



**URBACT**  
Driving change for  
better cities



# Evolving into a **Bee Path City**

THE GUIDELINES AND THE TRANSFER JOURNEY  
OF THE BeePathNet NETWORK CITIES

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Dear reader,

This is a shortened edition of the full guidelines **The evolution steps toward a Bee-friendly city' guidelines**, where we summarise all key aspects of our transfer journey and which was first developed in 2020, in close cooperation with first five transfer city partners of the BeePathNet Network. The present document is a pocket edition – though for big pocket – meant to encourage new cities to follow our steps and, hopefully, read the full version of the guidelines – which is almost five times bigger. In this pocket edition we add links to some inspiring stories and good practices from additional four cities that joined us in the BeePathNet-Renewed Network, from 2021 to 2022.

We must emphasise that both documents are a result of the BeePathNet and BeePathNet-Renewed Transfer Networks, which were co-funded and implemented under the URBACT framework. This is also why both documents heavily rely on the URBACT methods, tools and even vocabulary. For example, the Transfer Network (TN) is one of the three types of projects developed under URBACT III Programme. Similarly, the URBACT Local Group (ULG) is a group of stakeholders working together to address relevant issues and to co-design a long-lasting strategy at local level. To make your experience of reading both guidelines even more fruitful, we invite you to further explore the URBACT Method, tools and approaches at [urbact.eu](http://urbact.eu). If you would like to know more about the participatory approach and tools used in both projects see page 15 of full guidelines.

The pocket digital version of the guidelines is available in Bulgarian, Croatian, English, French, German, Greek, Hungarian, Italian, Polish, Portugal, Slovenian and Spanish, though full guidelines are available only in English. You can find all versions at [urbact.eu/bees](http://urbact.eu/bees).

# Evolving into a Bee Path City

## Foreword by URBACT

# Have you heard the buzz all over Europe? There is plenty of food for thought...



Bees are among the most important pollinators in our ecosystem. According to the United Nations Food and Agriculture Organisation's report '[Why bees matter?](#)', three out of four crops that are intended for human use across the globe, depend somehow on pollinators. As a matter of fact, pollinators affect 35% of the global agricultural land. In URBACT's transfer cities is no different.

Sadly, due to changing environmental conditions with habitat loss and invasive species, the climate emergency and the use of pesticides, according to the European Commission [European Red List](#) bees are endangered. Agriculture and, more broadly, food systems contribute to a large part of the greenhouse gases' emission. They are a primary cause of environmental degradation and have an undeniable impact in socio-economic and health inequalities. The conventional way we produce, distribute, transform, transport and consume food is both a weakness and leverage for climate action.

Cities are crucial drivers for cultural, social and economic change, it is also estimated that 70% of the world's food is consumed in urban areas. Ljubljana's (Slovenia) efforts, as an URBACT Good Practice and throughout both editions of the BeePathNet Transfer Network as a leading city, are living proof of what can be achieved at local level, as well at a European scale. The BeePathNet city partners bear witness to what bees can bring in terms of supporting local businesses, educating children, creating thriving communities and pushing for more green ways to produce and consume food.

In this regard, URBACT has an extensive menu of different projects, networks and other initiatives ranging from bees to urban gardens and even school canteens. Thanks to URBACT, over 60 cities have taken the lead towards more sustainable local food ecosystems. The programme has partnered up with **Eurocities**, the **Milan Urban Food Policy Pact**, **IPES-Food**, **Nourish Scotland** and **ICLEI – Local Governments for Sustainability**. It has also provided policy and dissemination support for the Glasgow Food Declaration and UnPlusBio's food exception in the public procurement opinion article.

Gathered under the URBACT Knowledge Hub activities ([urbact.eu/food](http://urbact.eu/food)), all content mentioned above is available to a wider audience. A special focus is given to 10 key ingredients for change: strategic policy-making, production, transformation, distribution, jobs and skills, solidarity, community-building, marketing and branding, circular food education and awareness-raising. Likewise, the present "pocket" guide is an enriching resource to foster knowledge and share practices with the civil society, city practitioners and elected representatives over the EU and beyond.

We wish you a fruitful reading and keep the buzz going!

URBACT team

## **Foreword by Maruška**

# **Enriching the Urban Jungle with Bees**

**How did an idea turn into a good practice and  
the Good Practice into a transfer journey?**

**And how did our transfer journey became a  
mission of ten cities.**

In front of you is not only a guide to urban beekeeping – well, it kind of is in essence! However, to me it is much more than simple guidelines...

This is why, I invite you to read it rather as a story about a humble idea, its awkward beginnings and all the wonderful people who recognised its potential, their efforts to make sure it grows, and a unique EU cooperation programme which finally called the original idea by what it has always been: – a Good Practice – recognised by the URBACT label.

And this was only a start, because at that moment, the story turned into a journey, where the team members of the City of Ljubljana suddenly found themselves accompanied by nine passionate and creative transfer partner cities and excellent and committed experts. It is only at the end of this journey that I can see how fortunate we actually were and what a wonderful experience it has been.

A passionate foreword, right?! A fair warning to all of you interested in urban beekeeping, the BEE PATH Good Practice or its transfer to your own city is a mix of 10% creativity, 20% hard work and operational support, 30% voluntarism, stubbornness, and will-power and 40% pure passion. A specific “cocktail” is needed to evoke mind-set shift in our citizens and change our urban jungles for the better.

And you know what? Just as you find yourself right now, Ljubljana started with nothing more than an idea.

Relying on the “cocktail” recipe and the support from the city administration, in just three years, we created a network of 35 voluntary members from various backgrounds – beekeepers, educational, cultural and health institutions, companies, NGOs, etc. We designed the BEE PATH to become a network of stakeholders, a touristic and educational path, an educational programme, as well as a think-tank and an incubator for development of new entrepreneurship ideas in close cooperation with the members.

But then we came across this fantastic opportunity to transfer our BEE PATH Good Practice to five other EU cities, within the framework of a URBACT Transfer Network. And so, the BeePathNet was born. It was designed as a pilot project, aimed at confirming the transferability of the BEE PATH Good Practice, as well as flexibility and sustainability of its solutions. Within its first round, BeePathNet, we transferred our good practice to five EU cities. The successful transfer was once again rewarded by URBACT and we were given the privilege to share the knowledge gathered from this experience with additional four cities, within the BeePathNet-Reloaded Transfer Network.



**A foreword by  
Maruška Markovčič,  
the BeePathNet  
Queen Bee**

At the beginning, our transfer partners were sceptical too – stating environmental, cultural, operational, political and even legal differences. But four years later, they all successfully adapted the BEE PATH Good Practice into their own cities. And not only that, they integrated their own tweaks, twists and particular good practices into it. They have moulded the transfer process into their own unique bee paths, as well as supported the improvements and future evolutions of Ljubljana's BEE PATH.

But the transfer cities did not do this alone. Just as we in Ljubljana, they have created voluntary citizen local groups, also called as the URBACT Local Groups – the “heart and soul” of any bee path. Today, at the end of the BeePathNet Network, we can be proud of over 450 local group members in our ten Bee Path Cities. And this is just a start...

So, how did we do it? This is for us to explain and for you to discover in these guidelines.

However, there is no need to just copy and paste all the ideas that are showcased in the following chapters. We just hope that they will inspire you, so, feel free modify them to your needs. Put into practices the initiatives in the way you see fit or, even better, come up with your own ideas, reach out to us and join our network of Bee Path Cities. Let us learn from you!



**Dear Adele, Kristijan, Nuala, Eddy, Stefanie and all members of a very unique  
URBACT Secretariat**

Thank you for unlocking our potential, allowing us to grow and spread across Europe. We can only hope that our hard work and sincere gratitude is enough for all the support we received from you.

**Dear special and wonderful transfer partners, you all live in cities with their own  
wonderful characters.**

Believe it or not, when I look at your bee paths, they reflect the nature of your own city, but also the character, enthusiasm and wonderful ideas of you and your URBACT Local Group members. I learnt so much from you in these four years, thank you for enriching me and Ljubljana's BEE PATH. I sincerely believe we will continue to grow and evolve together in the future.

**Dear Mayor and colleagues from the City of Ljubljana.**

Without faith in this “silly idea” and your support in the following years, there would be no BEE PATH and no BeePathNet Networks. We can all be really proud of what we have achieved together and what we can look forward to in the future.

This should go without saying, still, I believe it has to be said... All these results would not have been possible without our **BeePathNet core management team** and devoted external support. So, Gorazd, Luka, Branka, Urška, Klemen, Vesna, Ema and Špela, thank you for your ideas, energy, hard work and enthusiasm. I feel that this adventure brought us closer together and turned us into a real bee family!

**Maruška Markovič**  
the BeePathNet Queen Bee

A handwritten signature in blue ink, appearing to read "Maruška Markovič".

# Evolving into a Bee Path City – The guidelines and the transfer journey of the BeePathNet Network cities

In this shortened edition of the full guidelines ‘The evolution steps toward a Bee-friendly city’, we summarise all the key aspects of our transfer journey. We hope that it will encourage new cities to follow our steps and, later on, to open and read the full version of the guidelines – which is almost five times thicker than the present guide. The original version of the guidelines was developed in 2020, in close cooperation with the first five BeePathNet transfer city partners. In this edition we add links to some inspiring stories and good practices from the additional four new cities that also transferred Ljubljana’s spirit, within the following two years as partners of BeePathNet-Reloaded Network.

In this “pocket version”, you will find a theoretical part of key modules and examples of innovative stories from ten EU cities from eight countries: Ljubljana (Slovenia), Bansko (Bulgaria), Osijek (Croatia), Nea Propontida (Greece), Hegyvidék – XII District of Budapest (Hungary), Bergamo and Cesena (Italy), Bydgoszcz and Sosnowiec (Poland) and, at last, Amarante (Portugal). This index will also tell you what additional insights are waiting for you in the full version of the guide.

## Chapter I

### Evolution: from the City of Ljubljana’s BEE PATH to BeePathNet

1

Creators of the City of Ljubljana’s BEE PATH did not stop with just a physical touristic path but evolved it into a network of different stakeholders, developed educational programs and a beekeeping related “THINK-TANK” ...

Rewarded with the URBACT Good Practice label, Ljubljana decided to transfer its BEE PATH good practice to other cities. These European cities already shared some similarities, altogether they covered the majority of the right climate conditions for beekeeping, various types of bees, as well as different situations related to the public perception of bees among the general public. Very diverse, yet excellent results, in all partner cities confirmed the transferability of the original BEE PATH good practice, which was awarded by URBACT.

## Chapter II

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### The key thematic modules used by the BeePathNet Network

Experts from the cities of Ljubljana (Slovenia), Amarante (Portugal), Bydgoszcz (Poland), Cesena (Italy), Hegyvidék (Hungary) and Nea Propontida (Greece) developed six thematic modules, where you can also find inspiring stories from ten cities.

|                                                                                                           |    |
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## Chapter III

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### All good things come in threes!

Before you start your own transfer journey, we are giving you three things to keep in mind, three aspects that need to be connected at all times:

**MIND** – an overview of BeePathNet key outputs for you to widen your horizon.

**WORDS** – some friendly advice by Klemen Strmšnik, URBACT Lead Expert, and Vesna Erhart, Network communication officer. Both were deeply involved in this bee journey management.

**ACTION** – an invitation for you to join the Bee Path City movement.

# Chapter I

## Evolution: from the City of Ljubljana's BEE PATH to the BeePathNet

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## 1.

# The City of Ljubljana's Good Practice



Beehives on SKB Bank rooftop  
Author: Luka Dakskobler

## BEE PATH – looking back to Ljubljana's tradition and forward to the future

In 2014, the Section for Rural Development of the City of Ljubljana started a variety of activities – following the guidelines of the Beekeepers Association of Slovenia – for establishing a bee-friendly urban environment and the active development of local urban beekeeping.

Due to the complexity of the challenges related to the activities, a working group was created and tasked with the mission to accomplish the outlined goals. The working group prepared a programme, named the BEE PATH. This programme is, in essence, an action plan to put into practice Ljubljana's Rural Development Strategy 2014-2020. Its activities were and continue to be financed by municipal budget.

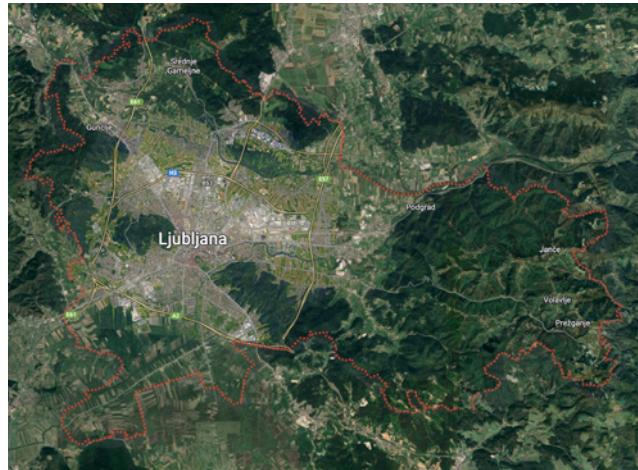
BEE PATH was designed and based on the participatory principles that were agreed upon by the city officials and the key stakeholders. It counted with the support of experts and decision-makers. This proved to be an excellent practice, which allowed the BEE PATH to become much more than just a working programme or a project. It became a synonym for all activities linked to bees and beekeeping in Ljubljana. Outgrowing its original idea, today the BEE PATH represents the following:

- **IT IS A PHYSICAL PATH** designed to connect urban and rural parts of Ljubljana into one strongly connected unit. It connects beekeepers producing honey and

**BEE PATH became a synonym for all activities linked to bees and urban beekeeping in Ljubljana.**



Skyline of the City of Ljubljana  
Source: Ljubljana Castle



Green wedges in the City of Ljubljana  
Source: Google maps

### The BEE PATH outgrew its original idea!

Today it delivers messages on the importance of environmental protection, food self-sufficiency and preservation of biodiversity.

other bee products with a network of different institutions and organisations related to bees and beekeeping. In this way, visitors can experience Ljubljana from a different perspective they are introduced to cultural and natural heritage linked to beekeeping and witness active beekeeping processes, as well as tasting and buying honey and other types of bee products.

- **IT IS A NETWORK** of local beekeepers and their associations, cultural, educational and health organisations, enterprises and NGOs, as well as individuals interested in beekeeping and its development in urban areas.
- **IT IS AN EDUCATIONAL PROGRAMME** devoted to raising awareness about the importance of bees amongst key target groups, as well as promoting the holistic and sustainable management of urban and rural areas.
- **IT IS A THINK-TANK AND AN INCUBATOR** for the development of new entrepreneurship ideas in the fields of beekeeping and new bee products and services.
- **IT IS A MOVEMENT** that connects all stakeholders and citizens interested in maintaining high environmental awareness, the preservation of bees in urban areas, and further development of urban beekeeping in Ljubljana, as well as being a strong advocate of the international World Bee Day initiative.

The primary task of the BEE PATH group members today is to promote different activities connected with urban beekeeping and coexistence with bees in the city – delivering messages on the importance of environmental protection, food self-sufficiency and preservation of biodiversity. Due to their joint efforts and achievements, bees are slowly becoming an increasingly important part of Ljubljana's daily life.

However, the story continues with the BeePathNet experiences, in the framework of an URBACT Transfer Networks. Urban beekeeping, in its broader context, offers BeePathNet transfer city partners and other European cities numerous possibilities for further development of the BEE PATH concept, as well as new products and services arising from it. This is best proved by the fact that the BEE PATH is by no means a finished project, but rather a work in progress – growing and evolving every day.

## About Ljubljana

**290 000 citizen and over 180 million bees call Ljubljana their home.**

**BEE PATH is based on a simple idea...**

**If we create better living conditions for pollinators, we create better living conditions for our citizen!**

Ljubljana is the political, administrative, cultural, and economic centre of Slovenia, where 290 000 citizens and over 180 million bees not only co-exist but also thrive.

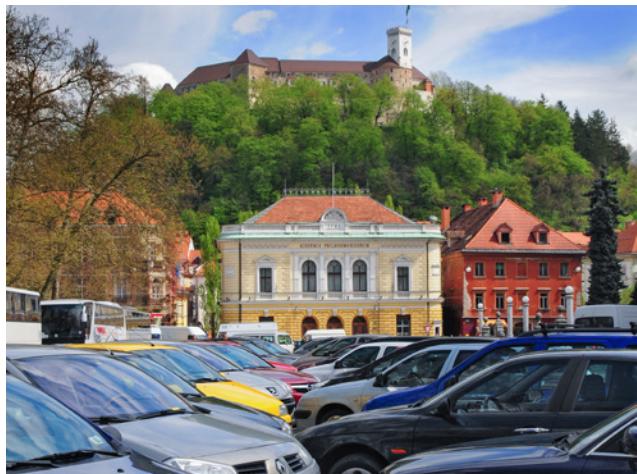
Size-wise, Ljubljana classifies as a medium-size Central European city. It has an important geostrategic position, as it is situated on a natural crossroads from Central Europe to the Adriatic Sea and the Balkan Peninsula and presents the lowest passage from Western Europe across the Alps to the Pannonian Basin. European transport corridors V and X cross here and provide Ljubljana with good connections to major European cities. Geographically, it occupies the southern part of the Ljubljana basin along the banks of the Sava and Ljubljanica rivers. The Ljubljana Marsh, Rožnik, Golovec, and Ljubljanski grad hills represent green wedges, which have formed Ljubljana's urban areas in a characteristic star-shape. Almost three-quarters of Ljubljana's territory is covered by native forests, meadows and fields 20% of which are classified as nature protected areas.

Ljubljana has always been a green city with large areas of urban forests, parks, and gardens. Thanks to the local residents, the green character has been preserved throughout its rich history and, today, the city offers 542m<sup>2</sup> of public green areas per citizen. This is additionally enriched by Ljubljana's rural surroundings – the 'Green Doorstep of the City', which has an important food self-sufficiency role. Over 800 farms and 350 beekeepers operate with 4 500 beehives, keeping the link between urban and rural very much alive.

From an economic point of view, Ljubljana is a modern services, trade and tourism-oriented city with a sound industrial base in the pharmaceutical, petrochemical and food-processing industries. In the last few years, the city has been revitalised through numerous improvements. The efforts to improve the living conditions in urban areas have been recognised and Ljubljana has won several important awards by 2017 – Ljubljana became one of the Global Top 100 Sustainable Destinations (2017), the friendliest municipality to bees (2017) and the European Green Capital (2016).

|                                     |                                                                                                                                                                |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Partner institution                 | City of Ljubljana (Mestni trg 1, 1000 Ljubljana, Slovenia)                                                                                                     |
| Region and country                  | Central Slovenia statistical region, Slovenia                                                                                                                  |
| Population within the city limits   | 290 000 inhabitants                                                                                                                                            |
| Project influence/impact area       | Ljubljana Urban Region (535 000 inhabitants)                                                                                                                   |
| Area within the city limits         | 27 499 ha                                                                                                                                                      |
| Climate type / Ecoregion            | Transitional between Alpine and Continental                                                                                                                    |
| Type of land-use within city limits | Urban areas – 4 414.3 ha (16.05%)<br>Agricultural areas – 10 667.0 ha (38.79%)<br>Forests – 10 668.0 ha (38.79%)<br>Water and other areas – 1 749.7 ha (6.36%) |
| Employment by key economic sectors  | Services – 54%<br>Manufacturing, Mining and Industry – 20%<br>Trade and Tourism – 17%<br>Construction – 8%<br>Agriculture, forestry and fishing – 1%           |
| Current unemployment rate           | 7.5%                                                                                                                                                           |

Today, Ljubljana is a vibrant city, determined to implement its sustainable development vision, resolve open environmental issues, protect nature, and ensure a high quality of living for its citizens. Ljubljana is steadily strengthening its position in competition with other European capitals.



Urban renewal of Kongresni trg square in Ljubljana city centre.  
Authors: left photo Dunja Wedam,  
right photo Doris Kordić

## The Good Practice background

At the beginning of the 1970s, Ljubljana encountered an ever-increasing process of industrialisation and urbanisation. This led to the substantial enlargement of the urban area at the expense of agricultural land, forests and urban green areas. Many villages around Ljubljana were incorporated into the city's urban structure or became its suburbs. Combined with ever-growing pollution, the situation resulted in the substantially reduced quality of the environment and living conditions.

As a consequence, more and more young families moved to the suburbs in the 80s and 90s, due to the better living conditions in the outskirts of the city. This prevailing suburbanism trend led to the inevitable ageing of the city centre and older neighbourhoods, as well as their slow deterioration and, in some cases, even degradation. But, just like in nature, the old had to make room for the new and the city entered the new millennium ready for urban revival.

In the search for new development concepts, the city administration and decision-makers took Ljubljana's green character as an advantage and opportunity. Citizens quickly responded and supported the idea and it became one of the key development policies. Ljubljana's geographical characteristics led to the development of two approaches to the city's territory the urban and the rural ones.

In urban areas, Ljubljana recognised the value of its urban forests and green areas and decided to actively manage and preserve them. It also recognised the value of high-quality living conditions and addressed open environmental issues through sustainable energy, transport, waste, and water policies. At the same time, more emphasis was given to the sustainable development of rural areas. Ljubljana implemented supporting mechanisms – as co-financing, support to local products, short supply chains – which enabled farmers to continue with farming while using more ecological and sustainable approaches. New rural development strategies were based on increased production of local farming and forest products. Subsequently, Ljubljana started to expand its own food self-sufficiency potential.

Through the implementation of a new sustainable strategy 'Vision 2050' and a new Spatial Plan, the City of Ljubljana successfully achieved renewal of its urban as well as rural areas. A proof of its success came in 2014 when Ljubljana was declared winner of the title 'European Green Capital 2016'.

This was a clear signal for both citizens and the municipality that they were on the right track. It also provided a supportive and thriving environment ideas for bolder green initiatives and projects. In the following years, the Ljubljana encouraged and supported new urban concepts like urban gardening, urban forestry, and urban bee-keeping.

**The BEE PATH fit perfectly with Ljubljana's urban revival needs, as it entered the new millennium.**



The first urban beehive in Ljubljana  
– designed by architect Jože Plečnik  
almost 100 years ago.  
Author: Doris Kordić

## The Good Practice step-by-step process

**IN THE BEGINNING...** The very first activities for the preservation of bees and awareness-raising on their importance were very limited, had no common focus or goals, and had no foundations in strategic public development documents. Although biodiversity was acknowledged as an environmental priority, no special emphasis was given to bees and other wild pollinators. In fact, both topics were addressed separately.

At this stage, bees and other wild pollinators were not recognised as crucial for biodiversity preservation or food self-sufficiency. Even if urban beekeeping was already on the rise within the beekeeping community, it was not considered as an important environmental movement and it was left out from any urban planning or development plans. Awareness among citizens of the importance of bees was low and – due to excessive use of pesticides and insecticides in green public areas – the city administration itself did not support the bee-friendly environment. At that time, the municipality would only go as far as to co-finance existing beekeeper's associations, just like any other NGO.

However, in time, the City of Ljubljana identified the problem of reduced pollinator populations – mostly due to the use of insecticide and pesticide-induced bee-killings – as a serious environmental problem. In 2014, the Section for Rural Development of Ljubljana started with a variety of activities in line with the guidelines of the Beekeepers Association of Slovenia), in order to create a bee-friendly urban environment and active development of urban beekeeping.

Due to the complexity of the activities' implementation, a working group was set with the Ljubljana's representatives, beekeepers and expert's institutions, among other stakeholders. This working group prepared a programme named the BEE PATH, which worked similarly to an action plan to put into practice the Rural Development Strategy 2014–2020 at local level, using municipal budget.

**INITIAL CHALLENGES...** The process behind the BEE PATH project was not very long to be put in place. It took roughly only three years, but within this short time, many challenges were met:

Internal challenges related to the city administration and BEE PATH members:

1. How to attract members of the working group and maintain their active participation in the long run?
2. How to include urban beekeeping in the overall urban context of the city?
3. How to regulate urban beekeeping in order to ensure the use of ecological professional practices and to reduce the number of possible conflicts?
4. How to address the needs of urban beekeepers and include them in urban policies and plans?

5. How to empower urban beekeepers and acknowledge their importance in the environmental context?
6. How to attract institutions and companies to build their own green image based on urban beekeeping?
7. How to design urban forms of beehives and bee houses, in order to regulate them as urban equipment that contributes also with the built cultural heritage?
8. How to promote bees as an important indicator of a healthy environment?

External challenges related to Ljubljana's citizens and visitors:

1. How to re-connect the predominantly urban population with nature and its processes?
2. How to change the perception of bees and reduce negative stereotypes about bees?
3. How to raise awareness of the importance of bees among citizens and visitors?
4. How to develop effective and efficient educational programmes for key target audiences?
5. How to introduce urban beekeeping and present bee products to the citizens of Ljubljana and others, like tourists, professionals from the culinary and pharmaceutical industries, among other groups?

**OPERATIONAL MODEL...** To overcome the challenges described above and set up a functional and long-term sustainable operational model, the BEE PATH today works under the following key principles:

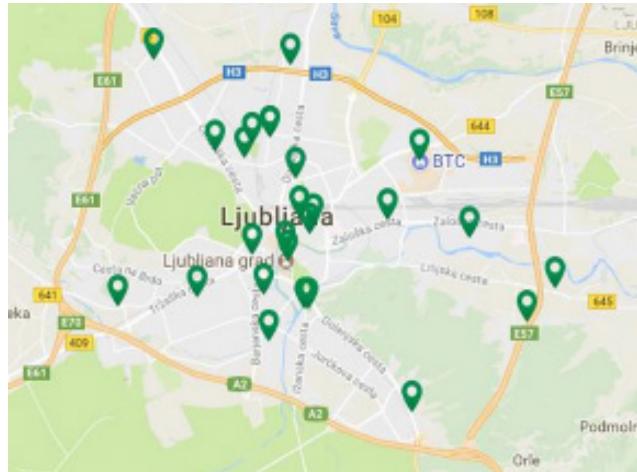
**'Supporting hand' principle** – The City of Ljubljana supported the BEE PATH project with its staff providing a coordinator who was assigned to the projects with 20% of his/her working time. The municipality has also ensured premises for meetings and funding, including the salary for the coordinator and a small project budget. However, the coordinator is only a facilitator who provides support, while members are fully responsible for the development, financing and promotion of their ideas. Ownership, as well as success or failure of activities, is exclusively in the hands of the members. This is the reason why the city encourages mainly practical and concrete ideas, with the buy-in from one or more members of the working group. If the municipality decides to develop a stand-alone project or to take part in one of the group's own initiatives, the city provides its own separate financing and necessary support.

**'Participatory and voluntary' principle** – Any individual, institution or company can become a BEE PATH member, as well as to leave the working group at any given time. There is no membership fee, but all involved parties perform their work on a voluntary basis. Members can openly communicate or cooperate within or outside the BEE PATH framework, as long as they respect the BEE PATH standards and follow its principles. They can also promote themselves on the BEE PATH website and in BEE PATH branded events.

**'Short supply chain' principle** – Direct cooperation between BEE PATH members is highly encouraged and supported, once the cooperation between local actors allows for the creation of short supply chains. In addition, this principle promotes transparency and a higher quality of the end products.

Before we dive into a more detailed description of the BEE PATH practices, it is fundamental to understand that it was developed progressively over time and in cooperation with the BEE PATH members. Subsequently, it should be considered as a flexible model that can be adapted to specific legal, cultural and environmental conditions in any city that wishes to re-use such Good Practices. The same applies for the local working groups, whose mindsets can drastically change from one place to another. In any case, the principles described above must always be respected!

**Overcoming initial challenges through city – citizen cooperation, mutual support, creativity and enthusiasm.**



Network of BEE PATH members in Ljubljana  
Source: City of Ljubljana



Regular BEE PATH meetings.  
Source: BeePathNet photo archive

Although primarily located and focused in the City of Ljubljana, the BEE PATH actually has positively impacted the whole of the Ljubljana Urban Region. This is explained by the fact that residents from the region commute every day to Ljubljana, might as be for education or work purposes. The result is that all people benefit from BEE PATH. The city itself is divided into an urban and a rural area, while the focus of the rural area is on producing honey and bee products, in the urban area the main goal is to create awareness, education, promotion and sales of such products and services – in addition to some urban beekeeping activities.

From the operational point of view, the BEE PATH consists of the following elements:

- 1. Management and coordination** – These are the tasks of the BEE PATH coordinator Maruška Markovičič. She is the BEE PATH facilitator, networker, group motivator and overall support provider. Since 2016, the coordination of BEE PATH activities has been one of her official tasks.
- 2. Regular meetings** – As you can see from the schedule presented in the following pages, regular meetings were – and still are – the key element used to inform, motivate and coordinate BEE PATH members. The intensity of the meetings has declined through time though, moving from 12 to only two meetings per year. Surprisingly enough, this is due to a positive change, as BEE PATH members became more independent and started cooperating with one another in a more direct way. The facilitation between actors has become less necessary over time.
- 3. Annual workplan and calendar** – Once BEE PATH members became more independent, this became one of the key operational elements. BEE PATH members meet once a year to develop the plan and then work independently according to planned activities throughout the year. They would only meet again at the end of the year, with the objective to evaluate their performance.
- 4. Common graphic design** – As with any other overarching project, a common visual identity is fundamental as a promotional tool. It also allows clear labelling of key BEE PATH locations, products and services. The brand is easily recognisable in awareness-raising events, for instance.
- 5. Communication tools** – Internal communication is also crucial, especially when the BEE PATH members are becoming more independent. Communication within the network is mostly done by telephone or e-mail, while the general public is addressed through the several external communication channels.
  - The city of Ljubljana web page, where all key information on BEE PATH's mission is available: how to become a member, the Good Practices, pedagogical programmes and other relevant information.

**Every BEE PATH needs an enthusiastic, proactive, communicative and persistent local coordinator!**

- The city of Ljubljana's Facebook profile and on members' Facebook profiles are used to reach out to citizens and the wider public. Facebook is particularly used to disseminate information about the various events taking place.
  - The newspaper and monthly e-newsletter of the City of Ljubljana.
  - It is also worth mentioning that the BEE PATH members regularly share information on their activities and support other members' activities related to urban beekeeping and they play an essential role in the dissemination process.
- 6. The BEE PATH and the Ljubljana Honey brands** – As previously mentioned, the BEE PATH membership is free of charge and its members can benefit from its brand when selling their products or labelling their service-providing platforms – provided that they are committed to BEE PATH's mission and actively support it. While the Ljubljana Honey brand requires the following standards that must be followed:
- The honey must be produced in the area of Ljubljana city;
  - The honey must be exclusively chestnut, wildflower or forest honey, which are the existing local types of bee pasture types;
  - Beekeepers must be BEE PATH members and have to be certified producers of Slovenian honey, protected by geographical indication under the EU scheme.
  - The Ljubljana Honey has become one of protocol gifts from Ljubljana!



"Ljubljana Honey" brand  
Source: BeePathNet photo archive

- 7. BEE PATH events** – Ljubljana organises two traditional events: the first is the 'Honey Day', a fair held in the city centre in the first half of October to promote BEE PATH members and their products and services. The second is the 'Help the Bee in the City: Plant the City with Flowers', an event that takes place in the spring in cooperation with BTC City – the biggest shopping centre. It encourages residents to grow honey plants in their gardens and balconies and, by consequence, provide additional pasture for bees as well as improving the appearance of the city. In 2016, a gastronomy-oriented 'Apple and Honey Week' event was introduced to promote honey dishes, an initiative that was well received and praised by the participants. Hotels and restaurants developed new dishes, which have since become a part of their daily menus. In addition, BEE PATH members organised several smaller events, such as the 'Honey Experience' in partnership with the Slovene Etnographic Museum on the topic of beekeeping heritage, the 'Biodiversity Programmes' in the Botanic Gardens, the 'Urban beekeeping' in partnership with the Association of Urban Beekeepers and various photographic exhibitions.

- 8. Programmes and projects** – BEE PATH members have so far developed various programmes and projects, just to name a few:

- Promotion of the urban beekeeping programme – one of the most important programmes focusing on promoting urban beekeeping and raising awareness among the citizens through lectures, photographic exhibitions and open house days at bee houses.
- The City of Ljubljana prepared an educational programme to support beekeepers and other farmers to develop their entrepreneurship idea. Several ideas have been developed using this instrument, one of the most interesting being a business idea to rent hives and beekeepers' services to companies in the city, thus supporting their green image and allowing them to use their own honey for protocol and business gifts.
- Students of the Faculty for Architecture of the University of Ljubljana developed eight ideas for bee stands and bee houses for urban areas. The blueprints for all of the ideas are freely available online for anybody who wants to build bee houses in a public area.



BEE PATH events – from awareness-raising events to planting melliferous plants and promoting urban honey.

Left and middle photo source: BeePathNet photo archive; author of right photo: Luka Dakskobler

- Tourism Ljubljana – the central tourist organisation – prepared training for tourist guides and created tailored tours along the BEE PATH in Ljubljana in several languages. Tourist guides can update their knowledge every year according to the development of the programme.

9. **Regulations and best practices** – In order to regulate beekeeping in public green areas, Ljubljana prepared special recommendations and guidelines about the necessary education for beekeepers and the distance between beehives – a protocol for installing them in public areas was endorsed by the local authority. Consequently, directions for building bee houses on public spaces were included in the Spatial Plan, while the Section for Rural Development incorporated beekeeping into the strategic context of the city and set up co-financing support systems for beekeeping in Ljubljana.

**BEE PATH EVOLUTION** – Chronologically, the evolution of the BEE PATH can be divided into three main phases:

**Development phase (December 2014 – October 2015):** conceptualisation and development of the BEE PATH concept, following public consultations and questionnaires. Consolidation of a working group and delivery of the first event ever: the ‘Honey Day’ for the launch of the path. Following its success, new funding was ensured for future activities in the following year.

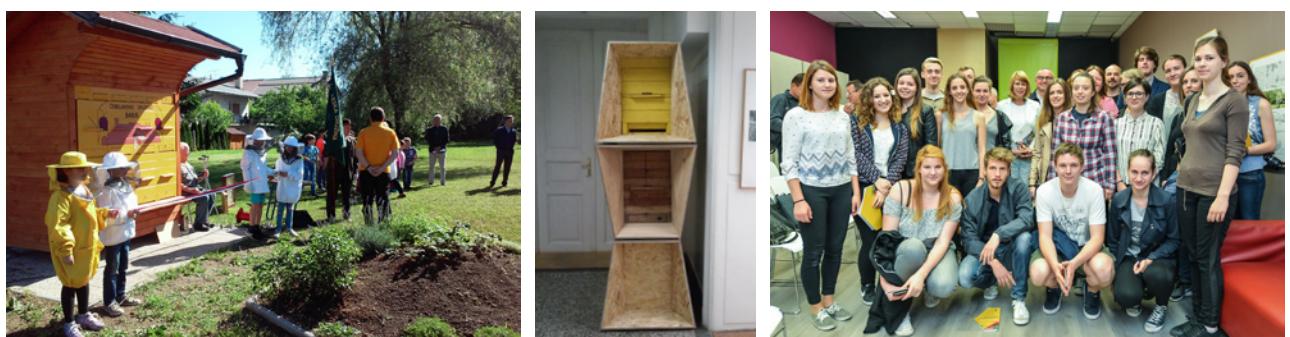
**Improvement phase (November 2015 – December 2016):** adoption of the annual work-plan for BEE PATH members, with regular meetings every two months and continuation of specific activities, as the ‘Honey Day’ and the construction of urban bee houses. As the 2016 European Green Capital, Ljubljana has dedicated the whole month of July to biodiversity and bees.

**Mainstreaming phase (January 2017 – today):** the BEE PATH became a regular public activity – it was assigned its own budgetary line and a full-time project coordinator. With an optimised workflow among all members, meetings were reduced to two gatherings per year: *one in January to prepare a programme for the whole year and the second in December to assess the work that was done. New related initiatives arise like*

**Attracting a diverse group of motivated stakeholders proved to be crucial for the evolution of the BEE PATH so far...**

**...and we are still evolving!**

BEE PATH projects – results of educational programmes from kindergarten to university.  
Source: BeePathNet photo archive



*all the events, awareness campaigns – including the development of a dedicated web platform – and the regulation of beekeeping in green public spaces.*

**STAKEHOLDERS AND TARGET GROUPS** – At the start of the transfer journey, in 2017 when the project was labelled as an URBACT Good Practice, the BEE PATH had 35 members in its local working group. However, due to its “open doors concept” the number grew up to 46 by 2022. The BEE PATH members, who compose the working groups, come from three types of key stakeholders:

- Beekeepers and their respective associations, bee-product producers and other companies involved in selling honey or other bee products and services.
- Companies like hotels, restaurants, banks, telecommunications providers, and commercial centres, as well as expert organisations in the fields of educational, research, cultural and natural heritage.
- NGOs and other individuals or organisations.

As the political, operational and financial role of the city administration is essential for the success of such an initiative, seven municipal departments and sectors are involved in the implementation of BEE PATH activities. They cover topics such as Environmental Protection, Rural Development, Real Estate, Urban Planning, Strategic Planning, Economy, Emergency Response, International Relations and Communication.

On the other hand, key target groups can be divided into the following four types:

- Residents in Ljubljana region, more specifically children, adults, seniors, families and people with disabilities.
- Companies, especially those with corporate responsibility policies, tourism-linked industry and others interested in the promotion or purchase of BEE PATH products and services.
- Various institutions, ranging from the educational, research, cultural and natural heritage to even other sectors.
- Tourists and daily visitors of the city.

**TIMEFRAME** – The consolidation of BEE PATH was rather short, it took about three years to shape this Good Practice as it is known today. Funny enough, this is nearly the same amount of time that Ljubljana took to transfer its experience to other EU cities, in the framework of an URBACT Transfer Network. Before anything, it is important to consider that cities looking to reproduce the BEE PATH model have different starting positions. They cannot base their entire transfer journey on the assumption that they will be able to copy and paste the exact same operational model from Slovenia.

**The BEE PATH is living proof that small-scale funding of citizen-driven initiatives can achieve impressive results!**

The Good Practice must be reflected upon, understood in-depth, in parallel to the contextual conditions of the Bee Path City-to-be, and henceforth called as the transfer partner city. The environment in these transfer cities must be considered. It might happen – due to various reasons – that the local context is not as favourable as it was the case in Ljubljana, back in 2014. There is no “one-size fits all” response and the necessary timeframe to implement a similar project might change drastically from one transfer city to another.

**FINANCIAL CONSTRUCTION** – The City of Ljubljana supports the BEE PATH project by covering the following costs:

- Staff cost for one coordinator (20% of the salary): estimated at € 5 000 per year.
- Premises and other costs for meetings: estimated at € 2 000 per year.
- Project budget: € 10 000 per year in the first two years of activities. In 2018, the budget was increased to € 20 000 per year.

This means that, every year, the City of Ljubljana invests something in between € 17 000 and € 27 000, these figures do not include all costs and contributions from the BEE PATH members, who collaborate in a voluntary-basis. Similarly to the time-frame, it is important to note that the stated costs are not the same all over Europe,

so the amount of necessary investments will depend on the location of the project. Likewise, public funding often might change depending on the political support to the cause, as well as the financial situation from individual country.

**RESULTS ACHIEVED TO DATE** – Within its three years of existence, BEE PATH had achieved the following results: an active BEE PATH local working group with 35 members, carrying out regular activities according to annual planning – including the series of events – the construction of the ‘City bee house’ with apiary educational programmes. In addition, pedagogical and touristic-guided activities were developed and put into practice, including visits to the BEE PATH. A ‘Honey Experience’ leisure activity was also developed in the Slovene Ethnographic Museum and two events became Ljubljana’s annual milestone: the Honey Day for the of all BEE PATH members, and an awareness-raising event on 20 May in the occasion of the United Nations World Bee Day.

In addition, following BEE PATH’s success, the new regulations and recommendations for beekeeping on public areas were widely disseminated and a SOS swarm collection service was established in collaboration with the official fire brigade (for more information on swarming please see chapter 7). Active promotion of bees and urban beekeeping was done at city-level all over Slovenia, including open days in urban apiaries pushing for urban beekeeping movement. The consolidation of the guided tours performed by tourist guides on the BEE PATH; ‘Ljubljana Honey’ brand and the Grba public garden of melliferous plants are also other indicators of the wide public uptake.

Since 2018, the focus of Ljubljana’s team turned towards transfer: as a labelled Good Practice, URBACT provided Ljubljana the opportunity to become a beneficiary city to the programme, benefiting both from methodological guidance and funding to lead a networks of cities – yes, you guessed right, the BEE PATH become a BeePathNet(work). The first round of this project, which ran from 2018 to 2021 alongside other 22 Transfer Networks, has proved to be so successful that when URBACT set out a spin-off pilot call for Good Practice cities’ to run a second round with new transfer partner cities, Ljubljana was among the nine seven cities. This is how BeePathNet Reloaded started in 2021, the pilot is set to be conclude by the end of 2022.

This is why we can proudly say that nine European cities successfully transferred the original Good Practice. However, this does not mean the BEE PATH in Ljubljana stopped evolving – quite on the contrary! The number of BEE PATH members grew from 35 in 2017 to 46 in 2022, while the number of Urban Beekeeper’s Association grew from 19 in 2015 to 50 in 2022. Several new points of interest were established, like the replica of Jože Plečnik’s urban beehive from the Lany Castle (near Prague in Chechia) were created, an educational polygon was designed and set-up, etc.

Ljubljana also heavily invested into the “Api-kindergarten” educational programme – educating 79 kindergarten mentors and introducing the whole programme in 10 kindergartens across Ljubljana. Furthermore, an educational training was held also for interested beekeepers and three of them are fully educated to accept groups of children and carry out the practical part of education – the visit to the beehive in line with pedagogic standards. Just as importantly, kindergarten mentors realized they need some on-going consultation support and four of them were nominated into a “consultation group”.

According to our own statistics in 2022, Ljubljana had 118 beehives set-up in the urban part of the city (within the highway ring). This means the density of 9,9 beehives per km<sup>2</sup> – the highest density in urban areas, as far as we know. For comparison, Paris – the “birthplace of urban beekeeping” – has the desity of 1,1 beehives per km<sup>2</sup> set-up in the urban part of the city.

However, such success also brings new challenges. For example, high beehive density is problematic due to potentially higher spread of diseases, honey bees are competing with other wild pollinators for food, etc. Due to such challenges, growing membership and new ideas, the BEE PATH is destined to continue evolving.

**SCOPE FOR IMPROVEMENT** – After only three years of operation and the significant results described above, it seems rather odd to be already seeking improvements in 2017. Especially given that the Good Practice was still an experiment at its early stages, a work in progress with new members continuously joining the movement and expanding activities, reaching new areas of work and even new cities. Nevertheless, there is always room for improvement and BEE PATH has one particular overlying challenge: ensuring the enthusiasm, motivation and willingness from members to volunteer their time. In a nutshell, the fundamental issue of the BEE PATH Good Practice lies in ensuring its long-term sustainability.

In this regard, the experience to understand BEE PATH, adapt it and re-use it elsewhere is, ultimately, a test of resilience and transferability of the Good Practice. That is exactly where URBACT's support comes in. With the creation of the network of cities BeePathNet, Ljubljana was able to put into test the sustainability of its Good Practice in the long run. This was also an opportunity to further improve the existing.

As the transfer cities from this URBACT Network narrowed down the BEE PATH experience, its factors of success and potential pitfalls, they have identified thematic aspects that were key to the project and which are described in more detail in section II. Consequently, four upgrade modules were also designed. In this way, the BeePathNet directly supports the enhancement of what is already there, at the same time that provides the City of Ljubljana with a learning and exchange space to envision the future and BEE PATH's evolution.

## An enabling environment to develop the Good Practice

Looking back, it is safe to say that a few ingredients are indispensable to develop a similar initiative:

**A CLEAR FOCUS** – in urban areas, BEE PATH's focus was the development of urban bee-keeping linked to other existing activities – such as cultural heritage, biodiversity and education – and its presentation to citizens and visitors through various activities. In rural areas, BEE PATH's focus was the development of beekeeping in order to support the production and supply of food in Ljubljana.

**A FOCAL POINT** – finding the right person to lead any project or programme is one of the most important, but often neglected, preconditions for success. It is not particularly easy to find “the” right person, who is open-minded, active, objective-driven, passionate about the topic and able to spread enthusiasm among all involved stakeholders. In the case of BEE PATH, the City of Ljubljana was lucky to have Maruška Markovičič, a senior advisor at the Sector for Rural Development at the Department of Environmental Protection. Once the key person has been identified, the city administration must provide she or he with operational support – flexible methods of work, working hours and secured salary – as well as ensuring favourable working conditions – project budget, adequate facilities, equipment, etc.

**STRONG POLITICAL SUPPORT** – the city administration needs to show political will by supporting the proposed action plan, project and ideas. Operational support must be provided through a cross-sectorial approach and expertise from other departments. Financial support is fundamental and, at the very least, the city must cover the costs for adequate facilities where regular meetings can take place. That being said, having a real budget really pushes things forward – even if it is a symbolic budget, it is still a great effort that can lift the spirits. A limited budget shows support and gives confidence to members, but also brings out creativity and, paradoxically, empowers voluntarism even further.

**NETWORKING WITH A PURPOSE** – as the BEE PATH was developed on bottom-up principles, it is important to understand its voluntary essence. All BEE PATH members were invited to join for free the local working group, they do not pay a membership fee and perform all their work on a voluntary basis. Members join and leave the BEE

**In any cooperation, small victories are just as important as the big ones!**

**Sometimes, even more, as they keep us moving forward towards our goals.**

PATH as they please, but usually only when they have fulfilled their ambitions. This approach draws a certain profile of people to the project – inquisitive, constructive and idea-driven people, who are willing to collaborate. For example, only a small percentage of the 350 beekeepers in Ljubljana are BEE PATH members. Remember, this is not a popularity contest, but rather a think-tank or incubator for new ideas. In this regard, the fluctuation and turnover of members is, to some extent, even desired.

**THE BAIT** – due to the project’s voluntary character, it is important that members are drawn to your collective effort. Initially, the BEE PATH enabled beekeepers and their associations to discuss key opportunities and problems of urban beekeeping. Solutions were identified, implemented and promoted, which attracted new members with new ideas. In this way, a communication platform grew into a space to develop new bee products and services, organise promotional and awareness-raising campaigns, improve educational programmes, among other initiatives.

**KNOWLEDGE TRANSFER** – to attract members, you must try to understand their interests and ambitions, but also estimate their real capabilities and capacities to put their ideas into practices. Then you can use networking to help to create and to consolidate fruitful partnerships. However, the focal point person must not forget her or his role! She or he is a facilitator, a networker, a group leader, coordinator and support provider. It must be clear from the start that members are responsible for the success or failure of their own ideas. As in any partnership, the aim is to enable and support knowledge transfer.

**SYNERGIES WITH OTHER SECTORS** – this coordinator must always look for synergies with other sectors and activities. The easiest way to do this, as a first step, is to search for any historical and present evidence on bees and beekeeping in any aspect of the daily life in the city. For example, ethnography, culture, gastronomy, environment, architecture, economy or any other thematic entry point can be reasonably considered. This establishes the historical content and foundation for any potential networking and promotional activities. It also opens the eyes of individuals and companies working in other sectors, it creates a storyline behind new jointly developed products and services.

**ENTHUSIASM** – the last, but probably most important element of the BEE PATH Good Practice is the active engagement of all parts. Due to the voluntary participation nature of this initiative, it is fundamental to keep the levels of enthusiasm high. While initial enthusiasm is actually not very difficult to create, maintaining it in the long run is what requires a lot of effort, especially from the project coordinator.

## From the Good Practice to the transferability modules

To make the BEE PATH good practice more easily transferable to other cities, we divided it into modules.

In order to make the BEE PATH Good Practice more digestible and easier to transfer to other cities, the practice was broken down into segments or modules – either a methodological structure or thematic parts from it. Below, you can find the modules, as well as key development steps leading towards the successful adaptation of individual modules. These were divided in three types:

- Obligatory modules – essential parts needed for the transferability of the Good Practice and its vision.
- Voluntary modules – content that should only be transferred when in line with actual needs or local interests.
- Up-grade modules – content that represents further evolution of the Good Practice.

| Good Practice modules |                                                                                  | Good Practice development steps                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>OBLIGATORY</b>     | Active partnership establishment and management                                  | <ol style="list-style-type: none"> <li>1) Identification of key stakeholders</li> <li>2) Mobilisation of key stakeholders (first autonomous meeting)</li> <li>3) Building an enthusiastic atmosphere and providing support at regular meetings</li> <li>4) Identification of individual stakeholder goals, capacities and preparedness for cooperation</li> <li>5) Definition of a yearly local working group action plan, roles and responsibilities, also known as the URBACT Local Group</li> <li>6) Guidance in the yearly collective action plan implementation</li> <li>7) Achieving synergy effects independently, without involvement of the focal point person, namely project coordinator, otherwise known as the URBACT Local Group Coordinator</li> </ol> |
|                       | Higher municipality administration involvement                                   | <ol style="list-style-type: none"> <li>1) Definition of key administration departments and sectors that should be engaged and their respective roles</li> <li>2) Gaining operational support</li> <li>3) On-going communication with city administration, in accordance to briefings</li> <li>4) Regulating urban beekeeping and integrating it into the strategic urban context</li> <li>5) Strengthening political support and ensuring long-term financing</li> </ol>                                                                                                                                                                                                                                                                                              |
|                       | Awareness raising and promotion for citizens                                     | <ol style="list-style-type: none"> <li>1) Identification of target groups</li> <li>2) Communication and awareness raising strategy</li> <li>3) Development of communication tools (e.g. website, social networks, local news, etc.)</li> <li>4) Regular publication of news and contents, giving interviews, etc.</li> <li>5) Organisation and implementation of annual awareness raising and promotional events, exhibitions, lectures, etc.</li> <li>6) Organisation of beekeeping symposiums</li> <li>7) Organisation of international beekeeping conferences</li> </ol>                                                                                                                                                                                           |
|                       | Development of the Bee Path as a tourist and/or bee product promotional platform | <ol style="list-style-type: none"> <li>1) Identification of interested key stakeholders</li> <li>2) Identification of key natural and cultural heritage points</li> <li>3) Design of the Bee Path and marking of points</li> <li>4) Creation of the story behind the Bee Path</li> <li>5) Creation of the Bee Path guide (e.g. book, brochure, leaflet, etc.)</li> <li>6) Design of a Bee Path tourist package</li> <li>7) Education of tourist guides and interpreters in the city</li> </ol>                                                                                                                                                                                                                                                                        |

| Good Practice modules |                                                                  | Good Practice development steps                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------|------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>VOLUNTARY</b>      | Education programmes for early childhood and primary schools     | <ol style="list-style-type: none"> <li>1) In-depth understanding of the existing educational system and needs of target groups</li> <li>2) Development of educational programmes together with key stakeholders from the local working group, namely URBACT Local Group</li> <li>3) Involvement of relevant experts and institutions</li> <li>4) Pilot implementation of educational programmes through involvement of teachers</li> <li>5) Full implementation of educational programmes</li> </ol>                                                                                                    |
|                       | Building companies' and institutions' green image                | <ol style="list-style-type: none"> <li>1) Identification of potentially interested companies and establishment of first contacts</li> <li>2) Implementation of awareness-raising and promotion activities</li> <li>3) Identification of existing green topics of interested companies and identification of overlapping with our topics</li> <li>4) Designing joint activities and/or promotional campaigns</li> <li>5) Implementation of joint activities and/or promotional campaigns</li> <li>6) Establishment of long-term agreements on funding support to the network and its projects</li> </ol> |
|                       | Involving higher education institutions and expert organisations | <ol style="list-style-type: none"> <li>1) Identification of potentially interested institutions and establishment of first contacts</li> <li>2) Identification of existing green topics of interested institutions and identification of overlap with our topics</li> <li>3) Designing joint activities</li> <li>4) Implementation of joint activities</li> <li>5) Establishment of long-term agreements on expert support to the network and its projects</li> </ol>                                                                                                                                   |

| <b>Good Practice modules</b>                                            | <b>Good Practice development steps</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Conceptual design of a local product promotion and selling point</b> | <ol style="list-style-type: none"> <li>1) Identification of potential locations (properties in ownership of the city)</li> <li>2) Identification of potentially interested stakeholders</li> <li>3) Development of a conceptual &amp; organisational design of a local product promotion and selling point</li> <li>4) Establishment of a local product promotion and selling point</li> <li>5) Operationalisation of a local product promotion and selling point</li> </ol>                                                                                                                        |
| <b>Building companies' and institutions' green image</b>                | <ol style="list-style-type: none"> <li>1) Identification of potentially interested companies and establishment of first contacts</li> <li>2) Implementation of awareness-raising and promotion activities</li> <li>3) Identification of existing green topics of interested companies and identification of overlap with our topics</li> <li>4) Designing joint activities and/or promotional campaigns</li> <li>5) Implementation of joint activities and/or promotional campaigns</li> <li>6) Establishment of long-term agreements on funding support to the network and its projects</li> </ol> |

#### **FULL GUIDELINES VERSION:**

The complete guideline version of this present document counts with an additional chapter – further presenting the two methodological approaches (page 15). We firmly believe that a participatory approach is the only way for urban beekeeping in your city to exceed the status of “just another project” and join the Bee Path City movement. This inclusive multidimensional communication of individuals, organizations and government entities will certainly result in very distinct and, above all, sustainable actions. We have also included some recommendations on how to organize your local action group – also known as the URBACT Local Group in the transfer partner cities.

# Chapter II

## The key thematic modules used by the BeePathNet Network

Experts from the cities of Ljubljana (Slovenia), Amarante (Portugal), Bydgoszcz (Poland), Cesena (Italy), Hegyvidék (Hungary), Nea Propontida (Greece) developed six thematic modules. In this section you will also find 10 EU cities inspiring stories.

|                                                                                                           |    |
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## 2.

# Biodiversity

## The cornerstone of the Bee Path Good Practice



### The Background to Biodiversity in the City of Ljubljana

**Every City has to work within the framework of its own pre-conditions, which are not always favourable...**

**However, we can always work towards a better tomorrow!**

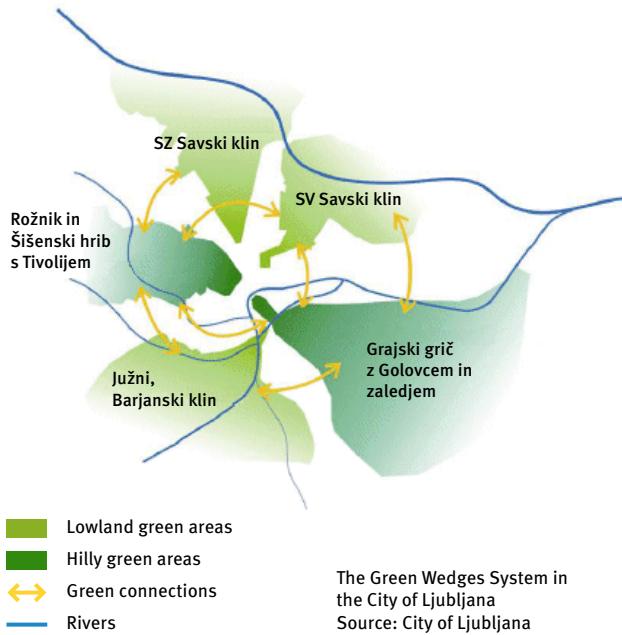
A lot has already been written about the City of Ljubljana and its success story – BEE PATH Good Practice. However, it has not yet been emphasised that the current state of biodiversity in the City of Ljubljana is the result of several factors:

#### **The mosaic landscape and its management throughout history**

Mosaic landscapes are a result of human-managed landscape, where the mixture of fields, meadows, forests and water bodies, as well as settlements, offers lots of contact zones, which can be easily exploited by diverse flora and fauna. Historically, Ljubljana and its surroundings were managed this way, resulting in rural as well as urban areas rich in biodiversity.

#### **The initial green character of the city**

Ljubljana has always been a green city with large areas of urban forests, parks and gardens. Almost three-quarters of its territory is covered by native forests, meadows and fields, 20% of which is classified as nature-protected areas. Today, the city offers 542m<sup>2</sup> of public green areas per citizen.



**Sustainable and pro-biodiversity management of green areas requires an interdisciplinary approach and wide involvement of city administration.**



One of the city centre renovation projects in the City of Ljubljana  
Author: Doris Kordić

### The timing was right

At the beginning of the 1970s, Ljubljana was faced with escalating industrialisation and urbanisation. Combined with rising pollution, this resulted in substantially reduced environmental quality and living conditions. This led to ageing and deterioration of the city centre and older neighbourhoods in the 1980s and 90s.

### Active and continuous implementation of widely accepted sustainable development policy

Through the implementation of the new sustainable strategy Vision 2050 and the new Spatial Plan, the city successfully achieved a renewal of both its urban and rural areas.

### Open communication with citizens and active support for bottom-up ideas

The City of Ljubljana encouraged and supported new urban concepts like urban gardening, urban forestry and urban beekeeping, coming from their citizens. However, very few bottom-up ideas would have become a reality without the active support of the administration of the municipality by providing leadership, operational support and funding.

## Operational management of green areas in Ljubljana

In Ljubljana, a common understanding was reached: green areas are meant as multi-purpose areas with many positive effects on the daily life of citizens, as well as its pleasant surroundings where people can visit for leisure purposes. They also contribute to higher quality living conditions – cleaner air, reduced heat island effects, etc.

The management of Ljubljana's green areas is handled from different angles. The duties are likewise divided between different actors, such as the Department for Spatial Planning, Department for Economic Affairs and Traffic, and the Department for Environmental Protection and its Section for Rural Development. These are all responsible for the development, operationalisation and funding of the green policy. On the other hand, it is the public company VOKA SNAGA d.o.o. that is responsible for the operational management of the green areas.

**The Department for Spatial Planning** defined the green areas and provided the frame-work for the development of different activities within green areas – maintenance, regulations about building on green areas – through the Spatial Plan of the city. As the fundamental spatial planning document, it also enables green neighbourhood renovation projects, sustainable management of urban elements in the city centre, like flower beds, urban beekeeping and other citizen-driven initiatives.

**The Department for Economic Affairs and Traffic** is responsible for the operational maintenance of public green areas and trees, as well as for managing urban forests. In 2009, the City of Ljubljana adopted the Decree on the Maintenance of Public Green Areas, which defines the activities the city administration must perform on public green areas – as fertilising grass areas, mowing, planting new trees, watering newly planted areas, planting and trimming bushes, planting and renewing public gardens with seasonal flowers and multiannual plants. Ljubljana was also the first city in Slovenia

to abolish the use of herbicides with glyphosate and pesticides in public areas, back in 2017.

Maintaining the 228 hectares of lawns and taking care of over 40 000 trees in public areas, of which more than 25 000 are melliferous and autochthonous is one of the most important tasks.

**The Department for Environmental Protection** is implementing the Programme for Environmental protection. Three very important operational goals were determined:

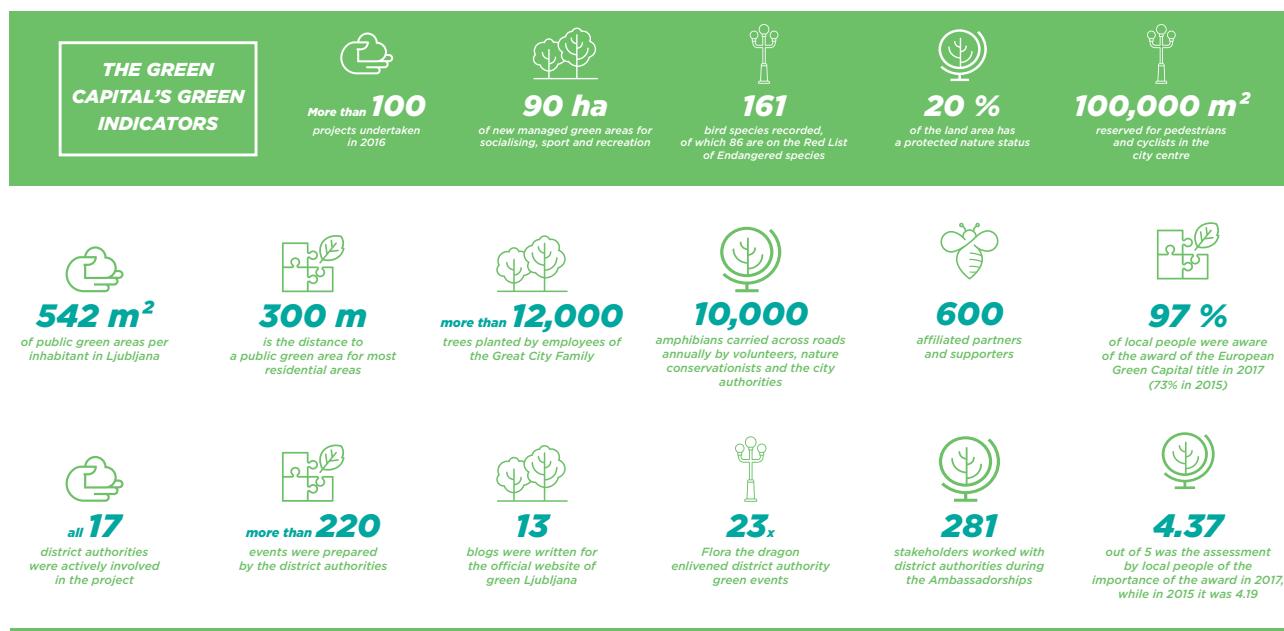
- to maintain and improve the state of biodiversity;
- to establish a comprehensive system for effective management of natural values and protected areas;
- to establish a comprehensive green city system and manage it effectively.

In order to make sure the objectives described above are fulfilled, the city is putting into practice the following five nature conservation measures:

- setting up hotels for wild pollinators;
- activities to protect amphibians (like ensuring safe transfer to spawning area);
- preservation of various habitats of key species;
- monitoring of various plant diseases;
- removal of invasive species.

**The Section for Rural Development** is implementing the Strategy for Rural Development and Urban Farming, which the City of Ljubljana uses to encourage farmers to take on organic or integrated farming principles. The city also assigned eight allotment gardens areas with 823 parcels in total, which are let-out to encourage citizens to grow their own food. Within these areas, educational gardens were established to improve knowledge about adequate gardening techniques, as well as to raise awareness about the importance of biodiversity and pollinators.

A special focus is given to beekeeping in rural and urban areas, communication and active collaboration with citizens. It was within this context that the City of Ljubljana has started developing a series of integrated activities for biodiversity and the preservation of pollinators into various fields of interest – from the management of green urban areas to environmental/health protection and rural development, including the BEE PATH. This cross-sectorial approach reinforces the local green policy and improves the public visibility of the related topics in any major development discussion. Below, you can find a few indicators showing the results from 2016 of all the policies and approaches described – more can be found on [this link](#).





## Zapylacze

Pszczoly dzikie (np. trzmiel i murarki) i miodne sa zapylaczami, co oznacza, ze uczestnicza w warstwie przedroslinnej i pytlowaniu kwiatow, wraz z kwiatem jednej rosliny na drugiej, dziesiącudziesiątka zaplodnienia i zwiazania się „poecztóków” nowej rosliny, to znaczy nasion ukrytych weewnetrzu owocu. Kwiat wabi zapylacze najczesciej swym koloratem, kolorom, zapachem oraz slodkosc wytwarzana miodkiem lub nektarem.

W naszej szerokosci geograficznej zapylanie przy urodzie zwierząt jest rzadkością, dlatego sie mialo wyciągnac za sprawę owadów (entomofagów) i przy niewielkim udziale ilimaków (malakofagia). Natomiast w klimacie cieplejszym uczestnicza w nim takie ptaki (myiofagia) i nietoperze (chiropterofagia). Niestety zapylacze dzikie partycipują również inne ssaki, np. gryzonie. Do owadów zapylających należą pszczoły, motyle, niektóre muchówki oraz chrząszcze.



Bringing biodiversity closer to the citizens of Bydgoszcz  
Source: City of Bydgoszcz

“Beewatching” are workshops by Dawid Kilon where participants search for pollinating insects  
Author: Dawid Kilon



Planting saplings in Hegyvidék – XII District of Budapest  
Author: György Sárközy

## Tips for cities planning to implement the same approach in promoting urban biodiversity and sustainably managing green urban areas

- Goals:**
- To deliver a mind-change about importance of urban green areas and stop seeing them as “empty spaces”.
  - To ensure the urban revival of your city.
  - To address modern urban cross-sectorial challenges such as climate change, sustainable development and food self-sufficiency.
  - To improve the quality of living for citizens of your city.

- Key steps:**
- 1) Understand your advantages and disadvantages, threats and opportunities.
  - 2) Start with open and constructive communication with your citizens: collect their observations/ complaints, understand their ambitions and identify concrete ideas for development/ improvement.
  - 3) Employ a participatory approach in key policy/strategy/plan development phases. Also, ensure all city administration, as well as public services/companies, understand and support the policy/strategy/plan because they have a key role in its implementation.
  - 4) Once adopted, start visibly and actively implementing the policy/strategy/plan. This sometimes means that you have to modify your daily work patterns and ensure cross-sectorial cooperation within the city administration. Also, ensure that every proposed activity has a clear and realistic action plan behind it – responsible person, deadline, resources, funding, etc.
  - 5) Always monitor and publicise the implementation of the policy/strategy/plan and explain how this successfully implemented step contributes to the long-term vision. If monitoring shows that some actions are not being implemented as expected or in case of unforeseen developments, revisit the action plan and look for alternative solutions.

- Lessons learnt:**
- Communication with citizens and experts is crucial and should not be underestimated. However, once started, it is an ongoing and never-ending process. In initial phases, it also demands more time and energy from the planning team.
  - The participation of citizens ensures a wider understanding of policies and strategies, as well as their acceptance. In the long run, this shortens the process of the final adoption of policies and strategies, as well as greatly improving and speeding up their implementation.
  - The continuity of strategic decisions and implementation of the vision is crucial. Policies and strategies should be understood as roadmaps towards fulfilling common and long-term goals and ambitions of the whole of society, not merely as action plans for implementing short-term individual political ambitions.
  - Patience and persistence are needed as results start to emerge only after a certain period.
  - New development concepts, approaches and ideas are often accepted with scepticism, fear of change and opposition. That is why it is crucial to communicate effectively and timely with citizens and to explain in detail what and how things are going to happen, thus reducing resistance. Small-scale pilot cases proved to be another useful tool, showing new concepts, proving that they work and subsequently, reducing opposition.
  - Biodiversity does not “just happen automatically” in urban areas, as most common urban green areas management techniques are not always sustainable or biodiversity-friendly. If we want to increase the biodiversity of green urban spaces, we must change the concept behind their management – for example stop using pesticides and herbicides, use appropriate mixtures of autochthonous and non-invasive species, allow late mowing, etc.

## The initial level of awareness of the importance of pollinators and their status in society

One of the most important challenges all cities willing to transfer the Good Practice must overcome is “the traditional identity” or “the cultural context” of bees and other pollinators. It is often this image that shapes the collective perception of any animal and potentially drives the fear factor. For example, in Slovenian culture the honey bee plays an extremely positive role: it is hard-working, active, smart, always prepared for hard times, protective of its home and family.

That is why honey bees, but also other pollinators, are widely accepted in Slovenian society and the fear factor is very low. In this kind of cultural and local context, it is quite easy to carry out awareness raising campaigns and persuade citizens to join and support the cause. On the contrary, in some other countries, the honey bee’s role is quite different as it is perceived as a wild and potentially dangerous animal posing a threat to people.

In fairness, it is important to point out that there are more and less aggressive types of honey bees across Europe: the Slovenian autochthonous honey bee *Apis mellifera carnica* – known for its mild character – and Portugal’s *A. mellifera iberica* – known for its aggressive character – are two such representatives with quite diverse characteristics. Naturally, this contributes to the construction of a collective perception when it comes to bees.



Different approaches to awareness raising – educational bee boards, a learning apiary and a bee hotel  
Authors: left and middle photo BeePathNet archive, right photo Luka Dakskobler

On the other hand, people – especially in urban and suburban areas – have become disconnected from nature and often overreact to quite natural phenomena and the regular behaviour of animals. Here are a few examples:

- Bees, like all animals, react to colours and smells around them, which is why they change their behaviour according to their instincts. If they feel threatened, they will attack but they are only defending themselves.
- Bees also react to quick movements, which is why they are more likely to feel threatened and start attacking if a person starts swinging at them. But again, they are only defending themselves.
- Bees are always on the lookout for water, especially in hot and dry summer periods, which is why they are often attracted to swimming pools. However, they only want to drink.

It is this low understanding of bees and their behaviour that explains some of the collective imaginary. The important thing is that people become aware of the reasons behind the foundations of fear, so Bee Path Cities can take them into account and adapt actions and tools when educating others and attempting to engage locals. Or in other words:

- Start as slow and soft as you need to and leave enough time for your citizens to digest your key messages.
- Do not underestimate the fear factor: you can use practical examples, as long as they are carried out in safe environments. They will support your key messages and prove in practice that things can be done differently and perceptions can change.



Awareness-raising is an important part of BEE PATH events.  
Author : Doris Kordić

- Use specific communication channels and modify key messages for specific audiences or target groups.
- Give yourself enough time – do not get discouraged after one or two strikes! Target people who share your views and supplement your capacities in order to build up a supporting community and strengthen your local working group or URBACT Local Group.

## The Importance of Awareness raising

Awareness-raising is probably one of the most important aspects of biodiversity preservation – especially in urban areas. People must first understand the importance and benefits of biodiversity for mankind in order to be willing to put it on their agenda, take it seriously and act on it.

Unfortunately, this is heavily interlinked with the development index of individual society and average household incomes. To put it in more bluntly, it is hard to convince any person trying to feed their family to worry about biodiversity when they need the fertile soil to grow crops to feed the family or raise the family income. Better access to education and information also plays an important role, or is a key reason why more developed regions are more “aware” of green individual attitudes. At the same time, people living in these regions also tend to consume more natural resources per capita and leave a bigger ecological footprint on the planet. It is exactly for these reasons why the BeePathNet Network pushes for cities to take the extra mile to go beyond current efforts and actively search for new solutions.

All ideas and concepts presented should actively involve citizens through communication and awareness-raising, especially aimed at children and young people. Not because they are easier to be convinced, but because they are the voices of the future within their families and neighbourhoods and have the capacity and greater reach to change the mindset.

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### FULL GUIDELINES VERSION:

More detailed description of Ljubljana's three good practices (page 48): Cooperation with the University Botanic Gardens Ljubljana, The Organisation of the 'Help the Bee in the City: Plant the, City with Flowers' awareness-raising campaign and Establishment of the Grba Public Orchard and Honey Garden and the case study (page 59): Maintenance of urban biodiversity in Hegyvidék with an overview of the Municipality of the XII District of Budapest (Hegyvidék) and the Green Office, The Stewardship Programme, The Urban Meadow Programme and The Sapling Programme.

### 3. Education **Investing into our future**



Author: Luka Dakskobler

#### **The Big Picture and the Process Behind the Development of Educational Programmes in Ljubljana**

From the beginning of the BEE PATH project, the City of Ljubljana planned to develop educational programmes for children in kindergartens and primary schools, with the intention to increase the level of knowledge about bees and their importance among Ljubljana's young people. It shows long-term thinking and strategy devoted to real mindset change and the creation of a generation of environmentally aware citizens able and willing to take care of their living space. This educational programme was called 'Wandering with Bee around the City'.

As the City of Ljubljana aimed to provide high-quality and attractive educational programmes, their development resulted from a participatory process, rather than a one-team project.

In the first step, Katarina Vrhovec prepared an overview of existing pedagogical curriculums for primary schools and marked the topics that could incorporate "the bee perspective" – for example, biology, ecology, maths, arts and crafts and so on. Then, she prepared the first drafts of educational programmes, which were presented to the BEE PATH members. They voted in favour of a preliminary cooperation between the University Botanic Gardens Ljubljana, Biotechnical Educational Centre Ljubljana, Institute for the Development of Empathy and Creativity Eneja, and the Urban Beekeepers Association.

**Ljubljana invested in the development of educational programmes to increase the level of knowledge about pollinators and awareness of their importance among Ljubljana's youth.**

All the institutions were asked to develop final drafts of educational programmes and envision their execution. Moreover, as the City of Ljubljana wanted to add some additional value to the educational programmes, the local authority invited Janja Sivec, from the Association of Legends and an international expert in heritage interpretation, to join the BEE PATH working group. She was tasked to revise the final drafts of the educational programmes and improve them from the interpretational point of view.

The first two educational programmes were tested on a one-day Nature and Culture field trip for second and third triad primary school children – kids ranging from 9 to 14 years old. Later on, another educational programme was tested on the first triad. Programmes were then passed on to the Institute for the Development of Empathy and Creativity Eneja, whose expert, Nina Ilič, further adapted the curriculum to the actual needs and capacities of the school system.

The process took quite some time to be completed – roughly two years – but it was certainly worth it as the timing also allowed the city structures to become acquainted with the content of the educational programmes through newly established communication channels with the Department for Pre-school and School Education. BEE PATH members also got used to the idea of this new activity and the municipality was able to build the City Apiary at the University Botanic Gardens Ljubljana and buy equipment for educational programmes – like safety hats and gloves. Finally, the educational programmes were presented to headmasters and the first pilot was executed.

However, it was only in 2019 that the first programmes for kindergarten and the first triad of primary school children were taught to kids from 5 to 7 years old. Based on very positive feedback, it is safe to say that all the educational programmes are well-prepared and well-received. Primary schools are already including them in their calendars and are thinking about how they can integrate them into their official classes.

## Ljubljana's API-Kindergarten programme

Between 2019 and 2020 the first five kindergarten classes were included into the 'API-Kindergarten' programme, in which children spend one day per week on activities linked to bees and other pollinators, bee-products, biodiversity and environmental protection, including other topics as healthy lifestyle and food self-sufficiency. Kids also learn how to behave around bees, learning how to keep themselves and others safe. Key teaching methods are learning through play, gamification, exploration and experimenting. It is also based on sensory experience children have with the environment they are surrounded by.

In 2020, a 16-hour seminar was organised for teachers from other kindergartens in the city. Over 50 teachers were trained and additional five schools joined the programme. As a direct result of this training, it is expected that more school institutions will join the programme in the coming years. To support this process, a special 'API-Kindergarten' Development Task Force was established. The future seems to be bright!



Workshops as part of the education module

Nature & Culture field trip as part of the education module.  
Author: Urška Ilič

- When teaching children about the importance of nature, pollination, biodiversity and bees, they must first be taught how to behave around bees. It is a new experience for them and, as in any other such situation, someone needs to explain to them the basic do's and don'ts. That is why it is wise to focus on bee behaviour and personal responsibility, as well as concern for personal and shared safety, from the very beginning.

**By 2020, 10 kindergartens were involved in the API-Kindergarten programme, with more interested to join.**

## A Few Remarks Before We Dive In

When we are dealing with children, especially young ones, there are a few things that should consider:

- When teaching children about the importance of nature, pollination, biodiversity and bees, they must first be taught how to behave around bees. It is a new experience for them and, as in any other such situation, someone needs to explain to them the basic do's and don'ts. That is why it is wise to focus on bee behaviour and personal responsibility, as well as concern for personal and shared safety, from the very beginning.



Visit to the education apiary as part of the education module.

Author: Urška Ilič

- If we want children to understand the importance of co-existing with nature, we need to mobilise empathy. Children need to recognise the most important differences between humans and bees as well as the similarities between them. In fact, bees and humans have quite a few similarities: for example, both appreciate life, family is a top priority, both divide the space inside our homes for the execution of different activities and carry out regular housework.
- It is of the utmost importance that even the youngest children are aware of their impact on the environment and the possibility to decide how they will impact it.

- Children should be encouraged towards mental activity and guided towards active learning through a well-planned, systematic process. They cooperate in observation, detection and the co-creation of knowledge. It is through this process that they build their capacities and develop personal identity.
- An important reminder is that every child is different and consequently responds differently to stimulants. For instance, some children are more visual, while others like to touch or smell things. Therefore, it is fundamental that any educational programme provides a diverse set of stimuli in order to attract a wide range of children.
- It is also important to make sure all children are participating. This means occupying those children with the desire to outshine others – like giving them extra assignments, making them educators and helpers – as they can prevent less engaged children from not participating. In order to involve less engaged children, a key step is to be flexible and change teaching approaches if children are not responding to it.
- Last but not least, each educator has their own style of teaching. Children are extremely intuitive beings and if you want to attract them, you have to be sincere. So, just be yourself! In this way, you will feel comfortable and children will respond well to you and your key messages.

In the following two sections, you will find a brief description of two most implemented educational programmes in Ljubljana – the Educational Programme for Kindergarten and Primary School Children – 5–7-year-olds – and the Programme for Primary School Children – 6–14-year-olds.

## The Educational Programme for Kindergarten and Primary School Children (5–7-year-olds)

This educational programme consists of three modules that were created as individual units. Consequently, it can be implemented either as a one-day programme or as three individual sessions. If you decide to implement it as a one-day Nature and Culture field trip, ensure expert guidance, as well as taking into consideration the need for breaks, toilet and food.

The topics addressed are already quite wide, however, many more could actually be added. While creating the educational programme, special attention was put on the actual needs of children and the subjects most relevant for them and easier to relate to, as well as their capacities for taking in knowledge. That is why the focus is on the constructive paradigm, promoting active exploring through which children develop skills and capacities, enabling them to solve tasks independently.

It is essential that children experience things with their own senses so that they understand the content better and think about potential solutions for themselves. They are taught to explore their surroundings and find out about melliferous plants and bees, to connect with their surroundings and learn by themselves. Sensory stimuli

is used to trigger psychical processes in children. In doing so, internal motivation for learning and many other capabilities are developed, such as empathy, social competencies, altruism and a sense of connection with the environment and nature.

The programme is prepared for children from 5 to 7 years of age and tailored around individual topics and activities to each group according to the children's characteristics and abilities.

The programme was prepared so that children first train their senses, followed by their memory and understanding, and only thereafter critically reflecting about it. It is a method which requires conversation, oral explanation, display or demonstration. Work with image material and text, practical exercise and a motion game are also welcome.

The recommended group size is up to 30 participants, or in other words, no more than one class at a time. If groups have more participants, they will not be able to hear the educator, nor will we be able to strengthen their social component.

#### **WARNING!**

**This educational programme, including the rules of good behaviour near the apiary, is adapted to the characteristics of the Slovenian indigenous bee species – the characteristics of the meek and peaceful Carniolan bee, *Apis mellifera carnica*. For appropriate application of the programme in other geographical areas, the security measures should be adjusted according to the characteristics of indigenous bee species of those areas!**

The programme consists out of the following 3 modules:

- Module 1: Bees, the Bee Family and Melliferous Areas
- Module 2: Taste the World of Bees
- Module 3: Visit to the Apiary

Every module lasts from 40 to 50 minutes, altogether about 2h30. If it is implemented as a one-day Nature and Culture field trip, additional time between modules 1 and 2 needs to be taken into account in order to enable the change of location, as well as a toilet break. There should be another break between modules 2 and 3 for a toilet and snack break that should last approximately 20 minutes.

Regardless of the proposed times, it is always important to give each module as much time as needed by children due to the emphasis on exploring and learning. When and if additional questions come up, more time is necessary so they can be properly addressed. If this level of flexibility is allowed, children will retain this knowledge in their long-term memory and become more motivated. The educational programme provides a lot of interesting information regarding nature, pollinators and bees and children reach the optimal goal when they memorise all or almost all of it.

In every group, children will inevitably have different levels of pre-knowledge. For an educator, this can be an opportunity to stimulate children to participate and thus strengthen their social competencies – those with more knowledge help those with less.

## **The Programme for Primary School Children (6–14-year-olds)**

The educational programme presented in the previous chapter was developed based on the educational programme for primary and secondary school children. Though similar in overall aim and goals, this educational programme targets three different audiences with different learning capacities:

- 6–8-year-olds (1<sup>st</sup> triad),
- 9–11-year-olds (2<sup>nd</sup> triad),
- 12–14-year-olds (3<sup>rd</sup> triad).



Learning about bees starts early in Bansko  
Source: BeePathNet archive



Beehives at the Botanical Garden of  
University of Casimir the Great in Bydgoszcz  
Author: Katarzyna Napierała



An educational game played by teachers  
in Nea Propontida  
Author: Evangelia Binou

As the educational programme itself was already explained in detail in the previous chapter, the content on how to upgrade it will be presented in a summary, as you can see the table below. The programme agendas with methods and tools for delivery are showcased in the following sub-chapters.

| SCHOOL TRIAD                                             | 1 <sup>st</sup> triad                                                                                                                                                                                                       | 2 <sup>nd</sup> triad                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 3 <sup>rd</sup> triad                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Age</b>                                               | 6–8-year olds                                                                                                                                                                                                               | 9–11-year olds                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 12–14-year olds                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Key goals and messages</b>                            | Developing a positive attitude towards nature, environmental protection and safety around bees through practical experience.                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Used techniques and approaches</b>                    | <ul style="list-style-type: none"> <li>• Observation</li> <li>• Interaction</li> <li>• Encouraging curiosity and work habits</li> <li>• Learning about the environment through direct experience</li> </ul>                 | <ul style="list-style-type: none"> <li>• Understanding relationships between individuals</li> <li>• Building environmental understanding</li> <li>• Building a positive attitude towards nature and culture</li> <li>• Spatial orientation in practice (measuring)</li> </ul>                                                                                                                                                                                                                     | <ul style="list-style-type: none"> <li>• Professional orientation</li> <li>• Experimenting</li> <li>• Observation</li> <li>• Use of technology and other measuring devices</li> <li>• Preservation of nature and biodiversity</li> <li>• A holistic approach and integration of concepts</li> <li>• Natural/man-made ecosystems</li> <li>• Understanding interdependence</li> <li>• Encouraging chemical safety</li> </ul>                                                                                                                                                                             |
| <b>Links with obligatory official school curriculums</b> | <p><b>3<sup>rd</sup> grade:</b></p> <ul style="list-style-type: none"> <li>• Introduction to Environment and Natural Sciences</li> </ul> <p><b>All grades:</b></p> <ul style="list-style-type: none"> <li>• Arts</li> </ul> | <p><b>4<sup>th</sup> grade:</b></p> <ul style="list-style-type: none"> <li>• Natural Sciences and Technology</li> </ul> <p><b>5<sup>th</sup> grade:</b></p> <ul style="list-style-type: none"> <li>• Natural Sciences and Technology</li> <li>• Home Economics</li> </ul> <p><b>6<sup>th</sup> grade:</b></p> <ul style="list-style-type: none"> <li>• Natural Sciences</li> <li>• Home Economics</li> <li>• Technical Sciences and Technology</li> <li>• History</li> <li>• Geography</li> </ul> | <p><b>7<sup>th</sup> grade:</b></p> <ul style="list-style-type: none"> <li>• Natural Sciences</li> <li>• Technical Sciences and Technology</li> <li>• Ethics</li> </ul> <p><b>8<sup>th</sup> grade:</b></p> <ul style="list-style-type: none"> <li>• Chemistry</li> <li>• Biology</li> <li>• Technical Sciences and Technology</li> <li>• History</li> <li>• Ethics</li> <li>• Geography</li> <li>• Physics</li> </ul> <p><b>9<sup>th</sup> grade:</b></p> <ul style="list-style-type: none"> <li>• Chemistry</li> <li>• Biology</li> <li>• History</li> <li>• Geography</li> <li>• Physics</li> </ul> |

| Links with optional official school curricula (only available in 3 <sup>rd</sup> triad) | Optional classes:                               | 7 <sup>th</sup> grade | 8 <sup>th</sup> grade | 9 <sup>th</sup> grade |
|-----------------------------------------------------------------------------------------|-------------------------------------------------|-----------------------|-----------------------|-----------------------|
|                                                                                         |                                                 | –                     | –                     | ●                     |
|                                                                                         | Genetics                                        | –                     | –                     | ●                     |
|                                                                                         | Geography                                       | –                     | ●                     | ●                     |
|                                                                                         | Environmental Chemistry (Experiments)           | ●                     | ●                     | ●                     |
|                                                                                         | Agriculture and Farming                         | ●                     | ●                     | ●                     |
|                                                                                         | Modern Food Preparation                         | ●                     | ●                     | ●                     |
|                                                                                         | Local History                                   | ●                     | ●                     | –                     |
|                                                                                         | Advanced Environmental Education                | ●                     | ●                     | ●                     |
|                                                                                         | Organisms in Natural and Artificial Environment | ●                     | ●                     | ●                     |
|                                                                                         | Inheritance                                     | –                     | –                     | ●                     |
|                                                                                         | Projects from Physics and Ecology               | ●                     | ●                     | ●                     |
|                                                                                         | Projects from Physics and Technology            | –                     | ●                     | –                     |

#### FULL GUIDELINES VERSION:

On page 74 you will find a detailed description of Ljubljana's two educational programmes: the Educational Programme for Kindergarten and Primary School Children (5–7-year-olds) and the Programme for Primary School Children (6–14-year-olds); additionally, there are two case studies on education and Beekeeping in Nea Propontida (page 93) and in Bydgoszcz (page 99).

# 4. Tourism

## Creating a bee story and building a Bee Path in the city



Author: B. Cvetkovič

Green  
Tourism in  
Ljubljana

### Briefly About Tourism in Ljubljana

**"Ljubljana is an attractive and friendly city with a green soul. It has a relaxed vibe and is a pleasant place for residents and visitors alike. If you are looking for a boutique destination, which is increasingly popular among younger travellers, find out what makes Ljubljana special."**

As in the majority of European cities today, tourism represents an important and rapidly developing economic sector. Ljubljana, which has roughly 290 000 inhabitants, according to statistics from 2019, the city is visited by over 1 million tourists every year. They are predominantly foreigners – about 95% of its visitors – and they usually stay in Ljubljana for 2.1 nights, which means they spend something between two and three full days discovering the city and its surroundings.

Tourism in Ljubljana has witnessed an unprecedented boom in the last 5 years. Of course, this explosion of tourism did not happen overnight. It is a result of over 15 years of focused implementation of a long-term development strategy, careful spatial planning, the urban revival of the city centre and the improvement of infrastructure and living conditions. All this would not have been possible without open communication between the City of Ljubljana and its citizens – a fact that is too often overlooked.

This success on the local level has led to quite a few prizes for the city at international level – the European Green Capital 2016, for example. Why is this important? Because all these green awards gave Ljubljana its recognition at a large scale, increased its appeal as a green destination and allowed for a successful promotional campaign. And in tourism, being promoted as one of the greenest or most sustainable cities is extremely important.

Those awards also contributed to an important shift in the mentality of tourism product developers and tourist destination managers, in the sense that this industry has become quite susceptible to the green, sustainable and boutique concepts of tourism. In fact, the City of Ljubljana made sure that sustainability was embedded in all its development strategies and plans. Nonetheless, such rapid tourism growth brings important side-effects, which end up being felt by both citizens and visitors.

So, why is this also important from the point of view of the BEE PATH transfer journey to other URBACT cities? Well, it is good to understand the whole story behind the success of tourism in Ljubljana before we dive into the transfer process – but also because Ljubljana is actively working on several of the above-stated issues by developing unique, innovative and high-added value tourism products that promote the dispersion of tourists from the most visited sights by providing an alternative way of visiting and understanding Ljubljana. Just like the BEE PATH!

## And Then There was a BEE PATH in Ljubljana

### How it was Created and the Overall Philosophy Behind it

In the case of the BEE PATH, the City of Ljubljana has taken an extra mile, it took one step further. It has actively become involved in the development of the BEE PATH, as well as other interlinked products and services. Not only that – after the initial success, the City of Ljubljana did not back out of the BEE PATH or transfer its coordination to another more business-oriented organisation – Tourism Ljubljana, for example. It continues to provide operational support and coordination for all BEE PATH members, as well as investing in its upgrade and future development. So, what is so different about the BEE PATH?



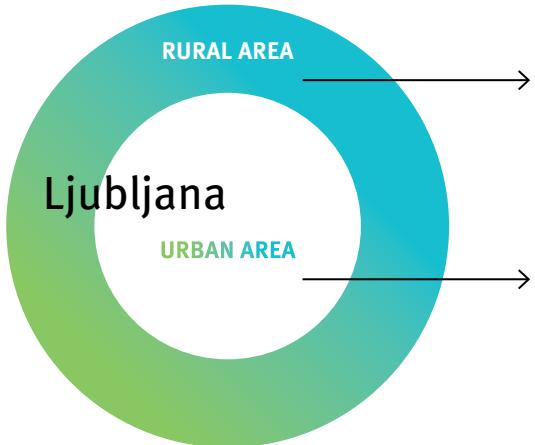
Ljubljana BEE PATH members meeting  
Source: City of Ljubljana



For starters, the original idea to form a BEE PATH came from the city administration itself – more concretely, from the Department for Environmental Protection, Section for Rural Development. Gorazd Maslo, who is the Head of the Section, and Maruška Markovič, the BEE PATH coordinator from day one. They were the key people responsible for recognising Ljubljana's beekeeping potentials, the cultural heritage linked to beekeeping and

its positive image in Slovenian culture and cuisine. At that time, the Slovenian Beekeepers' Association began awarding bee-friendly municipalities. The idea to create a bee path in Ljubljana actually originates from here.

From that point on, Maruška Markovič began listing points of interest and identifying relevant stakeholders. The first meeting was organised with representatives of four local beekeepers associations, who appreciated and welcomed the idea. Together, they developed the first action plan and started meeting on a regular basis. In 2014, the concept and the first draft of the BEE PATH were developed based on a simple sketch (presented below) with the division of key topics between the urban and rural parts of the BEE PATH.



#### Presentation based on individual dispersed locations

(no markings, just a printed and e-format guide with modern elements of presentation – e.g. QR code, GPS, etc.)

- Rural beekeepers – home based selling points
- Various forms of apitourism
- Education
- Events
- Local markets for bee products...

#### Presentation based on interlinked bee tourist path

– circular route (marking the path and individual points)

- Cultural heritage
- Selling-points
- Beehives
- Urban beehives
- Melliferous plants
- Events...

So, in its origins, the BEE PATH was designed as a classic tourist path, similar to the concept of wine roads or other thematic tourist routes. It was designed by the municipality without, as Maruška Markovič often says, any “hidden agendas, high expectations or much philosophy”.

The overall approach was quite straightforward and simple – organise a circular thematic tourist route within the city centre connecting the points of interest for tourists – points explaining the beekeeping tradition, urban beekeeping and cultural heritage – with sales points for locally-produced bee products. Such a path could be visited in about half-a-day. This urban option was later supplemented with the option of visiting beekeepers, bee-product developers and apitourism locations in rural Ljubljana’s hinterland. This created a more intensive experience of the BEE PATH and could be visited in a whole day.



The map of the BEE PATH in Ljubljana  
Design: Borut Kajbič

Soon, new interested stakeholders got involved, the network started to grow and members were rapidly diversifying initiatives. In the first expansion cycle, more beekeepers were involved – urban beekeepers included this time around. In the second expansion cycle, so-called “content members” began appearing – they were not necessarily beekeepers, but were able to provide clear links between beekeeping and other easily connectable topics like cultural heritage, education and biodiversity. In the third expansion cycle, product and service providers and larger companies – interested in their green corporate responsibility image – started joining the BEE PATH, further widening its field of operations.

This fast expansion is not only due to the work of the BEE PATH and its members. But also thanks to the simultaneous development of initiatives linked to 20 May, internationally known as the United Nations World Bee Day, the overall sustainable policy of City of Ljubljana. Not to mention the attractiveness of urban beekeeping as a fresh topic in the field of sustainable development.

However, the BEE PATH and its members were willing and able to seize these opportunities. And so, the BEE PATH in Ljubljana was officially opened by Mayor Zoran Janković on 7 October 2015, with an official ceremony held at the Botanic Gardens. Like everything else about the BEE PATH, even the opening ceremony was somehow different and the Mayor performed the first “honorary spread of honey on bread” instead of cutting a ribbon.

### Exploring the BEE PATH Today

As there are many variations of the BEE PATH in the city, the team decided to present the most commonly used and visited option. On this map, it is easy to see how Ljubljana decided to connect all its points of interest, and in this booklet it is easy to see what kind of points are included on the map, and how easily it can be combined with any other guided tour around Ljubljana.

When creating a tourist map, the amount of the information used depends on the overall concept and design. Nevertheless, the BEE PATH map must also contain at least the



Booklet presenting Ljubljana BEE PATH members, etiquette of behavior around bees, ...  
Design: Borut Kajbič



Guided tour on Ljubljana BEE PATH  
Source: BeePathNet archive

most basic presentation of every interest point in order to allow visitors – even the ones who might be exploring this path on their own – to understand the key attraction factors, as well as what to expect at the location. Of course, all stated can be set up using modern technologies, as mobile apps and QR codes.

So, how can a potential visitor to the BEE PATH make the most of it? They have two main options: to explore the BEE PATH independently or to join a guided tour. If the visitor decides to join one of the tours, certified guides have been trained to either deliver two half-days or one full-day visits. The organisation of guided tours, of course, requires a higher level of coordination between individual locations and is currently only available on demand. However, from the visitor's point of view, they can provide a more coherent and structured experience.

If a visitor decides to explore the BEE PATH on their own, some information is available on the map and brochure that were mentioned above, as well as on the website of the City of Ljubljana. At this point Ljubljana is also working on marking individual locations with a logo, which are easily recognisable by visitors. Of course, individual members are responsible for developing their own tools and approaches to present their activity, product or service to visitors. Still, this experience will require more attention in the coming years.

## Key steps in a Bee Path development process

As evident from the previous chapters, the development of any bee path should be understood as a process, not as an individual action. In this context, we suggest that anyone trying to set up a similar experience to carefully follow these operational steps:

**Step 1: Explaining what a bee path is** – for all transfer cities from the BeePathNet URBACT Network, this step was not a problem, as some of the local stakeholder from other cities visited and experienced the BEE PATH in Ljubljana. For other potential cities willing to take on the challenge of the BEE PATH transfer, this is an crucial step, as you need to explain the concept and operational model of the bee path not only to potential members but also to your decision-makers and relevant people. The importance of this step should not be underestimated.

**Step 2: Cross-checking interested people who would like to join the local working group – also known as the URBACT Local Group members – against the eligibility criteria** – eligibility criteria are fundamental for any bee path to function and should be adapted to the needs of a specific transfer city. Once finalized, the criteria should be presented and explained to existing and potential working group members, the so called URBACT Local Group. Only after a proper presentation and explanation of why they are so important for the project, the question of “who wants to embark in the journey to build and create a bee path?” should be raised.

**Step 3: Selecting locations and defining a bee path** – based on positive answers to all the eligibility criteria from interested people, you are ready to select your locations and geographically define a path on the map. There are various techniques and tools available for this purpose, of course. It is advisable to employ the internal or external support of an expert for this step, to lead the process. Otherwise, the exercise of laying out a path on the map is also a fruitful starting point for discussion within the members of the working group.

When designing any thematic tourist path, it is important to design it from the point of view of the visitor. This is why a bee path must offer the right mix of things, which allows the visitor to fulfil their interests. This also includes basic needs such as access to toilets, food and beverages, rest areas and so on. If such aspect if not integrated into the bee path, visitors can lose their focus and divert from the path, to search for them elsewhere. As soon as this happens, you are at risk of losing the tourists completely.

Another challenge is the order in which you mark and number the points of interest on your bee path. It is smart to start with a point that will provide the background of the path's story and then slowly add more and more details through the following stops. So, do not forget to tell your story in a logical, coherent and narrative manner.

**Step 4: Defining the story for the selected locations** – each one of the working group members, also known as URBACT Local Group, should define its own key topic of contribution to the bee path and create a story around it. Depending on the content and format, this can be showcased and translated in a visual or multisensorial experience, as well as other business experiences. Naturally, is up to the member to also come up with an interesting way of presenting the location to visitors in a proper and professional manner. If some of the members are less experienced or lack skills for this, other members or internal and external experts can support them. But in principle, their respective spot in the path and anything developed there is their own responsibility. If they are unable to deliver this on a satisfactory level, despite internal or external support, this is the first sign that they might not be a good fit for the Ppath in your city.

**Step 5: Defining the overall bee path story** – this is one of the most complex steps in the whole process, as all the involved working group members need to agree on the storytelling behind the path. It should be widely accepted, once the individuals from this groupwill need to sell this story to visitors on a daily basis. It should also be based on local facts and legends, which will make it interesting and appealing to visitors.

**Step 6: Marking the selected locations** – the next step is the graphic design of your bee path – namely the logo, markings, promotional materials and other visual branding elements – and then marking the selected locations and spots with visible and recognisable markings. This might sound easy, but in an urban environment, where there are already many signs and other graphic elements, it can prove more difficult than you expect. At this point, you should also decide whether you want to use QR codes or other visible explanations – like informational or educational boards – about the location and its connection to the bee path.

**Step 7: Designing promotional materials** – you should also develop at least one hand-out type of promotional material. Within the BeePathNet URBACT Network, transfer city partners decided to procure an A3 sized double-sided map of their own bee path, which would hold key information about all the selected locations, as well as the main story. This is quite a complex process involving many design and content tricks that will help your map stand out in the flood of other promotional materials in a classic tourist information setup. Thus, internal or external expert support is highly recommended.

**Step 8: Publicising the Bee Path** – in today's tourism market, almost no tourism product or service can be successful without a carefully planned promotional campaign. Feel free to use already established and available communication channels and tools for dissemination.



The ice cream artist Roberto Leoni, recipe for honey ice cream sweetness it only with the urban honey of Cesena.  
Source: archive of Gelateria Leoni



Picnic in Marão with Inside Experiences  
Author: Pedro Fonseca



The apitherapy house in Anel Honey Park  
Author: Elefterios Pantelakis

**Step 9: Designing the guided tours** – Again, a step that might seem easy at first glance, but it usually proves to be quite an undertaking. It consists of at least three key internal steps.

To start, you need to design at least one or usually two or three guided tours, preferably in cooperation with an already licensed tourist guide. It might be smart to offer guided tours of different lengths and difficulties to encompass the widest possible audience. Naturally, further modifications linked to the specifics of the groups should be dealt with on the spot by the responsible guide. If you implemented steps 4 and 5 effectively, this will help a lot the process. If not, this offers an opportunity for you to upgrade the contents of steps 4 and 5 to a desirable level. When designing the tours, you should pay attention to the overall story and select the stopping points on the path accordingly – not all of them need to be included in shorter versions. Also, all tours should be pre-agreed and coordinated with all individual locations, vendors and service providers.

Second, tourist guides should not only be trained on the logistics and content of the tours but also on interpretation techniques. It is preferable to cooperate with existing licensed tourist guides, as this will significantly reduce the training period and effort on both sides.

At last, you need to ensure a reliable and well-promoted reservation and guidance system. This is at the heart of any guided tour operation and is well beyond the capacities and responsibilities of any city administration. Thus, it might again be smart to use an existing one rather than to establish a new one.

**Step 10: Monitoring the performance of individual locations and guides** – now this is the step where you can not only ensure the long-term functioning of your bee path, but also its constant improvement and evolution. Monitoring the performance of the individual locations and guides is the only way to reveal the true quality and development potential of this initiative in your city. But more importantly, it will create an early warning system for you and your members.

Monitoring can be done in various ways. However, since all your members are doing all the work on a voluntary basis and have a clear self-interest in their own success, simply preserving close relations might be the way to go. Nobody likes official inspections, so regular in-person visits to individual locations or customer satisfaction questionnaires might be a better option.

**Step 11: Evolving and adapting to new circumstances** – this is a logical step in any development process. Once you establish something like a bee path, you want it to succeed, grow and evolve. But all of this should happen naturally, if your local working group – URBACT Local Group – is meeting regularly and functioning as it should. Undoubtedly, there are always external factors that we cannot control. However, if you have come this far, you know that enthusiasm and voluntarism can take you a long way.

**Just like pollinators,  
Bee Paths are  
constantly evolving  
organisms...**

**So similar, yet so  
diverse!**

## A few ADDITIONAL Final Tips and Tricks

Despite all above explanations, there are still a few very important things that we need to take into account, if we want to successfully set up a bee path in any city that wishes to transfer ‘the’ BEE PATH Good Practices.

**Linking the bee path to the elements of local identity** – On one hand it is important to be a bit self-critical and realistic at this point and admit that the topic of urban beekeeping is a very specific one – chances are that the path might not attract many visitors right away. On the other hand, it provides important added-value to any guided tour due to its unique story and a different way that any city can be presented to visitors. This is why, given the experience of the BeePathNet cities, it is highly recommended that at least one version of the bee path guided tour include at least the most important elements of a classical touristic visit from your city. In this way, you can expand the target audience of potential interested visitors and wide the reach of your bee path.

**Bee Path in any city has to adapt to local conditions and discover its own identity!**

**Long-term management of the bee path** – The truth is that setting up such structure is a challenging process. However, once you have successfully created the path and consolidate a group of members, the equally challenging work linked to its long-term management is only just beginning. Somebody has to manage it, coordinate all interest spots from the path, monitor the quality of experience and satisfaction of visitors, think about its future, other development and so on. Reason why it is both wise and necessary to pre-agree on its management model, roles, responsibilities and financing.

**Keeping the bee path open for interested new stakeholders** – due to its almost NGO character, any bee path should remain open for interested new actors, once it ensures an organic growth, modification and adaptation to new conditions through time and subsequently its long-term survival. This is also why long-term management and coordination is very necessary.

**Allowing every bee path to find its own way** – Just as important as all the previous points, we have to remember that any Bee Path in any city has to find its own identity and its own way. All the presented ideas are ideas that work in their own environment and might not be suitable for your city.

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### FULL GUIDELINES VERSION:

Examples of on-going cooperation with stakeholders in key tourism topics (page 122) and Professional Guidance on the BEE PATH (Guides and Guided Tours, page 127) in Ljubljana as well as case study on tourism in Nea Propontida (page 131).

## 5.

# Bee products in the bee path

## Endless possibilities for innovation and the creation of green jobs



Beehive on the roof of the B&B  
Hotel Park Ljubljana  
Author: Luka Dakskobler

### How Do Bee Products Fit into the Bee Path?

In previous chapters, we have talked quite a lot about various approaches to the initial mobilisation of your local working group – namely URBACT Local Group members – and how to motivate them for joint cooperation and keep them involved in the long run. Truth to be told, all these challenges come from the same **root challenge – understanding the reasons for participation and the goals and ambitions of your members**.

The ability to develop new products, to improve existing ones and to join forces in joint promotional campaigns and events is one of the most important attractions for the majority of the members. This is the all-important bait or “carrot”, which was only briefly mentioned so far. **Subsequently, this makes bee products one of the top priorities in the work with the local members.**

Some local working group members join this venture with existing products – especially bee-keepers – or with already more elaborated ideas that they want to pitch within the group. This is actually great, because it is then possible to identify success stories and try to build on and around them – and by consequence, build the self-confidence of the members. It also gives an entrepreneurial character to a predominantly voluntary work dynamics.

Nevertheless, this is also why it is important to draw clear lines or borders between voluntary work linked to the bee path and work linked to private entrepreneurial individual interests. It is also very important to openly and continuously discuss these

**Development of new products in combination with joint promotional campaigns and events is one of the most important attractions for the majority of URBACT Local Group members.**



Honey based dessert inspired by the BEE PATH

Source: BeePathNet photo archive

limits and to reach an overall understanding and consensus about them within your working group – also known as URBACT Local Group.

This being said, it is important to emphasise that **bee product development usually starts taking off only after a positive, creative and thriving environment has been created** within the working group – only when our members know each other, actively communicate and trust one another, they can start synchronizing their own goals and ambitions with the overall bee path story. This is also not something that needs to be artificially initiated or kicked off, but rather a dynamic that begins to emerge as a logical step forward during the members' meetings.

Also, one should not disregard many of the basic principles – for example, “knowledge must be shared”, “let’s grow together”, “no idea will be cast aside”, “short supply chain”, “Promote your URBACT Local Group members”, all of which are described in detail in previous chapters). These are crucial when establishing a suitable atmosphere within the working group.

During the BeePathNet URBACT Network transfer process, city partners came to realise that the **time needed to reach this point considerably varied from one URBACT Local Group to another, sometimes depending on many factors** – mostly on the ambitions of members and the proactivity of the project coordinator.

For example, in Ljubljana, the coordinator realised that the bee-keepers lacked the space and occasions for communication and discussion. So, at the very start, the BEE PATH enabled them, alongside their associations, to discuss key opportunities and problems of urban bee-keeping in a friendly and approachable environment. Solutions were identified, implemented and promoted, which attracted new members with new ideas. In this way, a **communication platform evolved into a development platform**, which increased the demand for new bee-products and services. It also pushed new awareness campaigns and the improvement of educational offers on the subject. Naturally, the situation in your city may be different and you will need to come up with different “baits” – but still, the logic can easily be modified and applied.

You must also be able to **realistically estimate the capabilities and capacities of your URBACT Local Group members** to implement their ideas. If you are able to do this, you can identify key knowledge or capacity gaps and ensure effective support for your members. If they recognise you as a supportive and knowledgeable partner who is willing to bring in new knowledge and share it freely, your attraction factor will grow.

So, how can any city support its working group members, build their capacities and support them in their private entrepreneurial success? Firstly, by recognising that there is nothing wrong with providing capacity-building to citizens, as long as it is based on free access to knowledge and information. Then, developing appropriate and effective activities to enhance their skills. Last, but not least, by supporting their operationalisation and execution.

All these stages can be easily developed even outside of a joint-cooperation framework like the BEE PATH, but such needs of citizens are unfortunately rarely identified or acknowledged as relevant and important for the benefit of the city itself. This is why our BeePathNet URBACT Network offered a perfect opportunity for cities to identify capacity gaps and to develop and execute capacity building programmes, while citizens can benefit from them. The lessons learnt from the transfer process are still relevant and can be re-used by other cities.

**However, members must not forget the roles they are accountable for.** It must be clear from the start that members from the working group are responsible for their own creation process and the hard work connected to it, as well as for the success or failure of their own ideas. This is also how **clear ownership can be established**.

**The role of the city in this process is to be a facilitator, a net-worker, group coordinator and support provider.**



Cheese and honey pairing tasting, cooperation between Bergamo's Beekeepers association and cheesemaker Branzi  
Source: BeePathNet Reloaded archive



Shop with typical Bulgarian artisan products runned by women association.  
Source: BeePathNet Reloaded archive



The house in nature "Zlatna greda" where visitors can take part in green nature activities  
Source: BeePathNet Reloaded archive

## How Does the City of Ljubljana Support its Entrepreneurs?

Entrepreneurial capacity-building support in Ljubljana is not an output of the BEE PATH Good Practice. Even if an outside observer might easily conclude that the BEE PATH is one of the crown achievements of **almost 20 years of citizen entrepreneurial capacity-building processes** by the City of Ljubljana, this is not the case.

It all started with the widely accepted understanding that Ljubljana had to improve its food self-sufficiency and the subsequent identification of a specific problem – the low level of diversification of income on farms and the poor entrepreneurship skills amongst farmers. As a response, in early as 2004, the City of Ljubljana developed the first entrepreneurship capacity-building programme for farmers and their family members. Special attention was given to younger farmers, as future farm-owners.

Ljubljana's Entrepreneurship Training Programme was developed through a 20-year citizen entrepreneurial capacity-building processes.

### First Attempts

Based on the existing knowledge and know-how assessment, gaps and needs were identified. With the support from Bojan Ružič, external entrepreneurship skills development expert, BEE PATH's coordinator, Maruška Markovič, was able to create a one-year educational programme divided in three modules. The overall idea was that each participant would not only pick up entrepreneurship skills, but also – under expert supervision – gradually develop their own business idea to the point where it would be made available on the market and survive in the long term. This first capacity-building programme was named 'From a Business Idea to Success'.

Over 200 farmers were invited to participate in this programme, from which 15 agreed to actually take part in it. Out of them, 10 farmers successfully finished it. As the programme progressed, it was upgraded and extended until 2006, though only three farmers continued with the upgraded programme and only one successfully concluded it. Nonetheless, all the participants made clear progress in their daily operations and improved their entrepreneurship skills –in line with their ambitions, of course.

### Improvements

Based on the lessons learnt, the capacity-building programme was renewed and improved. It was then divided in four modules, each representing a development stage.

From over 700 farmers, 27 participants responded and finished the first development stage. 17 of them continued and finished the second stage. The third stage was successfully concluded by 10 farmers and four of them successfully finished the fourth and final stage of the programme.

The four fully-devoted farms – as well as the six farmers that completed the third stage – saw significant changes and achieved their goals in full. Thus proving that the programme had a positive effect, as long as committed participants were involved though. The majority of them **successfully launched new products on the market or were able to re-orientate themselves and diversify their business**.



Schoen Museum in Sosnowiec hosts different types of workshops  
Author: Edyta Wykurz



BEEing founders together with their B-Box project  
Source: archive of BEEing



Workshop in Dolmen shop in Amarante  
Source: Dolmen

## Ljubljana's Current Entrepreneurship Training Programme

After 2008, the capacity-building programme was put on hold as all those responsible felt that it had been successful in its mission and that interest was no longer present, at least on a sufficient level to justify its continuation. At the same time, all those responsible learnt a lot from the first attempt and understood that **different approaches could attract more participants and deliver better results**.

It was only in 2014 that the City of Ljubljana decided that it was time to re-build and re-start the capacity-building programme. But this time, the Ljubljana Public Education Centre – Cene Štupar – CILJ, one of the biggest organisations in the field of adult education in Slovenia, was brought in for support.

A two-stage capacity-building programme was focused on specific target groups, especially young people – under 30 years old – and older people – over 50 years old – who wanted to develop new businesses or diversify existing ones.

A preliminary course entitled Searching for '**Entrepreneurship Ideas with Social Impacts on the Countryside**' was held to identify and attract the best possible entrepreneurship ideas. The majority of topics from the original programme were preserved, but were made much more flexible and incorporated two important new elements:

- An on-the-job training approach.
- The modern entrepreneurship principle “do you own a company or does the company own you?!”
- This meant that participants constantly worked on their own business ideas, improving them as they progressed according to the programme.

The two stages were carried out according to identified needs or every few years – the last time in 2015, when over 300 participants were directly contacted and invited to participate in the programme, which was also publicised through official communication channels and vocational training platforms. 12 participants enrolled, out of which eight of them successfully completed the full curriculum and developed their own business ideas in line with the expectations.

**From the BEE PATH Good Practice perspective, it is important to emphasise that several successful business ideas and products, which today represent significant parts of the BEE PATH in Ljubljana, were developed as a direct result of this programme – for example:**

- Hire a Beehive developed by Mr. Gorazd Trušnovec;
- Apitourism Žerjal developed by Beekeeping Žerjal;
- Apitherapy Slanc developed by Beekeeping Slanc;
- Honey Garden in Ljubljana's Grba city orchard, alongside all the educational programmes developed by Ms. Nina Ilič.



Demonstration beehive in Barabás Villa  
Source: Hegyvidék XII District of Budapest



Runas Hidromel's stalls at fair  
Source: Runas Hidromel



Oxymeli – a new product by  
Passion Honey  
Author: Vasileios Tsigganos

To provide further support, an Entrepreneurship Support Programme with Social Impacts – FERFL was developed by the Ljubljana Public Education Centre – Cene Štupar. It was designed as a stand-alone initiative, but it acts as a logical continuation of the previously described programme. It was based on the following stages:

- Stage 1 – An open public tender is held to identify the best entrepreneurship ideas with social impacts.
- Stage 2 – Interested attendees participate in a three-day Start-up Weekend for New Entrepreneurs.
- Stage 3 – Selected attendees receive, over the following three months, 120 hours of training on business success entitled ‘The Countryside Challenge’.
- Stage 4 – All the remaining attendees are offered the opportunity to participate in a three-month ‘Entrepreneurial Co-Working Space’ focused on the further development of their business ideas and entrepreneurial skills.

You can find a more detailed description of the Ljubljana’s Current Entrepreneurship Training Programme in chapter 3 of our comprehensive guidelines ‘The evolution steps toward a Bee-friendly city’ (see page 151).

## The Importance of Communication, Joint Promotion and Events

As already shown in previous chapters, one of the most important and challenging stages in any product development is linked to its promotion. This is a skill in its own right and if it remains underestimated, you might end up with a great product that sells poorly and could end up abandoned just because its producer did not recognise or was not skilled enough to overcome this obstacle.

This is why it remains fundamental to emphasise the importance of responding to the following questions:

### **Who am I selling the product to?**

Producers need to identify the key target audiences for their product, as all further communication and promotion activities must be designed to address them.

### **What are my key target audiences looking for?**

Secondly, producers need to understand the mind-set, needs, expectations and habits of the key target audiences, as the product can be further modified or refined to correspond to them. This will immediately make the product more appealing to potential customers.

### **Which communication channels and types of communication do my key target audiences prefer?**

This is a very important answer, as promotion campaigns and communication with your key target audiences can take many forms. Different types of customers – as in older-younger, male-female and so on – respond differently to various options. This



Honey Day takes place in the frame of celebrations of the Countryside in the City festival. Stakeholders of the BEE PATH can offer their products to citizens  
Author: Luka Dakskobler

You build your good name your whole life, but you can lose it in a second!

is exactly why any product promotional campaign is liable to failure if a producer decides to use the wrong communication and promotion channels or approaches. Thus, it is wise to take your time to come up with a good answer to this question, rather than pouring energy and funds into poorly designed promotional campaigns.

### **What kind of purchase power do my key target audiences have?**

This is a question that any producer asks himself or herself automatically when they try to define a price for their product or service. However, many of them base the product value on a simple calculation of “production cost added to the desired profit” or just use current market benchmarking techniques. Too often, they forget

that the purchasing power of their key target audiences can impact the price of their product in either of three ways:

- Allow them to increase the price of the product, if their customers are prepared to pay more than the originally set price.
- Force them to reduce the appetite for the desired profit, because their customers simply cannot afford it.
- Provide them with the opportunity to adjust the quality, quantity or design of the product in order to get the right balance between the quality and price of the product in line with the actual purchasing power.

Regardless of the option, this is an important but often overlooked stage.

### **How can I collect feedback information from my customers?**

This is all about monitoring – not only the satisfaction of customers but also their comments and ideas for improvement. Without constant communication with customers and monitoring their responses to the product, the producer might miss important opportunities for improving the product and its refinement and adaptation to customer needs. Communication also allows the producer to get early warnings when things go wrong and enable them to react quickly and efficiently. Without it, any product is much more vulnerable and liable to fail. As the old saying goes: you build your good name your whole life, but you can lose it in a second!

### **How can I improve my product or create a spin-off?**

The previous stage also offers a unique opportunity – to make customers actually work for you and collect potential product improvement or even spin-off ideas.

It is necessary to shed light to the fact that this module does not encompass communication and promotion, as this is a skill in its own right. Still, the BeePathNet URBACT Network can offer the following good practice examples of communication key documents:

- BeePathNet Communication Plan,
- BeePathNet Communication Guidelines.

This is not an example of a communication and promotion plan for a specific product for the Ljubljana Good Practice transfer. Nonetheless, the logic and many of the presented development stages used methods and proposed solutions that can be modified to individual product needs. It is encouraged for you to search for concrete best-case examples or training to improve this important skill.

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### **FULL GUIDELINES VERSION:**

there you will find several Ljubljana BEE PATH Success Stories (page 159), as well as four Bee products case studies – Cesena (page 165) and Bydgoszcz (page 171), Hegyvidék (page 177), Nea Propontiga (page 182) and Amarante (page 187). Additionally, a conceptual design of a local product promotion and selling point is described (page 196).

## 6.

# Awareness raising

## From a project to a bee-friendly movement in the city



Wandering with a bee  
Author: Luka Dakskobler

### How it all started

URBACT rewarded Ljubljana's BEE PATH with a Good Practice award also because of its approach to awareness-raising. Its success lies in connecting several different types of local stakeholders such as bee-keepers and their associations, cultural, educational and health organisations, enterprises, and NGOs, as well as individuals interested in bee-keeping and its development in urban areas.

The primary task of the BEE PATH group members is to promote different activities connected with urban bee-keeping and coexistence with bees in Ljubljana – delivering messages on the importance of environmental protection, food self-sufficiency and preservation of biodiversity. Due to their joint efforts and achievements, bees are slowly becoming an increasingly important part of Ljubljana's everyday life.

A key element of this group organisation is the participatory approach. The city firmly believes that this is the only way for urban bee-keeping in your city to exceed the status of "just another project" and develop into a Bee-friendly City movement. This inclusive multidimensional communication of individuals, organisations and government entities will certainly result in very diverse and above all sustainable actions.

You can read more about Ljubljana's local group organisation in the introductory chapter but at this point, it is important to draw attention to some of the BEE PATH members, such as the pioneer of urban bee-keeping Franc Petrovčič, who placed a beehive on the top of the Congress Centre Cankarjev dom; BTC d.d. that attracted their busi-



Partners of the BeePathNet project  
on the rooftop of the Park hotel in  
Ljubljana, 2018  
Source: BeePathNet archive

ness partners like Minicity, Merkur, Hofer, Semenarna/Kalia, SiTi Teater BTC, Medex, etc and initiated the ‘Help the Bee in the City: Plant the City with Flowers’ awareness-raising campaign; the University of Ljubljana, especially with the Biotechnical Faculty, its Botanical garden and Faculty of Architecture; Gorazd Trušnovec, founder of the Urban Bee-keepers Association that developed a special product called ‘Rent-a-beehive’ and the Institute for the Development of Empathy and Creativity Eneja with the establishment of the Grba Public Orchard and Honey Garden and development of educational programmes for API kindergartens and API schools.

Within the BeePathNet URBACT Network, back in 2018, Ljubljana originally transferred its BEE PATH Good Practice to five EU cities – covering the majority of climate conditions for bee-keeping, various types of bees, as

well as different situations related to the public perception of bees among the general public: the city of Amarante (Portugal), the city of Bydgoszcz (Poland), the city of Cesena (Italy), Hegyvidék, the XII District of Budapest (Hungary) and the city of Nea Propontida (Greece).

Later on, in 2021, Ljubljana started to transfer its urban bee-keeping knowledge to additional four transfer city partners, in the framework of a new URBACT Network BeePathNet Reloaded: Bansko (Bulgaria), Bergamo (Italy), Osijek (Croatia) and Sosnowiec (Poland). But in this particular chapter, the focus will be given to the first round of transfer cities.

It is important to point out that all of them, prior to joining the Network, put a lot of emphasis on environmental preservation and biodiversity maintenance. They also implemented some urban bee-keeping related activities such as the ‘Stewardship Programme’, involving the local community in public green space management and the experimental ‘Urban Meadow Programme’ in Hegyvidék, the XII District of Budapest. Also the promotion of sustainability through education on food, biodiversity and food waste reduction in Cesena and Amarante’s municipality technical staff training to develop tools and products for the elaboration and implementation of the Municipality Strategy for Adaptation to Climate Change.

Based on each partner city’s urban bee-keeping key competences and knowledge, acting as the Good Practice lead city partner, Ljubljana put each of them in charge of one of five key BEE PATH transfer modules. Which means that each city hosted thematic meetings, with the presence of representatives from all the other transfer cities. This gave partners the opportunity to see first-hand the original BEE PATH, as well as to present their own previous experience that were related to the topic of work. Additionally, each city prepared a main article and several other texts for the thematic newsletter and also a description of its own good practice that was partially or entirely transferred. BeePathNet partners believe that empowerment was the key milestone that led to personal and higher level of involvement.

## BeePathNet Communication plan and guidelines

BeePathNet communication activities are described in the key communication documents, the documents determine communication activities and target groups' matrix, the geographical division of potential audiences, the timeframe, reporting process and much more. In addition, to the guidance documents on the partnership level, BeePathNet developed guidelines for communication at the local level, so transfer cities could create higher Impacts with locals.

These guidelines determine in detail who, what and how communication should be implemented on the local level, focusing on the World Bee Day 2020 celebrations and the set of local events that were planned to take place in each partner city. The partnership agreed on obligatory elements, still leaving enough room for each transfer city to prepare events in their own style.

Strategic documents on communication and detailed fine tuning of its implementation were prepared by the network communication officer Vesna Erhart (Ljubljana, Slovenia) and all partner cities communication officers Sónia Files (Amarante, Portugal), Božena Katarzyna Napierała and Natalia Majewska (Bydgoszcz, Poland), PhD. Mario Laghi and Elena Giovannini (Cesena, Italy), Miklós Kelenffy and Viktória Soós (Hegyvidék, XII District of Budapest, Hungary) and Anastasia Liourta (Nea Propontida, Greece).

The communication officers developed plans that consisted of five parts: communication objectives, BeePathNet messages, target audiences, communication periods, activities, evaluation and a time plan. As for the target audiences three communication focuses were chosen:

- on the local level in the transfer cities and regions
- on the transnational level to all transfer city partners
- to EU institutions, other EU stakeholders and EU cities – notably to potential new BeePathNet Reloaded transfer cities.

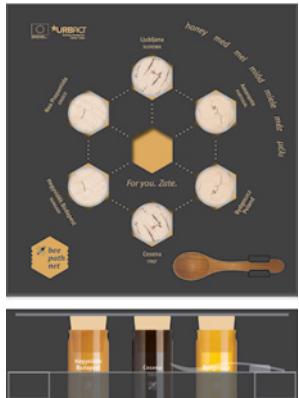
Based on this we defined an activities and target groups' matrix and a geographical division of target groups.

The next issue was the planning, which was broken down in eight communication periods. The first cycle was to prepare the communication plan and communication kit, as it was agreed during the Kick-off meeting in Hegyvidék, XII District of Budapest. The following six communication periods were dedicated to five topics, assigned to each transfer partner city according to its key competences and knowledge and the last one the World Bee Day celebration which was our key promotional campaign. The final period was dedicated to the dissemination of results, with the final event that took place in Ljubljana.

| Theme                                     | Transfer city                                     | Main event                                                             | Period                       |
|-------------------------------------------|---------------------------------------------------|------------------------------------------------------------------------|------------------------------|
| BeePathNet project presentation           | Lead partner with support of Hegyvidék team       | Kick -off in Hegyvidék                                                 | December 2018 – April 2019   |
| Biodiversity                              | Hegyvidék – XII District of Budapest, Hungary     | Transfer city visit in Hegyvidék (back to back meeting with Bydgoszcz) | May – August 2019            |
| Education                                 | Bydgoszcz, Poland                                 | Transfer city visit in Bydgoszcz (back to back meeting with Hegyvidék) | September – October 2019     |
| Awareness raising                         | Cesena, Italy                                     | Transfer city visit in Cesena                                          | November 2019 – January 2020 |
| Tourism                                   | Nea Propontida, Greece                            | Transfer city visit in Nea Propontida                                  | February – April 2020        |
| World Bee Day                             | Lead partner in cooperation with project partners | World Bee Day celebrations, 20. 5. 2020                                | May 2020                     |
| New products                              | Amarante, Portugal                                | Transfer city visit                                                    | June – July 2020             |
| Swarming Management                       | Cesena, Italy                                     | Transfer city visit                                                    | March 2021                   |
| Final Network conference / sharing period | Lead partner                                      | Final Network conference and local events in partner cities            | January – June 2021          |

Unfortunately, due to the Covid-19, some periods were shifted and main events re-scheduled. Furthermore, a key topic was added.

We developed a communication kit, each partner prepared a vox-pop – short video where different city stakeholders are explaining their opinions on the importance and impact of urban bee-keeping and seven communication outputs: thematic newsletters, Twitter posts, Facebook posts, URBACT webpage updates, BeePathNet network result product and a BeePathNet booklet.



VIP giveaways will be granted to mayors and to other representatives of key institutions to encourage them to join the Bee-friendly city initiative.

Design: Borut Kajbič

## Key Communication outputs

To support the transfer of the Good Practice to more cities **thematic newsletters** (see [archive](#)) and **comprehensive guidelines** ‘The evolution steps toward a Bee-friendly city’. For promotional reasons, two types of outputs were developed: the **BeePathNet booklet** and giveaways. There are **small giveaways** – bags with melliferous plants that partners distribute at local events to address citizens and a **VIP giveaway** to invite new cities to join our Bee-friendly city initiative. It is a box with honey samples from all six transfer partner cities with an empty space for a sample from the recipient of the gift.

Nevertheless, our most important **communication campaign** organised on partnership and city level is the **World Bee Day celebration**. It took place in each city from 2019 on and become a part of all ten cities tradition (read [their stories](#)).

**It was really a lot of work, but... by translating the newsletter into all partner cities languages, we reached a much wider audience and the Bee-friendly initiative is now known not just to citizens of our partner cities but to residents of their countries.**

Here are some suggestions that can turn your project from “just another project” into a lasting city movement:

- Choose a partner according to the knowledge that they bring into the partnership. Putting them in charge of a specific activity will lead to a more personal and higher level of involvement.
- Setting clear communication objectives, target groups... detailed planning is hard and arduous work, but it is a fertile ground for a creative and target group orientated campaign.
- Giving each partner enough room to implement communication in their local style – in addition to commonly set objectives – will result in more personal and a higher level of involvement, better understanding of messages by local target audience and consequently in total communication success.
- There is no good communication and awareness raising campaign without the magic trio: copy writer, translator / proof reader and designer.
- The last, but also very important: make your audience a promotor of your initiative by involving them in the project. Show them how THEY can make THEIR CITY a better place.

**The World bee day celebrations in Partners cities were very different, the same as is different their citizens “heart and a soul”. But you know what? Only by allowing partners this colourfulness your message will reach the people.**

### Do not take easy ways!

Dare your communication campaigns to be creative, “out of box”.



Source: archive of City of Ljubljana

The city of Ljubljana (Slovenia) gave a sample box of BeePathNet cities urban honey to his excellency Hiromichi Matsushima, the Ambassador of Japan as an invitation for his home town to join the Bee Friendly Cities Initiative.



Source: archive of City of Sosnowiec

The John Paul II Children's Hospital, Sosnowiec (Poland) launched an outdoor exhibition dedicated to melliferous plants which was visited by Poland's Minister of Health Mr. Adam Niedzielski with representatives of regional authorities.



Source: archive of City of Bansko

At Week of the Forest in 2022, the Municipality of Bansko (Bulgaria) together with the beekeeping union ROY – Bansko organized a campaign to plant melliferous trees as linden, ash and golden rain. They distributed over 200 species to residents in support of urban beekeeping.



Source: Municipality of Osijek

At the Flora Art Festival in Osijek (Croatia) citizens and tourists could see and buy an unimaginable plethora of various flowers, many of them melliferous and also buy local products like honey and see a presentation of how honey is being made.



Source: Municipality of Bydgoszcz

Art nouveau style pollinator houses on “Murarkowe drzewo” (“Red mason bee Tree”) in Kazimierz Wielki Park in Bydgoszcz (Poland)



Source: Hegyvidék – XII District of Budapest

A promotional sign “This area can be adopted” for the Stewardship Programme (Hegyvidék, Hungary) inviting residents of local area / a street to take care of a public area in their neighbourhood.



Author: Charalambos Toumbekis

The Bee sculpture in Nea Moudania as one of Nea Propontida (Greece) bee-path points standing for biodiversity as well as art.



Author: Elena Ferrario

The first World Bee Day celebration in Bergamo (Italy) linked 30 events across the city and was attended by almost 1 500 people. The most popular was at Palazzo and Giardini Moroni who prepared a three-day program.



Author: Guido Cortese

In 2020 Cesena (Italy) hosted the 9<sup>th</sup> National Congress of Urban Beekeeping where all the shining examples of urban beekeeping in Italy and abroad were showcased and accompanied by tastings, visits and city tours.



Source: Municipality of Amarante

BeePathNet Garden with melliferous plants, right in the centre of Amarante (Portugal). It is representing all the work that has been done in adapting the urban beekeeping concept to the city.

## FULL GUIDELINES VERSION:

there is a more detailed description of communication activities (page 202).

# 7. Swarming

## Adaptation of humans to the habits of urban bees



Swarming is a natural division of a bee family which always fills us with admiration and discomfort at the same time.

Author: red.prof.dr. Vlasta Jenčič



In an urban environment we can be very surprised with the resting places of a swarm. The pictured swarm fell from a branch onto the car due to its weight. The journey home was much longer.

Author: izr.prof.dr. Irena Zdovc

### What is a Swarm of Honey Bees?

Reproduction by swarming is one of the most glorious events in the life of a bee colony. In this type of colony division, a majority of the worker bees leave the hive with the old or new queen to find a new home. When the swarm exits the hive, there are thousands of bees in the air looking for the queen and a place to cluster. This magnificent buzz of bees contains an average of 16 000 workers in a temperate climate, though this number varies greatly; we can find swarms with, say, 1 700 bees – a handful – and with up to 50 000. The swarm contains about two-thirds of the colony's population.

Most of the bees in the swarm have their stomachs filled with 35-55 milligrams of honey, which is one-third of the weight of the bee. So, it is possible to say that one-third of the swarm's weight is a food reserve. The bees in the swarm have enough food for three days and, since they are mainly young bees with significantly enlarged wax glands, they have every opportunity to find and build a new home. Due to their full stomachs and focus on their task, the bees in the swarm are not aggressive.

The timing of swarming varies from year to year, though they most often swarm in May and early June. However, swarms can also occur as early as April and as late as August. Usually, the swarms fly out in the late morning or early afternoon, but since the timing of the swarming during the day is greatly influenced by the weather, they can leave the hive at any time of day.

When the swarming bees fly out of the parent colony, they do not go far – about 10 to 30 meters away. The bees then settle on the branch of a tree or similar place and form a beard-like cluster. Most of the bees remain quietly hanging around while the scout bees eagerly scan the surrounding area for a new home. By dancing on the surface of the swarm, scouts provide information about the location of the most suitable place. This process can take several hours to several days. Typically, the bees choose a new home anywhere from a few hundred yards to a few miles away from the original one. When the swarm rises again, it can fly at speeds of up to 12 km/h to the chosen location.

In the hive, the swarming process begins with the rearing of the queen from two to four weeks before the swarm leaves. The beginning of the process is influenced by several factors in the hive, as well as environmental conditions: the number of adult bees, the amount of brood, food reserves, an abundant food supply in the environment and the springtime.

Bee-keepers try to influence the swarming factors by intervening in the hive to prevent swarming itself. This is because swarming causes the beekeeper to lose a large proportion of their bees and therefore the honey yield per hive. Bee-keepers vary in their success in preventing swarming, which they can quickly spot as the swarms hang around the apiary or the colonies are reduced in number.

### Why is Control Needed?

The swarm of bees belongs, in principle, to the person on whose property it has settled. If the swarm does not belong to us, a foreign swarm provides us with a new colony, though at the same time we may acquire new pathogens and pests.

The number of swarms in an environment is definitely related to the number of colonies. Even though bee-keepers usually try to prevent swarming, swarms are more or less always present in May and June. In the City of Ljubljana, the density of bee colonies is high, at more than 30 colonies/km<sup>2</sup>. In areas with higher bee density, greater competition for bee forage is to be expected, and thus an increased risk of robbery and reproductive problems – greater loss of queens when returning from mating flights. However, the biggest problem in areas with a high density of bee colonies is the much greater likelihood of the transmission of pathogens and pests between neighbouring colonies.

Good beekeeping practices are therefore particularly important in areas with a high density of bees. Most pathogens in the hive are concentrated in the decayed brood in the combs and in the food stores. In case of swarming, the riskiest part remains behind in the combs of the parent colony.

The Central Slovenia region has seen the most bee health problems in recent years due to two bee diseases characterized by the fact that the pathogens can be transmitted during swarming. The first one being the *Varroa mite*, the cause of what is currently the most problematic disease of the western honey bee – varroosis and the second one being the most economically important bacterial disease of bees, American foulbrood *Pestis apium*.

There is need to consider any swarm that we catch as a potential Trojan horse. It can bring pathogens with it, which then spread quickly through our apiary and neighbouring ones. This is especially true in areas that are contaminated with bee diseases, which unfortunately includes Ljubljana and its surroundings. With the proper treatment of swarms, control over healthcare and appropriate measures, this problem can be solved.



Swarming bees often choose fruit trees. Cities are full of tall, decorative trees. Access to the swarm is almost impossible unless firefighters come to help. The picture shows the capture of a swarm in the City of Ljubljana with the aid of a firefighter's truck.  
Author: dr. Lucija Žvokelj

**Due to high likelihood of the transmission of pathogens and pests, we need to consider any swarm that we catch as a potential Trojan horse.**



Collecting a bee swarm  
Author: Luka Dakskobler

## How was the Subject of Swarms Regulated in Ljubljana?

In Ljubljana you simply dial 112 and swarm collectors will respond!

In the City of Ljubljana, in cooperation with the Administration of the Republic of Slovenia for Civil Protection and Disaster Relief and the Ljubljana Fire Department, swarms have been taken care of since 2016. In cooperation with seven bee-keepers from Ljubljana, a community of swarm collectors has been established, who are put on alert from May to September, which is when the swarms appear. The inhabitants of Ljubljana are informed not to be intimidated by the swarms. 112 should be called and all the necessary people should be activated to collect the swarm and take care of its new home.

## Why is the Regulation of the Issue of Swarming Even More Important in the City?

The problem of swarms in an environment can be viewed from several angles. From the bee-keeper's side, swarms in their apiary are often an undesirable occurrence, especially if they are unable to capture them. If there are many fruit trees or shrubs nearby, most swarms will first settle on them 10 to 50 meters away from the apiary. If the closest neighbouring apiary is at least 200 to 300 meters away, there is a good chance that these swarms will have flown out of their own hives. If they are noticed in time and hang low enough, they can be captured and settled in hives. So swarming costs a lot of time and, in the case of the remaining, reduced colonies, a lower honey yield.

Many areas of Slovenia are very densely populated with bee colonies and it often happens that swarms fly into the neighbouring area. Bee-keepers are happy to get foreign swarms, but they need to handle them properly so that they do not introduce diseases into their hives.



Approximately two thirds of the bee family leaves with the swarm. Every beekeeper wishes to get the swarming bees back, but capturing them is often complicated.

Author: red.prof.dr. Vlasta Jenčič

The urban environment offers the swarms various places to sit: roofs of buildings, balconies, fences, gutters, traffic lights, tall trees in avenues and so on. These are generally more difficult to reach and often upset people who are afraid of bees or do not know what to do when a swarm is hanging on their fence, bench or rooftop.

The more urban the environment, the more hives there are, the less informed people are and the more often people have unpleasant encounters with swarms. Therefore, it is highly recommended for cities to have a regulated protocol for managing swarms in a way that causes as little disturbance to residents as possible while keeping people informed and educated about their activities in an acceptable manner.

From a bee conservation perspective, it is important that swarms are properly managed according to the principles of good bee-keeping practice, especially when there are many bees in a particular area and they are thus more exposed to pathogens. In such an environment, it is also important to take care of food resources for the bees in the area at the municipal level, as well as to effectively inform citizens and visitors to the city.

## The Proper Collection of Swarms and an Ethical Attitude Towards Bees

Each captured swarm is placed in a box that allows air exchange and placed in a dark, cool place for at least one day – usually in a cellar where it is between 10 and 12 degrees Celsius. One side of the box is preferably a mesh. This way, we can check with a flashlight when the first bees will fall to the ground. The bees will be in a cluster under the lid, and when the first bees go numb with hunger, they will fall to the floor. It is now time to immediately move the bees to a new or cleaned hive, to provide it with foundations, and to begin feeding. This is how bees are starved. After settling and feeding in the new hive, the bees will defecate outside and any spores of the American foulbrood pathogen *Paenibacillus larva*) will remain outside.

The instructions for such a procedure have long been known, as American foulbrood was once the disease bee-keepers feared the most. Although the bees in a swarm have a three-day supply of honey with them, it is unknown how long the swarm has been out in the open. There is need to monitor the swarm in the box as often as possible so our bees do not die of starvation.

People should always colonise the swarm with foundations, we never add already built combs from other colonies or even combs with honey. The swarm has all the potential to build a comb entirely, with a constant supply of food. Young combs contribute a lot to the health of the colony and the older the comb, the more it is loaded with pathogens.

After two to three days, when the swarm has been settled in the hive and the colony has begun to establish itself normally, it is necessary to clean out the *Varroa mites*. *Varroa mites* are most susceptible in adult bees, so there is absolute need to treat them before the first cells of capped brood appear in the colony. The active substances have difficulty reaching the *Varroa* in the sealed brood cell, where the reproductive phase of the *Varroa mite*'s life cycle takes place. The bees cover the larvae at the age of five to five and a half days, or eight to eight and a half days after egg development. It is possible to clean the colony very effectively by treating it within seven days of settlement in the hive. The swarm is sprayed with an aqueous solution of oxalic acid, according to the instructions of the manufacturer and the veterinarian.

The swarm is fed with sugar solution until it builds all the foundations and only has strong feeding rings in the upper third – honey and processed sugar solution.

**Swarming is a natural process, needed to preserve genetic diversity of the species.**

**Thus, swarm collection service outside of urban areas can even be seen as counterproductive from the biodiversity point of view.**

### Swarm Shelter – The Vision

## Starting Points – What Do We Want to Achieve with this Shelter?

Ljubljana is the capital of Slovenia, but the small city centre means that urban and rural areas are intertwined on all sides. In these areas, the density of bee colonies is rapidly increasing and there are also more and more in the city centre itself. Because of the large number of colonies in a small area, there are also a large number of bees swarm each year. Swarms are a problem from a health point of view, mainly due to the transmission and spread of infectious diseases, from a social point of view as citizens confronted with a swarm in their immediate environment are afraid of bee stings and often do not know how to act, and from an ethical point of view, as escaped swarms often do not have the opportunity to develop further.

By establishing a community shelter for bee swarms, there is hope to achieve the following:

- establish a protocol for dealing with the discovery of a swarm in the community area and inform citizens about this,
- ensure the proper care of swarms and allow for the development of new colonies,
- establish veterinary inspection of the health of these swarms.

**A centralised city-level swarm shelter is a realistic solution. However, we are still considering the possibility of a non-centralised one.**

In this way, the removal of escaped swarms from the urban area can be ensured and prevent bees from settling in inappropriate places such as ventilation shafts, alcoves, blinds and the like. This will also reduce the likelihood of stings and allergic reactions to bee stings in cases when residents try to remove bees from residential buildings and their immediate surroundings. The city will make sure we allow these swarms or new colonies to develop in a location that is suitable for bee-keeping. Most importantly, it will prevent the spread of infectious diseases that could be transmitted to a new location by swarms of unknown origin and through improper handling. Among the diseases, the most dangerous in terms of transmission by swarms of unknown origin is American foulbrood, which is a legally notifiable disease in the EU. Therefore, the greatest attention is paid in the shelter to the prevention and diagnosis of this disease. In the event of an outbreak of American foulbrood, local authorities will carry out a sanitation operation in accordance with the regulations in force.

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**FULL GUIDELINES VERSION:**

swarming issues are elaborated in more detail (page 212).

# Chapter III

## All good things come in threes!

Before you start your own transfer journey, we are giving you three things to keep in mind, three aspects that need to be connected at all times:

**MIND** – an overview of BeePathNet key outputs for you to widen your horizon.

**WORDS** – some friendly advice by Klemen Strmšnik, URBACT Lead Expert, and Vesna Erhart, Network communication officer. Both were deeply involved in this bee journey management.

**ACTION** – an invitation for you to join the Bee Path City movement.

But don't forget that there is no need to just copy-paste all presented ideas...

Modify them to your needs and implement them in the best way you see fit.

Or even better, come up with your own ideas and let us learn from you!

## 8.

# An overview of BeePathNet key outputs for you to widen your horizon

After reading this pocket version of the guidelines, we hope that you are ready to further widen your horizon. Here is some additional reading for you to dive deeper if you feel inspired.

## Full Guidelines “The evolution steps toward a Bee-friendly city”

### E-version:

[www.urbact.eu/sites/default/files/media/the\\_evolution\\_steps\\_toward\\_a\\_bee-friendly\\_city.pdf](http://www.urbact.eu/sites/default/files/media/the_evolution_steps_toward_a_bee-friendly_city.pdf)

In the guidelines on transfer modules, you will find the description of BeePathNet Network transfer journey and detailed instructions for the development of urban bee-keeping.

The guidelines have four parts, following the transfer logic – first we present Ljubljana’s BEE PATH good practice and evolution, this is followed by the description of two essentials methodological approaches. Then comes the main part with the six key thematic modules of the BeePathNet Good Practice described in detail: Biodiversity, Education, Tourism and city Bee Paths, Development of bee products in the Bee Path, Awareness raising and Swarming. They are supported with partner transfer cities practices and some tips and tricks. And at the end we reveal how we did it – by looking into the background of the transfer journey.

## Thematic newsletters library

During our transfer journey we “built up” the library with thematic newsletters on Biodiversity, Education, Awareness raising, Tourism, the World Bee Day celebration and partner cities’ Bee paths. They are providing the redline article on the theme supported with some scientific articles – Brainy Bee. In News from Bee cities and What is buzzing up – inspiring stories from partner cities on partnership meetings, promotion and dissemination can be found, and we spiced up the newsletters with cute, surprising, appealing short stories to communicate the importance of bees to the general public – Amazing facts about Bees. To get closer to local people these newsletters were translated into all partner cities languages.

You can find our newsletter library at:

[www.bit.ly/3R7q6iw](http://www.bit.ly/3R7q6iw)

Follow inspiring stories on social media:



BeePathNet

E-mail:

[beepathnet@ljubljana.si](mailto:beepathnet@ljubljana.si)

More about the project:

[www.urbact.eu/bees](http://www.urbact.eu/bees)



## 9.

# A friendly word of advice

Place for final thoughts and ideas

**All good things happen only when you say  
“YES!!!” to new challenges**



Dear reader,

If you are reading these lines, I believe you already have a full head of ideas, best practices, instructions, tips, tricks and everything else provided by these guidelines...

I know, it sounds great, but I also know that deep down you are thinking something like: “This is way too much work for us!”, or maybe: “Sure, great story, but this would never be possible in our city!”

Hopefully, you are also thinking: “Hey, you know what, I am sure she/he would be interested in this!”, or maybe: “But, this would be perfect for them!”

If you are, congratulations, you already started forming your own local group and made the first step in the transfer process of the BEE PATH good practice to your city!

Don’t think about it too much, because the time to start will never be right. Start as slow and gentle as you need, but do start. The BEE PATH Good Practice and ten cities which successfully transferred it through the BeePathNet Network(s) are living proof that it can be done. Even better, with these guidelines you have a comprehensive guide how to do it in practice.

You know... It would really be great if, on one sunny morning, I received an e-mail from you, informing me about the successful transfer and inviting me to come and explore the Bee Path in your city.

So, here is my contact – I am expecting your e-mail! ☺

A handwritten signature in blue ink, appearing to read "Klemen Strmšnik".

# Inspiring people to do it “their way” will launch your idea and turn it into a movement

You need to believe in idea! Believe in it as a person, not taking it just as a part of your professional responsibilities. You need to repeat it to your people constantly week after week, so you need a whole bunch of short messages, activities... And on the other hand, from time to time, you need to do something outstanding for people to notice and remember you. Take it quick or slow, whatever fits better to the specific situation, to your city heart and soul.

Thinking that you are the only smart person knowing what needs to be done, is the most crucial mistake. Let the diversity of opinions and positions make your initiative holistic and inclusive. For sure this is a slow and hard way, but it is the lasting one.

For sure plan carefully and prepare every activity in detail, but don't be afraid to make a mistake as they are a part of process. “By mistake” several world most important ideas and inventions were born!

Sometimes you just need to let go of some good ideas, so you have enough time for other ones. Sometimes it is just too soon to bring some ideas to life. No worries, the right time will come eventually, just write them down for the future.

You reading those lines confirms that we did (at least some things) right.  
☺

Now it's YOUR TIME TO SWARM!



Vesna Erhart,  
the BeePathNet  
Creative Dreamer Bee

[vesna.erhart@EKOmeter.si](mailto:vesna.erhart@EKOmeter.si)

## 10.

# Join the Bee Path City movement

## Join our growing movement of bee-friendly cities in Europe!

### Our vision

The Bee Path Cities is a **network** of urban authorities that have come together under the shared vision of creating cities that are **good for pollinators and therefore good for people**.

We believe that there is a lot to be gained from **exchange and learning between cities** that are keen to take steps along the Bee Path towards more environmentally sustainable and healthy urban areas for all living beings.

### Our aims

- **Knowledge transfer** – sharing information, ideas and initiatives for enhancing urban sustainability.
- **Joint action** – finding opportunities to fund common activities (in the form of local actions, information sharing and awareness-raising) and strengthening our movement around the world.
- **Awareness-raising** – increasing public understanding of the connections between pollinator well-being and broader urban sustainability.

### Our members

The founder of this network is Ljubljana (Slovenia). The cities that have adopted Ljubljana's good practice so far are: Amarante (Portugal), Bansko (Bulgaria), Bergamo & Cesena (both Italy), Bydgoszcz & Sosnowiec (both Poland), Hegyvidék (Budapest, Hungary), Nea Propontida (Greece) and Osijek (Croatia).

The latest list and map of Bee Path Cities is available on our web page:  
[www.urbact.eu/bees](http://www.urbact.eu/bees)

Does your city support the philosophy set out in this document? Join us today!

### Why join

- Become a part of a supportive network of cities.
- Learn more about the benefits of pollinators for urban sustainability.
- Share your cities' experiences with others.
- Benefit from the knowledge and experience of our members.
- Create your own Bee Path or build on the original good practice example from Ljubljana.
- Take inspiration from specific activities in support of pollinators.

Becoming a Bee Path City entails no financial or formal obligations. It is based purely on a common desire to share and learn from other cities in Europe and around the world.

### How to join

Interested in knowing more? Why not join our next regular online coffee morning?

Want to confirm your commitment? Fill in the online application form to become a formal member.

Contact us for more information on how your city can get involved and start your Bee Path journey.

[beepathnet@ljubljana.si](mailto:beepathnet@ljubljana.si)

[www.urbact.eu/bees](http://www.urbact.eu/bees)





URBACT enables cities to work together to develop sustainable solutions to major urban challenges, through networking, sharing knowledge and building capacities of urban practitioners. Since 2022, the programme is co-funded by the European Regional Development Fund and the Partner and Member States since 2002. Within its core activities, the URBACT Knowledge Hub brings together good practices from across the EU, with the latest urban trends, to fill the gaps and make sure that the learning is within everyone's reach. Since 2013, URBACT has supported eight networks working on topics linked to sustainable food and urban agriculture. The lessons learnt and insights from these projects have been harvested and pulled together to help other cities take action – some good food for thought!

#### Contact us

URBACT Secretariat  
[communication@urbact.eu](mailto:communication@urbact.eu)

Check the latest updates at  
[www.urbact.eu/food](http://www.urbact.eu/food)

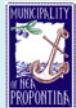
And much more at  
[www.urbact.eu](http://www.urbact.eu)

Twitter: @URBACT  
Facebook in LinkedIn: URBACT  
Instagram: urbact.eu

## Cities that have transferred urban beekeeping Good Practice from the city of Ljubljana



Mestna občina  
Ljubljana



**More about BeePathNet Reloaded project:**  
[www.urbact.eu/beepathnet-reloaded](http://www.urbact.eu/beepathnet-reloaded)



**Follow us on social media:**  
 BeePathNet

**E-mail:**  
[beepathnet@ljubljana.si](mailto:beepathnet@ljubljana.si)

### Join the Bee Path Cities movement!

Learn about Bee Path Cities movement vision and how to join it.  
Get to know the cities that committed to protect pollinators.

[www.urbact.eu/bees](http://www.urbact.eu/bees)

There are also all other key documents that will support your knowledge transfer process as full version of guidelines 'The evolution steps toward a Bee-friendly city' in English and shortened editions in Bulgarian, Croatian, English, French, German, Greek, Hungarian, Italian, Polish, Portugal, Slovenian and Spanish.

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