monitoring in the 2014-2016 period. In the context of Connecting Nature, a full reflexive monitoring process for the Stiemer programme was developed by the city of Genk in collaboration with DRIFT, consisting of the following elements:

#### 8.3.1 The Stiemer diary

Every member of the Stiemer team keeps a diary, inspired by the technique of bullet journaling. This is not an extensive diary: based on a few keywords, each team member keeps a record of what happened on that day, or what he or she believes is noteworthy in the context of the Stiemer programme. All aspects of the process can be included here.

### 8.3.2 The monthly reflection sessions

Once a month there is a joint reflection session in which the diaries are put together. One of the team members takes the role of *monitor*. He or she leads the meeting, facilitates the discussion and takes notes. During the reflection session, the following steps are taken:

- **The dialogue:** In an open dialogue, the different team members share what they have written that month. We question each other about this and check whether we have made similar observations.
- **The reflection:** Based on the resulting conversation we try to come to reflection. We discuss why we have written things down, we discuss the importance of certain events and how they can be linked to other patterns that we observed earlier, ...
- **Critical Turning Points:** Based on the reflection, we arrive at 1 common diary in which we only record the 'critical turning points'. These are certain 'tipping points' that have taken place in the last month, or events whose relevance we can put in a certain perspective (despite the fact that the event may seem trivial in itself)
- **Drawing up the Dynamic Learning Agenda:** Based on the above elements, we are updating the so-called 'Dynamic Learning Agenda'. We try to find out what the learning questions are behind the critical turning points. We reflect on this and ultimately formulate a number of learning questions.
- **Follow-up actions:** Based on the learning questions, we examine what actions or strategies we can follow to provide an answer to the formulated learning questions. We discuss together what we can do and how we will tackle this in concrete terms. We also note these actions.

Below, an extract of the Dynamic Learning Agenda of the Stiemer programme is given as illustration.

Critical turning points	Learning questions	Follow up actions
SUDS site trip to Waterschei with various partners: exploration of feasibility. General perception: more barriers than opportunities (17-12-2018)	How to have dreamers and do-ers cooperate successfully starting from their own capacity and strengths?	Creating a new governance structure in which 1) different profiles can reach their full potential, 2) the vision can be realised in an effective and flexible way --> how this question can be linked to reflexive monitoring process?
	How to convert planning fatigue into new dynamics?	Further exploration of the need for an 'intermediate study' (between Masterplan & implementation plan) as e.g. articulated for SUDS Waterschei. After site trip to Waterschei: new steps for further convincing the partners of opportunities.
	How to reduce the stretch between vision and implementation, and accelerate the step towards realisation?	

How to find the right balance between and more technical expert approach (from 'professionals') and a more emotional approach based on concerns (e.g. from Natuurpunt, citizens)?

How to find the right balance between heart (emotion - intuition) and mind (ratio)?

Figure 23- Reflexive monitoring example (Source: city of Genk)

### 8.3.3 Coaching session

A reflexive monitoring coaching session follows a few days after the reflection session with the Stiemer team. Via video conferencing, under the guidance of the DRIFT, the output of the session (critical turning points, dynamic learning agenda, follow-up actions) is discussed with a number of academic partners within the Connecting Nature consortium. By giving these external parties a look at the process, a different perspective is added to the reflection, which can deepen the insights further.

### 8.3.4 The semi-annual eye-opener workshop

Every 6 months we hold a feedback session with the internal clients or 'project sponsors' of the Stiemer programme, namely the mayor, the deputy mayor and the director of the spatial department. In this eye-opener workshop, we bundle the most important learning lessons or conclusions from the past months, and we discuss these in an open and informal way. We broadly examine to what extent the project meets expectations, and whether we are actually achieving and / or pursuing the intended impact. This is also a forum that makes it possible to embed learning lessons from the Stiemer programme that have implications for the wider city organization on a larger scale.

## 8.4 The Stiemer Conclave

Reflexive monitoring can be seen as a way to switch between the strategic level and the operational level, between thinking and doing. The chosen methodology forces you to switch between these levels almost continuously in the process. We have found that this continuous switching after a while can lead to a lack of sharpness. Sometimes there is a need to zoom out longer and to consider the strategy more thoroughly. To this end, we have a conclave every 6 months within the Stiemer programme: one in the winter and one in the summer. During this conclave we focus with the Stiemer team in the Stiemer loft for 2 days full time on the Stiemer programme. We determine the agenda in advance. We elaborate on a number of fundamental aspects of the Stiemer programme that we feel need specific attention. For example, the implementation strategy from Section 2.2, the Stiemer deals from Section 2.2.2 or the goals from Chapter 1.3.1, all find their origin in one of the Stiemer conclaves. In that sense, the conclave can be seen as a milestone in which the strategy is refocused for a period of 6 months.

We notice that this format of a 2-day conclave is very effective and efficient. So far we have succeeded in making substantial progress at every conclave in a number of crucial areas, which has always given new energy and courage.

## 8.5 Reflection on the learning process

- Below, some reflections based on our experiences with the learning process can be found.
- An explicit learning process requires a considerable effort in time. However, we believe this effort is worth the cost for such complex projects as the Stiemer programme.
- Bullet journaling: we learned that it depends on personal preference whether you make a daily habit of completing the bullet journal, or whether you do it on weekly or monthly interval.
- The reflexion process: an intense dialogue on the bullet journal entries is needed to come to common reflection. Participants should question each other: 'why do you think so', 'what do you think about this'?
- Setting up the dynamic learning agenda: in order to come from the reflexion process and defining the critical turning points to the dynamic learning agenda, it is necessary to zoom out a bit and try to see which 'events' are linked to a similar pattern. Try to articulate the learning question that is behind this pattern
- Defining follow up actions: we learned that we should also make sure to integrate our follow up actions into our regular team meetings. The progress of these actions should be on the agenda of our regular team meeting in order not to have completely parallel processes (reflexive monitoring meetings vs. regular 'project management' team meetings)