



★ **URBACT**
Driving change for
better cities



The evolution steps toward a *Bee*-friendly city

The transfer journey
of the BeePathNet partnership
with guidelines for the development
of urban beekeeping

LJUBLJANA *Developing
Ljubljana's BEE PATH
long-term development
Vision and Action Plan*
together with BEE PATH
members

AMARANTE *Sale of
bee products in the
Municipality market*
– despite the pandemic
situation, we managed to
market honey and bee products
at the municipal market.

BYDGOSZCZ *Changing the
mentality: recognition/
acknowledgement of the
importance of bees and wild
pollinators; activities of utility
companies (MWiK, ZDMiKP)
and municipal departments
(WGK); enlargement of wild
meadows, delayed mowing,
plans for creating an apiary at
Ostromecko Park and Palace
Ensemble*

CESENA *The widening of
the ULG group to the
national level, involving
many different entities*

HEGYVIDÉK *Budapest
waterworks join the ULG*
– small activities produced
huge results. Less mowing in
waterworks green spaces.

NEA PROPONTIDA *Long term
support to 2 BeePathNet
actions* – The Best Bee
Balcony competition and The
Adopt a Green Patch are to
become traditional

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Colophon:

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www.urbact.eu/beepathnet



To join the Bee-friendly movement visit our webpage which has all the needed information and links (left side of the page) to: the project monography, the transfer modules guidelines “The evolution steps toward a Bee-friendly city” and the library with thematic newsletters on Biodiversity, Education, Awareness raising, Tourism, the World Bee Day celebration 2020, New Products and partner cities’ Bee paths in 7 languages.

The evolution
steps toward
a *Bee*-friendly
city

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 become a mission of six cities.

A foreword by
Maruška Markovčič,
the BeePathNet
Queen Bee



In front of you is not only a comprehensive guide to urban beekeeping, but... Well, in its essence and form it is! However to me it is much more...

This is why, I would like to invite you to read it as a story about a humble idea, its awkward beginnings and all the wonderful people which recognized its' potential, their efforts to make sure it grows, and a unique EU programme which finally called it what it always was – an URBACT good practice.

And this was only a start, because at that moment, the story turned into a journey, where the team of the City of Ljubljana suddenly found itself accompanied by five passionate and creative partner cities and supported by excellent and devoted 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 was.

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 precise “cocktail” is needed to evoke mind-change in our citizens and change our urban jungles for the better.

And you know what, just as you at this moment, Ljubljana started with nothing more than an idea.

Relying on the above described “cocktail” and 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 URBACT transfer networks. And so, the BeePathNet project 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.

At the beginning, our transfer partners were skeptical, too – stating environmental, cultural, operational, political and even legal differences. But two and a half years later, they all successfully transferred the BEE PATH good practice into their own cities. And not only that, they integrated their own good practices into it, moulded it into their own unique Bee Paths, as well as improved Ljubljana’s BEE PATH and supported its evolution.

But the transfer cities didn’t do this alone. Just as we in Ljubljana, they created voluntary citizen local groups – the *“heart and soul”* of any Bee Path. In Ljubljana we were very proud of the network of 35 local group members. Today, at the end of the BeePathNet project we are even prouder of over 300 local group members in our six “Bee-friendly” cities. And we are still growing...

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 – paste all presented ideas... We hope they will inspire you. So, modify them to your needs and implement them in the best way you see fit. Or even better, come up with your own ideas, reach out to us, join our network of “Bee-friendly” cities and let us learn from you!

The evolution steps toward a Bee-friendly city

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's Good Practice award, Ljubljana decided to transfer its BEE PATH good practice into five EU cities covering the majority of 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 partner cities, confirmed the transferability of the BEE PATH good practice.

II. Two essential methodological approaches 15

To ensure transferability four vital obligatory modules were designed, with additional six voluntary modules (i.e., education, biodiversity, etc.) supporting them. Each city is free to choose which voluntary modules to transfer. However, our transfer partners proved that, at some point in the future, you will implement them all.

Before you take a deep dive into any of the modules you need to internalise the **participatory approach**. We firmly believe that this is the only way for urban beekeeping 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, organizations and government entities will certainly result in very diverse and above all sustainable actions. We have also included some recommendations on how to organize your **local action group**.

III. The key thematic modules of the BeePathNet good practice 37

Experts from cities of Ljubljana (Slovenia), Amarante (Portugal), Bydgoszcz (Poland), Cesena (Italy), Hegyvidék (Hungary), Nea Propontida (Greece) developed six thematic modules:

Biodiversity – the cornerstone of the Bee Path good practice 38

Education – investing into our future 72

The Bee Path and tourism – creating a bee story and building a Bee Path in the city 109

The development of bee products in the Bee Path – endless possibilities for innovation and creation of green jobs 150

Awareness raising – from a project to a Bee-friendly movement in the city 202

Swarming – adaptation of humans to the habits of city bees 212

Each module consists of a presentation on how Ljubljana did it and a case study from one of our partner cities. You will also find some useful tips and tricks at the end.

IV. How we did it – look into the background of the transfer journey 221

In this sort of “behind the scenes” chapter we are publishing interviews with Mr. Klemen Strmšnik, the BeePathNet lead expert and mag. Vesna Erhart, the BeePathNet network communication officer. They revealed some of the backstage secrets of the transfer process while providing some useful transfer journey conclusion and communication tactics.

If you want good things to happen, you must say “Yes!!!” first and then make the first step.

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

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" ...

1.

The City of Ljubljana good practice



Beehives on SKB Bank rooftop
Author: Luka Dakskobler

BEE PATH – Ljubljana’s Good practice based on tradition while building for 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 urban beekeeping in Ljubljana.

Due to the complexity of the challenges, a project working group was established and tasked to realise the outlined goals. The working group prepared a work programme, named the BEE PATH. The working programme is by character an action plan, implementing the [Rural Development Strategy 2014-2020](#) of the City of Ljubljana in practice. Its activities were and continue to be financed from the City budget.

BEE PATH was designed based on participatory principles by City officials and key stakeholders with support from experts and decision-makers. This proved to be an excellent practice, which allowed 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 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 other bee products with a network of different institutions and organisations related to bees and beekeeping in Ljubljana. This way, visitors can experience Ljubljana from a different perspective – they are introduced to cultural and natural heritage linked to beekeeping in Ljubljana and witness active beekeeping processes, as well as tasting and buying honey and other types of bee products.



Skyline of the City of Ljubljana
Source: Ljubljana Castle



Green wedges in the City of Ljubljana
Source: Google maps

- **IT IS A NETWORK** of 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 BEE PATH group members today is to promote different activities connected with urban beekeeping and coexistence with bees in Ljubljana – delivering messages of 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.

However, the story continues with the [BeePathNet Project](#). Urban beekeeping, in its broader context, offers BeePathNet 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 BEE PATH is by no means a finished project, but rather a work in progress – growing and evolving daily.

About Ljubljana

[Ljubljana](#) is the political, administrative, cultural, and economic centre of Slovenia in which 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. TEN-T 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 people of Ljubljana, the green character has been preserved throughout its rich history and today, the city offers 542 m² 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. In Ljubljana, over 800 farms and 350 beekeepers (with 4,500 beehives) operate, 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, Ljubljana 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 – e. g. Ljubljana became one of the Global Top 100 Sustainable Destinations (2017), the friendliest municipality to bees (2017), and the Green Capital of Europe (2016).

Partner institution	City of Ljubljana (Mestni trg 1, 1000 Ljubljana, Slovenia)
Region and country	Osrednjeslovenska 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%) / Agricultural areas – 10,667.0 ha (38.79%) / Forests – 10,668.0 ha (38.79%) / Water and other areas – 1,749.7 ha (6.36%)
Employment by key economic sectors	Services – 54% / Manufacturing, Mining and Industry – 20% / Trade and Tourism – 17% / Construction – 8% / Agriculture, forestry and fishing – 1%
Current unemployment rate	7.5%

Today, Ljubljana is a modern and 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.

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-increasing 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 high-quality 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



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

just like in nature, the old had to make room for the new and Ljubljana entered the new millennium ready for urban revival.

In the search for new development concepts, the city administration and decision-makers recognised 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 (e.g. co-financing, support to local products, short supply chains, etc.), which enabled farmers to continue with farming while using more ecological and sustainable farming 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. Proof of its success came in 2014 when Ljubljana was declared winner of the title "the Green Capital of Europe 2016".

This was a clear signal for both citizens and the City of Ljubljana that they are on the right track. It also provided a supportive and thriving environment for bolder green urban development ideas and projects. In the following years, the City of Ljubljana encouraged and supported new urban concepts like urban gardening, urban forestry, and urban beekeeping.



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

The good practice development process – step by step

IN THE BEGINNING... – The first activities related to the preservation of bees and awareness-raising on the importance of bees were very limited, had no common focus or goals, and had no foundations in strategic development documents of the City of Ljubljana. Although biodiversity was recognised 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 recognized 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 recognised 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/insecticides in green public areas – the city administration itself didn't support the bee-friendly environment. At that time, one of the main City activities was 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 insecticide/pesticide-induced bee-killings) as a serious environmental problem. In 2014, the Section for Rural Development of the City of Ljubljana started with a variety of activities (following the guidelines of the Beekeepers Association of Slovenia) for establishing a bee-friendly urban environment and active development of urban beekeeping in Ljubljana.

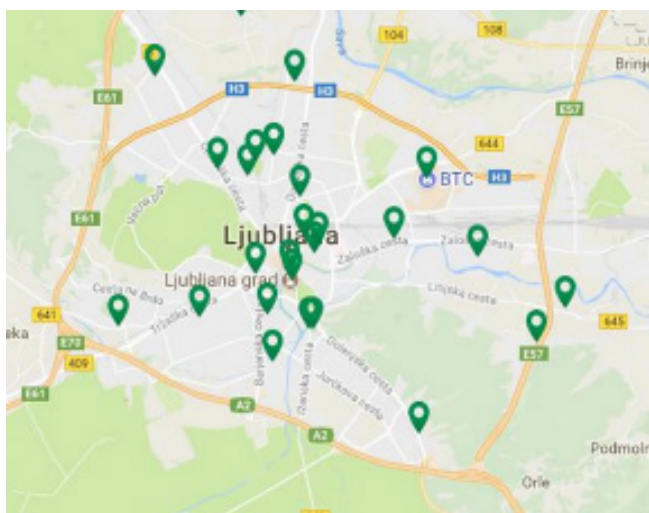
Due to the complexity of the challenges, a project working group (composed of COL representatives, beekeepers, expert institutions, etc.) was established and tasked to realise the outlined goals. The working group prepared a working programme, which was named the **BEE PATH**. In character, the working programme is an action plan implementing the Rural Development Strategy 2014–2020 of the City of Ljubljana in practice. Its activities were and continue to be financed from the City budget.

INITIAL CHALLENGES – The actual process of the BEE PATH project implementation was not very long (roughly three years), but the process was full of challenges – to name just the most important:

- **Internal challenges applying to the city administration and BEE PATH members:**
 - How to attract members and maintain their active participation over long periods
 - How to include urban beekeeping in the overall urban context of the City
 - How to regulate urban beekeeping in order to ensure the use of ecological professional practices and reduce the likelihood of possible conflicts?
 - How to address the needs of urban beekeepers and include them in urban policies and plans?
 - How to empower urban beekeepers and acknowledge their importance in the environmental context?
 - How to attract institutions and companies to build their own green image based on urban beekeeping?
 - How to design urban forms of beehives and bee houses and regulate them as urban equipment, taking into consideration the cultural heritage?
 - How to promote bees as an important indicator of a healthy environment?
- **External challenges applying to Ljubljana’s citizens and visitors:**
 - How to re-connect the predominantly urban population with nature and its processes?
 - How to change the perception of bees and reduce negative stereotypes about bees?
 - How to raise awareness of the importance of bees among citizens and visitors?
 - How to develop effective and efficient educational programmes for key target groups?
 - How to introduce urban beekeeping and present bee products to the citizens of Ljubljana and other target groups (e.g. tourists, culinary industry, pharmaceutical industry, etc.)?

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

- 1) **“Supporting hand” principle** – The City of Ljubljana supported the BEE PATH project with its staff (1 coordinator assigned to the task with 20% working time), premises for meetings and funding (salary for the coordinator and a small project budget). However, the coordinator is only a facilitator and support provider, while members are fully responsible for the development, financing and promotion of their ideas. Ownership, as well as success or failure of the ideas, is in the hands of the members. That is why only concrete ideas with clear ownership by one or more members are supported. If the City of Ljubljana decides to develop its own project or participate in one, it provides its own financing and necessary support.
- 2) **“Participatory & voluntary” principle** – Any individual, institution or company can become a BEE PATH member and can also freely leave the network at any given time. There is no membership fee but members perform all their work on a voluntary basis. Members can freely and openly communicate or cooperate within or outside the BEE PATH framework. Members are obliged to respect and



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



Regular BEE PATH meetings.
Source: BeePathNet photo archive

implement BEE PATH standards and follow good practices. All members can promote themselves on the BEE PATH website and at BEE PATH promotional/awareness-raising events.

- 3) **“Short supply chain” principle** – Direct cooperation between BEE PATH members is highly desirable and supported as cooperation between local actors allows for the creation of short supply chains and promotes transparency as well as the higher quality of end products.

Before we dive into a more detailed description of the BEE PATH operational model, one must understand that it was developed over time and in cooperation with BEE PATH members. Subsequently, it should be considered flexible and adaptable to specific legal, cultural and environmental conditions in any transfer city, as well as to the existing mindset of ULG members. However, the principles described above must be respected.

BEE PATH operates within the City of Ljubljana, which is also its main focus. Nevertheless, we believe that BEE PATH’s actual impact area is the whole Ljubljana Urban Region, as people from this region commute daily to Ljubljana (for education or work) and also benefit from BEE PATH results.

The City of Ljubljana is divided into an urban and a rural area. While the focus of the rural area is on producing honey and bee products, the focus of the urban area (alongside the production of honey and bee products) is mostly on awareness-raising, education, promotion and sales of bee products and services.

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

- 1) **Management and coordination** – These are the tasks of the BEE PATH coordinator Maruška Markovčič. She is a BEE PATH facilitator, networker, group motivator and support provider. Since 2016, the coordination of BEE PATH activities has been one of her official tasks.
- 2) **Regular meetings** – As is clear from the chronological overview presented below, regular meetings are the key element used to inform, motivate and coordinate BEE PATH members. The intensity of the meetings declined through time (from 12 to only 2 meetings per year) as BEE PATH members became more independent and started cooperating with one another in a more direct manner.

- 3) **Annual work plan/calendar** – As 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, then work independently according to planned activities throughout the year and meet again at the end of the year to evaluate their performance.
- 4) **Common Graphic Design** – As with any other project, a common graphic design is important as a promotional tool. It also allows clear labelling of key BEE PATH locations, products and services and is easily recognisable in awareness-raising events.
- 5) **Communication tools** are also becoming more and more important, as BEE PATH members are becoming more independent. Communication within the network is mostly performed by telephone or e-mail, while the general public is addressed through:
 - [City of Ljubljana web page](#), where all key information on BEE PATH’s mission, how to become a member, good practices, pedagogical programmes, and other relevant information is published.
 - To reach citizens and the wider public, in particular to disseminate information on various events, information is published on the [City of Ljubljana’s Facebook profile](#) and on members’ Facebook profiles.
 - The newspaper and monthly e-newsletter of the City of Ljubljana.
 - BEE PATH members regularly share information on their activities and support other member activities related to urban beekeeping and play an essential role in the dissemination process.



“Ljubljana Honey” brand
Source: BeePathNet photo archive

- 6) **“BEE PATH” and “Ljubljana Honey” brands** – Membership of the physical BEE PATH is free and its members are free to use it as a product-selling/ service-providing platform, as long as they fit into the storyline and actively support it. On the other hand, for the “Ljubljana Honey” brand, the following standards were designed – 1) The honey must be produced in the area of the City of Ljubljana; 2) The honey must be chestnut, wildflower or forest honey (existing bee pasture types in Ljubljana); 3) The beekeeper must be a member of BEE PATH in Ljubljana and has to be a certified producer of Slovenian honey, protected by geographical indication under the EU scheme. “Ljubljana Honey” is recognised as a protocol gift of the City of Ljubljana.
- 7) **BEE PATH events** – The City of Ljubljana organises two traditional events. The first is the “Honey Day” – a fair to promote BEE PATH members and their products and services. It is held in the city centre in the first half of October. The second is “[Help the Bee in the City: Plant the City With Flowers](#)”, an event that takes place in spring in cooperation with BTC City (the biggest shopping centre). It encourages residents to plant honey plants in their gardens and balconies and therefore provide additional pasture for bees, as well as

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



improving the appearance of the city. In 2016, a gastronomy-oriented Apple and Honey Week event was introduced to promote honey dishes. This initiative was well-received by guests. Hotels and restaurants developed new dishes that became a part of their daily menus. In addition, BEE PATH members organise several smaller events, such as the “Honey experience” on the topic of beekeeping heritage (Slovene Ethnographic Museum), “Biodiversity programmes” in the Botanic Gardens, “Urban beekeeping” (Association of Urban Beekeepers), various photographic exhibitions (City of Ljubljana and BTC), etc.

8) **Programmes and Projects** – BEE PATH members have so far developed various programmes and projects – here we present only a few of them:

- 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 through it, 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 everybody who wants to build bee houses in a public area.
- Tourism Ljubljana (the central tourist organisation) prepared training for tourist guides and created guidance along the BEE PATH in Ljubljana in several languages. Tourist guides can update their knowledge every year according to the development of the programme.

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



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 and supported good beekeeping practices. Ljubljana also developed the protocol for installing beehives in public areas. Directions for building bee houses on public spaces were incorporated into the Spatial Plan, while the Section for Rural Development incorporated beekeeping into the strategic context of the City of Ljubljana and built a co-financing support system for beekeeping in Ljubljana.

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

- 1) **BEE PATH initial evolution phase (December 2014 – October 2015)** – Development of the initial BEE PATH concept; Verification and upgrade of the BEE PATH concept with active involvement of local beekeeper’s associations; Questionnaire for potential members; Establishment of the working group and agreement about working steps and approaches; Monthly BEE PATH meetings; Reporting and communication; Creation of the BEE PATH common graphic design; Organisation of the 1st BEE PATH event – Honey Day; Creation and opening of the BEE PATH in Ljubljana; Development of Ljubljana Honey – a protocol gift; Enlargement of the BEE PATH budget for new activities in 2016.
- 2) **BEE PATH improvement phase (November 2015 – December 2016)** – Development and adoption of the annual BEE PATH work plan/calendar (*every partner prepared its own activities; partners worked together and prepared activities and achieved synergy effects; the City of Ljubljana prepared a programme for itself – creation of urban bee stands and urban bee houses, Honey Day, activities within the Green Capital of Europe – the month of July was dedicated to biodiversity and bees*); Regular BEE PATH meetings (every two months).
- 3) **BEE PATH mainstreaming phase (January 2017 – today)** – BEE PATH became a regular programme of the City of Ljubljana (*it was assigned its own budget; one person works on it on a daily basis*); Regular BEE PATH meetings (*twice a year – in January to prepare a programme for the whole year and in December to go through results and evaluate the work*); Implementation of programmes and projects (*City bee house in the Botanic Gardens; Organisation of the Honey Day, Organisation of the awareness-raising campaign Help the Bee in the City: Plant the City With Flowers; Educational programmes for children; Development of touristic programmes*); Regulation of beekeeping on green public areas; Development of the BEE PATH web page.

STAKEHOLDERS AND TARGET GROUPS – Today, BEE PATH has 35 members in total. In addition to the City of Ljubljana, BEE PATH members come from the following three types of key stakeholders.

- Beekeepers and their associations, bee-product producers and other companies involved in selling honey or other bee products and services.
- Companies (e.g. hotels, restaurants, banks, telecommunications providers, commercial centres, etc.) and expert organisations (e.g. educational, research, cultural & natural heritage, etc.).
- 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 city administration departments or sectors are involved in the implementation of BEE PATH activities, covering 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:

- 1) Citizens of Ljubljana – more specifically children, adults, seniors, families and people with disabilities.
- 2) Companies – especially companies with corporate responsibility policies, tourism-linked companies and companies interested in the promotion and/or purchase of BEE PATH products and services.

- 3) Various institutions – from the educational, research, cultural & natural heritage sectors.
- 4) Tourists and daily visitors of Ljubljana.

TIME FRAME – The BEE PATH project implementation process was not long, as the good practice (as we know it today) was developed within approximately three years – about the same amount of time that is available to transfer cities (if we take into account application phase and evolution phase). That being said, we must consider that transfer cities have different starting positions and might not be able to base their transfer of the good practice on exactly the same principles and operational model as Ljubljana. We must also consider that the environment in transfer cities might (due to various reasons) not be as favourable as it was in Ljubljana. It is clear that adaptations of the good practice will have to be made to “fit the shoe” of each of the transfer cities, which might also impact the time frame needed for a full good practice transfer.

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

- Staff cost for 1 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 2 years; in 2018, the budget increased to €20,000 per year.

This means that the financial burden of the City of Ljubljana is between €17,000 and €27,000 in total per year. These costs do not include all costs and contributions of BEE PATH members. That said, we must consider that the stated costs are not the same all over the EU and that public funding often depends on political support for the specific topic, as well as the financial situation in an individual country.

RESULTS ACHIEVED TO DATE – In its three years of existence, the BEE PATH can show the following results: An active local BEE PATH group with 35 members carrying out regular activities according to annual activity programmes; the Help the Bee in the City: Plant the City with Flowers programme; A City bee house (apiary) with educational programmes; Pedagogical programmes developed and put into practice; Tourism service of tourist guidance on the BEE PATH developed and put into practice; “Honey Experience” programme in the Slovene Ethnographic Museum developed and put into practice; Annual promotional event for all BEE PATH members – The Honey Day; Annual awareness-raising event on 20 May UN World Bee Day; *Recommendations for beekeeping on public areas* developed and circulated; SOS swarm collection service in collaboration with the official fire brigade established and operational; Active promotion of bees and urban beekeeping on the municipality level in Slovenia; Open days in urban apiaries; Urban beekeeping movement; Tourist guides and route on the BEE PATH; “Ljubljana Honey” brand; Grba public garden of melliferous plants and educational programmes.

SCOPE FOR IMPROVEMENT – After only three years of operation and the significant results described above, it seems rather odd to be seeking improvements already, especially as the good practice is still a work in progress, its membership is growing and it is constantly expanding into new topics and now even new cities. The main issue remains ensuring the enthusiasm, motivation and willingness to volunteer of BEE PATH members. Thus, the fundamental challenge of the BEE PATH good practice lies in ensuring its long-term sustainability.

In this regard, we can consider the BeePathNet transfer project as the ultimate test of the resilience, sustainability and transferability of the good practice. But even in this process, the City of Ljubljana wants to further improve the good practice as it has

identified and designed four upgrade modules (described in more detail in sections 2.3 and 3.2.). In this way, the BeePathNet project will directly support the further improvement of the BEE PATH good practice, while the City of Ljubljana clearly presents its vision of BEE PATH's evolution.

Essential preconditions for developing the good practice

Looking back at the development of the BEE PATH good practice in the City of Ljubljana, we must point out those elements and preconditions vital for developing the good practice.

- 1) **A CLEAR FOCUS** – in urban areas, BEE PATH's focus was the development of urban beekeeping linked to other existing activities (e.g. cultural heritage, biodiversity, education, etc.) 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.
- 2) **KEY PERSON** – finding the right person to lead any project or programme is one of the most important but often neglected preconditions. It is also not particularly easy to accomplish, as any key person should be open, active, constructive, and goal-driven, but also enthusiastic about the topic and a motivator by character. In the case of BEE PATH, the City of Ljubljana was lucky to have Maruška Markovčič, a senior advisor at the Sector for Rural Development at the Department of Environmental Protection of the City of Ljubljana. However, once the key person has been identified, the city administration must provide them with operational support (e.g. flexible methods of work, working hours, etc.), as well as ensuring favourable working conditions, such as financial support (e.g. secured salary, project budget), adequate facilities, equipment, etc.
- 3) **STRONG SUPPORT OF THE CITY ADMINISTRATION** – political, operational and financial. The city administration needs to show political support by supporting the proposed action plan, project and ideas. Operational support must be provided through a cross-sectoral mindset and expert support from other departments. Financial support – at the very least, the City must cover adequate facilities for regular meetings, but having a budget (even a symbolic one) helps, of course, and makes the work of the key person much easier. A limited budget shows support and gives confidence to members but also brings out creativity and, paradoxically, empowers voluntarism even further.
- 4) **NETWORKING WITH A PURPOSE** – as BEE PATH was developed on bottom-up principles, it is important to understand its voluntary character. All BEE PATH members were invited to join freely, they don't pay a membership fee and perform all their work on a voluntary basis. Members join and leave BEE PATH as they please, but usually only when they have fulfilled their ambitions. This approach draws a certain profile of people to the project – open, 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 – and for this, fluctuation of members is (to some extent) even desired.
- 5) **THE BAIT** – due to the project's voluntary character, it is important that members are drawn to your network. Initially, 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 development platform able to develop new bee products and services, organise promotional and awareness-raising campaigns, improve educational programmes, etc.

- 6) **THE TRANSFER OF SUPPORT AND KNOWLEDGE** –to attract members, you must try to understand their interests and ambitions, but also estimate their real capabilities and capacities to implement their ideas. Then you can use networking to help create fruitful partnerships. However, the key person must not forget their role – he/she is a facilitator, a networker, group coordinator and support provider. It must be clear from the start that members are responsible for the success or failure of their ideas. As in any network, the aim is to enable and support knowledge transfer.
- 7) **SYNERGIES WITH OTHER SECTORS** – the key person must always look for synergies with other sectors and activities. The easiest way to do this is to first search for any historical and present evidence on bees and beekeeping in any aspect of daily life in the city, for example ethnography, culture, gastronomy, environment, architecture, economy, etc. can be considered. This establishes the historical/content foundation for any networking and promotional activities. It also opens the eyes of individuals/companies working in other sectors and creates a storyline behind new jointly developed products and services.
- 8) **ENTHUSIASM** – the last but probably most important of the BEE PATH good practice preconditions, due to voluntary participation character of the good practice. While initial enthusiasm is actually not very difficult to create, maintaining enthusiasm in the long run is what requires a lot of effort and enthusiasm from the key person.

II. Two essential methodological approaches

To ensure transferability four vital obligatory modules were designed, with additional six voluntary modules (i.e., education, biodiversity, etc.) supporting them. Each city is free to choose which voluntary modules to transfer. However, our transfer partners proved that, at some point in the future, you will implement them all.

Before you take a deep dive into any of the modules you need to internalise the **participatory approach**. We firmly believe that this is the only way for urban beekeeping 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, organizations and government entities will certainly result in very diverse and above all sustainable actions. We have also included some recommendations on how to organize your **local action group**.

2.

Structuring the Ljubljana BEE PATH good practice to transferability modules

In order to make the BEE PATH good practice more structured and easily transferable to transfer cities, it was divided into segments or modules – essentially structural or content parts of the good practice. Below, you can find BEE PATH good practice structured as good practice modules (representing key segments of the good practice), as well as key development steps leading towards the successful transfer of individual modules. Due to the character of the good practice, it was decided to introduce two types of modules:

- **Obligatory modules** – essential parts needed for the transferability of the good practice and its vision.
- **Voluntary modules** – content parts of the good practice transferred in line with actual needs/interests.

Good practice modules		Good practice development steps
OBLIGATORY	Active partnership establishment and management	1) Identification of key stakeholders 2) Mobilisation of key stakeholders (1 st autonomous meeting) 3) Building an enthusiastic atmosphere and providing support at regular meetings 4) Identification of individual stakeholder goals, capacities and preparedness for cooperation 5) Definition of an annual ULG action plan, roles and responsibilities 6) Guidance in implementing the annual ULG action plan 7) Achieving synergy effects without the involvement of the ULG Coordinator
	Higher municipality administration involvement	1) Definition of key administration departments/sectors and their roles 2) Gaining operational support 3) On-going communication with city administration (briefing) 4) Regulating urban beekeeping and integrating it into the strategic urban context 5) Strengthening political support and ensuring long-term financing
	Awareness raising and promotion for citizens	1) Identification of target groups 2) Communication and awareness-raising strategy 3) Development of communication tools (e.g. website, social networks, local news, etc.) 4) Regular publication of news and contents, giving interviews, etc. 5) Organisation and implementation of annual awareness-raising and promotional events, exhibitions, lectures, etc. 6) Organisation of beekeeping symposiums 7) Organisation of international beekeeping conferences
	Development of Bee Path as a tourist and/or bee product promotional platform	1) Identification of interested key stakeholders 2) Identification of key natural and cultural heritage points 3) Design of the Bee Path and marking of points 4) Creation of the story behind the Bee Path 5) Creation of the Bee Path guide (e.g. book, brochure, leaflet, etc.) 6) Design of a Bee Path tourist package 7) Education of tourist guides and interpreters in the city

Good practice modules		Good practice development steps
VOLUNTARY	Education programmes for kindergartens and primary schools	1) In-depth understanding of the existing educational system and needs of target groups 2) Development of educational programmes together with key stakeholders from ULG – considering different perspectives of beekeeping (e.g. biology, ethnography, history, language, heritage, etc.) 3) Involvement of relevant experts and institutions (e.g. experts for interpretation and design of learning tools, etc.) 4) Pilot implementation of educational programmes through involvement of teachers (and optimisation of the programme based on feedback) 5) Full implementation of the educational programmes
	Building companies' and institutions' green image	1) Identification of potentially interested companies and establishment of first contacts 2) Implementation of awareness-raising and promotion activities 3) Identification of existing green topics of interested companies and identification of overlap with our topics 4) Designing joint activities and/or promotional campaigns 5) Implementation of joint activities and/or promotional campaigns 6) Establishment of long-term agreements on funding support to the network and its projects
	Involving higher education institutions and expert organisations	1) Identification of potentially interested institutions and establishment of first contacts 2) Identification of existing green topics of interested institutions and identification of overlap with our topics 3) Designing joint activities 4) Implementation of joint activities 5) Establishment of long-term agreements on expert support to the network and its projects
	Biodiversity maintenance	1) Awareness-raising campaign linked to promoting the planting of autochthonous melliferous plants in green areas 2) Distribution of seeds and seedlings to citizens and planting of autochthonous melliferous plants with key target groups (e.g. kindergartens, schools, etc.) 3) Awareness-raising campaign linked to the importance of wild pollinators 4) Setting up of wild pollinator hotels 5) Organisation of biodiversity conferences
	Support mechanisms for new bee products	1) Identification of potentially interested stakeholders 2) Guidance in bee product development with entrepreneurship education 3) Support in the development of business ideas and plans 4) Establishment and organisation of promotional events

3.

The holy grail: participatory approach

3.1

Facts you Should Know About the Participatory Approach

“Public participation is the process by which an organization consults with interested or affected individuals, organizations, and government entities before making a decision.”

“Public participation is two-way communication and collaborative problem solving with the goal of achieving better and more acceptable decisions.”


Source: International Association
for Public Participation
www.iap2.org

The participatory approach to co-creation and decision-making incorporates public participation as an integral part of any development or decision-making process. **In practice, it enables ordinary people to play an active and influential part in the creation and decision-making processes that affect their lives.** In the participatory approach:

- Work is based on mutual understanding and trust of the topic.
- Work is done in a constructive and open space for cooperation.
- Everyone is invited to participate actively and constructively.
- Local knowledge and context are highly valued.
- Participants co-create and shape the outcomes in a democratic manner.
- Participants are motivated not only to co-create plans but also to implement them.

As such, **the Participatory Approach brings significant added value to any creation, development or decision-making process** – for example:

- It makes people aware that a creation or development process is going on, that the decision-maker is working on something. Subsequently, it acts as a communication and promotional tool.
- It provides an “early warning system” about public needs and concerns, as well as expectations.
- It raises awareness and increases the sensitivity of the general public to the challenge/topic in question.
- If the needs, concerns and expectations of the interested public are taken seriously, it enables constructive cooperation between all key stakeholders, timely awareness raising and sharing of accurate information, as well as the



What is the
Participatory
Approach?




The added
value of the
Participatory
Approach?

designing of possible solutions, ensuring the final plan is widely accepted and endorsed. This makes it highly implementable and resilient.

- Creates learning platforms and allows exploration of new concepts and ideas.
- Generates the willpower and critical mass for change of mindset, subsequently increasing the number of actors interested in its implementation.
- If implemented correctly, it will enable avoidance or at least a reduction of costly delays.
- On the one hand, it contributes to a positive image of the decision-maker and increases understanding of its goals and actions, while on the other hand, it increases feelings of inclusion, active contribution to society, constructive cooperation, personal growth, etc. amongst all participants. Subsequently, it creates additional willingness for long-term cooperation and opens doors for new ideas.
- Builds trust and cooperation between decision-maker, key stakeholders and the general public.

The participatory approach will be effective only if the decision-maker fully accepts public participation in light of a constructive attempt to co-create solutions and final decisions. This decision is clearly visible in the way workshops and other public participation events are organised and executed by the decision-maker and their team. To ensure effective implementation of the participatory approach we need to:

- Ensure full understanding of the current situation, challenges and ideas/ solutions.
- Set clear focus and goals.
- Ensure early identification of critical issues.
- Present the participation and decision-making processes and key steps for public participation.
- Actively engage and involve participants in key steps.
- Create a constructive and open atmosphere for cooperation and exchange of opinions.
- Present a clear, understandable and argued rationale for the final decision, as well as how public participation has improved the decision-making process.
- Ensure all participants get clear feedback on their proposals.



How to ensure constructive and open space for discussion?

Creating a constructive and open space for cooperation is essential to successfully implement the participatory approach. This can be achieved through the following steps:

- Invite all relevant actors and stakeholders.
- Announce the purpose, agenda and expected timeline.
- Create a relaxed and constructive atmosphere – have fun!
- Don't give lectures: make an introduction and facilitate a workshop/meeting.
- Allow participants to present themselves, to get to know each other and provide sufficient time for networking. If relevant, present some good practices (or even better, invite participants to do so) and if possible, visit good practices. It is important to understand your participants, their interests and the assets they can bring to the group.
- Ensure the active participation of all participants through various methods (e.g. “storm-writing”, “brain-storming”, “affinity process”, “prioritisation”, etc.).
- Celebrate the diversity of opinions but try to generate consensus.

- Make sure you use your time efficiently and always finish on time – a few minutes earlier is even better.
- Summarise key conclusions.
- If you organise sequential workshops (e.g. in different planning steps):
 - a. *Make sure you explain to participants how the results from the previous workshop/meeting were used to advance the project and how they will support today's workshop/meeting.*
 - b. *Announce the next workshop/meeting, its approximate date and content.*

3.2

In Conclusion... Plan for the Unexpected!

No matter how much effort we put into planning and organising a meeting, workshop or event, there is always a chance that something won't go according to plan. This simply cannot be avoided. Thus, we must be prepared to react and adapt to new circumstances.

Some things are out of our control but we can still prepare for plan B – for example:

- 1) **Bad weather** –unpredictable weather conditions might affect outdoor activities. Make sure that you have an indoor space or a roof over a part of the open area, in case of bad weather. You can also warn your participants to dress appropriately if outdoor activities are unavoidable.
- 2) **Unwilling participants** – we should always try to get to know our participants or at least their needs, challenges and expectations. However, this is not always possible. In such cases, you can use several techniques to motivate participants to participate: for example, ice-breakers, groupwork, questionnaires, etc.
- 3) **Destructive participants** – the solutions for challenging participants will not always be sufficient. In such cases, we need to discover a way to neutralise them: we can limit open discussion and turn to writing exercises, ask other participants if they agree and use the support of the majority, etc.
- 4) **Availability of tools** – we are so used to certain tools (e.g. PowerPoint presentations, computers, etc.) that we are taken by surprise when suddenly, for example, there is no more electricity. To mitigate this, we should always consider a low-tech alternative approach.
- 5) **Unexpected participants** – we usually know who we are inviting to the workshop. However, an unexpected participant sometimes shows up. For example, you have all your brilliant presentations and videos set up for a two-hour workshop and then a visually impaired person shows up. Or some foreign participants who don't speak the language. Such cases are rare. However, it is the responsibility of the moderator/facilitator to make sure that all participants can participate. If you are not alone, one of your colleagues can sit next to such persons and assist them.
- 6) **Unexpected events** – sometimes, unexpected events interrupt a workshop. They might be pleasant (e.g. Santa visiting you with presents) or not (e.g. an organised protest). In this case, it is the responsibility of the moderator/facilitator to decide whether to accept or reject the interruption and navigate the workshop accordingly. Usually, a 15-minute break will allow you to focus on the unexpected event and then return the focus back to the workshop.



Of course, in real life there are many more unplanned scenarios that might and will happen. We should expect them, understand them and invite colleagues/participants to help us solve them. Remember, we are not alone and such events might make our meeting, workshop or event memorable, thus even reinforcing our message.

4.

“How to...”

The BeePathNet guide for URBACT local groups and their coordinators

If the previous chapter was devoted to the introduction of the Participatory Approach in general, this chapter is devoted to operational and practical support to BeePathNet ULG Coordinators. It represents a combination of experience gained and lessons learned during BEE PATH good practice development and suggestions for improvement, as well as proposed solutions to the practical barriers/challenges all ULG Coordinators might encounter from time to time.

4.1

Available Resources

As with any project, the available resources set the operational framework and dictate the tempo of its development. However, limited availability of resources does not automatically mean that the project is in a disadvantaged position.

Quite the contrary, BEE PATH good practice shows the creative, low cost but effective solutions a group of dedicated and enthusiastic ULG members can – create, especially when their resources are limited. The almost NGO-like character and mindset play an important role in this creative process, which is why it should be encouraged and nourished by ULG coordinators.

As this guidance was primarily developed for BeePathNet partners, the following description of available resources is provided in the context of the BeePathNet project. That said, the authors of this guidance need to emphasise that the original BEE PATH Good Practice was developed without or with only very limited access to the resources described below (for more information on this, please refer to Volume 0). Subsequently, a lack of available resources should not discourage other cities interested in replication or capitalisation on the BEE PATH Good Practice.

So, what are key resources crucial for the successful transfer of the BEE PATH Good Practice:

The key person

The key person – finding the right person to lead any project or programme is one of the most important but often neglected preconditions. It is also not particularly easy to accomplish, as any key person should be open, active, constructive, and goal-driven but also enthusiastic about the topic and a motivator by character.

Once the key person has been identified, the city administration must provide operational support to him/her (e.g. flexible methods of work, working hours, etc.), as well as ensuring favourable working conditions, such as financial support (e.g. secured salary, project budget), adequate facilities, equipment, etc.

Within the BeePathNet project, one such key person (the ULG Coordinator) was formally assigned by each Project Partner at the beginning of Phase 2. However, the majority of them were already actively involved in Phase 1. To provide operational support to ULG Coordinators, Project Coordinators were also named by all project partners in the framework of the BeePathNet project.

Funding

URBACT anticipated that ULG Coordinators would be employed for 50% of a full-time post (50% FTE) to carry out all expected tasks. In reality, (due to budget limitations), their salaries are only partially covered by the project budget (between 0% and 30%), while Project Partners are voluntarily covering the remaining difference to 50%. However, all international travel costs and costs linked to the normal work of ULGs are fully covered by the project budget, thus providing the required operational support. On average, the total budget per project partner linked directly to local activities is between €30,000 and €40,000.00.

If such funding can't be assured, don't get discouraged, as BEE PATH Good Practice is a clear example of success in spite of very limited funding. Its initial budget was less than €10,000 per year, proving that a good idea, enthusiasm and support from ULG members can be a substitute for substantial funding.

That said, we must consider that the stated costs are not the same across the EU and that public funding often depends on political support for the specific topic as well as an individual country's financial situation.

Time

As a Transfer Network project financed by URBACT, BeePathNet was designed as a two-year project. The process of the BEE PATH project implementation was of a similar length as it took two years to fully develop and an additional year to exceed its original idea.

That said, we must consider the fact that transfer cities have different starting positions and might not be able to base their transfer of the good practice on exactly the same principles and operational model as Ljubljana. We must also consider that the environment in transfer cities might (due to various reasons) not be as favourable as it was in Ljubljana. It is clear that adaptations of the good practice will have to be made to "fit the shoe" of each of the transfer cities, which might also impact the time frame needed for a full good practice transfer.

If you are not limited by a rigid time frame (as in the case of EU funding), this enables you to adapt the dynamics of good practice transfer to your needs. However, please take into account that BEE PATH good practice itself demands quite high dynamics of work with ULG members – otherwise you might face problems like inactive and unresponsive ULG members, inefficient ULG management, etc.

Strong support from the city administration

For such a project to succeed (especially in the event of poor funding), it is absolutely critical to ensure political, operational and financial support within the city administration. The city administration can express political support by supporting the proposed action plan, project and ideas. Operational support can be provided through a cross-sectoral mindset and expert support from other departments. Financial support can be significant, although even limited financial support can be enough if political and operational support is provided.

The very least the city must cover are adequate facilities for regular ULG meetings and a small percentage of working time for the ULG coordinator (for example 20%), if the ULG coordinator is employed within the city administration. Of course, having a budget

(even a symbolic one) helps and makes the work of the key person much easier. A limited budget from the City shows support and gives confidence to members but also brings out creativity and, paradoxically, -can empower voluntarism even further.

As already explained, BeePathNet project partners gained support from their city administrations through Phase 1 activities – mainly through the presentation of BEE PATH good practice, discussions on the advantages of the good practice transfer process and presentation of clear support from future ULG members. City visits by representatives of the City of Ljubljana and Lead Network Expert also proved vital to the cause, as many misunderstandings were cleared up and sometimes unrealistic expectations were managed.

Such approaches can also be used outside the BeePathNet project, although it is not realistic to expect city visits from representatives of the City of Ljubljana.

4.2

How to Identify Relevant Stakeholders and How to Pick Key Stakeholders?

Identification of relevant stakeholders is actually nothing more than a thinking exercise, in which **you list all individuals, institutions, societies, NGOs, etc. with direct or indirect relations or interests in a certain topic.**

When preparing such a list, **you should not mix stakeholders with target groups** or target audiences. Stakeholders are by definition individuals or organisations with a clear interest or power in a specific topic. On the other hand, target groups are particular groups of people benefiting from the same topic but with no clear interest or power.

For example, in addition to the City of Ljubljana, BEE PATH members come from the following 3 types of key stakeholders:

- Beekeepers and their associations, bee product producers and other companies involved in selling honey or other bee products and services.
- Interested companies (e.g. hotels, restaurants, banks, telecommunications providers, commercial centres, etc.) and expert organisations (e.g. educational, research, cultural & natural heritage, etc.).
- NGOs and other individuals or organisations.

On the other hand, key target groups can be divided into the following 4 types:

- 5) Citizens of Ljubljana – more specifically, children, adults, seniors, families and people with disabilities.
- 6) Various companies – especially companies with corporate responsibility policies, tourism-related companies and companies interested in the promotion and/or purchase of BEE PATH products and services.
- 7) Various institutions – from the educational, research, cultural & natural heritage sectors.
- 8) Tourists and daily visitors of Ljubljana.

The real challenge begins with the next step and the question: *“Which on the list are key stakeholders?”* To answer this question, **you need to understand the ambitions, interests, capacities and power of all the listed stakeholders.** This might require some deeper investigation on your part and even some preliminary meetings with representatives of stakeholders.

Once you feel you have a good idea who your stakeholders/ULG members are, what motivates them, their advantages and disadvantages, etc., you can use **the “stakeholder mapping” method.** This is a simple method where you position your stakeholders/ULG members on a quadrant based on two key criteria:

- The level of interest they have in your project/topic.
- The level of power they have at their disposal to influence your project/topic.

Once the stakeholder map is complete, you should get a clear picture of who the key stakeholders are and how to involve them. You will also get a better idea of why they are responding to your request for cooperation or not – critical information which is dealt with in more detail in the next chapter.

Nevertheless, in the end, people cooperate with people, so **don't forget to take human nature into account** and the fact that, regardless of all stakeholder mapping, some people can work together and some cannot. Keep in mind that your task as a ULG coordinator is to create a constructive space for discussion and invite all interested stakeholders to participate. But you cannot convince everyone – at least not at the beginning.

4.3

How to Mobilise Stakeholders and Establish a URAC Local Group?

Reaching out to stakeholders and making them aware of your project is the first step towards establishing your ULG. Reaching out to them might be as simple as calling them on the phone or sending an invitation e-mail, or it can be much more complicated. This depends to a great extent on **your knowledge of stakeholders** and **the communication channels they monitor and respond to**.

The stakeholder map you created in the previous step can be useful in the thinking process linked to the question of how to reach out to stakeholders. Some will respond to more classical communication channels (e.g. phone calls, e-mail, invitation letter, etc.), while others can be reached through more modern channels (e.g. social networks and media, etc.). What is important for you as a ULG coordinator is to **use the communication channels you consider relevant for your stakeholders** – at first, even public announcements in the local media or on the city's web page might be used with great success. But regardless of the communication channel you decide to use, do not forget to send out a clear message about who you are, what you want to achieve, where can they learn more about your project and how they can join you.

The easiest way to do that is to use this opportunity **to invite all interested stakeholders to an introductory meeting**. This will give you the opportunity to mobilise them for your cause. However, to do so, you must first **present the challenges you want to tackle and explain how your project addresses them**. This will enable them to understand your vision, as well as to decide whether they want to actively participate in your project.

However, you must be aware that due to the voluntary character, it is important that members are drawn to your network. Sometimes, you almost need to **create a "bait"** to attract them to your project. For example, in Ljubljana, the ULG coordinator realised that beekeepers lack the space and opportunities for communication and discussion. So, from the outset, BEE PATH enabled beekeepers and their associations to discuss key opportunities and the problems of urban beekeeping in a friendly and relaxed atmosphere. Solutions were identified, implemented and promoted, which attracted new members with new ideas. In this way, a communication platform grew into a development platform able to develop new bee products and services, organise promotional and awareness-raising campaigns, improve educational programmes, etc. Of course, the situation in your city might be different and you will have to come up with different baits – but, still, the logic can be easily modified and applied.

Just as important is **the support and knowledge transfer that you can provide for your ULG members**. To attract members, you must try to understand their interests and am-

bitions, but also estimate their real capabilities and capacities to implement their ideas. If they recognise a supportive and knowledgeable partner in you, who is willing to bring in new knowledge and share it freely, your “attraction factor” will grow. However, you must not forget your role in this process; you are a facilitator, a networker, group coordinator and support provider. It must be clear from the start that members are responsible for the creation process and hard work connected to it, as well as for the success or failure of their own ideas. This is also how you establish clear ownership – one of the most important things you are expecting from your ULG members.

Regardless of our efforts, **sometimes stakeholders remain unresponsive**. In such cases, you should ask yourself: *“Why are they reluctant to participate?”* This is important as sometimes, things that seem insignificant to you represent an important barrier for them: for example, fear of active participation, language barriers (ultimately, this is a transnational project), low capacities (staff, knowledge...), etc. You can also find out that you were simply using the wrong communication channel. Of course, there are many more potential reasons too numerous to mention here in full.

Do not underestimate the importance of a personal meeting. Yes, it might take some more time, but in the long run, people work with people and sometimes, a personal invitation is responded to much more actively than just an e-mail or a formal invitation. On the other hand, you might also need to improve your understanding of the unresponsive stakeholders: *“What are their interests? What are their needs? Are there any overlaps between their interests/needs and might they draw them to your project?”*

Other people might come to your first meeting but will not become ULG members. Nevertheless, it is important to keep informing them about the progress of the project – some of them might only be interested in joining at a later stage.

The last stage is the **formal establishment of the ULG**. This does not need to be complicated; for example, the City of Ljubljana found a simple application form to suffice. This is also important from the psychological point of view as people usually like to belong. On the one hand, this creates such a feeling but also commits your ULG members to certain responsibilities, as well as ULG standards and rules (discussed in detail in the next chapter).

However, even with this form, you must make sure that ULG members clearly understand that any individual, institution or company can become a ULG member and is free to leave the network at any given time too. There is no membership fee and members perform all their work on a voluntary basis. Members can freely and openly communicate or cooperate within or outside the ULG framework. Members are obliged to respect and implement ULG standards and follow good practices. All members can promote themselves through the ULG communication channels (e.g. website, social media, newsletter, etc.) and at ULG-organised promotional/awareness-raising events. The most active and enthusiastic **ULG members can also become your ambassadors**.

On the other hand, you might also encounter **stakeholders who want to cooperate with you but don't want to become a ULG member**: the reasons can be various, from lack of time, capacity, will power, or dislike to NGO character, etc. It is wise to take your time and sit down with such stakeholders individually and identify their interests and/or key topics or actions they are interested in. You can work out some sort of a bilateral agreement for cooperation with them. For example, they can support you only during events or awareness-raising campaigns, when you need extra hands and they can benefit from the available promotion. It is also very important to keep such stakeholders well-informed about the progress of your project and ongoing activities. You can also use regular “check-ups” to keep the communication going and the relationship alive. Who knows, someday such stakeholders might change their mind and become ULG members or decide to take a more active role as a donor. However, such relationships can also cause friction within your ULGs, so it is wise to explain such bilateral agreements to all ULG members and ensure wide understanding and acceptance.

4.4

How to Set Ground Rules for Cooperation?

You have successfully established your ULG and attracted a certain number of ULG members to your first meeting. So, how to start?

Firstly, any interest-driven group – just like your ULG – must **have a clear focus**. That is why it is important to establish a framework for discussion. Within the BeePathNet project, this was quite easy as project partners developed a clear focus through the BeePathNet Application Form and a clear roadmap for the good practice transfer process. Subsequently, ULG coordinators can simply present the BeePathNet project at the first ULG meeting.

Secondly, any group must set some ground rules in order for it to function as efficiently as possible. The ULG coordinator should provide clear answers to questions like:

- Do we have any roles and what are they?
- How often do we meet?
- Where do we meet?
- How should we prepare for the meeting?
- How do we communicate and behave in meetings (Dos and Don'ts)?
- How can I participate and what I can expect in return?
- Apart from meetings, which communication channels do we use?
- How do we make decisions?

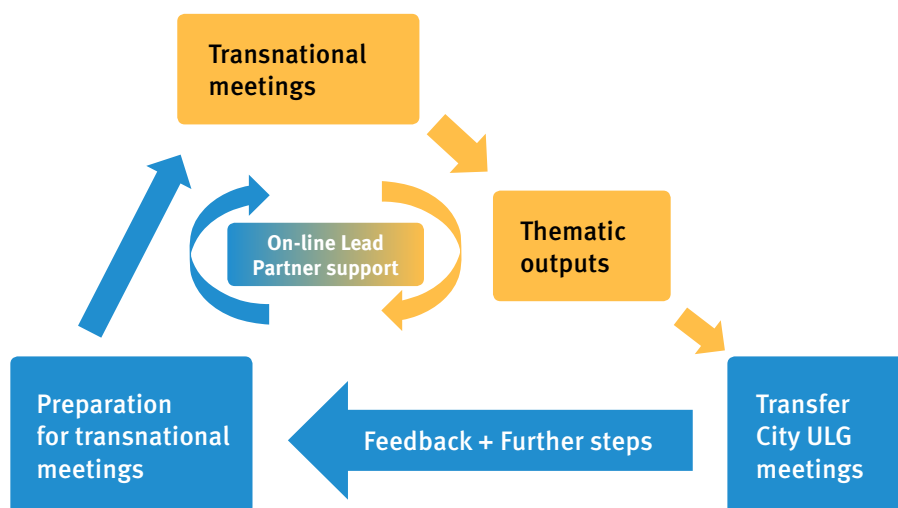
It is the responsibility of the ULG coordinator to clearly explain and justify the rules but they should be embraced by all ULG members. It is also the responsibility of the ULG coordinator to create a positive, creative, relaxed and constructive atmosphere and to remind ULG members of those rules if necessary and to enforce them.

4.5

How to Manage the URBACT Local Group?

The BeePathNet transfer methodology is quite clear and mostly mimics the local organisational concept of the good practice itself. Local implementation of the transfer process is based on the **work of the ULG coordinator and ULG members**. ULGs should meet regularly, almost on a monthly basis, in order to design their activities and assign roles and tasks, as well as to discuss further transfer steps. It is the responsibility of the ULG coordinator to ensure regular and uninterrupted knowledge transfer flow from the City of Ljubljana to ULG members, as well as to guide ULG members in the transfer process within the BeePathNet project.

To support ULGs in transfer cities, as well as to ensure the transfer of information from the transnational to the local level, transnational network meetings will always be concluded by verification of pre-developed **BeePathNet thematic outputs**. They will represent the key set of information that each ULG coordinator will transfer to ULG members at their meetings. For this reason, ULG meetings will (as a rule) be held one week after the transnational events. The time between transnational events and ULG meetings will be used by ULG coordinators and ULG members to work on their assignments, provide feedback and answer additional questions on thematic outputs and prepare for further steps. ULG coordinators from transfer cities will collect all such information and deliver it to the good practice city. Ljubljana's ULG coordinator will address all open issues either through online support or by ensuring they are dealt with in a plenary manner at the next transnational meeting.



BeePathNet local transfer model

In practice, all ULG coordinators should be aware of a few principles vital for the success of the ULG:

The “supporting hand” principle – The ULG coordinator is only a facilitator, motivator and support provider, while ULG members are fully responsible for developing, financing and promoting their own ideas. The ownership and the success or failure of ideas are in the hands of members. That is why only concrete ideas with clear ownership by one or more members should be supported.

That said, it must be noted that within the framework of the BeePathNet project, ULG coordinators also take over other tasks but these are linked to the project design and the requirements of the URBACT Programme and should not be confused with the overall principle.

The “participatory & voluntary” principle – Any individual, institution or company can become a ULG member and is also free to leave the network at any time. There is no membership fee and members perform all their work on a voluntary basis. Members can freely and openly communicate or cooperate within or outside the ULG framework. Members are obliged to respect and implement ULG standards and follow good practices. All members can promote themselves through the ULG communication channels (e.g. website, social media, newsletter, etc.) and at ULG-organised promotional/awareness-raising events.

The “stay as long as you want” principle – As pointed out above, members can join and leave ULG as they please, but usually only do so when they have fulfilled their ambitions. This approach draws a certain profile of people to your ULG – open, inquisitive, constructive and ideas-driven people who are willing to cooperate. Of course, not everyone will be willing to cooperate; for example, only a small percentage of the 350 beekeepers in Ljubljana are actually BEE PATH members. What is important to remember as a ULG coordinator is that the ULG is not a popularity contest but rather a think-tank or incubator for new ideas. And for this purpose, the fluctuation of members is (to some extent) even desired, as this is how new members get involved and new ideas get developed.

The “let’s meet regularly” principle – Regular meetings are the key element used to inform, motivate and coordinate ULG members. The intensity of the meetings should be higher in the first year of ULG operation: meetings should be held almost on a monthly basis as the ULG and its transfer process are in full development. Later on, the intensi-

ty can decline: for example, the intensity of meetings in Ljubljana went from 12 per year (year 1) to only 2 meetings per year (after year 3), as BEE PATH members became more independent and started cooperating directly with each other. Of course, each ULG's dynamics will be different so it is up to the ULG coordinator to propose the tempo.

The “knowledge must be shared” principle – As already stated, within the BeePathNet project, it is the responsibility of the ULG coordinator to ensure regular and uninterrupted knowledge transfer from the transnational level to the local level. Nevertheless, the ULG coordinator should also encourage knowledge transfer within the ULG, as this is one of the preconditions for joint improvement and the best possible good practice transfer. More active ULG members will, of course, benefit most from this principle, since they will be present and in a position to gain knowledge from first-hand experience. However, we must make it very clear that the results of BeePathNet projects will be disseminated, promoted and used by all interested parties.

The “let's grow together” principle – the ULG coordinator should always promote and support cooperation between ULG members, as well as trying to identify new potential opportunities and synergies. Once such potentials are recognised, the ULG coordinator should try to create and support partnerships within the ULG or with outside actors capable of exploiting them.

The “no idea will be cast aside” principle – ULG members will come up with a variety of ideas, but not all of them will be feasible or relevant at a certain point of the transfer process. It is important for you as a ULG coordinator to write down all ideas and then assess their feasibility, practicality and sustainability jointly with your ULG members. This will help them understand the reasons their idea is not feasible/practical/sustainable at this point of the project. Encourage them to keep on improving the idea and if they don't, just remind them at a later date – as circumstances may have changed.

The “short supply chain” principle – Direct cooperation between ULG members should be encouraged and supported, as the cooperation of local actors allows for the creation of short supply chains and promotes transparency as well as the higher quality of end products.

The “promote your ULG members” principle – All promotional and awareness-raising events should be used to promote your ULG members, their ideas, results, products, services, etc. In reality, this is one of the most important attraction factors for ULG members. And it will, in line with the progress of the transfer process, become even more important at later stages as BeePathNet results will start to roll out and create publicity. Such support can strengthen the bonds within the ULG, as well as attracting new ULG members.

And last, but not least, the **“let's have some fun” principle** – A relaxed and productive atmosphere is a very important ingredient. Who says your ULG meetings shouldn't be fun! On the contrary, interesting and dynamic meetings draw out creativity – and this is what we are looking for in any ULG. But how is such an atmosphere created? Well, there are many techniques and approaches but the problem is that they do not have the same effect in every culture or ULG. However, we have collected some ideas that might prove useful to any ULG coordinator:

- Hold meetings in friendly and relaxed environments.
- Use energisers or icebreakers to create a relaxed atmosphere.
- Hold meetings at various locations.
- Organise site visits to ULG members' locations.
- Prepare small surprises for your ULG members.
- Create small competitions with funny prizes.
- Involve ULG members with moderation/facilitation skills and ask them to co-moderate specific parts of ULG meetings with you.
- Be creative and come up with your own solutions to this challenge.

4.6

How to Keep Key Stakeholders Active and Motivated?

One of the cornerstones of a successful ULG, especially due to its voluntary character, is enthusiasm. While initial enthusiasm is actually not hard to create (as proven by the BeePathNet partners in phase 1), maintaining that in the long run, enthusiasm is what requires quite a lot of effort, especially from the ULG coordinator. Therefore, we have put together a list of ideas to ensure your ULG members remain motivated:

- **Involve ULG members actively in the good practice modification process** from the start: this will draw them into the process, increase the overall feeling of ownership and keep them motivated.
- **Bring ULG members to your transnational meetings**, especially the ones organised by the good practice city, where they can experience the good practice at first hand.
- **Make sure your ULG members are also actively involved in the actual implementation of project ideas and solutions.** Ideally, they will take ownership and should be subsequently highly motivated.
- **Allow room for the introduction of new ideas** coming from ULG members **and then actively support them.** In this way, ownership is clearly on their side from the start: they are fulfilling their own ideas, so they should be highly motivated.
- **Encourage ULG members to cooperate between themselves** (you can also team up less motivated/active ULG members with more motivated/active ones if you feel this is appropriate) and give them joint tasks. In this way, they will push forwards and motivate each other.
- **Do not just discard ideas from ULG members** as this often brings out feelings of failure: *“Well, I tried, but they didn’t like the idea, so I am out!”* Instead, write down all ideas and then assess their feasibility, practicality and sustainability jointly with them. This will help them understand the reasons their idea is not feasible/practical/sustainable at this point of the project. Encourage them to keep on improving the idea.
- **Make sure you promote your ULG members and their ideas.** By doing so, you will empower them as well as acknowledging their importance and contributions.

4.7

How to Communicate and Cooperate with the Rest of the City Administration and Decision-Makers

Every city has its own legal/political/operational/cultural environment, its own communication habits and channels, and its own cooperation dynamics. That is why it is hard to provide a uniform answer to this question. However, we can offer some suggestions:

- It is important to **identify key persons within the city administration and key decision-makers** we want to attract to our project. We should pick persons working in key departments linked to our project and topics where we need specific support – for example, spatial planning, environmental management, management of green areas, cultural heritage, tourism, etc. They do not have to be heads of departments; sometimes, operational staff are easier to work and communicate with. On the other hand, it is very useful if they show a personal interest or affinity for the topic.

- Once you have identified key persons, it is very important that you **agree on preferred communication channels** (e.g. monthly briefing meeting, regular e-mails, weekly coffee, etc.) and that you **ensure they are properly informed** about the project's progress. It is also important to clearly identify and communicate key steps where you expect their support and to agree on this with them so that they can plan their own obligations accordingly.
- Decision-makers are often politicians and politicians have to be elected and re-elected. This poses a specific problem that can be solved either by:
 - **Relying on senior city administration staff who are usually not subject to political changes** to promote and defend your project with political decision-makers.
 - Or by consistent application of the participatory approach by **making sure that all political parties know about your project and its benefits for your city.**

Once you have successfully attracted the city administration and decision-makers, you can **involve them in your project by discussing several dilemmas where you need their support – for example:**

- **How to include urban beekeeping in the overall urban context of the City?**

There are several alternatives: by updating existing strategic documents, through a special strategy, through a spatial plan, etc. In some cases, even a medium-/long-term Urban Beekeeping Development Action Plan might be an option, as suggested in the next chapter. However, you must be aware that all of these are just tools or mechanisms.

If you have been successful in attracting key city administration personnel and decision-makers, you are in a good position to influence the content of all the options described above – you just need to select the most suitable one and amend it to suit your purposes.

However, it is just as important you succeed in changing the mindset of your citizens. If your citizens recognise the importance of urban beekeeping – like, for example, the way they recognised urban green spaces as an important added value to the quality of living in recent decades – they will automatically accept urban beekeeping as an integral part of the urban lifestyle. And it is this mind change that usually dictates what is a part of the overall urban context and what is not – decision-makers tend to listen when you reach the critical mass.

That is why high-quality communication strategies, awareness-raising campaigns and education tools are so important and we should not underestimate their potential.

- **How to regulate urban beekeeping in order to ensure the use of ecological professional practices and reduce the likelihood of possible conflicts?**

We live in heavily regulated societies and regulation is usually the initial response to any challenge. However, we must stress that regulation alone is not necessarily the only way to address the issues described. However, if you do decide to regulate, you should be aware of a few potential pitfalls:

- Regulation automatically represents a power play approach, which might not be accepted well by our participation-oriented ULG with almost an NGO character.
- Regulatory acts are usually very straightforward, rigid and strict, while real-life situations tend to be less straightforward, complex and subject to interpretation, which is why regulation might prove too rigid, thus sometimes even achieving a contra-effect and limiting development potentials.

- Regulatory acts must be aligned with higher-level acts, which might potentially prove to be problematic on its own.

The other option (which is the one the City of Ljubljana decided on) is the voluntary standardisation of ULG members, where all network members agree that they will respect certain standards (e.g. ecological professional practices, urban beekeeping safety standards, etc.) and rules of behaviour (e.g. urban beehive set-up and maintenance rules, urban beekeepers code of conduct, etc.). In return, they can promote their products through a jointly established brand or promotion channels developed through your project. ULG members willing to accept such standards can even sign a joint agreement on these issues. At later stages of ULG evolution, you can even insist that respecting such standards is a prerequisite for ULG membership.

Communication strategies, awareness-raising campaigns and educational tools are extremely important to raise awareness, knowledge and tolerance of your citizens towards urban beekeeping and reduce the fear factor. Combined with clear standards and behaviour rules, this should resolve the majority of existing or potential conflicts. However, we must be aware of one fact: “Timing is everything!” and different people with a different mentality and culture might need more time to digest or cultivate a new idea in their minds and subsequently, to start implementing it through their actions. Be patient, persistent and look for results in the long run.

- **How to design urban forms of beehives and bee houses and regulate them as urban equipment, taking into consideration local specifics and cultural heritage?**

The easiest way is simply to go online to the [BEE PATH website](#) and use urban beehives designed by architecture students from the University of Ljubljana, as all the designs and plans are freely accessible. However, it would be good to keep in mind that those solutions were designed for local specificities and in line with the cultural heritage of the City of Ljubljana, and this might not be appropriate for you.

Coming up with your own urban beehive design requires either involvement of designers/architects in your ULG (either proven experts or students looking for new challenges), a special open competition organised by you or an expert solution. Another option is to use existing traditional forms of beehives, but, naturally, only if they are considered suitable for the urban environment.

The regulation of urban beehives as urban equipment can be done either through existing or new regulation or, again, through voluntary standardisation, as already suggested. Whichever concept you choose, you should not forget to include urban beehives (just as any other similar urban equipment) into your spatial plans.

- **How to promote bees as an important indicator of a healthy environment?**

A good question but, unfortunately, one for the future as the City of Ljubljana has so far not fully investigated the possibility of using bees as a concrete environmental indicator. So far, the City of Cesena has attempted this approach, but for only a short period and with limited results.

Of course, we can always promote the fact that bees are not resilient to herbicides and pesticides, so their very presence in the urban environment proves the quality of the living environment.

4.8

How to Look for Synergies and to Create Partnerships?

The ULG coordinator should always be on the lookout for synergies with other sectors and activities. But this is easier said than done, so can this challenge be approached?

The easiest way to do this is to first search for any historical and present evidence on bees and beekeeping in any aspect of daily life in the city: aspects such as ethnography, culture, gastronomy, environment, architecture, economy, etc. can be considered. This establishes a historical/content foundation for any networking and promotional activities. It also opens the eyes of individuals/companies working in other sectors and creates a story behind new jointly developed products and services.

Once the ULG is created, you can also use regular ULG meetings or any other events you organise to allow ULG members to network and freely exchange ideas between themselves as well as with outsiders. As already mentioned, ULG members are usually open, inquisitive, constructive and idea-driven people, who are willing to cooperate. So, they might be inclined to identify potential synergies on their own. You just need to allow them ample opportunities for discussion and networking.

As your transfer process starts producing results, do not forget to promote them and even brag about them. Success usually draws in more members who so far have been sceptical but are clearly recognising new opportunities in cooperation with the project. The best example is corporate donors with their “corporate responsibility”, as they crave positive publicity. Use the spotlight to promote yourself as an open platform open to all interested and constructive participants. All in all, Don't be shy to grab such opportunities – who knows, maybe you will hook a long-term donor and promotor of your ideas.

But sometimes your ULG members will not be so open and inquisitive. They might also be shy and unconfident when it comes to their own ideas. In such cases, it is the responsibility of the ULG coordinator to support them in making partnerships. For example, you can organise groupwork tasks within your ULG groups and play matchmaker by assigning potential partners to the same task. You can also devote one of your ULG meetings to discussing unexploited synergies and partnerships you have identified and invite all members to suggest how they can be exploited.

Of course, not all synergies can be exploited and not all partnerships work out. What is important for you as a ULG coordinator is that you have given them the best chance possible.

4.9

How to Identify Opportunities for Further Development?

Some of the ideas you will develop in the transfer process might be implementable on the spot, while others might not. It is important that you as a ULG coordinator identify why some ideas are not feasible at the time and what needs to change for them to become feasible. All such ideas represent your “future treasure list”. Or in other words... Don't disregard them or forget about them. Collect them and save them for later. You might be surprised how fast circumstances change and ideas become feasible.

To further fill up your future treasure list, you can **use ULG meetings for brainstorming** on a specific challenge. Remember, your ULG is a think tank and an incubator for new ideas, so take advantage of all the potential your ULG members have at their disposal. It is also wise to review the ideas that ended up on your “future treasure list” and

revisit them with your ULG members. Time might bring not only changes but also new perspectives.

Of course, all suggestions linked to identifying synergies and partnerships also apply to this question.

4.10

“YES! We Did it! So, Now What?” – How to Ensure a Long-Term Future?

After the successful completion of any project, everyone involved usually needs a break. This is absolutely expected, we are all human after all. However, if we are looking for long-term engagement to continue after the end of the initial project, we must stress that too long a break could prove to be counterproductive. ULG members will find other projects and obligations and this might mean that you will need to put in a lot of effort to get them back.

To prevent this from happening and because all BeePathNet project partners expressed a clear desire to do so, this problem was addressed within the BeePathNet project design. This is why the partnership also decided to add one more specific project result to the BeePathNet project – Transfer City mid-/long-term Urban Beekeeping Development Action Plans in order to:

- Guide the development of urban beekeeping in transfer cities after the BeePathNet project ends.
- Secure long-term operational and political support for urban beekeeping within the city administration and show ULG members that transfer cities will support the ULG network in the long run.
- Exploit the momentum and results from the BeePathNet project to continue with awareness raising in transfer cities and support similar sustainable development initiatives.
- Empower transfer cities to design follow-up projects linked to urban beekeeping or similar sustainable development topics.

Developing and adopting such mid-/long-term plan will make your decision-makers, as well as partners and ULG members, aware that the story is continuing. However, just preparing and adopting the plan is usually not enough, so here are a few suggestions of ways to reinforce your attempts to make this a long-term story:

- **Develop the mid-/long-term plan with your ULG members.** Making them a part of the process allows them to upgrade an already successful project with their own ideas, creates an impressive level of ownership and ensures their active long-term participation.
- **Use the development process to attract new ULG members.** This will allow your ULG to grow but will also attract new people with new ideas.
- **Don't be afraid to look for synergies with other projects or include new topics.** Involve ULG members in identifying such projects/topics; after all, they are the best possible ambassadors of your ULG and your project.
- **Use your internal networks within the city administration and with decision-makers to ensure long-term support from the planning process.** Ensuring long-term political, operational and financial support can make or break your attempts. That is why you might want to involve key city administration representatives and decision-makers in the plan development process. Let them feel the ownership too.

- If you are not successful with the previous bullet point, you can **try to find funding alternatives** – for example, private sector donors or new project funding opportunities within local/regional/national/EU funds. Private sector donors in particular could be attracted through their own corporate responsibility policies. Therefore, it might be smart to try involving some of them in your original ULG.

4.11

Other Sources of Information – Where Can I Get More Ideas?

As already explained, this document is devoted to providing useful tools, tips and tricks of the trade for BeePathNet ULG Coordinators. It should not be seen as a comprehensive list of mandatory instructions (in other words, it is not a bible), but rather a collection of useful tools used by the ULG Coordinator or Lead Expert.

This document will be reviewed and built upon as the BeePathNet project unfolds. All BeePathNet ULG Coordinators will be invited to add to its content, making it more and more relevant in line with the progress of the BeePathNet project.

However, to provide ULG Coordinators with more ideas, solutions and reading material, we have compiled a list of potentially useful and interesting sources of information:

- [URBACT ULG Toolkit](#)
- [URBACT Library](#)
- [URBACT BASECAMP](#)
- The Compleat Facilitator (Howick)
- [Negotiation and mediation techniques for natural resource management](#)
- [The Participatory Process for Supporting Collaborative Management of Natural Resources: An Overview](#)
- [PARTICIPATORY METHODS TOOLKIT – A practitioner’s manual](#)
- [The community’s toolbox: The idea, methods and tools for participatory assessment, monitoring and evaluation in community forestry](#)

Of course, there are many more sources of potentially useful information.

But don’t be afraid...

One of the tasks of the ULG Coordinator is to go out and explore what is beyond the horizon...

Go for it!

III. The key thematic modules of the BeePathNet good practice

Experts from cities of Ljubljana (Slovenia), Amarante (Portugal), Bydgoszcz (Poland), Cesena (Italy), Hegyvidék (Hungary), Nea Propontida (Greece) developed six thematic modules:

Biodiversity – the cornerstone of the Bee Path good practice	38
Education – investing into our future	72
The Bee Path and tourism – creating a bee story and building a Bee Path in the city	109
The development of bee products in the Bee Path – endless possibilities for innovation and creation of green jobs	150
Awareness raising – from a project to a Bee-friendly movement in the city	202
Swarming – adaptation of humans to the habits of city bees	212

Each module consists of a presentation on how Ljubljana did it and a case study from one of our partner cities. You will also find some useful tips and tricks at the end.

5. Biodiversity

The cornerstone of the BEE PATH good practice

5.1

Biodiversity on the Ljubljana BEE PATH

The Background to Biodiversity in the City of Ljubljana

Ljubljana is the political, administrative, cultural and economic centre of Slovenia. It is a medium-size, modern and vibrant Central European city determined to implement its sustainable development vision, resolve open environmental issues, protect nature and ensure high-quality living for its citizens.

A lot has already been written about the City of Ljubljana and its success story – BEE PATH good practice – either in the BeePathNet Transfer Study, other volumes of these guidelines or other project-related publications. However, it has not yet been emphasised that the current state of biodiversity in the City of Ljubljana is the result of several factors:

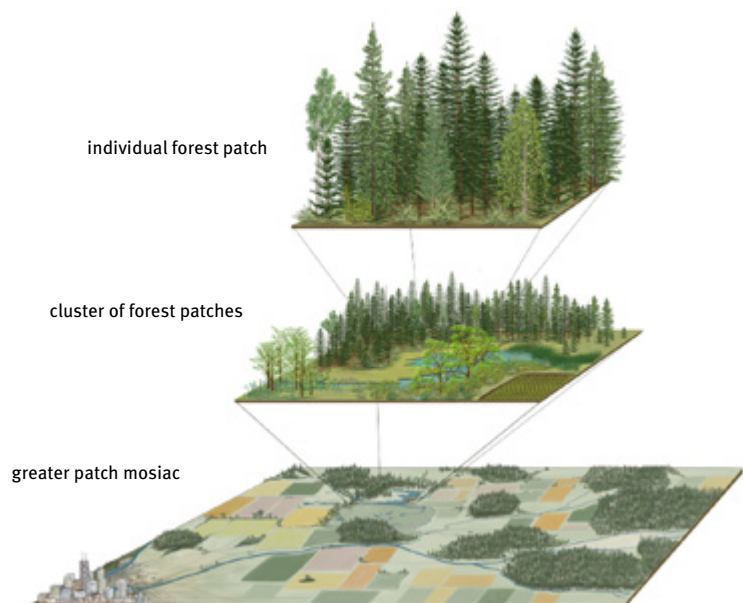
- **The mosaic landscape and its management throughout history**

It is often misunderstood that biodiversity comes only with the preservation or even conservation of nature in its untouched form. In fact, practice shows that mosaic landscapes – so typical for the geographically diverse Slovenian landscape – can also be extremely rich in biodiversity.

Mosaic landscapes are a result of human-managed landscape, where the mixture of fields, meadows, forests and water bodies, as well as settlements, offers

Green wedges in the City of Ljubljana
Source: Google maps

The Green Wedges System in the City of Ljubljana
Source: archive of Britannica





The Green Wedges System in the City of Ljubljana
Source: City of Ljubljana

lots of contact zones, which can be easily exploited by diverse flora and fauna. However, biodiversity-rich mosaic landscapes can only be maintained if humans act as responsible and sustainable managers and exploit the natural resources within their limits.

Throughout history, 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.

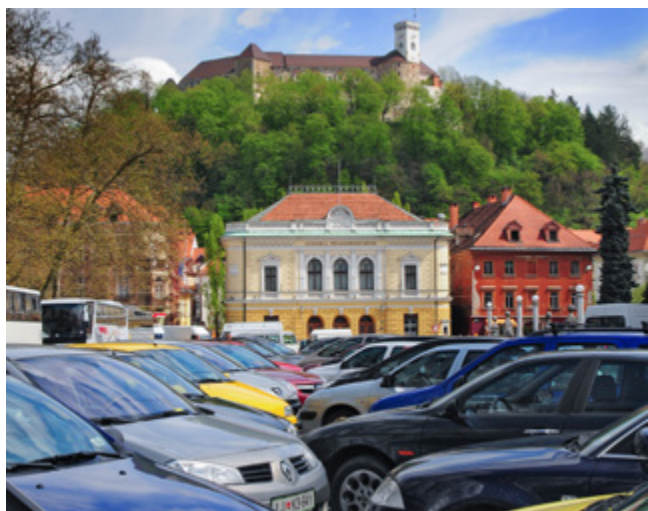
Thanks to its citizens, the green character has been preserved throughout Ljubljana's rich history, and today, the city offers 542 m² of public green areas per citizen. This is additionally enriched by Ljubljana's rural surroundings – the so-called Green Doorstep of the City – which has an important food self-sufficiency role. In Ljubljana overall, over 800 farms and 350 beekeepers (with 4,500 beehives) operate, keeping the link between urban and rural very much alive.

- **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. As a consequence, more and more young families moved to the suburbs, leading to the inevitable ageing of the city centre and older neighbourhoods, as well as their slow deterioration and, in some cases, even degradation in the 1980s and 90s. Subsequently, Ljubljana entered the new millennium ready for urban revival.

- **Active and continuous implementation of widely accepted sustainable development policy**

In the search for new development concepts, the city administration and decision-makers recognised the green character of Ljubljana as an advantage and opportunity. The citizens instantly responded and supported the idea, which became one of the key development policies.



An example of the urban renewal of the Kongresni trg square in Ljubljana city centre.

Authors: left photo Dunja Wedam, right photo Doris Kordić

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.

In urban areas, Ljubljana recognised the value of its urban forests and green areas, so it 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 has been placed on the sustainable development of rural areas. Ljubljana implemented supporting mechanisms (e.g. co-financing, support for local products, short supply chains, etc.), which empowered farmers to continue farming using more ecological and sustainable farming approaches. New rural development strategies aimed to increase the production of local farming and forest products. From there on, Ljubljana started to enlarge its own food self-sufficiency potential.

Proof of its success came in 2014 when the City of Ljubljana was awarded the title of the [Green Capital of Europe 2016](#).

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

The above-mentioned award was a clear sign for both citizens and the City of Ljubljana that they were on the right track. It also provided a supportive and thriving environment for bolder green urban development ideas and projects. In the following years, the City of Ljubljana encouraged and supported new urban concepts like urban gardening, urban forestry and urban beekeeping.

However, very few bottom-up ideas would have become a reality without the active support of the administration of the City of Ljubljana by providing:

- Leadership – the City of Ljubljana supported the BEE PATH project with its staff (1 coordinator assigned to the task with 20% working time)
- Operational support – the City of Ljubljana supported the BEE PATH project with premises and equipment for meetings.
- Funding – a salary for the coordinator and a small project budget.

- **Prior ongoing work of other important biodiversity-linked institutions**

As the capital of Slovenia, Ljubljana is fortunate to host many nationally important institutions dealing with the protection of biodiversity and its promotion, many of which actively cooperate with the City of Ljubljana. These include:

- University of Ljubljana – Biotechnical Faculty and University Botanic Gardens Ljubljana
- National Institute of Biology
- Slovenian Museum of National History
- Institute of the Republic of Slovenia for Nature Conservation
- Slovenia Forest Service
- Slovenian Forestry Institute
- Agricultural Institute of Slovenia
- The Chamber of Agriculture and Forestry of Slovenia

Their ongoing theoretical and practical work, as well as guidance for citizens, play an important role in both the management of green areas and the preservation of biodiversity in Ljubljana today.

Operational management of green areas in Ljubljana

When the BEE PATH started to plan its future activities, an assessment of the current situation was carried out first. In it, we considered and answered the following questions:

- What is already going on in the city regarding biodiversity and green areas?
- How do existing actions benefit bees and other pollinators?
- Do any existing actions harm bees and other pollinators? If yes, how can we prevent that?
- What can be done to improve the current situation?
- Who are the key actors who can support our efforts?

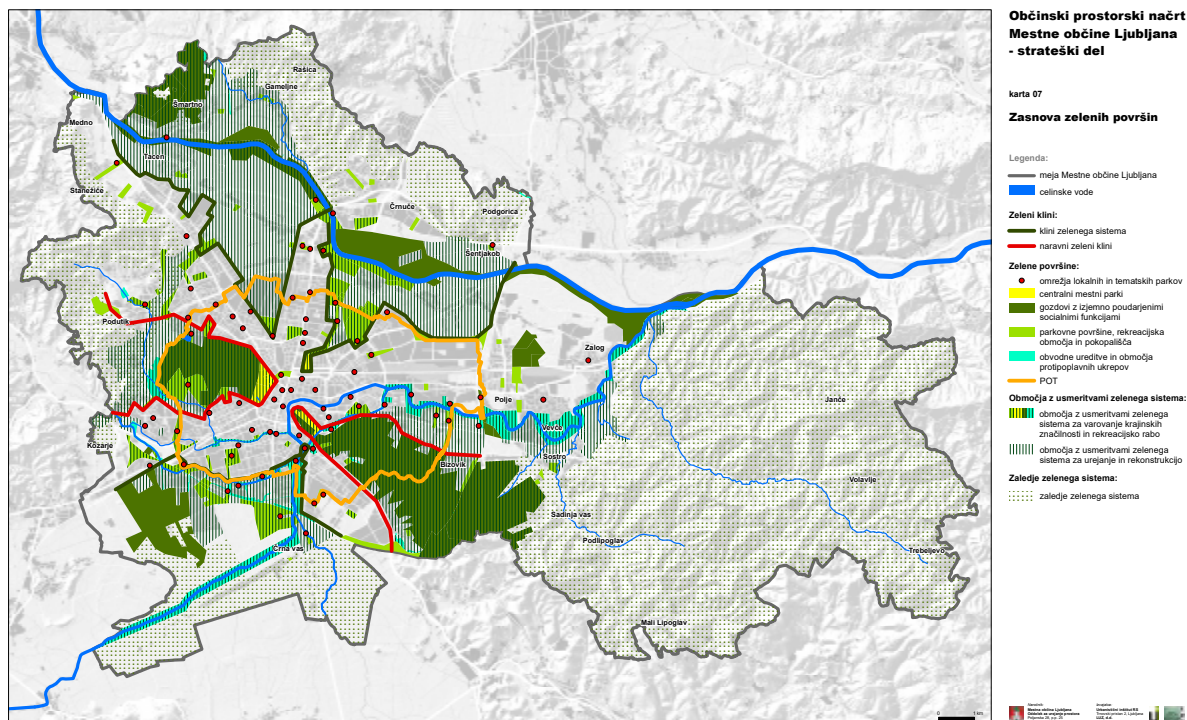
We came to a baseline understanding that Ljubljana's green areas are understood as multi-purpose areas with many positive effects on the daily life of citizens. As well as pleasant surroundings, recreation and relaxation, they also contribute to higher quality living conditions – cleaner air, reduced 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 framework for the development of different activities within green areas (e.g. maintenance, regulations about building on green areas, etc.) through the Spatial Plan of the City of Ljubljana.

The Spatial Plan is the fundamental spatial planning document of the City of Ljubljana and is in a process of constant improvement – its changes and adoptions are made periodically. It has two parts:

- **The Strategic part** – which defines the goals and the concept of spatial development, as well as its systems and networks. Regarding green areas, it outlines the Concept of the Green System and Concept and Guidelines for Landscape Development, as well as the Landscape Planning Concept for Urban Green Areas, Forested Areas, Agricultural Areas, Surface Water Structures, etc.



The green areas recognised by the Spatial Plan of the City of Ljubljana. Source: City of Ljubljana

- **The Implementation part** – which prescribes in more detail land use, spatial implementing conditions (regulations) and areas that require detailed plans and guidelines for their preparation. For example, it contains regulations regarding the floor space index, built-up index, green surfaces factor for non-residential areas, open living surfaces factor for residential areas, surfaced the requirements for unpaved surfaces, roof and facade greening, increased share of open and green surfaces in the green wedges, number of trees planted, public use and designing and maintaining open green areas (green surfaces, parks, individual trees, lines of trees, squares, pedestrian areas, children’s playgrounds, biotopes), etc.

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 of Ljubljana must perform on public green areas, such 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, etc.

Maintaining the 228 hectares of lawns is one of the most important tasks. As a rule, the lawns are mowed 4–7 times per year. How many times each green area is mowed predominantly depends on the classification of the area: main parks are mowed seven times per year, while smaller parks and children’s playgrounds are mowed four times per year.

The City of Ljubljana also takes care of over 40,000 **trees in public areas**, of which more than 25,000 are melliferous and autochthonous, as presented in the table below.

Species of trees planted in Ljubljana	Total number of trees	Number of trees on paved areas
<i>Pinus silvestris</i>	253	100
<i>Gleditsia triacanthos</i>	556	258
<i>Quercus spp.</i>	38	30
<i>Acer pseudoplatanus</i>	2,145	986
<i>Acer pseudoplatanus</i>	21	7
<i>Acer pseudoplatanus 'atropurpureum'</i>	524	410
<i>Acer campestre</i>	691	341
<i>Acer platanoides</i>	9,741	5,657
<i>Acer platanoides atropurpureum</i>	184	116
<i>Fraxinus ornus</i>	173	72
<i>Catalpa bignonioides</i>	385	148
<i>Aesculus hippocastanum</i>	1,672	1,227
<i>Aesculus hippocastanum</i>	144	83
<i>Tilia platyphyllos</i>	2,610	1,499
<i>Tilia cordata</i>	2,197	1,282
<i>Robinia pseudoacacia</i>	699	253
<i>Picea abies</i>	3,106	680
Total sum	25,139	13,149

Allotment gardens, set up by the City of Ljubljana and let out to its citizens, encourage citizens to grow their own food. This is one of the activities that increase the level of food self-sufficiency in the city. It enables intergenerational cooperation and raises awareness about sustainable development and the preservation of biodiversity since citizens are only allowed to use substances approved for ecological farming. Within allotment garden areas – at the moment there are eight and they consist of 823 allotment parcels – educational programmes are provided at educational gardens, thus providing citizens free education and advice.

Ljubljana was the first city in Slovenia to **abolish the use of herbicides with glyphosate** (in August 2017) **and pesticides in public areas**. Based on expert advice, the city allows for the use of only ecological substances for gardening on allotment gardens that are rented to citizens and supports farmers who incorporate ecological and integrated farming principles into their farming practice. In Ljubljana, weeds are treated with the special Foamsteam approach – a machine operating on the basis of water steam and the active substance (named Foamstream) consisting of plant oils (palm, coconut, rapeseed oil) and glucose. It is fully biodegradable. Diesel aggregate heats water under pressure up to 106 degrees Celsius. A computer-controlled mechanism adds the recommended dose of the active substance and sends the mixture to the dispensing handle. This results in the formation of a hot foam, which is applied to weeds. The foam serves as a fixator of heat to the surface of weed so that the water has long-lasting effects. The heat causes the cell walls to break and this begins the process of weed deterioration. After 24 hours, the weeds dry out.

However, such green efforts are not limited to existing green areas in Ljubljana, but are likewise incorporated into neighbourhood renovation projects and further developed through the introduction of new approaches, both presented by the following examples.

An example of such efforts within the **renovation of neighbourhoods** is the renovation of Slovenska ulica street in the centre of Ljubljana. Once, this was the most important traffic connection running through the city centre and was very busy with traffic. As such, it was noisy, polluted and negatively impacted the city centre's character. During



One of the city centre renovation projects in the City of Ljubljana
 Author: left photo Miha Fras, right photo Doris Kordić

its renovation, the street was closed to all non-public transport and turned into a green and lively alley. Based on suggestions from Botanic Garden, the city decided to plant 63 melliferous Southern European flowering ash trees (*Fraxinus ornus*) and an alley of service trees (*Sorbus domestica*) on the banks of the Ljubljanica river.

Another example of new, biodiversity-oriented approaches within urban areas originates from an even earlier period. In 2012, Deputy Mayor Koželj (responsible for spatial planning) decided to develop and issue guidelines for the **sustainable management of flower beds**, which promoted measures aiming to reduce watering and other maintenance costs and introduced a more environmentally friendly mindset. This led to the gradual substitution of annual plants for perennial (multi-year plants) ones alongside Ljubljana’s streets, crossroads, roundabouts, children’s playgrounds, public lawns and parks, many of which were melliferous – for example, *Rudbeckia fulgida* ‘Goldsturm’, *Sedum spp.*, *Anemone japonica*, *Aster dumosus*, *Echinacea purpurea*, *Gaura lindheimeri*, *Hemerocallis spp.*, *Hosta spp.*, *Nepeta fassenii*, etc. This was actually the first and only attempt to promote autochthonous melliferous plants on green areas until we started to introduce them within the BEE PATH.

The Department for Environmental Protection developed and is implementing the **Programme for Environmental protection 2014–2020**. The programme was created within the context of the strategic goal to “Ensure the protection of the natural environment in the COL”. Three very important operational goals were determined in it:

- 1) *To maintain and improve the state of biodiversity.*
- 2) *To establish a comprehensive system for effective management of natural values and protected areas.*
- 3) *To establish a comprehensive green city system and manage it effectively.*

In order to make sure the goals described above are fulfilled, the City of Ljubljana is putting into practice five nature conservation measures to preserve and improve the habitats of endangered and protected species:

- Setting up hotels for wild pollinators – protecting wild pollinators has become a regular task of the City of Ljubljana. Through different activities (workshops, public lectures, posters, etc.), the public is being informed about the importance of bees. Moreover, by promoting and setting up “bee hotels”, people get a direct stimulation to do something good on their own.

- Activities to protect amphibians – a robust population of amphibians exist within the area of the Tivoli Landscape Park, and Rožnik and Šišenski hills. Their natural migration route, however, has been disrupted by a vital transportation road. Therefore, the City of Ljubljana sets up fences along the street and organises volunteers during their spawning season, so they can be collected and transferred to their spawning area safely.
- Preservation of various habitats – endangered habitats in protected areas (Ljubljana has five of them) and their nearby areas were recognised as very important indicators of a healthy environment. Special attention is given to the protection of nesting places and living habitats of autochthonous box turtle, bats, nesting places of kingfisher, the Chapman’s blue butterfly and the moor frog.
- Monitoring of various plant diseases – when diseases, especially those affecting trees, are detected early enough, preventive measures can be taken, thus saving important trees in the city.
- Removal of invasive species – the City of Ljubljana started removing Japanese knotweed and reinforced its efforts through an EU-funded project APPLAUSE, where Ljubljana developed new ways to get rid of five invasive plants with the emphasis on Japanese knotweed and ambrosia.

Furthermore, **the Section for Rural Development**, which operates under the umbrella of the Department for Environmental Protection, developed the **Rural Development Strategy for the City of Ljubljana** for the programming period 2014–2020. In it, the City of Ljubljana set itself another ambitious operational goal – *“To ensure high-quality agriculture and forestry goods from a preserved environment, with the aim of improved food self-sufficiency of the City of Ljubljana”*. This goal should be achieved by improving the supply of high-quality food, sustainable forest management, and forest protection, as well as by conserving and developing the functional capacity of agricultural households.

In order to implement the Rural Development Strategy, the City of Ljubljana encourages farmers (through financial mechanisms and expert support) to farm based on organic or integrated farming principles. Through such measures, the City of Ljubljana helped create over 32 hectares of orchards and six hectares of strawberry fields. It also arranged and put into operation around 900 allotment gardens. Within these areas, educational gardens were also established to improve awareness about the importance of biodiversity and pollinators, as well as adequate gardening techniques. To further enhance the efforts described, three wild pollinator houses were built on public spaces and/or allotment gardens and all three locations were planted with fruit trees and other melliferous plants. In this way, the City of Ljubljana also creates conditions that enable pollinators to survive and develop.

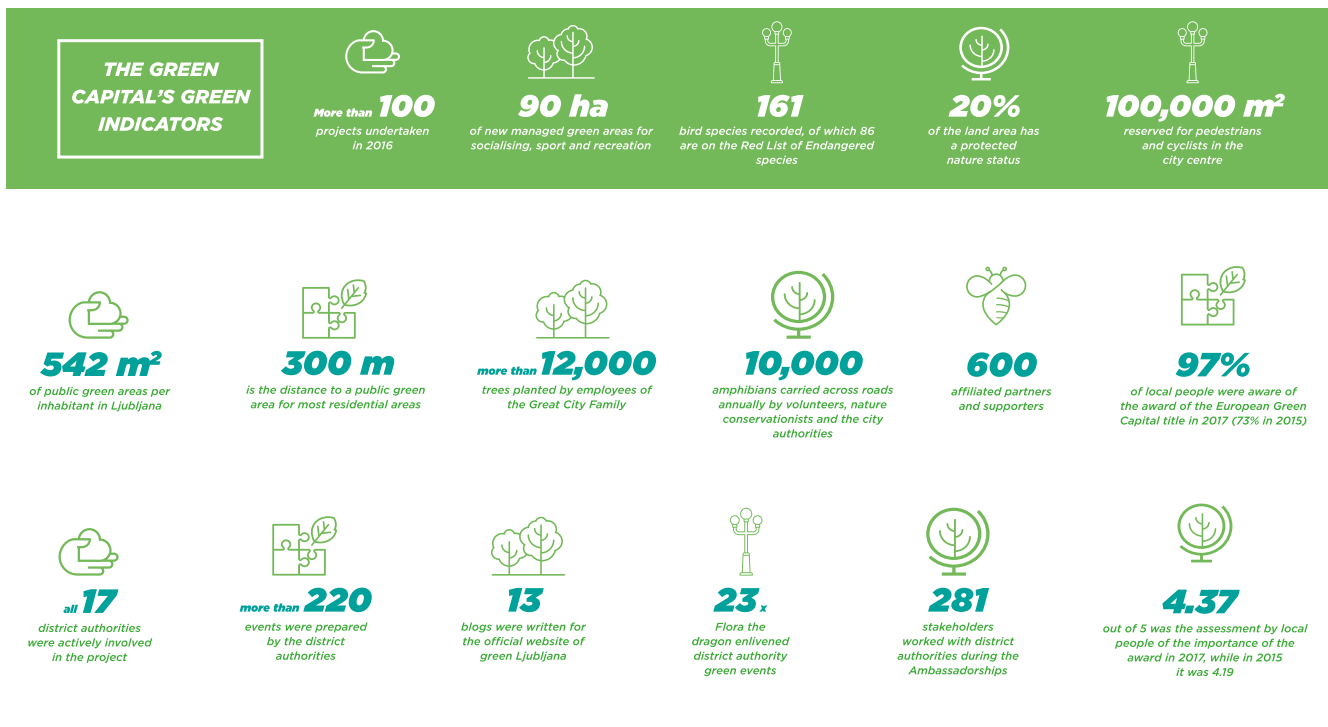
A special focus within the rural development programme is given to beekeeping in rural and urban areas, as well as awareness-raising, communication and active collaboration with citizens (all described in more detail on the following pages). It was within this context that the City of Ljubljana also developed a special programme called **BEE PATH** – the good practice you are transferring today.

As you can see, the City of Ljubljana 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. It is this cross-sectoral approach that re-enforces its green policy and improves its presence in any major development discussion. And it is thanks to such approaches, that the City of Ljubljana was awarded the title European Green Capital 2016. Below, you can find a few indicators showing the results of all the policies and approaches described – [more can be found on this link](#).



However, not everything is so great and the **BEE PATH team has already recognised several potentials for improvement.** These include:

- Improved communication (the formation of a special task force within the city administration is already being discussed) and cross-sectoral actions between departments.
- More emphasis on wild pollinators and inappropriate strategies for honeybee preservation.
- Further enhanced connections between BEE PATH members through the exploitation of newly recognised synergies, as well as the creation of a new selling point.
- Re-enforcement of educational programmes and their integration into the schooling system.
- BEE PATH is at an evolutionary crossroads and a long-term vision for BEE PATH should be developed.



As the City of Ljubljana has already started preparing content for the renewal of all strategic documents for the next programming period mentioned here, it is the sincere wish of the BEE PATH team to use the BeePathNet project and address the identified potentials through the successful implementation of the BEE PATH upgrade plan.

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

Goals:

- To ensure the urban revival of the City of Ljubljana.
- To address modern urban cross-sectoral challenges such as climate change, sustainable development, food self-sufficiency, etc.
- To improve the quality of living for citizens of the City of Ljubljana.

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-sectoral 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 learned:

- 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.



University Botanic Gardens Ljubljana
Author: Jože Bavcon



The seed bank contains 20% of all Slovenian flora
Author: Jože Bavcon

Cooperation with the University Botanic Gardens Ljubljana

The University Botanic Gardens Ljubljana is the oldest Slovene cultural, scientific and educational institution, which possesses a wide selection of plants – more than 5,000 species from Slovenia and abroad.

It was founded in 1810, when Slovenia was a part of the Illyrian Provinces (created during the Napoleonic wars), as a garden of native flora and a section of the Central School (École Centrale). The gardens originally covered 33 acres. In 1822, it was further enlarged by 16 acres and surrounded by a wall.

A renaissance of the gardens began under the management of Alfonz Paulin. In 1889, he began to issue an annual seed index (*Index Seminum*), which he distributed to similar institutions all over the world. Since 1920, the gardens have been a part of the University of Ljubljana (founded in 1919).

After World War II (in 1946), the gardens were enlarged to 2.35 ha and got its first greenhouse, only to be reduced in size to the final 2 ha due to the widening of a nearby road and railway. Since 1991, the Botanic Gardens – a valuable example of our cultural heritage – has enjoyed protection status as a monument of landscape gardening. In 2010, it underwent its final upgrade with the construction of a new tropical greenhouse.

Various roles of the university botanic gardens in the BEE PATH

The University Botanic Gardens Ljubljana was **one of the first BEE PATH stakeholders** and it is also **its official entrance/starting point**. Its main role is to support different activities from education to awareness-raising, with a focus on **autochthonic melliferous plants and** their importance for bees in the city.

Guided visits through the gardens start with an introduction to the plants: the gardens' plants are planted in flowerbeds, where every flower bed presents one plant family. Every single plant offers pasture for bees throughout the year. Bees especially appreciate lavender, savory, thyme, mint and sage, as well as peony, and many other plant species. Undergrowth arboretum is also very appealing for bees, as bees find food in the undergrowth of the common snowdrop and crocuses, as well as trees and shrubs and many willows next to the pond. Later in the season, they are replaced by flowering cornus (pears, quince).

A special part of the collection is represented by Mediterranean plants in containers that are characterised by their essential oils and resistant to strong solar radiation.



Greenhouse in the Botanic Gardens
Author: Jože Bavcon



Melliferous plants in the Botanic Gardens
Author: Jože Bavcon

Many of them have fragrant flowers and are attractive to bees due to the large quantity of pollen they contain.

The Botanic Gardens is **one of the main consultants and interlocutors for the City of Ljubljana** regarding planting new plants in the city. It works closely with the deputy mayor, who is responsible for urban planning. They recommended the plants for the new alleys in the city centre, for example:

- Melliferous autochthonous European flowering ash (*Fraxinus ornus*) on Slovenska ulica street,
- Service trees (*Sorbus aria* and *Sorbus domestica*) on the banks of the Ljubljanica river.

They also consult on the maintenance of green areas in the City of Ljubljana, for example:

- Providing guidance on mowing public areas: in order to reinforce the biodiversity of the green areas, mowing should not be done during the blooming season of grass and flowers.
- Provide guidance on planting autochthonous perennial plants in public areas.

Moreover, it also plays an important role as an **advisory point for all stakeholders within the BEE PATH and wider**, promoting the planting of melliferous plants and prioritising autochthonous species.

The City of Ljubljana built the **City apiary on a public space that is managed by the Botanic Gardens**. Furthermore, the area around the apiary was planted with different wetland habitats, thus mimicking the autochthonous flora of the marsh area stretching from the location of the Botanic Gardens to the outskirts of the city – the so-called Ljubljana Marsh. They represent an important educational area, as well as the nearest pasture for the bees.

The University Botanic Gardens Ljubljana also plays an important **awareness-raising role** as the staff:

- Organise different lectures on melliferous plants and related biodiversity;
- Release publications about flora in Ljubljana;
- Grow and sell melliferous plants;
- Maintain a seed bank of Slovenian autochthonous plants;



Meadows in the Ljubljana area
Source: BeePathNet photo archive

- Maintain the dry, rough grasslands outside the Botanic Gardens where they use late mowing (they mow it once a year in late August) to preserve and increase biodiversity; so far, they have counted more than 120 species. This also serves as an educational classroom in the open for citizens where the species can be observed in nature.

The University Botanic Gardens Ljubljana also works on an international level, as an important partner in the Life Naturaviva – Biodiversity – Art of Life project, where they prepared guidelines for farmers explaining why biodiversity is important for successful agriculture. For further reading, please look at the following links to e-books:

- [Traditional mowing preserves plant biodiversity](#)
- [Meadows – green surfaces or colourful gardens](#)

Tips for cities planning to involve expert institutions

Goals:

- To attract and involve institutions and experts with specific knowledge and skills in order to create an internal knowledge base within your ULG.

Key steps:

- 1) Identify existing and suitable institutions or individuals.
 - 2) Meet with them and try to understand their ambitions, capacities and compatibility with you and your ULG network.
 - 3) Select the most appropriate and identify key interest/attraction factors for them.
 - 4) Present the opportunity for cooperation (based on attraction factors), clearly establishing the role they would play in your ULG network, the extent of involvement required and the benefits you foresee in their cooperation.
 - 5) If you are rejected by the first institution, go to the next one and repeat the steps.
 - 6) Treat them as you would any other ULG member. You can involve as many as you need/want but make sure their roles do not overlap and that they are cooperating and not competing against each other.
-

Lessons learned:

- Like all other ULG members, expert institutions or/and their employees must also show a clear interest and recognise the benefits in your cooperation and must willingly and voluntarily support your bee path.
- It is vital to clearly divide their voluntary role in the ULG (voluntary work) from the consultant role for the city administration (potentially paid services). It is best to do it through the clear division of tasks.

The Organisation of the “Help the Bee in the City: Plant the City with Flowers” awareness-raising campaign

This is an excellent example of a corporate-responsibility-driven initiative based on co-operation between the BTC d.d. and the City of Ljubljana. BTC d.d. was one of the first stakeholders to join the BEE PATH and has certainly become one of the most important. As the biggest shopping and commercial centre in Slovenia and South-East Europe, it has an important impact on regional traffic patterns. At the same time, due to the high percentage of built-up areas, it represents one of the biggest heat islands in the city. Subsequently, the management has become increasingly aware of the importance of sustainable development and environmental protection.

This awareness has influenced its corporate responsibility agenda as the company developed a programme called “Mission: Green” through which they promote the green way of living and carry out many activities. It is based on four pillars and here is how BTC understands them:

- **Environmental protection** – *“Caring for the environment and climate change is part of our DNA. Our efforts towards a cleaner environment, air and water are strategic and goal-oriented. With care, persistence, and consistency we fulfil our mission that brings a profound positive influence on our future. We take care for our planet very seriously.”*
- **Green energy** – *“We strive towards success in business while maintaining strict environmental and social responsibility, constantly searching for potential energy improvements, savings, and further development. In 2017, we completed 21 energy-related projects and reduced our carbon dioxide footprint by a total of 5,449,637 kilograms. We promote alternative forms of transport and expand the reach of our Mission: Green through innovative approaches.”*
- **Energy efficiency** – *“BTC has approached energy efficiency with our characteristic spirit of innovation. Responsible energy management, work process optimisation and the use of advanced technologies focused on conservation are part of the way we work. Energy always manifests new energy.”*
- **Social responsibility** – *“We are aware of our role in the social and natural environment and are dedicated to doing our part in spearheading the development of our communal, social, sports, cultural and economic environment. We believe in collaboration and synergy, in balanced and sustainable development and in a bright future full of opportunity. Together hand in hand for a better tomorrow.”*



The key actors in front of the BTC d.d. beehive
Source: BTC d.d.

How it all started

In 2013, Maja Oven and Zvone Rijavec came up with the idea of setting up a beehive at BTC City Ljubljana, based on best practices from other European capitals. They invited the beekeeper Franc Petrovčič, who had already placed a beehive on the top of Cankarjev dom, and the Slovenian Beekeepers Association to **create a story about “A bee going to the city”**.

In 2014, they **placed their own beehive next to the Atlantis Water Park**. Almost immediately, it became one of the top stories in the Slovenian media and kicked off a public debate about beekeeping in the urban environment. With the juxtaposition of the words “beekeeping” and “urban”, there was a lot of scepticism and concerns: some claimed that bees would not survive in the urban environment due to the lack of food; others said that there would be conflicts between residents and the bees; and others feared that the honey would be full of heavy metals due to traffic air pollution, etc.

However, such discussions did not hamper their efforts or belief in the final success. Instead, they took the next bold step and focused their communication (alongside communication with mass media and the general public) on elementary schools in the Ljubljana Urban Region. To strengthen their message, **they helped build an apiary in an elementary school in Medvode** (a town near Ljubljana).

In the meantime, the beekeeping season finished and they were able to collect the first honey from their beehives. In the first year, their bees collected 76 kg of honey in four beehives, despite bad weather conditions during the season. In light of the expressed scepticism, but also due to their own curiosity, they **decided to have their honey tested by an independent and certified institution**.

When the results came in, the news was good. **Not only was their honey impeccable, it also showed surprisingly high diversity**: the honey was a combination of forest honey, wildflower honey, linden honey, etc. This was the result of the very diverse pasture their bees used during the season. Based on the positive results and high level of biodiversity, they decided that to brand their honey as Urban Honey.

BTC d.d. within the BEE PATH

Encouraged by the test results, BTC d.d. quickly became one of the City of Ljubljana’s strategic partners. They helped **expand the BEE PATH network** by attracting their business partners like Minicity, Merkur, Hofer, Semenarna/Kalia, SiTi Teater BTC, Medex, etc. Furthermore, they increased their activities within the BEE PATH and embarked on an active partnership with the University of Ljubljana, especially with the Biotechnical Faculty and Faculty of Architecture.

One of the most important tasks of the BEE PATH, however, is to get key messages to target groups. Therefore, BTC d.d. initiated the **“Help the Bee in the City: Plant the City with Flowers” awareness-raising campaign** within the BEE PATH and became the herald of the importance of biodiversity in the city.

The campaign was kicked off as one of the key messages during the celebration of **“Ljubljana – the Green Capital of Europe 2016”**. At that time, it was important to let people know that there are plants that help bees outside of the nectar flow period. As the citizens of Ljubljana were the main target group, they decided to focus on the message that everyone can make a difference, even with the smallest contribution, such as planting melliferous plants in their window boxes, balconies, roofs and gardens.



Awareness raising campaign
Source: BTC d.d.



“Let’s join the city buzzzz!” – examples of promotional materials used
 Source of left and middle photo: BTC d.d., Author of right photo: Maj Valerij

At that time, no particular concern was raised about allochthonous and/or potentially invasive plants.

However, the following year, this problem was already recognised and the campaign highlighted the importance of autochthonous melliferous plants. To reinforce the message, the University Botanic Gardens Ljubljana were drawn to the campaign in order to provide lectures for the general public about the difference between both categories of plants as well as to **promote the planting of autochthonous melliferous plants**.

In 2019, such efforts were stepped up when University Botanic Gardens Ljubljana created a **selection of autochthonous melliferous plants**. In line with this recommendation, BTC d.d. created a brand, prepared seed packages and distributed them free of charge to citizens at one of the public events held in the city centre.

Integration of the “Help the Bee in the City: Plant the City with Flowers” messages into other bee path activities

As the BTC d.d. campaign evolved into a regular awareness-raising campaign for the BEE PATH, it was quite logical to integrate it into other BEE PATH regular activities, examples of which you can read about below.

The urban beekeeping season is kicked off by an annual event shortly before Easter. It is organised as a one-day fair where all BEE PATH members present themselves in the city centre. Each member gets a free stand but they contribute to the funding of the awareness-raising campaign. At the event, they also give away free seeds of autochthonous melliferous plants. Since its launch, the event has had a common visual identity, which is upgraded every year.

To increase the campaign’s reach, many activities take place within the partner’s shops and premises in the week before Easter. For example, within the Mini City (BTC playground and educational centre for children) children’s workshops are organised, with content connected to bees and autochthonous melliferous plants. For the grand finale, BTC organises a big flower fair.

The second important awareness-raising period takes place in **the period around 20 May** when partners plant autochthonous melliferous plants in the flower beds located at the BTC. At first, there were just green areas with grass but in 2018, BTC decided to transform them into flower beds. In the first year, they planted a combination of parental plants and sunflowers. In 2019, autochthonous melliferous plants were planted. It is a great event because all the elementary schools involved in the “Eco-Schools” programme are invited to participate in the planting. However, the BTC gardener takes care of the plants during the year. BTC also plants melliferous trees and so also contributes to decreasing the impact of the heat island.



Planting autochthonous melliferous plants at the BTC.
Author: Ana Kopač



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



Press conference on urban beekeeping
Source: Studio Bomba

The BTC supports other awareness-raising events, too.

For example, an exhibition within the shopping area presents new architectural solutions for urban beehives. The exhibition is the result of the work of Faculty of Architecture students who, in 2016, created eight models of urban bee stands and apiaries (three of them have already been built and set up).

In 2018, the exhibition of beekeeping cultural heritage was also presented as a prelude to the grand exhibition at the Slovene Ethnographic Museum titled “*Where Bees Are at home*”. BTC and the City of Ljubljana, with the cooperation of the Urban Beekeepers Association, also organise the annual **Symposium on Urban Beekeeping** where content highlighting the importance of biodiversity is presented and discussed by experts.

Tips for cities planning to attract companies with environmental and social corporate responsibility desires and involve them in awareness-raising

Goals:

- To attract and involve companies with environmental and social corporate responsibility desires in your own awareness-raising activities.

Key steps:

- 1) Identify interested companies or their employees. But don't chase them too hard: let them come to you.
- 2) Meet with them and try to understand their ambitions, capacities and compatibility with your ULG network. Make sure they know who you are and what you stand for.
- 3) Encourage them to develop their own environmental and social corporate responsibility vision/strategy and only later look for compatible activities; this will ensure that their needs and interests are heard and met, thus motivating them to cooperate and establish a long-term relationship.

Lessons learned:

- 4) Start slowly with small and straightforward actions so that you can test your cooperation and compatibility. Treat them as you would any other ULG member but make sure they have a clear role and that other ULG members understand what they can expect from them. You can involve as many as you need/want but make sure their roles do not overlap and that they are cooperating and not competing against each other.
-
- Such ULG members usually join only after your bee path has established itself as a platform with a vision and a mission, after you have shown some real progress and after you have gained some visibility in the general public and media.
 - Like other ULG members, such companies must also show a clear interest and recognise the benefits in cooperation and must willingly and voluntarily support your bee path. They can become internal donors but don't force this – it has to be offered on their own terms and based on their own interests.

Establishment of the Grba Public Orchard and Honey Garden

In 2015, the City of Ljubljana decided to open a public orchard on publicly owned land as a special type of green area. At that time, its main purpose was to introduce a different type of green area that would not only serve as a green area for relaxation and high-quality space for citizens but also as a place in which to present the best gardening and orchard practices and education.

However, like many other great ideas, the public orchard quickly exceeded its original purpose and started evolving. So far, we can distinguish the following three development phases:

Phase 1 – Establishment of the Grba Public Orchard

The Grba Public Orchard was officially opened on 11 November 2015 with a ceremony during which the Mayor of Ljubljana Zoran Jankovič planted one of the last fruit trees. The orchard was designed in conjunction with the Agricultural Institute of Slovenia and a total of 108 fruit trees were planted in two separate areas.

Autochthonous fruit trees were selected for the orchard in order to promote biodiversity and promote high-quality autochthonous fruit tree species, especially the old fruit tree species which are not as popular today. Additionally, the selected mix of fruit trees enables visitors to be exposed to fruits from mid-summer to late autumn. This was done not only to improve its appeal to the public but to show that a smart orchard owner can have a diverse array of fresh fruit over longer periods.

Visitors are also invited to pick and eat fruit from the public orchard; thus, the principle of *“Pick only a little to leave enough for others!”* was introduced and is widely promoted.

The overall investment cost for the Grba Public Orchard was €5,000. Since then, four other orchards were established around Ljubljana:

- In 2016, two more orchards were created within the Rakova jelša (190 trees) and Savsko naselje (20 trees) allotment gardens areas.
- In 2017, a new orchard was planted alongside Vojkova ulica street (68 trees).
- In 2018, a new orchard was planted in Muste Park (88 trees), while an additional 36 fruit trees were planted within the allotment garden area at Grba.

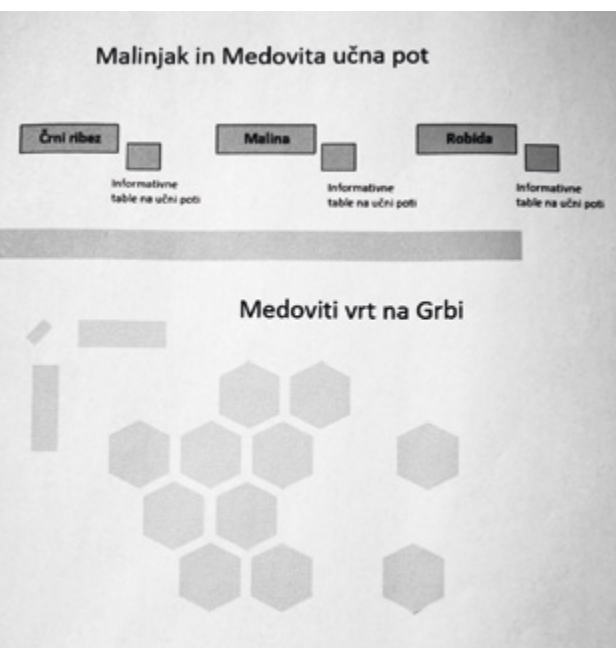
Annual operational costs linked to the maintenance of all public orchards are €6,000 to €7,000. The orchard is operationally managed by the Agricultural Institute of Slovenia, using only nature-friendly methods, and is fully open to the general public. Its visitors include local inhabitants, families with children, older adults, and groups of kindergarten and school children. Unfortunately, the open concept also brings some downsides. Since it opened, the orchard has twice fallen prey to vandals. For this reason, the City of Ljubljana decided to increase its awareness-raising efforts.

Phase 2 – Introduction of the honey garden

soon after the opening of the public orchard, various ideas for its improvement or upgrade were presented to the City of Ljubljana. One of them was presented by the ENEJA social enterprise, which started actively cooperating within the BEE PATH framework at the same time.

The idea was to upgrade the Grba Public Orchard by introducing a Honey Garden with four distinct benefits for the citizens of Ljubljana: awareness-raising, education, co-existence, and solidarity. ENEJA also designed the honey garden, as presented in the sketch below.

The central part of the Honey Garden is occupied by 11 hexagons resembling a honeycomb and expressing the clear connection with the BEE PATH. More than 100 species of garden plants, meadow flowers and herbs are planted in the hexagons to form an extremely biodiverse and melliferous garden.



The honey garden design concept
Source: Zavod Eneja



The construction of the honey garden
Author: Nina Ilič

The honey garden in operation
Author: Nina Ilič

As such, they also provide pasture and living habitat for pollinators as:

- 33 species are pollinated by honeybees,
- 24 species are pollinated by bumble bees,
- 28 species are edible for humans,
- 33 species can be used in apitherapy.

To further promote biodiversity and co-existence, a wild pollinator hotel was set up in the northeast corner of the honey garden, along with two benches, while a birdhouse was also set up in the northwest corner.

As you can see, the honey garden was designed not only as a relaxing green area promoting co-existence and an educational location for the promotion of melliferous garden plants and biodiverse gardens, but also as an apitherapy and place for inter-generational learning.

The honey garden was built through an open and voluntary action organised and supervised by ENEJA. Plants, tools and materials were paid for by the City of Ljubljana but all the work was performed by volunteers and promoted as horticultural practical therapy. All interested citizens were invited to participate in any way they see fit, for example, kindergarten children planted sunflowers, learned about pollinators and were rewarded with a honey treat by one of the local honey producers.

To strengthen the bond with citizens and users, a special wooden mailbox was set up in the honey garden in order to collect any comments and suggestions for improvement. All comments and ideas are made public on the [ENEJA web page](#).

Development of content and programmes

An upgrade of the public orchard, the honey garden was well-accepted by the general public and this led to the development of new content.

It all started with the development of educational programmes for kindergarten and schoolchildren. A special educational programme covering all types of locally produced food (fruit, vegetables, honey and bee products, etc.) is implemented twice a month during the school year in line with monthly topics, for example:

- The potential and importance of locally produced food,
- Biodiversity and the importance of pollinators,
- The annual cycle in gardening,
- Recycling of water and other resources in the garden,
- Noise pollution,
- Importance of urban green areas,
- Energy efficiency,
- Sustainable tourism,
- Sustainable mobility,
- The importance of wood as a natural resource, etc.

From this educational programme, a more general one was created for all other interested target groups, e.g. citizens, families with children, and tourists. This programme is implemented once a month during the school year in line with the monthly topics described above. As urban orchards, gardening and beekeeping fall under the same umbrella, synergies started to emerge and were quickly recognised, for example:

- An additional educational programme for urban gardening beginners was created. Through this programme, citizens can find out important information on urban gardening and gardening techniques.
- The public orchard and the honey garden were interconnected with several other interesting nearby locations and turned into a nature exploration trail referred to as the Adventure Track.

Ultimately, the whole Grba complex with all its programmes functions as a local food production learning space and an important part of the BEE PATH.

Regarding the operational management of the honey garden, an agreement was reached between the City of Ljubljana and the ENEJA social enterprise, based on which ENEJA is funded by the City of Ljubljana to conduct educational programmes and is in turn responsible for the operational management of the honey garden.

Tips for cities planning to set up and promote public gardens, orchards, beehives and other similar initiatives

Goals:

- To test and promote new urban, green initiatives and approaches at selected locations before full-scale implementation.
- To evaluate and learn from the test period and upscale to full implementation.

Key steps:

- 1) Identify the idea and test its feasibility – e.g. location, design, investment & maintenance costs, timeline, willingness of local stakeholders, etc.
- 2) Promote the idea with local stakeholders and try to get them involved in its design, implementation and management. You can try with several locations and finally select the most favourable.
- 3) Put the idea into practice and ensure regular performance/satisfaction monitoring.
- 4) Make sure you have assigned a person responsible for overseeing and managing the location and that they have sufficient knowledge, time, tools and funding available for its proper maintenance.
- 5) Draw lessons from the monitoring and plan its upscaling accordingly.

Lessons learned:

- Devote enough time to selecting the location for your idea; it should be easily accessible (*but in some cases maybe a little bit hidden so it does not attract unwanted attention*) and open to the public, easily manageable (*not too large that is e.g., onerous to maintain, nor too small to allow testing*), connected to necessary communal infrastructure (*e.g. water access*), preferably with the constant presence of local stakeholders, etc.
- Even though you might be interested in establishing only a pilot location, plan to keep it functioning in the long run, in case it proves to be successful and well-accepted by local stakeholders. If something works and is well-accepted, citizens will be unhappy if you decide to reallocate or take it away.
- Scepticism and resistance can escalate into vandalism. The best way to tackle such issues are:
 - To actively communicate and raise the awareness of local stakeholders.
 - To explain what you are doing and why.
 - To involve local stakeholders in the design and development; if you can fix a problem/concern or two that are important to local stakeholders, you will be sure to win them over and gain their trust and support.
 - To involve them in the management of the location: they are constantly present in the area so this gives you free surveillance and control over the location.
 - To allow free access and use to local stakeholders and the general public.

5.2

Maintenance of urban biodiversity in Hegyvidék – Case study

An overview of the Municipality of the XII District of Budapest (Hegyvidék) and the Green Office

The XII District of Budapest, named Hegyvidék (meaning the mountainous area), is located on the hilly Buda side of the Hungarian capital. The Municipality of the XII District of Budapest has its own local government, which operates under the level of the city government, partly autonomously. The XII District is responsible for the administration of Budapest's greenest district, where green areas make up 44% of the territory, mainly in the form of private gardens (40%) and forest (60%). Normafa (963.8 ha) represents the largest green area of Budapest, and Hegyvidék also boasts a richly biodiverse Natura 2000 site.



Sunset in Normafa
Author: Ákos Nagy



Green Office, Hegyvidék
Source: Hegyvidék – XII District of Budapest

In 2016, the Green Office was established under the municipal administration of the XII District. The Green Office is more than just an official environmental back-office because its main function is closer to that of an NGO. Its main tasks are related to coordinating and implementing environmentally-focused EU and national projects, as well as organising programmes and events for citizens. In this way, the Green Office team gets closer to the district's residents as well as citizens of Budapest. Due to the significant size of the green area within the Municipality, the Green Office also has an important responsibility to maintain and develop the greenery and its biodiversity. Therefore, its job is to involve multiple stakeholders such as companies, residents and other key stakeholders in this equation.

All the activities described below are implemented or coordinated by the Green Office and represent its active contribution to the maintenance of biodiversity in urban areas.

The Stewardship Programme

The reasoning behind the stewardship programme

The XII District of Budapest manages several public urban green areas, such as parks and urban forests. The district's most important green area is the Normafa Forest Park located on the ridge of Széchenyi and János hills. Besides forests and parks, the District also manages a significant amount of informal urban green spaces: they are smaller in size and are usually represented by formally unmanaged green squares, single trees or scrub areas between buildings, street greenery, green tram tracks, road medians, public backyards and front yards, which also need attention and care.



Small green areas on the Google map
Source: Hegyvidék – XII District of Budapest

A well-maintained urban green space improves the quality of life in a myriad of beneficial ways (it not only provides leisure or sports facilities and improves the air quality, reduces urban noise and even improves the urban climate) but its full potential can be better exploited only through smart cooperation between the responsible local authorities and citizens. Traditional top-down approaches have proved to be rather limited in their attempts, and subsequently, new approaches have been needed for more effective urban green space management.

One solution investigated by the Green Office was based on mobilising and involving residents of Hegyvidék in the maintenance of informal public green spaces through a Stewardship Programme with the support and supervision of the Municipality.

Implementation of the initial stewardship programme with lessons learned

As a pilot activity of the Urban Green Belts project (Interreg Central Europe project), the Municipality of Hegyvidék started the Stewardship Programme in the spring of 2017. As already explained, the main goal of the programme was to involve residents in the maintenance of the district's informal public green spaces.

As a first step, detailed plans for planting plants were prepared for nearly thirty areas (with the help of a landscape architect), paying special attention to the unified appearance and the installation of indigenous native plant species. In addition, it was a fundamental goal to design green surfaces in a harmonised way to providing an attractive sight in every season.

A promotional sign for the Stewardship Programme – it reads: "This area can be adopted"
Source: Hegyvidék – XII District of Budapest



About two-thirds of these green spaces were suitable for individuals, residential communities, work communities, schools, and kindergartens to tend. Such green areas have been advertised through several communication channels, such as awareness-raising boards and leaflets, as well as actively advertising at local events. They created a Google map on the official Municipality's official website and made sure that the local press was actively advertising the Stewardship Programme as well.

When they started the programme, they were very flexible with the conditions of participation and allowed anyone to join the programme with a very diverse set of commitments.

For example, there were people who only wanted to plant seedlings and nothing more as they couldn't manage the watering and year-round management.

At the start, such flexibility seemed reasonable as they wanted to successfully kick off the programme. However, looking back, we must point out the following problems we encountered:

- Since adopted areas were managed by stewards solely on the basis of a verbal agreement, it was difficult to keep track of the effectiveness and efficiency of the stewards' work. It was also difficult to handle a diverse set of commitments and to maintain motivation as in areas where stewards couldn't complete the work themselves, the remaining tasks had to be managed by a third party. All of this resulted in significant and unplanned extra costs.
- Maintaining motivation was also difficult as the areas designated by the municipality were far from the home/workplace of stewards in many cases. In addition, the stewards were not involved in the planning process so they had no say in how the areas should be managed. Therefore, the stewards couldn't reach the expected level of ownership or bond with the area emotionally.
- There were also constantly present external problems such as water supply issues, theft of plants, illegal parking, littering and careless pet owners.

Tackling identified challenges and improvements to the stewardship programme

During the implementation of the programme, apart from gaining experience, we also received a constant stream of requests from applicants who wanted to include their own areas in the programme instead of the ones designated by the municipality.

Based on our experience, as well the good practices of the [Munich Green City Programme](#), we redesigned the Stewardship Programme.

The two most important changes in the conditions for application are:

- 1) Today, stewards can only apply with their own areas (meaning areas they suggest themselves),
- 2) The municipality and the stewards sign a bilateral cooperation agreement.

With these modifications, commitment has improved, motivation can be sustained for a longer period, the programme has fewer extra costs and the problems experienced in the past (for example parking, theft) are easier to handle.

Involving stewards' own areas creates immediate commitment and provides bottom-up initiatives. Areas are easier to maintain because they are close to stewards' home or workplace. Stewards are involved in the planning process so they can also shape the area for their own needs, which creating a much-needed sense of ownership.

The areas chosen by stewards are prepared, planted and maintained under the following conditions:

- Residents can apply by providing information/data about the area they select (remember, at first the municipality offered the spots).
- Only areas located inside the borders of the XII District, which are owned by the municipality and represent public green spaces, can be involved in the programme.
- The municipality provides the preparation of the area, creates a planting concept, and provides plants for planting as well as a package of tools for maintenance.
- Under the continuous professional support and supervision of the municipality, stewards take care of their area on their own.
- The municipality and stewards sign a bilateral cooperation agreement which must be extended after one year – of course, only if both sides agree. The

agreement defines the tasks, responsibilities, and communication related to the area selected. This legal agreement does not contain penalties but gives clear rights to the municipality to cease cooperation with a volunteer who neglects the area.

- It is possible to join the programme at any time as the municipality accepts the applications continuously; the areas are planted every year in spring and autumn.
- At the time of applying, the size, place, condition of the area and number of existing stewards determine when the resident can join the programme and this is clearly stated in the agreement.
- If residents would like to apply, they have to send the following information to the municipality by email or phone:
 - the address and/or land registry number of the selected area,
 - 3–4 pictures of the area, which show the condition, size, and location,
 - the number of residents intending to take care of the area,
 - contact details of the applicant,
 - any other relevant information about the area.

After it has reviewed the application, the municipality representative contacts the applicant and they visit the location together. During this field visit, they discuss all the necessary details. The stewards, the municipality and the landscape architect design the green area together.

Below, you can see an example of a typical Stewardship Programme area transformation:



The area before the adoption
Source: Hegyvidék – XII District of Budapest



Planting by students of a primary and high school
Source: Hegyvidék – XII District of Budapest



Planting by students of a primary and high school
Author: György Sárközy



The adopted area after a few months of maintenance
Source: Hegyvidék – XII District of Budapest

Area-marking ceremony – management of the area was officially taken over by the primary and high school. The sign says: “This area is maintained by Testnevelési Egyetem Gyakorló Sportiskolai Általános Iskola és Gimnázium”
Source: Hegyvidék – XII District of Budapest



Stewardship programme follow-up

So far, 22 areas have been included in the Stewardship Programme. However, the application process is still open and it is expected that more small green areas will get involved.

Within the programme framework, any active community, institution or organisation receives an information board to display at its own site, which indicates who the steward of that area is.

To assist stewards, guidelines were produced to support their activities.

In 2019, the municipality joined the BeePathNet project so we try to connect these two programmes by providing melliferous plants for planting. We suggest our stewards use the following plants:

- *Nepeta x faassenii*,
- *Buddleia x davidii*,
- *Geranium macrorrhizum*,
- *Anemone hupehensis*,
- *Lavandula angustifolia*,
- *Perovskia artiplicifolia*,
- *Salvia officinalis*,
- *Aster*,
- *Stachys byzantina*,
- *Verbena bonariensis*,
- *Petunia grandiflora*.

By planting autochthonous and bee-friendly species (as well as wild pollinator-friendly plants, of course) we further contribute to biodiversity.



A wild pollinator working as a steward :)
Source: Hegyvidék – XII District of Budapest



Even more wild pollinators working as stewards :)
Source: Hegyvidék – XII District of Budapest

The Urban Meadow Programme

The reasoning behind the urban meadow programme

In the spring of 2018, external experts of the [Danube-Ipoly National Park Directorate](#), the Botanical Section of the [Hungarian Biological Society](#), and the Municipality of the XII District started an experiment. Its primary goal was to restore the pilot site – a meadow encircled by urbanised areas – back to its natural state. This was addressed by ensuring favourable habitat conditions in order to achieve an increased number of endemic plant and animal species. Due to significant global population decrease, specific attention was put on creating optimal conditions for all types of pollinators.

This experiment was an attempt to test whether the biodiversity of urban green areas can be enriched and if urban green areas can be used and maintained as biodiversity hot-spots or stepping stones.

Implementation of the urban meadow programme

In order to carry out the experiment, external experts volunteered to create and maintain an urban meadow on one of the available public green spaces in the XII District – more precisely on the hill of Istenhegyi street.



The location of the pilot site – the urban meadow at the hill of Istenhegyi street in the XII District
Source: Hegyvidék – XII District of Budapest

This type of land management can contribute to the stability of the habitats, green surfaces of the built-up area, preservation of the nutrient content of the soil and keeping the area free of weeds. The result of the experiment will also benefit nearby gardens by making it easier to reduce pests and making it more difficult for allergenic plants to settle in the area.

As a first step, the Municipality consulted with the previous manager (Budapest Horticultural Private Limited Company) of the area and they agreed that the Municipality would take over the maintenance of the area for the purpose of the experiment. Until then, the site had been mown several times a year, using mechanical mowing instead of manual mowing, and the grass was cut short.

The external experts and the Municipality agreed that volunteers would adapt the management of the pilot area to the needs of increasing the biodiversity; for example, they would mow the grass twice a year and would continuously monitor plants as well as collecting and sowing seeds.

Mowing is carried out twice a year, with so-called high meadow grass (about 10 cm high) used to help species regeneration and ensure seed production of all native species. This is a prerequisite for the development of high-diversity vegetation. As a result of the experiment, a beautiful flowering meadow will emerge in time.

The experiment has been communicated to residents through different communication platforms (information boards, flyers, newsletters). It was also the intent of the programme to raise the awareness of the neighbourhood's residents by presenting a clearer picture of the reasons behind the programme and educating them about the benefits of a high level of biodiversity on the urban meadow.

Evaluation and follow-up of the urban meadow programme

Experts are constantly monitoring and analysing the pilot area, especially the composition of the plant population. To further enhance the biodiversity, the pilot area was enriched with seeds of native plant species.

The botanical monitoring is being carried out in two steps. Firstly, the experts examine in detail the mass relationships of the species forming the lawn by identifying three permanent quadrants. Secondly, they list additional plant species occurring anywhere in the area.



Experts working on botanical measurements
Source: Hegyvidék – XII District of Budapest



Consultation time on the urban meadow
Source: Hegyvidék – XII District of Budapest

For the permanent quadratic botanical measurement, 4m x 4m test areas were designated. They were monitored three times during 2018 (April, May, August).

As a result of the botanical monitoring (2018), a total of 59 plant species were detected in the 4m x 4m quadrants, with 44 species per quadrants on average. To put this result into perspective, this number is higher than the number of plant species of grasslands habitats regularly found in parks and other public areas of the inner city of Budapest.

A further 46 species were detected in the grasslands outside the quadrants, so the total flora of the area is 105 species. This number confirms the experts' belief that the area is well worth the effort of maintaining it as an urban meadow.



Urban meadow after one-and-a-half years of implementation
Author: Péter Csontos

The botanical monitoring was followed by the mowing of the lawn. In order to further increase the grassland species stock and make the species composition more natural during the 2018 vegetation season, volunteers collected seeds in well-kept grasslands near Budapest. Dry grass species were prioritised for collection. The seeds of about 21 species (which include species already present in the lawn) were seeded partly in the quadrants and partly outside the quadrants in November 2018.

External experts and the municipality constantly consult, evaluate and plan the activities together. Once a year, a written report on implementation is produced. The results for 2019 will be evaluated at the end of the year but the following results are already worth mentioning:

- New dicot species have appeared;
- The number of ragweed specimens has halved;
- There is increasing acceptance of the experiment among residents;
- The urban meadow could be a great habitat for wild pollinators.

Main findings

The manual mowing of the urban meadow generates appreciation from residents. Manual mowing takes longer but additional volunteers have joined (even from the BeePathNet ULG) and we are glad to accept their help.

Because residents around the area are accustomed to seeing short-cut lawns, we are aware that **there are periods of the year when the area appears to be abandoned and unkempt**. The grass patches left for seed maturation generated some negative feedback from the general public that needed to be tackled; for example:

- We decided that a small section of the urban meadow should be cut regularly to signal to residents that we have not forgotten about the area.
- Both the Municipality and the experts have to maintain regular communication with the residents and give them constant information about the implementation, challenges, and results.
- Both the Municipality and the experts have to regularly and efficiently manage all the complaints that arise in relation to the experiment.

Constant monitoring of invasive species is required.

Only a part of the hay can be composted locally. The compost placed in the public area should be properly handled and continuously checked.

The regular presence of our volunteers in the area is very useful, it creates trust among the area's residents, and many issues can be clarified personally through joint discussion. In addition, it becomes evident that the area is owned (maintained), which complements the general communication about the programme.

The urban meadow has proved to be an important habitat for wild pollinators. Based on current experience, we can help wild pollinators by promoting autochthonous species and by finding the best time for mowing.

At a later stage with the **active involvement of the people living in the district**, we will also encourage the planting of native plants in the surrounding gardens on the Kis-Sváb-hegy nature protected area to create a population connection between the urban meadow and Kis-Sváb-hegy.

Conservation of Natural Habitats Connected to Water Tanks

In the summer of 2019, under the umbrella of the BeePathNet project, the Municipality of the XII District of Budapest and the [Budapest Waterworks](#) started to cooperate on managing water-tank areas within the XII District of Budapest and near the border with the 11th District.

Within the cooperation framework, a specific management strategy for increasing biodiversity and for environmental sustainability was introduced, mainly through alternative land management and conservation of natural wildlife.

The main aim of the project was to ensure the proper management of the undisturbed operating areas of the Budapest Waterworks, such as mowing with suitable intensity and timing (reducing the frequency of mowing and proper timing), leaving natural habitat spots, etc.

One of the first steps was to experimentally reduce the number of mows from five times a year to two/three times a year. This would increase the suitability of the habitat for wild pollinators and other native species. We promote the cultivation of seeds of all autochthonous plant species and subsequently increase the species variety of these areas. All this is an essential condition for enhancing biodiversity.

This type of management also contributes to the long-term stability of the habitats, the greening of built-up areas with autochthonous species, preservation of the nutrient content of the soil and a reduction in unwanted weeds and invasive species. The cooperation also supports the efforts of the Municipality of Hegyvidék to make the district a bee- and pollinator-friendly area.



Some melliferous plants on the areas
Source: Hegyvidék – XII District of Budapest

Sign at the water-tank area. It says: "The bees are important for us, flowers are important for the bees, we protect the plants. The Budapest Waterworks has joined the BeePathNet programme. We mow the grass twice a year and that supports melliferous flowers to grow and gives shelter to the bees. Thank you for supporting us and the bees."
Source: Hegyvidék – XII District of Budapest

This project has also been communicated to the residents through different communication platforms (information boards, flyers, newsletters). By doing so, we hope to change their behaviour in relation to the reduced use of pesticides and herbicides on nearby gardens, reduced potential for growth of allergenic plants, etc.

The Municipality of the XII District also informed the Municipality of the 11th District about this initiative because a large part of the area involved in the action is in that district – so far, around 20,600 m² area has been included in this action. However, the initiative has only just started so we will need to wait another year or two to be able to report on lessons learned and consider its full potentials.

The Sapling Programme

The reasoning behind the sapling programme

Under the Urban Green Belts project, the Municipality launched a novel "street trees from saplings" programme by planting 16 locally native Turkey oak saplings along a part of Nárcisz Street. This is a cooperative initiative between the Zöld Iroda / Green Office of the Budapest XII District (Hegyvidék) and the Nemzetközi Dendrológiai Alapítvány / International Dendrological Foundation (NDA/IDF), Budapest/Budakeszi. The project intends to accelerate a scheme to plant saplings instead of the more customary and much larger (3–4 m) street trees grown in horticultural nurseries.

Planting the Turkey oak saplings along part of Nárcisz street
Author: György Sárközy



According to the experts at the IDF, planting saplings might be the most efficient and cost-effective way to produce and plant street trees. In addition to the sapling programme's cost savings (purchase price and planting and maintenance costs are much lower), it opens the door to using a range of species that typically do not exist in the street tree nursery market (in the necessary/desirable number and for an acceptable price) i.e. locally native oak species. Partial independence from the nursery market may significantly increase the species diversity of the street planting and may also encourage residents' ongoing participation in their local treeline project (in their residence area).

Saplings adjust to their street-side environment better than large, nursery-grown trees and so have a higher survival rate. IDF observations on experimental planting show that saplings catch up with the commonly used larger nursery stock within just a few years. They may need more attention than the larger trees initially, but there is an advantage in this since it gives locals an opportunity to participate in the work of tending to the trees, which may further encourage their engagement in the project as a whole.

By piloting this novel method within the Urban Green Belts project, Hegyvidék hopes to pave the way for its sapling-planting practices to be used more broadly in Budapest or even throughout Hungary.

Key advantages of the sapling programme

Easier to plant and with better survival rates: Current common practice is to purchase 3–4 m high trees for street planting. These trees may have roots weighing 40–50 kg and their proper planting require professional and technical expertise. There is little opportunity for public participation. The mortality rate of larger trees can be high because they have been dug from their original, ideal growing conditions, have had their roots pruned and balled, and were then replanted in “alien” soil. On the other hand, saplings’ roots develop in small, narrow tube containers (typically 5 litres), and they are easy to plant, even with volunteers’ assistance. Their roots remain intact when transplanted so they develop quickly and adapt well to a specific local environment and variable street conditions. Therefore, the saplings’ mortality rate, as experienced in our experiments is low, and this is expected to hold true for large-scale planting as well.

Fast growth at a far lower cost: Our observations show that three to five years after planting along a street, inexpensive saplings and expensive root-ball trees reach approximately the same size. However, the estimated cost of each root-ball tree, including transportation, planting, and maintenance (watering through installed pipes) is about a total of 100,000 Ft (€310). Thus, the Green Office has calculated having spent 10 million Ft (€30,900) on such trees this year. In contrast, the cost per tree in a sapling programme, including transportation, planting, and maintenance, would be approximately 3000 Ft (€9) including transportation and actual planting.

A better and wider selection of species: The nursery business concentrates on fast-growing, usually non-native species and/or cultivars and the market controls both availability and pricing. In addition, most of the native tree species, particularly locally native oaks, are simply not available in the necessary size and quantity. The sapling programme will produce an assortment of tree taxa that are highly desirable but typically absent in routine street tree production. The IDF has selected 19 species, 13 of which are native in Hungary and neighbouring areas, to propagate for saplings. Displaying the native flora, drawing attention to some particularly beautiful and rarely seen flowering trees, is one of the project’s objectives.

Faster, easier and less disruptive planting: Unlike larger trees, saplings can be planted by hand or (if circumstances require) by a hand-operated borer or drilling machine. The supports for saplings are also smaller and easy to install. The site of our experimental plantation in Nárcisz street also included a poster informing the public about the saplings that would soon become trees on the street.

Simplified maintenance: Because the saplings are planted with intact roots, little care is required beyond watering twice a week in hot periods in the first year. After that, these carefully selected native species grow naturally and organically in what is, actually, their original home soil. Some branch pruning is eventually necessary to clear the lower part of the trunk but this can be done quickly and easily.

Implementation and follow-up of the sapling programme

The Municipality decided to initiate and support the planting of a total of 5,000 trees in the next five years, including both saplings and older trees, on both public and private properties.

The following actions are envisioned with respect to the Hegyvidék sapling and public tree planting programme:

- Young and well-developed autochthonous seed-grown saplings will be planted.
- Maps of underground infrastructure systems will be studied carefully prior to planting.
- Sites are to be surveyed in detail to determine which trees are ecologically best suited to the environment and will blend into the areas' specific ecology and aesthetic aspects. Often handled primarily in a linear plantation without contexts with the immediate environment, street trees can also be considered as a continuation of local garden systems or the immediate natural environment such as either existing or hypothesised natural forest communities.
- Autumn tree-planting activities on public property as well as other public areas managed by the Municipality can include planting and/or replacing trees and renewing tree-lined streets, with a special emphasis on autochthonous and/or other species that are suited to the climate or other practical aspects (e.g. honey production) if they do not contradict primary goals.



Planting saplings
Author: György Sárközy



The information board around the saplings
Source: International Dendrological Foundation

These activities call for a greater degree of citizen engagement than is currently common, including the need for enhanced communication, resulting in increased involvement and buy-in among local residents, schools and other organisations. Fieldwork education is also a very important part of our tree line and Urban Green Belts project.

5.3

Final tips and tricks

Everyone involved in the production of these guidelines feels that tips and tricks are actually everything we talked about on the previous pages. However, there are still some very important things we need to take into account if we want to successfully transfer all of the steps incorporated to the Biodiversity Conservation module. Here are a few of them:

1) **The initial level of awareness of the importance of pollinators and their status in society**

One of the most important challenges all BeePathNet partners 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, etc. 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, we have to point out that there are more and less aggressive types of honey bees across Europe. For example, the Slovenian autochthonous honey bee *Melifera Carnica* (known for its mild character), and Portugal’s *Melifera Iberica* (known for its aggressive character) are two such representatives with quite diverse characters. It is this character that contributes to shaping the collective perception of bees.

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 has contributed to shaping the collective perception of bees.

We could list more examples but there are numerous reasons why our collective perception of bees is how it is. The important thing is that we are aware of it, and that we take it into account and adapt our approaches, actions, and tools for any awareness-raising attempts involving our citizens. Or in other words:

- Start as low 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 pilot examples (carried out in safe environments) which will support your key messages and prove in practice that things can be done differently and perceptions can change.
- Use specific communication channels and modify key messages for specific audiences or target groups.
- Give yourself enough time (don't get discouraged after one or two strikes) and target people who share your views and supplement your capacities in order to build up a ULG.
- Check the BeePathNet Guidelines – Volume 5, which will be devoted to awareness-raising for more tips and tricks.

2) **The local context**

People are often sceptical about copy-paste transfers of even proven good practices from other countries and cultural/legislative/operational environments. And they are absolutely right because even the best solutions don't work if they are not modified or tailored to the environment and the society to which they are being transferred.

That is why it is extremely important to identify the local context and to start thinking about how good practice could be modified as early on as possible. Don't argue the transfer just by saying: "This worked well over there!"; explain to people how "the good practice from over there" was transformed to fit their environment, improved their life and met their needs.

3) **Awareness raising**

As already stated, this is probably one of the most important aspects of biodiversity preservation. 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 so the family will not starve. Citizens of more developed societies also have better access to education and information, while they also consume more natural resources per capita and leave a bigger ecological footprint on the planet. It is exactly for these reasons that more developed societies have a responsibility to go beyond current efforts and actively search for new solutions – as the project BeePathNet is trying to do.

All ideas and concepts presented should actively involve citizens through communication and awareness-raising, especially aimed at children and young people. This is not because they are more easily convinced but because they are the voices of the future within their families and neighbourhoods and have the capacity to change the mindset of the whole of society.

As awareness-raising was an important and integral part of the BEE PATH good practice, we devoted a special module to awareness-raising, which is why it will be discussed in more detail in BeePathNet Guidelines – Volume 5 – Awareness-Raising.

It is for the same reason that we decided to attach a PDF version of the "Help the bee in the city: Plant the city with flowers" leaflet. Unfortunately, it is only available in Slovenian but we believe it will still prove helpful and provide additional ideas for transfer partners.

6.

Education

Investing into our future

6.1

Educational Programmes in Ljubljana

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 kindergarten and primary school children, with the intention **to increase the level of knowledge about bees and awareness of 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. The programme was named *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, etc. She also prepared the first drafts of educational programme drafts. In the second step, the first drafts of the programmes were presented to BEE PATH partners, where they agreed on 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.

In the third step, all the institutions were tasked 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, Janja Sivec from the Association of Legends and an international expert in heritage interpretation was invited to join the BEE PATH partners. 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 & Culture field trip for second and third triad primary school children (9–11 and 12–14-year-olds). 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. Their expert Nina Ilič further adapted them to the actual needs and capacities of the school system.

The process took quite some time – 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 partners also got used to the idea of this new activity and the City of Ljubljana was able to build the City Apiary at the University Botanic Gardens Ljubljana and buy equipment for educational programmes (safety hats, gloves, etc.). Finally, the educational programmes were presented to headteachers and the first pilot programmes were executed.

However, it was only in 2019 that the first programmes for kindergarten and the first triad of primary school children (5–7-year-olds) were executed. Based on very positive feedback, we can 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 curriculums.

A Few Remarks Before We Dive In

When we are dealing with children, especially young ones, there are a few things we 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 *dos* 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.
- 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, we both appreciate life, family is our top priority, we divide the space inside our homes for the execution of different activities, we carry out regular housework, etc.
- 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.
- We should encourage children towards mental activity and guide them 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.
- We must not forget that every child is different and consequently responds differently to different stimulants; for example, some children are more visual, while others like to touch or smell things. Therefore, it is important 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 (e.g. giving them extra assignments, making them educators and helpers, etc.) as they can prevent less engaged children from participating. On the other hand, we must ensure we attract and engage less engaged children. This also means that we must be flexible and change our teaching approaches if we see that children are not responding.
- 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! This way, you will feel comfortable and children will respond well to you and your key messages.

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

This educational programme was developed for 5–7-year-old kindergarten or primary school children. It 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 we decide to implement it as a one-day Nature & Culture field trip, we need to ensure expert guidance, as well as taking into consideration the need for breaks, toilet and food.

The topics addressed are already quite wide; however, it is our firm belief that many more could be added. While creating the educational programme, special attention was put on the actual needs of children and the topics most relevant for them, as well as their capacities for taking in knowledge. That is why the focus was on the constructive paradigm, promoting active exploring through which children develop skills and capacities, thus 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. We teach them to explore their surroundings and find out about melliferous plants and bees, to connect with reality and learn by themselves. We use sensory stimuli to trigger psychological processes in children. In doing so, we develop internal motivation for learning and many other capabilities, such as empathy, social competencies, altruism and a sense of connection with the environment and nature.

The educational programme in front of you was prepared so that children first train their senses, followed by their memory and understanding, and only thereafter thinking and judgement.

With the beekeepers' salute: *“Let there be honey!”*

Didactic recommendations

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 won't be able to hear the educator, nor will we be able to strengthen their social component.

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

The educational programme manual consists of:

- Guidelines and instructions for implementation (learning objectives, list of didactic aids, implementation);
- Annex 1 – reading cards;
- Annex 2 – figures for all three modules;
- Annex 3 – photos of the pilot design;
- Annex 4 – bee body structure figure;
- Annex 5 – rules for good behaviour near the apiary.

It is recommended that an educator further enriches their knowledge on topics like flora, food, bee biology and apitherapy.

WARNING!

This educational programme, including the rules of good behaviour near the apiary, is adapted to the characteristics of the Slovenian indigenous bee species, i.e. the characteristics of the meek and peaceful Carniolan bee (*Melifera 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!

Working methods

- Conversation
- Oral explanation
- Display or demonstration
- Work with image material and text
- Practical exercise
- A motion game

Questions for children

The guidelines are intended for educators. Questions for children are provided in the descriptions for implementation of individual modules and presented in italics to make them stand out.

Baseline questions to discuss with children in school, that can be used by teachers after an implementation of a one-day Nature & Culture field trip:

- What does World Bee Day mean? To whom is it dedicated?
- What social rules do bees abide by? (*family is of the highest value; laziness is not tolerated because the guards of grazing bees that do not bring food do not let them into the hive; tidiness of the home is important and they achieve it together...*)
- What should you do if a bee stings you? What if it stings your friend?
- Why is it good to have a lot of different species of plants and animals in nature?
- What is the difference between the rules of behaviour on the playground, in a theatre, in a museum and in nature?
- Describe safe behaviour near the apiary.
- Why don't bees fly in the winter? How do they keep themselves warm? How do people warm themselves?
- What is easier to mix in water or milk – pollen or honey? Why?
- What does the proverb "*What bee stings are to bees, tongues are to humans!*" mean? When do people have "*a bee sting in their mouth*"?
- How can you contribute to protecting the environment?
- In what kind of weather are bees unable to fly? Why? In what kind of weather can't we play outside? Why?
- How do we take care of our safety in nature? What about in town?
- What does the saying "There is strength in unity!" mean?
- List some pollinators.

We also recommend watching a short film about the life of bees to identify what the bees are doing and why.

Duration

Every module lasts 40–50 minutes (altogether 135–150 minutes). If it is implemented as a one-day Nature & Culture field trip, additional time between modules 1 and 2 needs to be taken into an 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 we invite additional questions, we must provide additional time for those questions that the children respond to. If we allow this level of flexibility, 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).

Module 1: Bees, the Bee Family and Meliferous Areas

Learning objectives

Children broaden their knowledge; they:

- Know what and how to ensure their own safety.
- Know the characteristics of the life of bees as an important animal species.
- Recognise the social signs of bees that can be warning signs to people. Through experience, they develop empathy.
- Gain a deeper understanding of the need to protect nature and living things in it.
- Recognise the necessity of co-existence in nature and learn about the connection between a healthy environment, a healthy diet and the connection between bees and our food.
- Apply the theory to everyday life.
- Learn the correct behaviour near the apiary and how to preventively ensure their own safety and the safety of the others in the group. Learn how to act in the event of being stung. Know who to contact and when if they get stung.
- Recognise that bee stings can be dangerous but also healing.
- Develop imagination, creativity and verbal and non-verbal communication.
- Cultivate a sense for conservation of cultural and natural heritage.

Didactic aids

- Bee Storyteller
- Reading cards
- Drawing of an underground home of a solitary bee
- Picture of an insect hotel
- Dry wipes
- Wet wipes
- Self-aid kit

Implementation

The educator puts on individual components of the bee body and introduces himself/herself, telling the children where they are and what they are going to do today and why; for example: *“Hello, I’m Nina. I’m a beekeeper and an apitherapist. Where are we meeting today and why? That’s right, at the Botanic Garden. Why? Why here? How is the Botanic Garden connected to bees?”* Let the children answer. At the end, the educator summarises answers and completes them if needed.

The educator engages a Bee Storyteller (e.g. a wooden bee doll on a spring). The toy is especially helpful for children who have problems maintaining attention by encouraging them to observe the movement of the wooden bee. For a smooth introduction to the topic, the children are asked questions such as: *“What do I have in my hand? Does it look like that in real life? Is it that big in real life? Has it ever been that big? How long have bees existed?”*

The Bee Storyteller is used by the educator to show the individual parts of the bee’s body. With the educator’s prompting, children show on the body of their classmate where their heart, limbs and head are. The educator asks them questions such as: *“Do any of you have a heart? Where? Where’s the bee’s heart?”*

The guide shows the same body parts on the Bee Storyteller, reinterpreted with interaction and conversation; for example: *“How many eyes do you have? How many eyes does a bee have?”*

The educator then shows the children where the bees’ eyes are with their fingers. Then they invite the children to draw bee’s eyes on a friend’s head with their fingers. Compare the number of eyes of a man versus a bee and determine which eyes are used by a bee and a man for looking close up and into the distance.

The educator asks the children whether they can read and distributes reading cards to those who answer yes. They are asked to read out (so that everyone can hear) some facts about bees and some rules of good behaviour in nature and near the apiary. They comment and explain what they have heard. If none of the children can read, the children draw the cards that the educator should read.

The educator encourages the children to show on a Bee Storyteller where the stinger is. That may prompt them to think up humorous questions, for example: *“Where do we people have a sting?”* According to the answers given, the educator can point out the tongue and say that sometimes people have a sting in their mouth, presenting an opportunity to talk about the proverbs, for example: *“What stings are to bees, tongues are to humans!”* *“When do people have a bee sting in their mouth?”*

Then the educator explains to the children the difference between bee, wasp and hawthorn venom and tells them that bee venom is a medicine – except for those who are allergic to it. Furthermore, the educator asks children if any of them is allergic to bee venom or if they know somebody who is. Then they teach the children how to deal with a sting. During the explanation, the Bee Storyteller can be used to simulate a bee’s flight and the correct reaction to the bee’s proximity and sting by the educator (listed on one of the cards – Appendix 1).

Through the game, the children train the reaction. The educator guides the Bee Storyteller to fly around the children’s heads. Those who are approached by the Bee Storyteller must react properly and retreat from the bee. The educator can make the game more challenging by pointing out the place on the apiary from which the bees fly out. The task is more difficult as children have to retreat in the right direction without endangering their classmates.

The educator tells the children about the difference between a bee and a wasp and what to do in the vicinity of wasps, especially those children who are allergic to the poison. The essential difference is in its delivery: while the bee delivers the poison



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

only through penetration into the skin, the wasp can also release the poison without penetrating the skin during flight.

The educator explains the importance of bees for our nutrition. They also explain pollination and the fact that there are some other insects and animals that do that job as well. Children learn about the concepts of environmental protection and biodiversity and why they are important. As they stroll through the Botanic Gardens, they find out where all the bees and other insects are, and which plants would not be present without pollinators.

The educator invites the children to discover where all the bees are located in the Botanic Gardens and what are they doing there. They ask questions and encourages them to discuss questions such as: *“Are there any bees around us? How do you know? Where are they? What bees are these? How big is the smallest solitary bee in Slovenia? How big is the largest wild bee in Slovenia?”*.

The educator shows the children a photograph of the underground homes of solitary bees and a picture of an insect hotel, and invites them to look for all these homes in the Botanic Gardens. When they get to the big insect hotel, they take a good look at it. The children recognise which holes have larva in them and which do not. They talk about it. Here, too, the educator helps with humorous questions to create a pleasant atmosphere of exploration. These could be: *“Have any of you ever slept on pizza? No? How about mashed potatoes? In milk? Then how does a human mother feed her baby?”*.

Module 2: Taste the World of Bees

Learning objectives

Children broaden their knowledge as they:

- Develop emotional resilience and stability through the elements of alertness. It awakens their senses: conscious watching, conscious scenting, conscious touching, conscious movement, conscious listening.
- Develop empathy and family values.
- Recognise that bee products are natural and whole foods.
- Increase their awareness of the importance of beekeeping and its conservation as part of its natural and cultural heritage.
- Know the characteristics of the life of bees as a special animal species.
- Deepen their understanding of the need to protect nature and living things in it.
- Recognise the necessity of natural co-existence. Learn about the connection between a healthy environment, a healthy diet and the connection between bees and our food.
- Perceive a stronger connection between theory and everyday life.
- Develop social competencies.

Didactic aids

- A Bee Storyteller
- Photos of different apiaries and bee pastures
- Pictures of human housework and pictures of bees' housework
- Pictures of a bee's family members
- A virtual hive
- Beekeeper's protective equipment and beekeeping hats for children (hats + clove essential oil + homemade vinegar spray + purchased spray for bee protection)
- A drawing of a bee queen that hatches an egg, drawing of nurse bees nourishing larvae
- A drawing of an underground home of a solitary bee

- Hive endings (wooden)
- At least two different types of honey, pollen, propolis (non-alcoholic tincture)
- Wooden chopsticks
- Sampling sticks, spoons, etc.
- Dry wipes
- Wet wipes

Implementation

The educator puts on individual components of the bee and introduces him/herself. They introduce the children to where they are and what they will do today and why – for example: *“Hello, I’m Nina. I’m a beekeeper and an apitherapist. Where are we meeting today and why? That’s right, at the Botanic Gardens. Why? Why here? How is the Biotechnical Educational Centre connected with bees?”* Let the children answer. At the end, the educator summarises the answers and completes them if needed.

The educator also introduces the Bee Storyteller (a wooden bee doll on a spring). The toy is especially helpful for children who have problems maintaining attention by encouraging them to observe the movement of the wooden bee. For a smooth introduction to the topic, the children are asked questions such as: *“What do I have in my hand? Does it look like that in real life? Is it that big in real life? Has it ever been that big? How long have bees existed?”*

The Bee Storyteller is used by the educator to show the individual parts of a bee’s body and the part of a bee’s body used to produce different bee products. They ask the children questions such as: *“Where does the bee get ingredients from? Where in her body are they produced? Are all bee products created in the same way? Where do you get your food? What about the material to furnish your room?”*. The educator waits for the children to answer the questions and discuss them, then summarises the feedback and completes the answers if needed.

Before meeting the group, the educator prepares three separate rooms (or tables) for workshops. Before splitting into groups, the educator gives instructions for all three tables. It is important that teachers and accompanying staff also listen to the instructions as they will mentor their groups at the tables. The educator circulates among the tables while moderating the workshops, encouraging and helping with questions and answers. Each table explores a different topic, as described below:



Workshops as part of the education module
Author: Urška Ilič

Table 1: Safety and Protection

Assignment:

The children explore a beekeeper’s protective equipment and identify the purpose of each piece. If they wish, they can wear a protective hat. It is important for the teachers to ensure that none of the children opens the pill wrapping or even takes a pill. It is advisable to test the essential oil of cloves or sprays at this point, as this sensory experience is also a protection against closer contact with bees during the visit to the apiary.

Additionally, different pictures are set out on the table. The children have to identify which of the pictures is a beehive and from which side would it be safest to approach it.

Table 2: Home Organisation – Man vs Bee

Assignment:

The children identify the queens, female workers and drones and individual bee ‘rooms’ and beekeeping tasks on virtual beehives. The children are led to this by being answered questions such as: *“How many bee families are in this hive? How many bee queens are there? How many drones? How many members are in your family? How many are in the bee family? Do you have one room at home or is your home divided into separate spaces? What are these spaces? Why do we divide them and how? Where in this hive is the bee’s children’s room? What is the first thing the bees do when the spring temperatures rise so they can fly out?”*



Workshops as part of the education module
Author: Urška Ilič

Moreover, there is a card listing the tasks of a bee queen. It is the children's task to identify activities or situations drawn on virtual beehives and interpret them correctly. Additionally, hive endings are set across the table and the children have to find out where they fit or where their correct position is.

Table 3: Housework – Man vs Bee

Assignment:

On one side of the table, there are pictures of human tasks and on the other side, there are pictures of bee tasks. The children discuss who does what tasks in the lives of humans and bees, and at what stages of life. The educator helps them with questions such as: *“Who feeds the babies in humans? What about bees? Who builds a bee home? Who builds it with humans? Why is a bee dance reminiscent of humans shopping for food?”*

The educator teaches the children about career development among bees.

Each group of children sits in one of the prepared rooms/at prepared tables, solving the challenges and tasks as instructed. At the educator's signal, they finish the work and move clockwise to the next task room/table. Thus, all the children participate in each workshop.

After the workshops, the educator brings the children together again. They invite the children to play an interactive game *A Hornet's Destructive Attack on a Bee's Home*. The game goes like this: There are bees in a hive (children standing in a group). A hornet breaks in (one of the teachers). The narrator encourages them with questions such as: *“How can they overcome it? Would their stings be enough? But what if the hornet frees himself and gets out to get the other hornets?”*

The educator narrates the strategy by guiding children on what to do: *“The bees are tightly encircling the hornet and starting to warm up.”* In between, the educator asks questions like: *“How do bees warm up in a hive in winter?”* They tell the children how this happens and demonstrate using their body: *“By moving their flying muscles. The wings are stationary, moving only the flying muscles (for display and exercise these should be our shoulders, moving quickly back and forth with our hands resting on our backs).”* The educator gets the children to follow them, moving their shoulders together in a cluster of clumps. In between, the guide encourages them to be aware of the movement by asking: *“Do you feel how warm you have become? Do you feel the warmth of the air between us?”* The educator asks the teacher in the middle if they are hot yet. When they get an answer, the educator encourages students to keep warming a little more and more... Then they tell the children that the bees are warming and warming and warming up the air until the hornet in their midst is cooked. Again, this poses questions, for example: *“Why didn't the bees cook, too?”*. When children run out of answers, the educator tells them that the bees can withstand temperatures 2°C higher. In this case, this means the boundary between life and death.

Finally, the educator invites the children to indulge their senses: tasting different types of honey, dried pollen and propolis while learning the basics of hygiene in group feeding from the same container. This exercise encourages sensory sensibility with questions such as: *“What is the difference in taste between light and dark honey? Why is honey sticky? Can you still taste the honey when combining honey and propolis? What does pollen taste like? Which the most delicious?”*

Tasting the bee products together can also be an opportunity to find out how bees produce their variety of bee products (wax, propolis, flower honey and forest honey, royal jelly). The educator illuminates everyone with interesting facts; one bee produces one teaspoon of honey in its entire life, and the distance an average honeybee family travels in order to collect a jar of honey amounts to going around the Earth several times.

The cultural and natural heritage is also part of the curriculum so to finish our guide determines how to incorporate this task within bee-related activities using hive panels at the school. There, the children receive cards that should be properly trimmed and painted according to the traditional topics of the hive ending paintings (saga, humorous elements from everyday life, etc.). The teachers choose how to perform the task (performed as part of a natural science day, homework with the help of parents and the Internet, activities in classes or afternoon care at school, etc.).

Module 3: Visit To the Apiary

Learning objectives

Children broaden their knowledge as they:

- Develop empathy and family values.
- Become aware of the importance of beekeeping and bee conservation as a part of their natural and cultural heritage.
- Know the characteristics of the life of a bee as a special animal species.
- Deepen their understanding of the need to protect nature and living things in it.
- Recognise the necessity of natural co-existence. Learn about the connection between a healthy environment, a healthy diet and the connection between bees and our food.
- Experience the connection between theory and everyday life.
- Know how to ensure their own safety.
- Recognise the social signs of bees that can be warning signs to people.
- Enhance empathy through experiential learning.
- Learn the correct behaviour near an apiary and how to preventively ensure their safety and the safety of the others in the group. Learn how to act in case of bee stings. They know who to contact and when.
- Recognise that the bee sting can be dangerous but also healing.
- Develop imagination, creativity and verbal and non-verbal communication.
- Cultivate a sense for conservation of cultural and natural heritage.
- Develop social competencies.

Didactic aids

- A Bee Storyteller
- Reading cards
- Pictures of bee family members
- A beekeeper's protective equipment and bee hats for children (hats + clove essential oil + homemade vinegar spray + purchased spray for bee protection)
- Hive endings (wooden)
- Dry wipes
- Wet wipes
- A learning apiary
- A self-help kit

Implementation

The educator puts on individual components of the bee's body and introduces himself/herself. They introduce the children to where they are and what they will be doing that day and why, for example: *"Hello, I'm Nina. I'm a beekeeper and an apitherapist. Where are we today and why? That's right, at the Botanic Gardens. Why here?"*. Let the children answer. They then summarise the answers and complete them if needed.

The educator also introduces the Bee Storyteller (a wooden bee doll on a spring). The toy is especially helpful for children who have problems maintaining attention by encouraging them to observe the movement of the wooden bee. For a smooth introduc-

tion to the topic, the children are asked questions such as: “*What do I have in my hand? Does it look like that in real life? Is it that big in real life? Has it ever been that big? How long have bees existed?*”

If Module 3 is the final part of a day, the educator uses the introductory part to repeat the previous two modules and the knowledge acquired. They ask the children questions about safety, protection against stings, appropriate behaviour near an apiary and the correct reaction in the event of a bee sting. The educator (again) asks if anyone in the group is allergic to bee venom.

It is a good idea to listen carefully to children’s feedback as they automatically describe what has made the biggest impression on them so far. These narratives conceal important information about the children’s experiences; one should also pay attention to any mentioning of allergy as there is a difference between the narratives of children with no experience of being stung, those who have experienced an allergic reaction after being stung and those who have been stung several times without any reaction.

If the visit to the apiary takes place as a standalone session, the educator uses reading cards as described in Module 1 (the cards are provided in Annex 1). During the explanation with the Bee Storyteller, the educator simulates a reconnaissance flight around their head, which can be done next to the beekeeper. Furthermore, the educator shows the correct reaction in such a situation with their own movements (listed on one of the cards – Appendix 1).



Visit to the apiary as part of the education module
Author: Urška Ilič

The children train their own reaction throughout the game. The educator guides the Bee Storyteller to fly around the heads of all the children. Those who are approached by the Bee Storyteller must react properly and retreat. The game can be elevated to a more challenging level by determining the direction in which the bees fly out of the apiary. The task is even more difficult because children have to retreat in the right direction without endangering their classmates.

WARNING!

It is important that the educator ensures everyone in the group remains calm, even while moving away from an apiary until they reach a safe distance (at least 6 metres away).

The guide also devotes more time to winning the correct reaction in case of a sting. It encourages interest in cooperation through questions like: *“What should you do if a bee stings you? Is the bee sting next to the apiary riskier than the bee sting in the garden? What do you have to do if it stings your friend? How do you remove the bee stinger properly? Why so? How much time after the sting must we continue to keep an eye on someone who has been stung? What are the signs that something is wrong? Is it normal if it becomes... for example spotty?”*.

The actual visit to the apiary is the final point. Using obvious movements, the guide puts the Bee Storyteller away. To make students more aware of the calmness of the body, mouth and hands, the asks questions check what they have remembered, such as: *“When we go to see live bees at the apiary, I will put away the Bee Storyteller. Why do I have to put it away? Why does it irritate the bees? With what?”*.

A small and disciplined group approaches a training beehive in the Botanic Gardens (exclusively from the right, i.e. protected side). By quietly asking questions, the guide directs children to observe the bees; for example: *“What do bees do? Where are the guards? Where do they fly for food? Does any bee come back without food? What do guards do with a bee that brings back nothing? Do the bees seem calm or restless? How many bee families are in the apiary? Are the bees that fly out young or old bees? Are any of the bees that fly out a bee queen?”*

In the case of a large group, the teachers and the educator divide the children into several smaller groups (greater safety and more optimal experience for the children!). If the educator finds the bees irritable, the students wear protective hats. If there are any children with allergies to bee stings in the group, they wear protective clothing for the whole body (including gloves). If there are more such students in a class, they go into separate small groups with children approaching the apiary one at a time.

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

The educational programme presented in this volume’s 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 (1st triad – grades 1–3),
- 9–11-year-olds (2nd triad – grades 4–6),
- 12–14-year-olds (3rd triad – grades 7–9).

As the educational programme itself was already explained in detail in the previous chapter, we only provide the content upgrade in a condensed form (presented in the table below). The programme agendas with methods and tools for delivery are presented in the following sub-chapters.

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

Educational programme for the first triad

Duration: 180 minutes

Location: University Botanic Gardens and Biotechnical Educational Centre (BIC)

1st educational topic: Native honey plants in Ljubljana

Time frame	Topic	Tools for interpretation	Interpretation emphasis
<p>0–30 min INTRODUCTION and FOREWORD</p> <p>Delivered by the official guide (the educator)</p>	<p>BEEES AND THEIR COLONY What are bees and what is their social structure? Size of the colony. Roles in the colony. How the colony functions – the household chores of bees. Where do bees live?</p> <p>Transition to the next part: What do bees eat in the city?</p>	<p>DRESS UP AS A BEE The guide puts on individual components of a bee costume, explaining the structure of bees and the function of individual parts. They show enlarged photos of bees, queen bees and drones.</p> <p>ILLUSTRATE THE SIZE OF THE COLONY Two metal rice containers are ready. One has only a little rice in it, while the other is almost full. We ask the pupils how large their family is and shake the almost empty container. We then ask them how their family would sound if there were 50–70,000 members. We shake the almost full container.</p>	<p>We compare it with a human family. We humanise bees and try to bring them closer to the children. We compare human household chores to the individual roles of bees. Compare where we live (country/city) and where bees live.</p>
<p>30–50 min</p> <p>Delivered by the Botanic Gardens staff</p>	<p>BEE FOOD The development of pastures throughout the seasons. Bee food throughout the year. Environmental protection.</p> <p>Transition to the next part: From flowers to honey we like to eat.</p>	<p>HOW IS OUR FOOD RELATED TO BEE FOOD? We divide the children according to the months of the year and explain to them (with the help of various photographic materials) what happens with a bee pasture and bees. For example, we give the children images of apples that represent the months of April and September because in the spring, the bees harvest the apple pollen and we eat apples in the autumn.</p>	<p>What bees harvest/eat and what we eat according to the season. We interpret the correlation between bees and our food. We link food to environmental protection. What would happen if there were no more bees?</p>
<p>50–55 min</p>	<p>Walk to the nearby Biotechnical Educational Centre (BIC) under the supervision of an official guide (the educator)</p>		

2nd educational topic: Ljubljana honey

Time frame	Topic	Tools for interpretation	Interpretation emphasis
55–100 min Delivered by the BIC staff	<p>WE FEEL THE HONEY What do we smell? What do we see? What do we feel? What do we taste?</p> <p>Transition to the next part: We have already got to know the bees and honey. But where do the bees live?</p>	<p>GETTING TO KNOW HONEY USING ALL THE SENSES Sense after sense, the children are gradually encouraged to feel the honey.</p>	<p>What are the children feeling and why? Comparisons with their everyday experiences.</p>
100–120 min	Lunch under the supervision of an official guide (an educator)		
120–130 min	Walk from the BIC to an apiary in the Botanic Gardens under the supervision of an official guide (an educator)		

3rd educational topic: Apiary in the Botanic Gardens – “The beekeeper constructs a home for the bees”

Time frame	Topic	Tools for interpretation	Interpretation emphasis
130–160 min Delivered by an Urban Beekeeper	<p>HOME OF BEES An apiary.</p> <p>TYPES OF APIARIES Various types of apiaries. Composition of an apiary and beehive. Who are beekeepers and what is their function at an apiary?</p>	<p>Puzzles of different kinds of apiaries, which also serve as a tool for explaining the development of apiaries.</p> <p>WE COMPARE OUR HOMES TO THE HOMES OF BEES Together with the children, we summarise rooms in our homes and then compare them with spaces in an apiary.</p>	<p>We refer to the concept of a house that children can identify with. Different types of residences of humans and different types of apiaries. Who builds houses for people and how do bees live?</p>
160–180 min Delivered by an official guide (an educator)	<p>BEEHIVE PANELS Why are beehives painted differently? Various decorations of apiaries.</p>	<p>DECORATE YOUR BEEHIVE PANEL Children decorate their beehive panel.</p>	

Educational programme for the second triad

Duration: 180 minutes

Location: University Botanic Gardens and Biotechnical Educational Centre (BIC)

1st educational topic: Native honey plants in Ljubljana

Time frame	Topic	Tools for interpretation	Interpretation emphasis
0–30 min INTRODUCTION and FOREWORD Delivered by an official guide (an educator)	HABITAT OF BEES: Bees. The life cycle of bees. The division of work between bees. Communication between bees – the bee dance. An apiary and related habitat of bees. Transition to the next part: Only foraging bees leave an apiary. Where they go and what they do there.	THE LIFECYCLE OF HUMANS AND BEES We talk to children about what we do as a child, a teenager, an adult and an older person. We compare this with bees and their life cycle. We use photos of bees at different stages.	Emphasis on various activities and functions we have in life at a certain age. Linking the age of bees with new tasks in a hive. The comparison that people usually live for up to 80 years or so, and bees only a few weeks or months.
30–50 min Delivered by the Botanic Gardens staff	THE ANNUAL CYCLE OF BEES AND PLANTS The annual cycle of honey plants. The annual cycle of bees. Pastures according to regions. Plants and bees in an urban environment and differences from a rural environment. Transition to the next part: From honey plants to honey.	OUR ANNUAL CYCLE AND THE ANNUAL CYCLE OF BEES We compile our annual cycle with the children. We establish a connection between what we do during the different seasons with plants and the activities of bees.	We refer to our annual cycle. What bees harvest/eat and what we eat depending on the season. Environmental protection. What would happen if there were no more bees?
50–55 min	Walk to the nearby Biotechnical Educational Centre under the supervision of an official guide (an educator)		

2nd educational topic: Ljubljana honey

Time frame	Topic	Tools for interpretation	Interpretation emphasis
55–100 min Delivered by the BIC staff	HAS HARD HONEY GONE BAD? How honey is produced. Heating the honey. Storing the honey/ packaging. Handling honey and proper use. Transition to the next part: Honey, beekeeping, apiary.	EXTRACTING HONEY An illustration or short film on the process of extracting honey from beehives.	Honey is very healthy but it needs to be handled properly. First, the pupils themselves explain how they think honey should be stored and how they use it.
100–120 min	Lunch under the supervision of an official guide (an educator)		
120–130 min	Walk from the BIC to an apiary at the Botanic Gardens under the supervision of an official guide (an educator)		

3rd educational topic: Apiary in the Botanical Garden – Even a house or an apartment building can be a home for bees

Time frame	Topic	Tools for interpretation	Interpretation emphasis
130–150 min Delivered by an Urban Beekeeper	Types of apiaries. MATERIALS AND TECHNIQUES FOR THE CONSTRUCTION OF APIARIES Composition and materials. Construction techniques. What bees need in the apiary. Where do we place the apiary?	Apiary puzzles that help interpret the development of apiaries.	Compare human and animal architecture. Different building functions in humans. Single-family house or an apartment building.
150–180 min Delivered by an official guide (the educator)	Various kinds of decoration of apiaries. Beehive panels and their stories.	Children are divided into groups; each group receives its own beehive panel for which they create a story together. They then present their story. A guide then presents the folklore basis for the motif.	The role of decorated buildings for humans and bees. The role of nature in Slovenian culture.

Educational programme for the third triad – 180 minutes

Duration: 180 minutes

Location: University Botanic Gardens and Biotechnical Educational Centre (BIC)

1st educational topic: Indigenous honey plants in Ljubljana

Time frame	Topic	Tools for interpretation	Interpretation emphasis
0–30 min INTRODUCTION and FOREWORD Delivered by an official guide (an educator)	BEEES AND OUR ENVIRONMENT Bees in the city/bees in the countryside. Environmental protection. The issue of extensive farming. Organic farming. Extensive beekeeping/transporting bees for pasture. The need for food on the one hand, and protecting the environment, on the other.	PROPOSALS FOR THE PROTECTION OF BEES The class is divided into several groups. Each group draws out one problem related to conserving a healthy habitat for bees. They then give three suggestions to address the problem: what can we, as a society, do to conserve bees?	How do bees experience their habitat and how do we experience it? How do we behave towards the environment? What can we do to conserve the environment and help bees?

30–50 min Delivered by the Botanic Gardens staff	<p>WHAT ARE HONEY PLANTS AND WHY ARE THEY IMPORTANT? Native and invasive plant species. What plant features provide nectar or honeydew? Biodiversity. Honey plants in the urban environment.</p> <p>Transition into the next part: The characteristics of honey plants and why there are different types of honey.</p>	<p>WHAT DO YOU THINK? Pupils vote on closed-ended questions (Do you think this is a plant? Do you think sprays harm bees?...) by expressing their opinions through different gestures (e.g. they squat or stand, turn around or look at the guide ... depending on whether or not they agree with the statement).</p>
50–55 min	Walk to the nearby Biotechnical Educational Centre under the supervision of an official guide (an educator)	

2nd educational topic: Ljubljana's bees like the smell of...

Time frame	Topic	Tools for interpretation	Interpretation emphasis
55–100 min Delivered by the BIC staff	<p>IT SMELLS GOOD TO BEES AND TO US Essential oils of honey plants. Steam distillation workshop. Smells and bees. Transition: From urban honey to urban beekeeping.</p>	<p>STEAM DISTILLATION WORKSHOP</p> <p>BLIND GUESSING OF SCENTS Volunteers are blindfolded and given familiar things to smell.</p>	<p>What do smells tell us? How do bees communicate with smells?</p>
100–120 min	Lunch under the supervision of an official guide (an educator)		
120–130 min	Walk from the BIC to an apiary at the Botanic Gardens under the supervision of an official guide (an educator)		

3rd educational topic: Apiary at the Botanic Gardens – The home of bees and the urban environment

Time frame	Topic	Tools for interpretation	Interpretation emphasis
130–150 min Delivered by an Urban Beekeeper	<p>Types of apiaries. MATERIALS AND TECHNIQUES FOR THE CONSTRUCTION OF APIARIES Composition and materials. Construction techniques. What bees need in an apiary. Where should we place an apiary?</p>	<p>Apiary puzzles that help interpret the development of apiaries.</p>	<p>We compare human and animal architecture.</p>
150–180 min Delivered by an official guide (an educator)	<p>Apiaries of the past – beehive panels. And today – urban beekeeping. How can we become beekeepers? What can we do for bees? World Bee Day and the role of Slovenia.</p>	<p>They are divided into groups; each group comes up with a hit title and a story, no more than 140 characters with spaces about bees in Ljubljana.</p>	

Educational programme for the third triad – 300 minutes

Duration: 300 minutes

Location: Walking through Ljubljana and visiting selected locations of the BEE PATH

1st educational topic: A walk in Ljubljana

Time frame	Topic	Tools for interpretation	Interpretation emphasis
0–15 min INTRODUCTION and FOREWORD Delivered by an official guide (an educator)	Bees in Ljubljana The habitat of bees. Ljubljana, green capital. Bees and our everyday life.	Children move around the city with the help of hints and task solving. Tasks must be solved in order to obtain the next location. The class is divided into groups; each group is responsible for solving one task and is allowed one hint.	Where do kids live in urban/ rural areas? What does their habitat mean to them? Do they have a relationship with bees?
15-30 min SLOVENSKA CESTA STREET AND THE PLANTATION OF ASH TREES Delivered by an official guide (an educator)	Green areas in Ljubljana Planting in public areas. Native plants. The features of a plant that provide nectar or honeydew.		What can responsible persons do? What can we do? Why would we even try to do something?
30–60 min Delivered by an official guide (an educator)	Bees and architecture Observation of architectural elements. Bees and architecture. The attitude of Slovenes towards bees.	SEARCHING FOR DETAILS	What depictions are there in architecture and why? The message value of architecture.

2nd educational topic: Slovene Ethnographic Museum (SEM)

Time frame	Topic	Tools for interpretation	Interpretation emphasis
60–120 min GROUP 1 Delivered by the SEM staff	BEEES AND THEIR COLONY Bees in cultural heritage. Viewing museum items. Viewing the Lectar workshop.	LECT HEARTS We introduce the meaning of Lectar hearts. The courting and social customs of young people in the period before the Second World War.	A positive attitude towards bees the Slovenian culture.
60–120 min GROUP 2 Delivered by the SEM staff	BEEHIVE PANELS Their meaning. FOLKLORE	Discussing the meaning of beehive panels. DESCRIBE YOUR BEEHIVE PANEL The children are divided into groups. Each group receives a beehive panel and is assigned to write a short story about it that does not exceed 140 characters.	Folklore on beehive panels. Switching roles between humans and animals.
120–130 min	Lunch under the supervision of an official guide (an educator)		
130–140 min	Walk from the SEM to the Park Hotel under the supervision of an official guide (an educator)		

3rd educational topic: Hotel Park (HP) and its surroundings

Time frame	Topic	Tools for interpretation	Interpretation emphasis
140–180 min Delivered by the HP staff	URBAN BEEKEEPING	Visit to urban beehives on the top of the hotel.	What is urban beekeeping? Who already keeps bees in Ljubljana, etc.?
180–190 min	Walk from the Hotel Park to outside the building under the supervision of an official guide (an educator)		
190–210 min	WHAT ARE HONEY PLANTS AND WHY ARE THEY IMPORTANT? Biodiversity. Honey plants in an urban environment. Bees in the city/bees in the countryside. Environmental protection. The issues of extensive farming. Organic farming. Extensive beekeeping/ transporting bees for pasture. Food needs vs protecting the environment.		Promoting a debate by asking questions, linking it to their everyday life, controversial questions that raise interest and relate to their lives.
210–240 min	INTERDEPENDENCY, CO-EXISTENCE AND SELF-SUFFICIENCY	CREATING A PROMOTIONAL CAMPAIGN The class is divided into several groups. Each group decides on one of the topics they have been listening to and creates a promotional campaign on this topic. What they would do, how they would encourage people to do this. They create a poster, video, photo campaign, script... to promote a certain activity or the conservation of a plant or animal species. For example, raising awareness about honey plants and promoting the planting of honey plants.	Consolidating what was heard, issues raised, everyday life, critical-analytical thinking. Thinking about the future and what they can do to improve it.
240–300 min	PRESENTATIONS OF GROUPWORK RESULTS	Group presentations with moderated discussion	

Where Can I find Additional Information?

To support the transfer process and allow transfer cities to modify the BEE PATH good practice to their needs, we have decided to attach the Optional Annual School Curriculum for the Beekeeping Class for Primary Schools. Unfortunately, it is only available in Slovenian. However, we are convinced that it will prove useful for those who are looking for ideas and answers.

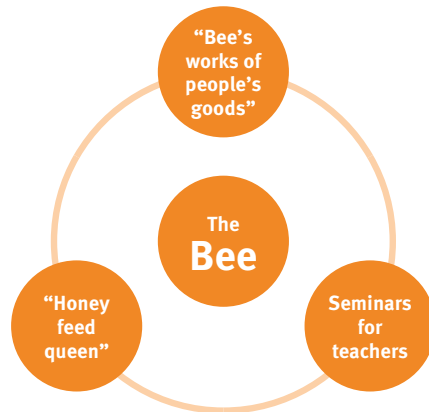
To further support the transfer process, we are also providing some additional links we consider useful:

- [Guidance for the use of the Beekeeper Circle educational programme \(in Slovenian\)](#)
- [Elementary schools Beekeeping Educational Programme \(in Slovenian\)](#)

6.2

Education and Beekeeping in Nea Propontida – Case study

Several years ago, with the aim of reinforcing the education and awareness of different environmental issues concerning bees and their environment, the Arnea Environmental Educational Centre (EEC Arnea) started working on three pillars: A National Thematic Network called Bee’s Work, Human Goods, an educational programme for schools visiting the Arnea EEC named Honey, the Food of Queens and an educational seminar for teachers.



Graphic presentation of the Educational Thematic network set up by the Educational Center of Arnaia called "Bee's Work, Human Goods"
Author: Evaggelia Biniou

National Thematic Network – Bee’s Work, Human Goods

About the national thematic network

The National Thematic Network consists of several Environmental Educational Centres in Greece and participating schools working together on subjects related to bees, their products and the environment. Its duration was set to three years in order to implement various phases of the Network’s development. In the first year, all interested schools were invited to collaborate and a communication network between the participating schools was established for a direct exchange of views and ideas. In the second and third years, the work of individual schools will be completed and shared with others, and at the end of the third year, the cycle will close with the possibility of renewing the network if new schools are interested in participating.

Coordinating committee

The Network Coordinating Committee consists of nine members (members of universities, research centres, environmental centres) and meets annually and as needed in special circumstances. It evaluates the Network’s actions and plans as well as planning next year’s actions.



Educational Center of Arnaia
Author: Evaggelia Biniou

Objectives of the network

The objectives of the Thematic Network are as follows:

- A focus on the microcosmos of insects to understand their significant contribution to the plant and animal kingdom.
- Be informed about the bee society and the rules and principles that govern it.
- Understand the substantial environmental contribution of bees to nature for the conservation of wild flora and biodiversity.
- Explain the economic benefit that bees supply to crops.
- To get in contact with beekeeping as a time-consuming, environmentally friendly and important activity for the financial support of the specific area.
- Become familiar with bee products and their beneficial properties as natural non-industrialised products.
- Be informed about the impact of genetically modified plants on bees.
- To get in touch with the folk tradition (customs – songs – cooking recipes) that are intertwined with the bee and its products.
- Develop cooperation and solidarity with students from other schools.
- Encourage co-organisation with other environmental groups with similar activities.
- Gain knowledge on the timeless art of beekeeping practice through the exchange of views and experience.

Training programme

A seminar held in the first year is intended to inform the teachers participating in the Network about the methodology used so that the Network is efficient, flexible and able to disperse the knowledge and improve the status and communication between the participating schools and Environmental Centres.



An educational game played by teachers
Author: Evaggelia Biniou

A second seminar for the teachers intends to educate them on a theoretical level as well as familiarising them with the experiential approach methodology so that they can get the most from the training. In the second year of the programme, at the beginning of the school year, an additional seminar is organised for teachers of schools that have already participated in the Network so that they can follow specific methodological approach proposals and are engaged in expert activities to get the most out of their networking experience. At the same time, the Coordinating Committee will meet on issues related to its responsibilities. At the end of the second year, a school meeting is planned. This will be attended by teachers and a delegation of students (if possible) of the environmental groups. The aim will be to present the work produced by each group, as well as to develop interpersonal relationships and exchange experience.

In the third year, at the beginning of the school year, a training meeting of the Coordinating Committee will be held. The meeting will have an accounting but also the decisive character for the continuation of the Network. If there is interest in continuing the Network, an informative seminar will be organised for teachers of newly participating schools. At the end of the third year, a school meeting will be held to present their final work.

Communication network

The Network's communication network is immediate, effective and interactive:

- Taking advantage of modern technology, a Network website is planned where all the information provided on the subject, along with videos, photos and activities of schools can be posted. It will also allow the Network's environmental teams to have direct communication with each other. By using online communication, we achieve instant diffusion of information and fast communication, as well as saving time and energy.
- Printed material will be created in the form of brochures, booklets, posters and books during the development of the Network.
- Direct communication between participants about presentations of their project. These meetings, which will take place towards the end of the school year, are necessary as they help to strengthen the interpersonal relationships of students and teachers and reward their efforts and work as well as enhancing the team dynamics.

Educational Seminars for Teachers, Performed by the Arnea Environmental Educational Centre

A 3-day seminar for teachers

Given that the Arnea EEC is the coordinating body of the Bee's Work, Human Goods Network, it organises a three-day seminar for teachers on a subject in relation to bees. This is organised every spring in collaboration with the Directorates of Primary and Secondary Education of the region, and it also enjoys some financial support from the European Union.

The seminar usually includes fifty (50) primary and secondary education teachers and takes place at the facilities of the Arnea EEC where the participants can also be hosted.

Invited speakers are scientists from universities and research institutions from Greece, from bee-related disciplines and research topics, or well-known practitioners – beekeepers.

An Example of a Typical Educational Seminar for Teachers:



Beekeeping demonstration
Author: Evaggelia Biniou

1st day, Friday

Early afternoon

Arrival of participants, welcome coffee and arrangements in the dormitory

Lectures on apicultural subjects such as:

- The physiology of a bee and the structure of its society,
- The role of wild and common bees in preserving global biodiversity,
- The factors affecting the health of bees and all pollinators
- Beekeeping products and their relationship with the local economy, health, tradition and culture.
- Possibly a film show (e.g. the BBC documentary titled Who Killed the Bee? and Elements of Aristotle's study on bees were featured in two of the experimental parts of the seminar).

Afternoon – evening

2nd day, Saturday

Morning – noon

Experimental part of the seminar with a visit to a bee-related institution or habitat e.g. the Apiculture Institute, Ancient Stagira, bee habitats, beekeeping cooperatives.

Afternoon – evening

Methodological workshops, teaching new educational techniques in the implementation of Environmental Programmes in schools (e.g. creating a wax ointment, identifying pollen grains under the microscope, identifying beekeeping plants, planting of beekeeping and indigenous plants, building a bee hotel).

3rd day, Sunday

Morning – noon

Presentations by Network Teachers – Dissemination of Good Teaching Practices. School presentations on their projects: special time is devoted to the schools participating in the Thematic Network, in order to share and explain their own work and programme and to spread good practices in the implementation of environmental education programmes focused on bees. A number of group games are also presented every time. Evaluation of the seminar.

Educational Programme for Children Visiting the Arnea EEC – Honey, the Food of Queens”

A 2, 3 or 4-day seminar for high school children

About 2350 years ago, the great philosopher Aristotle expounded the benefits of honey for mankind. Nowadays, the beekeepers of Arnea are continuing the tradition by using the rich flora of Chalkidiki to produce large quantities of honey and other beekeeping products such as mudovina and royal jelly.

Together with their teachers, the children visit the Arnea EEC for several days and are hosted by the Arnea EEC. Through this programme, they become familiar with traditional and modern beekeeping as well as the bee world in all its aspects. These programmes are intended for students in primary and secondary Education. The programme and the workshops are tailored to the age of the students.



Elementary school children in different activities during the education program
Author: Evaggelia Biniou



A beekeeper during a hive inspection
Author: Evaggelia Biniou

Handmade decorative candles at the
Beekeepers' Association of Nikiti
Author: Evaggelia Biniou



During these days, apart from time spent in classes, they visit beekeeping companies, the Research Centre Division of Apiculture and the Beekeeping Cooperative in Nikiti.

The key objectives of the programme are:

- To inform students about the bee society and the rules and principles that govern it.
- To study the process of collecting and packaging honey and other products.
- To become familiar with bee products and their beneficial properties.

To understand the nutritional value of honey.

- To discover the important role of beekeeping in the economy of a given place.
- To understand the natural environmental benefits of bees in nature for the conservation of wild flora and biodiversity.
- To prepare different honey-based formulations.
- Visual expression, presentation of group work, evaluation of the programme.

Duration 1 day; 9:00- 13:30	Duration 2 days; from 12:00 till 13:30 on the 2 nd day	Duration 3 days; from 14:00 to 13:30 on the 3 rd day
<p>Part 1 Dialectical ppt presentation on bees. Questions – discussion – reflection</p>	<p>1st day – Part 1 Dialectical presentation pt. on bees. Questions – discussion – reflection</p>	<p>1st day – Part 1 Dialectical ppt presentation on bees. Questions – discussion – reflection</p>
<p>Part 2 A. Members of the colony. Systematic morphological observation in the stereoscope of the three colony members. B. From honey... to honey: Tasting honey and searching for the special characteristics of each species. C. The Bee Garden: Getting to know aromatic herbs.</p>	<p>1st day – Part 2 Lab*: The Bee in Arnea: Educational route to the settlement by visiting a beekeeping shop, the Folklore Museum and other parts of the settlement related to the bee.</p>	<p>1st day – Part 2 Lab*: The Bee in Arnea: Educational route to the settlement by visiting a beekeeping shop, the Folklore Museum and other parts of the settlement related to the bee.</p>
<p>Part 3 The Bee in Arnea: Educational route to the settlement by visiting a beekeeping shop, the Folklore Museum and other parts of the settlement related to the bee. Programme evaluation.</p>	<p>1st day – Part 3 Selection of laboratories according to the time available.</p>	<p>1st day – Part 3 Selection of laboratories according to the time available. Educational games.</p>
	<p>2nd day of the programme: Visit to the Institute of Apiculture Research and/or the apiary cooperative in Sithonia. Evaluation.</p>	<p>2nd day of the programme: Visit the Institute of Apiculture Research and/ or the apiary cooperative in Sithonia. Evaluation.</p>
		<p>3rd day of the programme: Utilising the experience of the programme. Feedback. Presentation of student groups and their work. Evaluation.</p>

* The work in laboratories includes creating a wax ointment, identifying pollen grains under the microscope, identifying beekeeping plants, planting of beekeeping and indigenous plants, and building a bee hotel with natural materials.

6.3

Education and Beekeeping in Bydgoszcz – Case study

“...Messages that are forced into the mind are suppressed and stifled. To digest science, you must swallow it with appetite...”

A. France

Anna Izdebska, a biology teacher at School Complex No. 6 in Bydgoszcz (Poland), first heard of the BeePathNet project during the city visit to Bydgoszcz in Phase 1 in late spring 2019. She was inspired by the good practices from Ljubljana and the BeePathNet project. Therefore, during the summer of 2019, she created a comprehensive year-long educational programme titled *Bee Education in a Science Classroom, Garden and Apiary*, well ahead of the 2nd phase of the BeePathNet project. The programme consists of the following elements.

The sensory garden

The garden was created within the school grounds and started to operate in September 2019. The sensory garden gives visitors the opportunity to explore the environment through different senses. The multi-species and multi-coloured collection of meadow plants and herbs affects the senses of sight, smell, taste and touch. Children can run around the garden barefoot if the weather conditions are favourable. Tactile pathways are made of different surfaces such as grass, larch cones, pebbles and woodchips, which augment the sensations felt through one's feet. Children have the opportunity to take care of their own herb garden through which they can observe the development of plants in different seasons. This way, they can learn about nature through direct experience. On this basis, they will develop an awareness of the richness, diversity and fascinating connections between the natural and human worlds. The sensory garden is composed of several parts:

a) Educational Boards

Thanks to financial support from the Regional Fund for Environmental Protection and Water Management in Toruń, the school was able to create colourful, interesting educational boards which were designed by Dawid Kilon.

The boards provide some interesting information about pollinators and bees. You can also find some outdoor games; for example, children need to find specific pollinators of each species that can be found on the meadow. There are some riddles on one side of the board and, on the other side, there are pictures and descriptions of the answers, providing a fast and fun way of learning.

Educational boards at School Complex no. 6
Author: Anna Izdebska





b) The Educational & Demonstration Hive

Another important part of the garden is the hive (without live honeybees) which has been made by Joanna Adamiak. She's the mother of two students at the school. Remember, teachers can always seek support from parents, they have great ideas and abilities and they're usually willing to help.

Originally, the hive was inhabited by bees which is why it still smells beautifully of honey. It was cleaned and adapted to be used in work with children. You can still see some wax here. The insulation is made of straw. In the hive, there are real hive frames that have been lightly cleaned so that you can still smell the fantastic scent that the children are really enthusiastic about. On the frames, there are photos of real frames with different stages of bee development. The photos have been printed on material similar to that used to make the educational boards. They contain descriptions so they can be viewed even without the help of a specialist. The photos for printing were also prepared by Ms Adamiak. They have been printed thanks to the financial support of the school's Parent-Teacher Association. Inside the hive, there is also one frame with wax foundation.

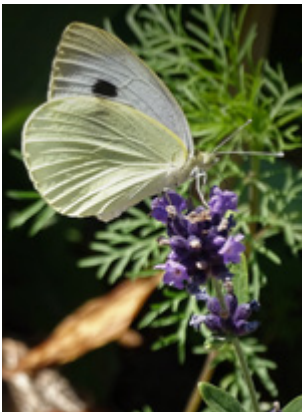
Educational Bee hive in the Sensory Garden of the School Complex no. 6
 Author: Anna Izdebska



Bee on crocus
Author: Monika Wójcik-Musiat



Painted lady on salvia
Author: Monika Wójcik-Musiat



A cabbage butterfly on lavender
Author: Monika Wójcik-Musiat

c) Melliferous Plants

There are also some mini gardens with melliferous plants (mostly herbs) planted in the sensory garden. There, students are taught how to take care of the plants and they weed, prepare plants for winter, and propagate and pick the herbs. Students use a variety of tools to take care of the garden. They put lavender into small bags which can be used later as air fresheners. They also get mint to prepare tea at home and take some oregano to season a pizza. They make sandwiches with the tomatoes and basil. The seeds and seedlings for planting melliferous plants were provided by the Municipal Greenery, while the funds for their purchase came from the Parents' Council. Melliferous plants also grow on the meadow along the fence. The lawn is supposed to be mown when necessary and the meadow twice a year.

d) Sensory Part of the Garden

In front of the planted area, there is a sensory area. On the ground, there are small squares with elements of different texture. There is some wood, pebbles, sand, cones and concrete. Students can walk or run barefoot here, including on the lawn, so that they can feel the variety of textures. We hope that it will be great fun, not only for kindergarten pupils but also for older children.

e) Benches

There are some benches in the garden. They are not brand new because Ania (one of the teachers) would like to renovate them with the students in the spring. She wants the children to collaborate in the creation of this garden so that they value and appreciate it more. The garden can be a kind of a classroom when the weather is nice. Students will be able to learn, eat and spend their breaks there.

f) Composter

At first, weeds were stored near the fence but in the future, the composter will be situated there.

h) The web page

The school maintains a [web page devoted to the sensory garden](#), where news from the garden and classroom appears frequently.

However, the sensory garden is not finished yet. Ania is already thinking of upgrading it with a **weather station**, but this is just a plan for the future.

The educational programme

The programme aims to raise awareness of the role of bees in nature by improving biological knowledge. It is implemented in one 6th grade primary school class. The realisation is based on one additional hour granted for this purpose by the Directorates of School Complex No. 6, as it belongs within the school's circle of interests. However, recently, teachers in grades 1–3 and in the kindergarten have also joined the programme.

In order to teach the classes in a way that is engaging for the students, Ms Izdebska developed exercises and games with the use of an **interactive whiteboard**. Additional didactic aids will be created during the classes, which will make the current material available to other teachers in Bydgoszcz schools.



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

The role of bees in nature and for mankind is enormous but, on the other hand, there is a fear of these insects in many people's consciousness. The most common anxiety is the fear of being stung and developing an allergic reaction. In the light of this, we forget about the important role of insects in nature and the benefits of using not only honey but also other bee products. This programme aims to improve the knowledge about bees, their role and safety when dealing with them. During the classes, students have the opportunity to learn about the ecology of bees and their importance for nature and mankind. The programme will be implemented in the nature school workshop as well as during field classes in the sensory garden (already developed by children) and in the nearby Park at the Old Bydgoszcz Canal. They will also visit city apiaries operating in Bydgoszcz.

During classes, students will work also with computers. This type of work is often preferred by students, which definitely increases their level of engagement in the process of acquiring knowledge and skills, and thus the effectiveness of learning.

The proposed programme of additional classes was developed on the basis of the core curriculum and is also a project to extend the tasks of basic nature education.

Overall Objectives:

Equipping the student with the ability to observe and describe natural phenomena;

- Raising awareness of the need to take care of the environment;
- Developing competencies such as creativity, innovation and entrepreneurship;
- Developing the skills of critical and logical thinking, reasoning, argumentation;
- Developing students' cognitive curiosity and motivation to learn;
- Equipping students with the knowledge and skills to understand the world in a more mature and orderly way.

Specific Objectives for Students:

- Performs microscopic observations;
- Recognises organisms from their immediate surroundings, using a simple key to identify them;
- Distinguishes between the morphological forms of angiosperms (plants, bushes, shrubs, trees);
- Observes angiosperms (photos, drawings, living specimens); recognises its organs and determines their functions (root, stem, leaf, flower);
- Distinguishes the elements of flower structure and determines their functions in sexual reproduction;
- Recognises representatives of native deciduous trees;
- Presents the importance of angiosperms in nature and for humans;
- Identifies bees as a representative of arthropods based on morphological characteristics;
- Distinguishes between innate and acquired immunity and describes how immunity is acquired (active, passive, natural, artificial).

Procedures for Achieving the Objectives:

In order to achieve the objectives and to increase the level and sustainability of the knowledge acquired by the students, it is essential to:

- Conduct observations and simple field research,
- Use modern computer techniques to develop results,
- Choose methods that engage the students – for example, fieldwork, data collection and processing, discussions, interviews, creation of metaplans,
- Learning by doing.

Conditions and Method of Implementation:

During the class, students will be encouraged to ask questions, formulate problems and critically address various data. In this way, cognitive curiosity is developed. The programme is aimed at making the student see the connection between science and everyday life. The knowledge the student acquires should be applied in solving problems close to them, taking care of their own health and the state of the natural environment.

In the educational process, a series of observations and experiments conducted by the student or a small team of students, independently and under the direction of the teacher, is planned. The programme will be put into practice during field trips and field classes. Students will work using applications and digital resources available on the Internet on their own devices and at the interactive whiteboard.

Weekly schedule

Division of sessions for every working week during the school year:

Month	Week	Teaching Content	Educational Goals
September	1	Organisational classes – presenting the purpose of the classes and the way of organisation. Signing the contract.	<ul style="list-style-type: none"> Acquiring knowledge on safety rules during classes Establishing the terms of cooperation – signing the contract
	2	Care treatments in the sensory garden – getting to know the garden resources.	<ul style="list-style-type: none"> Learning the principles of taking care of garden plants
	3	Types of honey. Properties of different types of honey.	<ul style="list-style-type: none"> Getting to know the types of honey and their properties
	4	Melliferous plants	<ul style="list-style-type: none"> Learning about selected species of melliferous plants Improving the ability to recognise angiosperms using simple atlases and species identification keys
October	1	Construction of a hive.	<ul style="list-style-type: none"> Knowing the structure of the hive
	2	The care treatment carried out by the beekeeper.	<ul style="list-style-type: none"> Understanding the care treatments carried out by the beekeeper Learning about basic beekeeping tools
	3	The hierarchy in the hive and the habits of bees.	<ul style="list-style-type: none"> Indication of various groups of social insects and explanation of their role
	4	Why do bees make wax? What can we do with wax?	<ul style="list-style-type: none"> Explaining the role of wax in the hive
November	1	Sensory garden care treatments – preparation for winter.	<ul style="list-style-type: none"> Applying the known principles of caring for garden plants. Preparation of plants for the winter.
	2	Placing a bird feeder in the sensory garden. Learning how to feed wild animals in the winter.	<ul style="list-style-type: none"> The principles of feeding wild animals in winter.
	3	Making confectionery with honey.	<ul style="list-style-type: none"> Learning the principles of healthy nutrition in the prevention of obesity and tooth decay
	4	Cookies with honey – preparation for a school fair.	<ul style="list-style-type: none"> Analysis of the composition of oat cookies on honey in terms of the role of individual nutrients
December	1	Packing cookies and preparing portions for the school Santa Claus Fair and making labels presenting the composition	<ul style="list-style-type: none"> Preparation
	2	Bee structure – microscopic observations.	<ul style="list-style-type: none"> Discussion on the morphological structure of bees Learning the structure of the bee mouth apparatus
	3	What do bees do in winter?	<ul style="list-style-type: none"> Overview of autumn beekeeping treatments Explanation of volatility Presentation of the sense of hibernation of insects
	4	-	

Entry in the Core Curriculum General Requirements	Proposed Procedures for Achieving the Objectives	Teaching Aids
VI.1, VI.2-	<ul style="list-style-type: none"> • Talk • Discussion 	<ul style="list-style-type: none"> • Chart to draw up the contract
I.2, I.3, VI.3	<ul style="list-style-type: none"> • Working in the garden • Weeding • Cutting off dry flower shoots. 	<ul style="list-style-type: none"> • Gardening tools
I.2, III.3, VI.1	<ul style="list-style-type: none"> • Searching on the internet for information on the therapeutic effects of different types of honey 	<ul style="list-style-type: none"> • Worksheet – Medical advice
I.1, I.3, III.3, V.1, VI.2	<ul style="list-style-type: none"> • Recognition of plants using keys • Field classes in a sensory garden with atlases and keys for marking plants 	<ul style="list-style-type: none"> • Atlases and keys for plant designation • Work cards for field classes
I.3, III.3, VI.2	<ul style="list-style-type: none"> • Working with a model of the hive, in which the frames contain photos of individual stages of the life cycle of bees 	<ul style="list-style-type: none"> • Frame, wax sheets, pictures of frames developed/managed by bees
I.3, III.3,	<ul style="list-style-type: none"> • Preparation of purchase order for a beginner beekeeper 	<ul style="list-style-type: none"> • Beekeeping tools • Worksheet
I.2, I.3, III.3,	<ul style="list-style-type: none"> • Educational games using ICT 	<ul style="list-style-type: none"> • Multimedia whiteboard
I.3, III.3, IV.2, VI.3	<ul style="list-style-type: none"> • Candle making from wax sheets 	<ul style="list-style-type: none"> • Wax sheets, wicks
I.2, I.3, VI.3	<ul style="list-style-type: none"> • Work in the garden • Weeding • Cutting off dry flower stems 	<ul style="list-style-type: none"> • Gardening tools
I.2, I.3, II.1, III.3,	<ul style="list-style-type: none"> • Feeder setting • A talk on how to feed water birds and sparrows 	<ul style="list-style-type: none"> • Feeder
IV.2	<ul style="list-style-type: none"> • Baking cereal cookies with honey 	<ul style="list-style-type: none"> • Ingredients for oat biscuits with honey
IV.2	<ul style="list-style-type: none"> • Designing and making labels showing the composition of cookies 	<ul style="list-style-type: none"> • Paper • Printer
III.2	<ul style="list-style-type: none"> • Preparation of portions of cookies – ready for sale at the school fair 	<ul style="list-style-type: none"> • Cellophane bags • Labels • Raffia
II.4, III.3	<ul style="list-style-type: none"> • Carrying out microscopic observation 	<ul style="list-style-type: none"> • Microscopes and microscopic specimens with a honeybee
I.2, I.3, III.3, IV.2, VI.3	<ul style="list-style-type: none"> • A talk with a demonstration of beekeeping operations 	<ul style="list-style-type: none"> • Movies

Month	Week	Teaching Content	Educational Goals
January	1	Beekeeping workshops (2 hours)	<ul style="list-style-type: none"> • A comprehensive presentation of bee ecology
	2	-	
	3	Drawing workshops (2 hours)	
	4	-	
February	1	-	
	2	-	
	3	What do I already know – summary for the first semester of cooperation	
	4	Bee benefits – pollen, freckles, propolis, royal jelly.	
March	1	Flower structure of angiosperm plants. Theoretical classes	<ul style="list-style-type: none"> • Learning how to pollinate flowers • Recognition of inflorescence forms.
	2	Care treatments in the sensory garden	<ul style="list-style-type: none"> • Applying the known principles of caring for garden plants.
	3	The structure of the flowers of the insect-pollinated plant. Drawing flowers.	<ul style="list-style-type: none"> • Learning how to pollinate flowers • Identifying inflorescence forms
	4	-	
April	1	Structure of flower of insect-pollinated plants. Practical classes in the field.	<ul style="list-style-type: none"> • Identifying inflorescence forms and flower elements
	2	How to make a herbarium?	
	3	Care treatments	<ul style="list-style-type: none"> • Applying the familiar principles of care for garden plants.
	4	A visit to WSG (University of Economy in Bydgoszcz) – the roof apiary. (3 hours)	<ul style="list-style-type: none"> • Familiarisation with the apiary located on the roof of WSG in Bydgoszcz • Participation in educational activities
May	1	-	
	2	The role of bees in nature.	<ul style="list-style-type: none"> • Summary of information gained during classes – description of the importance of bees in nature and for man
	3	Melliferous plants in the Park on the Old Bydgoszcz Canal – field classes.	<ul style="list-style-type: none"> • Identifying inflorescence forms and flower elements
	4	A visit to the Botanic Gardens. (3 hours)	<ul style="list-style-type: none"> • Familiarisation with the city apiary in the Botanic Gardens • Participation in educational activities
June	1	-	
	2	-	
	3	Care treatments in the sensory garden	<ul style="list-style-type: none"> • Applying the known principles of care for garden plants.
	4	Summary of classes. Evaluation.	<ul style="list-style-type: none"> • Evaluating classes.

Entry in the Core Curriculum General Requirements	Proposed Procedures for Achieving the Objectives	Teaching Aids
I.2, I.3, III.3, VI.1	<ul style="list-style-type: none"> • A talk by a specialist 	
I.2, I.3, III.3, VI.1	<ul style="list-style-type: none"> • A talk by a specialist 	
I.2, I.3, III.3, VI.1	<ul style="list-style-type: none"> • Metaplan work 	
I.2, I.3, III.3, IV.2, VI.1	<ul style="list-style-type: none"> • Educational games using ICT 	<ul style="list-style-type: none"> • Multimedia whiteboard
I.3, III.3, IV.2, VI.1	<ul style="list-style-type: none"> • Educational games using ICT 	<ul style="list-style-type: none"> • Model of a flower • Multimedia whiteboard • Worksheet
I.2, I.3, VI.3	<ul style="list-style-type: none"> • Cleaning up the garden after winter 	<ul style="list-style-type: none"> • Gardening tools
III.3, IV.2, VI.1	<ul style="list-style-type: none"> • Macroscopic observations of some organs of angiosperms 	<ul style="list-style-type: none"> • Flower structure • Natural specimens • Spring geophytes
I.3, II.4, III.1, III.2, III.3, IV.2	<ul style="list-style-type: none"> • Macroscopic observations of angiosperm plant organs • Field classes in the sensory garden or in the Park on the Old Bydgoszcz Canal 	
I.2, I.3, II.4, III.3, IV.2, VI.1	<ul style="list-style-type: none"> • Collecting plant specimens and drying them using plant drying press • Making and completing labels describing harvested plants 	<ul style="list-style-type: none"> • Plant drying press • Old newspapers
I.2, I.3	<ul style="list-style-type: none"> • Work in the garden • Weeding 	<ul style="list-style-type: none"> • Gardening tools
I.2, I.3, IV.2	<ul style="list-style-type: none"> • A talk by a specialist 	
I.2, I.3, III.1, III.2, III.3,1, IV.2, IV.2, VI.1	<ul style="list-style-type: none"> • Group work using the metaplan method 	<ul style="list-style-type: none"> • Sheets of grey paper • Bristol • Pens and crayons
I.2, I.3, II.1	<ul style="list-style-type: none"> • Macroscopic observations of angiosperm plant organs 	<ul style="list-style-type: none"> • Magnifiers • Worksheets
VI.1	<ul style="list-style-type: none"> • A talk by a specialist 	
I.2, I.3, VI.3	<ul style="list-style-type: none"> • Work in the garden • Weeding 	<ul style="list-style-type: none"> • Gardening tools
I.2, I.3,	<ul style="list-style-type: none"> • Completing evaluation surveys • Discussion and summary of the entire working year 	<ul style="list-style-type: none"> • Evaluation surveys



7.

The Bee Path and tourism

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

7.1

Green Tourism in Ljubljana



Briefly About Tourism in Ljubljana

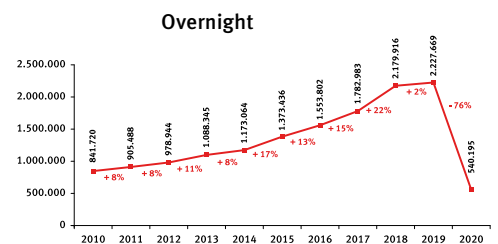
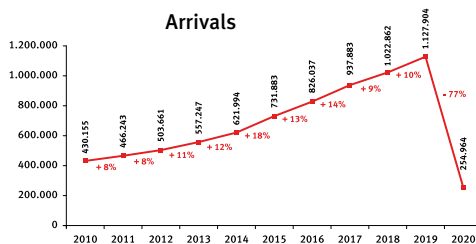
“Ljubljana is an attractive and friendly city with a green soul. It has a relaxed vibe and is a pleasant place for residents and visitors alike. If you’re looking for a boutique destination, which is increasingly popular among younger travellers, find out what makes Ljubljana special.”

Author: B. Kladnik
Source: Ljubljana Tourism

These are the front photo and the opening statement on the official website of Ljubljana Tourism, the official local tourism organisation established by the city. Ljubljana Tourism fosters the development and undertakes the promotion of tourism in Ljubljana and the region in conjunction with tourism providers.

As in the majority of European cities today, tourism represents an important and rapidly developing economic sector. Ljubljana, which has roughly 280,000 inhabitants, is currently visited by over 1 million tourists every year. They are predominantly foreigners (over 95%) and they usually stay in Ljubljana for 2.1 nights, which correlates to 2-3 full days spent in or around the city.

Statistics on tourist arrivals and overnight stays in Ljubljana (see more on www.visitljubljana.com/en/media/press-resources/ljubljana-tourism-statistics/tourist-arrivals-and-overnight-stays-in-previous-years)
Source: Tourism Ljubljana



Even if Ljubljana has always been considered a middle-sized Central European city on the crossroads of important European travelling corridors, with an interesting mixture of historical, cultural and natural sights and rapidly improving gastronomy, it has remained quite hidden from the main tourism flows. As both graphs show, tourism (as described in the previous paragraph) has really taken off in the last decade. In fact, Ljubljana tourism has witnessed an unprecedented boom in just 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, improved infrastructure and living conditions, etc. 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 of Ljubljana on the international level with the following being the most relevant:

- 2014 – [European Green Capital 2016](#)
- 2015 – [Tourism for Tomorrow Award](#) / [Bee-Friendly Municipality](#)
- 2016 – [listed amongst the Global Top 100 Sustainable Destinations 2016](#) / [Golden Apple Award \(La Pomme d'Or\)](#) / [the most sustainable tourism destination in Europe](#)
- 2017 – [Responsible Tourism Award](#) / [2 URBACT Good Practice titles](#) / [8th most bicycle-friendly city in the world](#)
- 2018 – [EC award for the sustainable development of Ljubljana](#) / [Emerging Europe Tourism Campaign of the Year 2018 Award](#)
- 2019 – [European Capital of Smart Tourism 2020](#) / [Ljubljana among 20 most beautiful cities in Europe](#)

Why is this important? Because all these green awards gave Ljubljana its recognition on the international level, 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.

The title of European Green Capital and other similar awards also contributed to an important mind-shift in the mentality of tourism product developers and tourist destination managers in the sense that the tourism industry in Ljubljana is 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.

Regardless of its green orientation, tourism is still a serious business, generating important income and new jobs. According to one of [the surveys](#) of visitors to Ljubljana:

- The majority of visitors still come to Ljubljana by car and spend roughly €45 on the trip, while those arriving by plane spend around €300.
- The average visitor spends around €55 on accommodation – roughly one-third of all visitors use hotels (with an average price of €80 per night), while private accommodation (available through online platforms) is increasingly popular, mostly due to the lower average price of €48 per night.
- The average visitor to Ljubljana spends around €47 a day (excluding travelling and accommodation) – with the range between €63 and €27 per visitor per day.

In any case, these are not small numbers if you multiply them by the number of visitors. However, as anyone working in the tourism sector knows very well, tourism is an unpredictable and fast-changing economic activity, with rapid development dynamics and important side-effects in terms of both quality of life and urban development. Dur-

ing the last 5 years of rapid tourism growth especially, the side-effects have become more evident and more important – to name a few:

- Constant overcrowding in the city centre and the locations of the most attractive sights.
- Rising prices of products and services, especially in the city centre.
- The inability of citizens to rent an apartment, as more and more real-estate owners are converting their houses and apartments for tourists, and consequently rising rents.
- Connected to these effects is the social and economic exclusion of citizens from the most attractive parts of the city.

In an interesting turn of events, the above-stated side-effects end up being felt by both citizens and visitors. In fact, in the above-mentioned survey of visitors to Ljubljana, one of the main problems exposed by visitors themselves was “too many visitors”.

This wider understanding of the negative impacts of tourism on the quality of life for citizens and the quality of the experience for visitors also raises important questions for decision-makers – to name just a few:

- How to counter the negative impacts of too much tourism on citizens and their quality of life?
- How much of the urban space and infrastructure should be devoted to visitors?
- How to regulate the real estate market to make apartments accessible to citizens for reasonable prices?

So, why is this also important from the point of view of the BEE PATH transfer process? Well, it is good to understand the whole story behind the success of tourism in Ljubljana before all transfer cities dive into the transfer process – but also because the City of 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

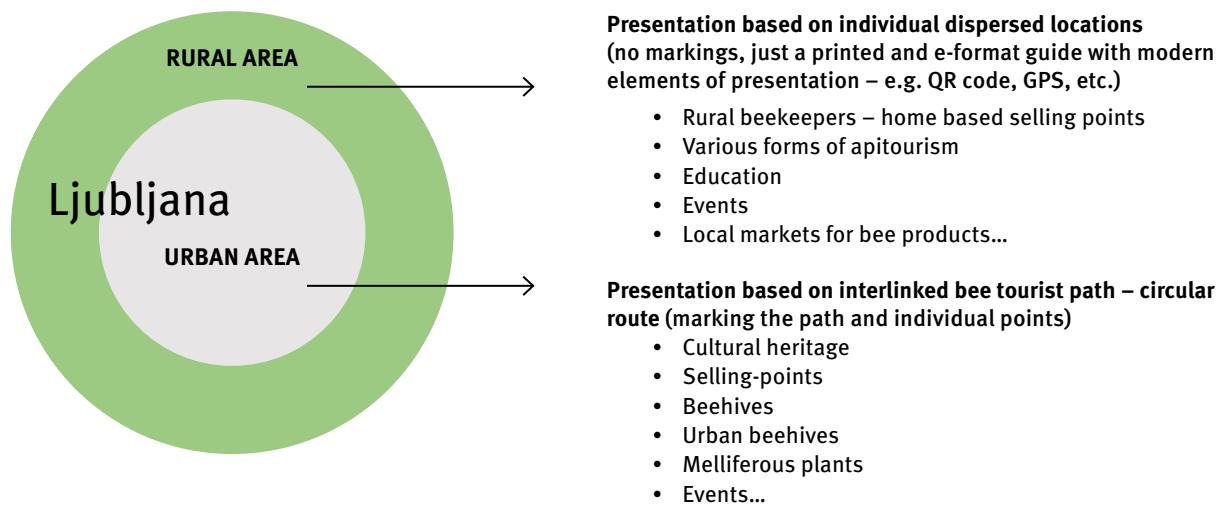
As tourism proved a very important economic sector, as well as an important driver of urban revival for Ljubljana, it is no surprise that the City of Ljubljana established an organisation like Ljubljana Tourism to ensure the proper coordination and presentation of Ljubljana. However, in the majority of cases, this is kept on the level of official cooperation between the city and tourism product providers, promotional campaigns, the organisation of events, etc. One could say that this is a “business as usual” approach, where the city is not directly involved in the development of actual tourism products.

In the case of the BEE PATH, the City of Ljubljana went one step further and actively became involved in the development of the BEE PATH itself, 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. It continues to provide operational support and coordination for all BEE PATH members, as well as invests in its upgrade and future development. So, what is so different about the BEE PATH?

For starters, the original idea to form a BEE PATH came from the City of Ljubljana itself – more concretely, from the Department for Environmental Protection, Section for Rural Development. Gorazd Maslo (the head of the department) and Maruška Markovčič (the BEE PATH coordinator then and today) were the key persons responsible for recogniz-

ing Ljubljana's beekeeping potentials, the cultural heritage linked to beekeeping and its positive image in Slovenian culture and cuisine. At that time, the Slovenian Association of Beekeepers began awarding bee-friendly municipalities. A bee path was one of the selection criteria and the idea to form one in Ljubljana actually originates from here.

From that point on, Maruška Markovčič began listing key points of interest and identifying key stakeholders. The first meeting was organized with representatives of 4 local beekeepers associations. They all liked and welcomed the idea. Together, they developed the first action plan and started meeting on a regular basis. In 2014, the original 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.



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 City of Ljubljana without, as Maruška Markovčič often says, any “*Hidden agendas, high expectations or much philosophy!*”.

The overall approach was quite straightforward and simple – organize a circular thematic tourist route within the city centre connecting the points of interest for tourists (points explaining the beekeeping tradition, urban beekeeping, cultural heritage, etc.) with sales points for locally-produced bee products. Such a path could be visited in about 0.5 days. 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 about 1 day.

Soon, new interested stakeholders got involved, the network started to grow and members were rapidly diversifying. In the first expansion cycle, more beekeepers (this time also urban beekeepers) got involved. 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 topics and field of operations.

This fast expansion cannot only be contributed to the work of the BEE PATH and its members but also to simultaneously developing initiatives linked to the declaration of 20th May as the United Nations World Day of Bees, the overall sustainable policy of the City of Ljubljana, and 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 recognize these opportunities and exploit them. And so, the BEE PATH in Ljubljana was officially opened by Mayor Zoran Jankovič on 7th October 2015 with an official ceremony held at the Botanic Gardens. However, 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.

As soon as new topics began being interlinked with the main topic of beekeeping, coordination became the predominant task of Maruška Markovčič and the City of Ljubljana. This meant that a new cooperation model would have to be established to allow for a wider understanding of the BEE PATH.

The BEE PATH received the form we know today based on participatory cooperation principles – led by city officials, while co-designed and co-developed by key stakeholders with support from experts and decision-makers. This proved to be an excellent practice, which allowed the BEE PATH to become much more than just a thematic tourist path, as originally presented. It became a synonym for all activities linked to bees and beekeeping in Ljubljana and today represents the following:

- A PHYSICAL PATH, which was designed to connect the urban and rural parts of Ljubljana into one strongly connected unit. It connects beekeepers producing honey and other bee products with a network of different institutions and organisations related to bees and beekeeping in Ljubljana. In this way, visitors can experience Ljubljana from a different perspective – they are introduced to the cultural and natural heritage linked to beekeeping in Ljubljana, witness active beekeeping processes, and taste and buy honey and other types of bee products.
- A NETWORK of beekeepers and their associations, cultural, educational and health organisations, enterprises, NGOs, and individuals interested in beekeeping and its development in urban areas.
- AN EDUCATIONAL PROGRAMME devoted to raising awareness about the importance of bees among key target groups and the promotion of the holistic and sustainable management of urban and rural areas.
- A THINK-TANK AND AN INCUBATOR for the development of new entrepreneurship ideas in the fields of beekeeping and new bee-products and services.
- A MOVEMENT that connects all stakeholders and citizens interested in maintaining high environmental awareness, the preservation of bees in urban areas and the further development of urban beekeeping in Ljubljana, as well as a strong advocate of the international World Bee Day initiative.

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

However, in this part of the guidance, we will only be dealing with the physical component of the BEE PATH in an attempt to clarify questions like: “*How can we design it?*”, “*Who can we involve and how?*”, “*How do we run and upgrade it?*”, etc.

Who is involved and how does it operate?

As we are focusing only on the physical component of the BEE PATH, we need to distinguish between two types of BEE PATH members from now on:

- MEMBERS INVOLVED IN THE PHYSICAL BEE PATH are represented as a point on the BEE PATH map, which means that they actively engage BEE PATH visitors on a regular basis and actively “communicate the BEE PATH story”. They do this for various reasons – for example, they attract additional visitors to their locations where the BEE PATH improves and/or diversifies their original services, they attract buyers of their products, they improve the “BEE PATH story” just by being a part of it, etc.
- SILENT BEE PATH MEMBERS are – for various reasons – not represented as a point on the BEE PATH map. However, they contribute to other components of the BEE PATH and thus indirectly support its physical components.

This division and understanding between BEE PATH members are two of the most crucial operational concepts, which allow all BEE PATH members to fulfil their ambitions without being forced to carry out all the BEE PATH activities. This is extremely important, as it allows members to participate in the form and extent suitable for their capacities.

For all members of the physical BEE PATH, the same operational concepts are used to enforce and maintain high-quality standards and “fair play” principles. Without these, visitors to the BEE PATH would have a negative experience, which is a serious problem for any tourism product/service provider and destination manager.

In order to become a member of the physical BEE PATH, the institution or individual must fulfil the following key criteria:

- A willingness to be visited by visitors (*this one is actually optional for those locations that improve the BEE PATH story simply by being a part of it – such locations require no guidance when visited*).
- An ability to fit into or improve the BEE PATH story (*must be able to connect itself or the location to the overall BEE PATH story*).
- An ability to prove that the provided services/products are appropriately licensed and are safe for use by the general public (*must be properly licensed, ensure health, safety and sanitary standards, and provide adequate equipment, etc. if needed*).
- An ability to provide adequate facilities for visitors in line with the actual topic of the individual location and a willingness to limit yourself to the actual capacities (*to avoid overcrowding*).
- A willingness to provide services/products on a constant or at least a regular basis (*must be available and accessible to visitors*).
- A willingness to explain the BEE PATH story, as well as your role in it, to all visitors in a proper manner and in at least 1 foreign language (*the story needs to be coherent and interpreted in the same way*).
- A willingness to respect high-quality standards of provided products/services (*to ensure high quality and avoid negative experiences*).
- A willingness to cooperate with and promote other BEE PATH members under the “fair play” understanding (*to allow for guided tours and to sustain the current model of operation*).

It is clear from the above set of criteria that becoming a part of the physical BEE PATH is not only a question of the content/topic that one can provide but also of a willingness and ability to cooperate with other BEE PATH members in a proper and reliable manner.

Therefore, we can find a great blend of topics and types of members within the actual BEE PATH (for evidence, see the next chapter).

Despite all the set criteria, the fundamental principles of the BEE PATH cooperation model remain unchanged:

- All the work on individual locations is organized and implemented by the BEE PATH members themselves.
- The City of Ljubljana provides coordination and support for all BEE PATH members and acts as “an operational dynamo”.
- All members are free to communicate and cooperate freely but are expected to inform all the other members about their activities. So-called “silent BEE PATH members” provide expert support.
- All the work on the level of the BEE PATH is done on a voluntary basis and under a “fair play” understanding between members.
- To help organize and coordinate all activities, all the members co-design a Honey Event Calendar, which is a very important tool of the BEE PATH.

The BEE PATH

In this chapter, we aim to fully describe the latest version of the BEE PATH in Ljubljana. However, since there are many variations, the team decided to present the most commonly used and visited option. It is important to emphasize at this point that the physical BEE PATH is located only in the urban part of Ljubljana, though it will be extended to rural areas in the next stage of the path implementation in line with the improvement plan.

On the map on the following page, it is easy to see how Ljubljana decided to connect all its points of interest, what kind of points are included on the map, and how easily it can be combined with any other guided tour around Ljubljana.

Nevertheless, the Bee Path map must also contain at least the most basic presentation of every interest point in order to allow visitors (exploring the Bee Path on their own) to understand the key attraction factors, as well as what to expect at the location. This is why we suggest that all transfer cities use the following list of the most crucial information to make sure that they collect all key information:

- The name of the interesting point;
- Exact address;
- A short description with the key attraction factors;
- Instructions on how to visit;
- Estimated time needed for the visit;
- Opening hours;
- Entrance fee;
- Other services and facilities available to visitors;
- Where to look for additional information.

When creating a tourist map, the amount and parts of the information used depends on the overall concept and design. A simple map, with a complimentary booklet that includes more detailed information about all points is also a good option. Of course, both can be set up using modern technologies (e.g. apps, QR, etc.).



ČEBELJA POT / BEE PATH 40 min / 3 km

Od dediščine do urbanega
Where heritage meets urban

- 1 Slovenski etnografski muzej
Slovene Ethnographic Museum
Metelkova ulica 2
- 2 B&B Hotel Ljubljana Park
Tabor 9
- 3 Medex (Trgovina / Shop)
Miklošičeva cesta 30
- 4 Pri kolovratu (Gostilna / Guesthouse)
Ciril-Metodov trg 14
- 5 Ika (Trgovina / Shop)
Ciril-Metodov trg 13
- 6 Stolnica sv. Nikolaja
Cathedral of St. Nicholas
Dolničarjeva ulica 1
- 7 Osrednja ljubljanska tržnica
Ljubljana Central Market
Pogačarjev trg 1, Adamič-Lundrovo nabrežje 2-7
- 8 Trubar
Okrepčevalnica in slaščičarna
Snack bar and sweet shop
Trubarjeva cesta 53

ČEBELJA POT / BEE PATH 1 h 50 min / 7,50 km

'Od cveta do cveta, čebelica leta!'
'The bees go buzzing one by one'

- 1 Botanični vrt Univerze v Ljubljani
University Botanic Gardens Ljubljana
Izemska cesta 15
- 2 Plečnikova hiša
Plečnik house
Karunova ulica 4-6
- 3 Cankarjev dom
Prešernova cesta 10
- 4 Stojišče za čebele v Parku Tivoli
Beehives in Tivoli Park
46.0524, 14.4925
- 5 Narodni muzej Slovenije
National Museum of Slovenia
Muzejska ulica 1
- 6 Drevored avtohtonih malih jesenov
na Slovenski cesti
*Tree-line of autochthonous flowering
ashes on the Slovenska cesta Road*
- 7 Mestna hranilnica Ljubljanska
City Savings Bank of Ljubljana
Čopova ulica 3
- 8 Medarska ulica
Medarska ulica Street
- 9 Stolnica sv. Nikolaja
Cathedral of St. Nicholas
Dolničarjeva ulica 1
- 10 Ljubljanski grad
Ljubljana Castle
Grajska planota 1

V smeri proti Botaničnemu vrtu sledimo oznakam »Botanični vrt UL«, v nasprotni smeri proti Ljubljanskemu gradu pa oznakam »Pot Fleischmannovega rebrinca«.

In direction towards the Botanic gardens, we follow the »University Botanic gardens« signs, in opposite direction towards the Ljubljana Castle, we follow the »Fleischmann's Parsnip path«.



Vodenje po Čebelji poti v Ljubljani
Guided tours of the Bee Path in Ljubljana

1 Klub profesionalnih turističnih vodnikov Slovenije
Slovenian Professional Guides Association
☎ +386 (0)41 737 717
klubvodniki@gmail.com
www.professional-touristguides.com
☑ professional guides

☑ Vodenja prilagojena tudi slepim in slabovidnim ter globalno oviranim /
Guided tours can also be adapted for the blind and visually impaired and the movement-impaired

2 Turizem Ljubljana
Ljubljana Tourism
TIC Turistično informacijski center
TIC Tourist information centre
Adamič-Lundrovo nabrežje 2,
Ljubljana
☎ +386 (0)1 306 12 35
tic@visitljubljana.si

Čebelja pot v Ljubljani
The Bee Path in Ljubljana

'Od cveta do cveta, čebelica leta!'
'The bees go buzzing one by one'

BEE PATH Ljubljana
Source: City of Ljubljana

Below you can find a few examples of the above-mentioned BEE PATH points in Ljubljana.

Name of the point (map number):	BOTANIC GARDENS (1)
Address:	lžanska cesta 15, 1000 Ljubljana
A short description of the key attraction factors:	The botanic gardens where visitors get acquainted with melliferous plants and different pollinators (Smithsonian Library exhibition). Visitors can visit the City Apiary and get information about bees and wild pollinators. They can see autochthonous plants from various habitats. The Botanic Gardens also includes the glass-house with tropical plants.
Instructions on how to visit:	You can visit by yourself and walk around the Botanical Garden and the City Apiary freely, but local guidance around the garden is available for a fee.
Estimated time needed for the visit:	Up to 1 hour
Opening hours:	Every day Summertime: April-October from 7 AM to 7 PM / July-August from 7 AM to 8 PM Wintertime: November-March from 7:30 AM to 5 PM
Entrance fee:	Free of charge for individuals / GUIDED TOURS available for a fee DURATION: PRICES FOR UP TO 15 PEOPLE: PRICES FOR OVER 15 PEOPLE: 1 hour €67.50 / group €4.50 / person 2 hours €82.50 / group €5.50 / person 3 hours €90.00 / group €6.00 / person DISABLED: 25% discount on the given price. Price list for at least 15 people.
Other services and facilities available to visitors:	Toilet, Cafeteria Primula, Botanic Gardens shop, benches for rest
Where to look for additional information:	www.botanic-gardens-ljubljana.com/en

Name of the point (map number):	CENTRAL MARKET (7)
Address:	Kopitarjeva ulica 2, 1000 Ljubljana
A short description of the key attraction factors:	At the Central Market of Ljubljana, many beekeepers sell their products. Also, beehive panels and other bee products are sold as products or souvenirs. The market itself is a landmark of cultural heritage that is well worth visiting.
Instructions on how to visit:	Visiting the market is possible during opening hours – when closed, you can still access the buildings.
Estimated time needed for the visit:	Up to 1 hour.

Name of the point (map number):	SLOVENE ETHNOGRAPHIC MUSEUM (1)
Address:	Metelkova cesta 2, 1000 Ljubljana
A short description of the key attraction factors:	<p>Visitors can see the exhibition on beekeeping, the presentation of beeswax candle making, a gingerbread workshop and a store in Ljubljana. The exhibition presents the life story of the gingerbread and candle-making master craftsman Jakob Krbavčič and his son and successor Andrej Krbavčič.</p> <p>Honey Experience – honey experiences for every generation and every taste are also available here according to the following program:</p> <ul style="list-style-type: none"> • A honey-sweet welcome; • The story of the Lectarija Museum Shop, designed by the most famous Slovene architect Jože Plečnik; • Guided tour of the beekeeping collection at the exhibition Between Nature and Culture • Workshop: paint your own beehive panel (painted beehive panels from the front of traditional “kranjič” beehives, which are stacked together in an apiary).
Instructions on how to visit:	<p>As an individual – regular monthly guided tours on Sundays. Group visits – on demand Duration: 90 minutes Language: English, Slovene Number of participants: 2 – 20 Groups: discounts, reservation required, possible also outside regular hours</p>
Estimated time needed for the visit:	2-3 hours
Opening hours:	<p>Tuesday-Sunday: 10 AM – 6 AM Honey experience – every Thursday at 3 PM, every Sunday at 11 AM</p>
Entrance fee:	<p>Regular entrance: €6.00 adults, €3.00 children Price for the Honey Experience: €25 per person</p>
Other services and facilities available to visitors:	Toilet, cafeteria, museum shop
Where to look for additional information:	www.etno-muzej.si/en

Name of the point (map number):	RESTAURANT PRI KOLOVRATU (4)
Address:	Ciril metodov trg 14, 1000 Ljubljana
A short description of the key attraction factors:	<p>One of the oldest restaurants in Ljubljana, with a rich history and known as a gathering point for many Slovenian poets, writers and intellectuals. When this restaurant entered the BEE PATH, they decided that they would present a special sweet with honey. Students of gastronomy and tourism developed three sweets and the guests selected one of them – panna cotta with honey. They serve it with sparkling honey mead produced by one of the local honey-wine producers.</p>
Instructions on how to visit:	Just enter, sit down and wait to be served
Estimated time needed for the visit:	As long as you like
Opening hours:	Monday-Sunday and holidays: 10 AM – 11 PM
Entrance fee:	Free
Other services and facilities available to visitors:	Toilet, BEE PATH specialities can be tasted here – honey wine / honey sparkling mead / honey dessert
Where to look for additional information:	www.kolovrat.si/english

Exploring the BEE PATH Today

So, how can a potential visitor to the BEE PATH explore it? They have two main options – to explore the BEE PATH on their own or to join a guided tour.

If the visitor decides to join one of the guided tours, certified tourist guides have been trained to deliver 2 half-day or 1 full-day guided tours. The guided tours are further described in Chapter 2.2.7. – Development. The organisation and coordination of guided tours, of course, requires a higher level of organisation and 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 organized experience.

If a visitor decides to explore the BEE PATH on their own, plenty of information is available on the website of the City of Ljubljana. However, this is currently the only available source of information as the BEE PATH is:

- Not presented in any tourist brochure, map or leaflet.
- Not promoted actively as a tourism product.
- Not clearly marked – the individual locations are not marked with a logo or any other form easily recognizable by visitors.

Consequently, we can conclude that the availability and quality of information could be further improved, making this an improvement topic for the City of Ljubljana itself. Of course, individual members are responsible for developing their own tools and approaches to present their activity, product or service to visitors.

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 Bee Path follows these operational steps:

- 1) **Explaining what a Bee Path is** – for BeePathNet project partners, this step should not be a problem, as your ULGs already know what we are talking about. Some of them visited and experienced the BEE PATH in Ljubljana during our Boot Camp. For other potential cities willing to take on the challenge of the BEE PATH transfer, this is an important 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 stakeholders. The importance of this step should not be underestimated.
- 2) **Cross-checking interested ULG members against the eligibility criteria** – In the previous chapter, it was explained why the eligibility criteria are so important for any bee path to function. Here we provide a list of the most important eligibility criteria that you should consider:
 - Are you willing to be promoted as part of the Bee Path and be visited by visitors to the Bee Path?
 - Are you able to fit into or improve the overall story of the Bee Path?
 - Are you able to prove that your provided services/products are appropriately licensed and are safe for use by the general public?
 - Are you able to provide adequate facilities for visitors in line with the actual topic of your individual location and willing to limit yourself to your actual capacities?
 - Are you willing to provide services/products on a constant or at least a regular basis?
 - Are you willing to explain the Bee Path story, as well as your role in it, to all visitors in a proper manner and in at least 1 foreign language?

- Are you willing to respect the high-quality standards of provided products/services?
- Are you willing to cooperate with and promote other members under the “fair play” understanding?

However, the listed eligibility criteria should be revised before their use as other/additional criteria may be relevant in your case. Upon completion of the list of eligibility criteria, it should be presented and explained to your ULG members. Only after a proper presentation and explanation of why they are important should the question “*Who wants to join the physical Bee Path?*” be raised.

- 3) **Selecting locations and defining a Bee Path** – based on positive answers to all the eligibility criteria from interested members, you are ready to select your locations and define a Bee Path on the map. Of course, there are various techniques and tools available for this purpose – from designer tools to Geographic Information Systems (GIS). It is advisable to employ the internal or external support of an expert for this step. However, laying out a Bee Path on the map is just as efficient for discussion within the ULG.

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 interest points, which allow the visitor to fulfil all their needs and desires. This also includes basic needs such as access to toilets, food and beverages, rest areas, etc. If such points of interest are not integrated into the Bee Path, visitors can lose their focus and divert from the path, to search for them. As soon as this happens, we are at risk of losing them 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 Bee Path story and then slowly add more and more details through the following points of interest. So, don’t forget to tell your story in a logical, coherent and narrative manner.

- 4) **Defining the story for the selected locations** – each of the included ULG members should define its key topic and create a story around it. He or she should also come up with an interesting way of presenting the location to visitors in a proper and professional manner. If some of your ULG members are less experienced or lack skills for this, other ULG members or internal/external experts can support them. But in principle, this is their own responsibility. If they are unable to deliver this on a satisfactory level, despite internal/external support, this is the first signal that they might not be a good fit for your Bee Path.
- 5) **Defining the overall Bee Path story** – this is one of the most complex steps in the whole process, as all the involved ULG members need to agree on the overall story behind the Bee Path. It should be widely accepted as the involved ULG members will 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.
- 6) **Marking the selected locations** – the next step is the graphic design of your Bee Path (logo, markings, promotional materials, etc.) and then marking the selected locations with visible and easily recognizable markings. This might sound easy, but in an urban environment, where there are already many signs and markings, 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 (e.g. informational/educational boards, etc.) about the location and its connection to the Bee Path.

- 7) **Designing promotional materials** – you should also develop at least one “hand-out” type of promotional material. Within the BeePathNet project, partners decided on an A3 sized double-sided map of the 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 Bee Path map stand out in the flood of other promotional materials in a classic tourist information setup. Thus, we advise internal/external expert support.
- 8) **Publicizing the Bee Path** – in today’s tourism market, almost no tourism product/service can be successful without a carefully planned promotional campaign. For BeePathNet project partners, this should be easy, as we are implementing a prolonged promotional campaign throughout the duration of the project. If you are a city looking for an individual transfer, this will also help, as you can use already established and available communication channels to promote it.
- 9) **Designing the guided tours** – Again a step that might seem easy at first glance but it usually proves to be an undertaking. This is also why none of the BeePathNet partners opted to do it within the framework and lifetime of the project. Regardless, it consists of at least 3 internal steps.

Firstly, 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. Of course, further modifications linked to the specifics of the groups should be dealt with on the spot by the responsible tourist guide. If you implemented steps 4 and 5 effectively, this will help immensely. If not, this offers an opportunity for you to upgrade the contents of steps 4 and 5 to a desirable level. When designing the guided tours, you should pay attention to the overall story and select the points on the Bee 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.

Secondly, 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 shorten the training period and effort on both sides.

Thirdly, you need to ensure a reliable and well-promoted reservation and guidance system. This is the operational heart of any guided tour operator 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.

- 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 of your Bee Path. 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.

- 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 organically

if your ULG is meeting regularly and functioning as it should. Of course, 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, as well as help you survive under various circumstances.

Examples of On-Going Cooperation with Stakeholders in Key Tourism Topics

It was mentioned in Point 3 of the previous chapter that it is important to design the Bee Path from the point of view of the visitor and to adapt it to their actual needs. This means that anyone trying to design a Bee Path is facing an important test – how to provide the right mix of interest points when one is already limited by the content and willingness of stakeholders to be actively involved?

In the case of the City of Ljubljana and its BEE PATH, all the interested stakeholders can be divided into 2 groups:

- **Content providers** – all stakeholders providing a part of the BEE PATH story that are directly linked to beekeeping, bee-products or one of its correlated topics (e.g. cultural heritage, biodiversity, etc.).
- **Tourism service providers** – all stakeholders providing tourist services that are interested and willing to modify/upgrade/improve their services to support/enhance the BEE PATH story.

Despite this conceptual division, they all need to decide for themselves what they are willing to offer and how they will participate in the Bee Path. Both are equally important and complement each other. However, each group has its own specifics and aims to fulfil its own interests. And these facts need to be well understood and accepted if we want our Bee Path to be successful.

Cooperation with Content Providers

Truth be told, content providers are the backbone of any thematic tourist path and the Bee Path is no different. They are stakeholders that provide the most important pieces of the Bee Path story and are able to present it on their own. However, individually their messages don't tend to be coordinated and/or aligned. Subsequently, they can be quite interested in participating, as they see important added value in the joint key messages and benefit of the storytelling. And if this also opens up the opportunity to attract more visitors, even better... But only up to a point.

Usually, such content providers are either public institutions (e.g. museums, parks, etc.) or beekeepers and small bee-product producers. Both groups have their specifics, for example:

- **Public institutions** often see their activity within the Bee Path as part of their own promotion (with the aim of attracting more visitors) or as a tool for awareness-raising (usually about one of their core activities) – but in both cases, their active participation is usually limited by their capacities and available time, as this is only a side-interest for them. You can expect them to be quite active at the start but will quickly let you know that they have reached the limit of their capacities and might not be willing to go beyond. They are much less likely to adapt their primary mission, expand their capacities to the needs of the Bee Path and/or exploit new opportunities. This being said, it should not be taken as a criticism, rather as a lesson learned from the BEE PATH experience. If managed/supported correctly, they will be the backbone of your Bee Path, providing you with much-needed stability and reliability.
- **Beekeepers and small bee-product producers** see the Bee Path as a product promotion and sales platform and are limited by their existing capacities even

faster than the public institutions – simply by the fact that they don't have the manpower. Their activity within the Bee Path is less predictable and often driven by personal interest, passion and the opportunity to promote/sell their products. Again, this should not be taken as a criticism, rather as a lesson learned from the BEE PATH experience. If managed/supported correctly, they can become the heart and soul of your Bee Path.

Slovene Ethnographic Museum

The Slovene Ethnographic Museum, the central institution for the preservation of ethnological cultural heritage in Slovenia, has been part of the BEE PATH from the very beginning. After the first contact, some elements of the permanent collection concerning beekeeping – Plečnik's "Lectarija" honey bread store, beehives, candles, honey bread, etc. – quickly became part of a "mini BEE PATH" in its own right.



Slovene Ethnographic Museum
Author: Miha Špiček
Source: Slovene Ethnographic Museum

Exhibition: "Heksagon: Where bees are at home"
Author: Marko Habič
Source: Slovene Ethnographic Museum

They were also one of the first BEE PATH members to make a connection to other stakeholders like the Hotel Park (presented in the next sub-chapter). Educational courses or workshops on painting beehive panels – an old form of traditional beehive decoration – are a part of their regular program. Since so many elements of the beekeeping tradition were already available in the museum, a connecting story was formulated quite quickly and easily in the form of a 3-hour event called "The Honey Experience". In it, visitors:

- Get to know and experience the honey-related traditions in Slovenia,
- Visit the "Lectarija" honey-bread store,
- Learn about the importance of our architect Jože Plečnik and his connection to beekeeping,
- Are offered Plečnik tea and urban honey from one of the urban beekeepers,
- Visit the beekeeping exhibition and
- Finish with a workshop on beehive panel painting.

During the celebration of the first World Bee Day, a permanent exhibition was set up and honey- and candle-making workshops were delivered. Another exhibition was set up entitled "Where Bees Live", focusing on different forms of beekeeping and beehives, as well as on urban beekeeping and a presentation of the BEE PATH.

Plečnik House

Jože Plečnik, our famous architect, built two important apiaries – one in Lány (Czech Republic) and one in Ljubljana. They are both considered Urban Apiaries. In the garden of the Plečnik House in Ljubljana (museum) stands an apiary that was also a role model for students of architecture and that developed the idea of urban apiaries and beehive stands. It is a part of the permanent presentation of Plečnik's heritage in Ljubljana.

There, visitors get to know the principle of Plečnik's *opus moderandi* on the example of the apiary. He used local, natural materials, he always made the object user-friendly and he used very common materials, thus making the production cheaper. But nevertheless, every product he made has an artistic note as well.



Apiary in the garden of the Plečnik House in Ljubljana
Author: Doris Kordić

Urban apiary design by students of architecture
Source: BeePathNet photo archive

The Plečnik House is also a fantastic place for the presentation of other elements that Plečnik created – candle holders and candles for example, which were made from beeswax. Subsequently, his home (now a museum) is a very logical and well-connected part of the BEE PATH story, linking an important historical figure and his legacy, the interpretation of Ljubljana's distinctive architecture and urbanism with the story of urban beekeeping.

Ljubljana's Facades

Due to the cultural importance of bees in Slovenia, many buildings and companies used them as a logo – as shown in the picture of the main entrance to Ljubljana's first Slovene-owned savings bank. Similar architectural markings can be found on many facades – especially those co-financed by the Bank.

These types of interest points aren't represented by a stakeholder but are still a vital piece of the BEE PATH story in Ljubljana. This is why they should not be overlooked. On the other hand, this makes it harder to integrate them into a Bee Path, especially if no guided tours are provided.

Key Messages from the BEE PATH Experience

All the above-presented examples show a clear connection to the Bee Path story and can easily be connected to it, despite the fact that not all of them are represented by an active stakeholder.

However, when developing a Bee Path, one should also pay attention to the order of visiting all the content providers – or in other words on how the Bee Path story is told to a visitor. Having a starting point at a location suitable for presenting the bigger picture of the Bee Path and then adding more content at subsequent points is just as or even more important than having all the right content providers involved in your Bee Path. So, don't forget to tell your story in a logical, coherent and narrative manner.

Cooperation with Tourist Service Providers

These stakeholders or Bee Path members will not only make our Bee Path visitor-friendly by providing all their tourist services but can (through proper story-telling) elevate the Bee Path story to a whole new level and make it into a memorable experience.

Why? Because we are humans and the human experience of virtually anything is based on our 5 key senses – sight, touch, sound, taste and smell. Now, the first three (sight, touch and sound) have already been satisfied by our content providers. They explained



Main entrance of the Savings bank Ljubljana
Author: Doris Kordić

and presented the Bee Path story and allowed us to see, touch and hear everything there is. But tourist service providers are experts in allowing us to add the missing 2 senses as well, allowing us to smell and taste the Bee Path story, completing our experience and fulfilling our basic human needs.

In the next few paragraphs, we will present three examples of actual BEE PATH members from Ljubljana (a hotel, a restaurant and a tourist farm), their stories and the roles they play within the BEE PATH today.

B&B Hotel Park Ljubljana

The B&B Hotel Park Ljubljana was one of the first hotels in Ljubljana to recognize the importance of green tourism. More importantly, they immediately understood that just switching to nature-friendly chemicals and the reduced consumption of water is not enough. They were searching for something more. They came across information about the BEE PATH and approached the City of Ljubljana, explained their story and became actively involved.



The B&B Hotel Park Ljubljana
Source: BeePathNet photo archive

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

From the very beginning, they were very creative and developed their own bee story by themselves and tailored to their needs. One of the first locations of urban beehives in Ljubljana was on the roof of the B&B Hotel Park Ljubljana. As they didn't have a beekeeper among their staff, the bees were (and still are) taken care of by the experienced urban beekeeper Gorazd Trušnovec (hired as external support). They are an important part of the green story of the hotel, as:

- They explain the green tourism story within the hotel to all hotel guests.
- The rooftop can be visited by hotel guests and visitors with a guide (internal hotel staff) every day during the week at 11.00 (CET).
- They produce honey, which is available to guests at breakfast in prepared sweets and as a souvenir.

However, as an active BEE PATH member, B&B hotel Park Ljubljana also organizes events connected to awareness-raising and promotion of the bee story, as well as hosts the presentation of the BEE PATH itself on their web page (www.hotelpark.si/en/bee-path). It was also the first location on the BEE PATH to be marked with the BEE PATH sign.

Pri Lazarju Tourist Farm (Podgrad pri Ljubljani)

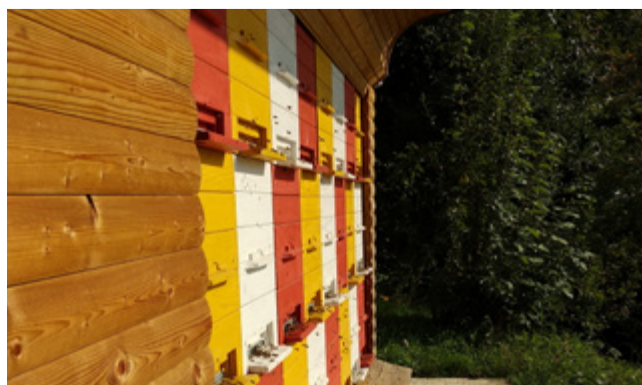
The Pri Lazarju tourist farm is an ecological tourist farm on the outskirts of Ljubljana, providing guests with more than just food, accommodation and rural scenery. A zoo of local farm animals and an apitherapy apiary available to guests and visitors set them apart from other similar tourist farms in the area.

It is also an interesting case, as the owner of the farm was not targeted directly by the BEE PATH, but learned about the BEE PATH from another BEE PATH stakeholder, Franc



The tourist farm Pri Lazarju
Source: BeePathNet photo archive

Beehive at the tourist farm pri Lazarju managed by BEE PATH member Apiprodukt, Čebelarstvo Žerjal
Source: BeePathNet photo archive



Žerjal. He was a beekeeper and was looking for a location for his beehives. He entered the entrepreneurship education programme for farmers, organized by the City of Ljubljana, and during the course, found a shared interest with the farmer Milan Bizjan – the owner of the Pri Lazarju tourist farm.

From then on, they started developing the story together and created a partnership. The farmer built an apiary, also suitable for conducting apitherapy, while the beekeeper provided bee families, takes care of the bees and conducts apitherapy treatments. The apiary is open to visitors and is a part of the regular offer in the rural part of the BEE PATH (it is also one of the key points of interest in a full-day BEE PATH guided tour). During the summer period, guests can also taste the honey ice cream and buy locally produced honey and other farm products. This location is promoted as an apitourism farm on the national apitourism forum (www.apiturizem.si/en) and is visibly marked with the sign of three bees. They offer a programme for groups booked in advance, but every visitor has the opportunity to visit a beehive during their stay (www.apiturizem.si/en/cebelaarstvo-zerjal). The location is fantastic and provides a nice viewpoint of the Ljubljana surroundings. Also, the connection to tourist farming is fascinating.

It sounds like a great story, right? However, lately, both partners have started to see each other more as rivals than partners, so the future remains quite uncertain.

Pri kolovratu Restaurant

The Pri kolovratu restaurant is one of the oldest restaurants in Ljubljana, well-known for being visited by many Slovenian intellectuals throughout its history. The owners recognized the BEE PATH and its key messages as an interesting business opportunity after they were approached by members of the Professional Tourist Guide Club, who were looking for a local restaurant they could recommend to their groups.

The restaurant decided that they would create a BEE PATH dessert in order to link itself with the BEE PATH story. They involved the Secondary School of Gastronomy and Tourism Ljubljana and, together with mentors and students, created four honey-based desserts.

Honey based dessert inspired by the BEE PATH
Source: BeePathNet photo archive

Honey wines
Source: Čebelarstvo Jere



When the desserts had been developed, they presented them to their guests and let them decide which should be included in the regular offer of the restaurant. The guests chose the panna cotta with local honey, which is now available on a daily basis. So, it is no surprise that the restaurant is often visited by BEE PATH guided tours.

Encouraged by this success, the owners were looking for new connections with other bee-product producers, most successfully with Čebelarstvo Jere, a producer of mead and honey wine. Together, they created a successful cooperation where the honey wine is sold as a prize item on the wine menu at the restaurant, creating added value for both partners.

Key Messages from the BEE PATH Experience

In all three presented examples, cooperation between individual stakeholders – without too much interference from the City of Ljubljana – is clearly visible and was actually of key importance for their success. In the end, we need to understand the following specifics of business owners and take them into account:

- Businesses are businesses, and business owners have to see their interest and feel the connection to the Bee Path story. Otherwise, they will simply not join.
- When promoting the Bee Path story, it is not necessary to convince them using the above-stated best practice examples or to visualize it for them. Simply tell them the story and let them decide how far they are willing to go and how they will do it.
- Not everyone will understand the Bee Path story or be interested and willing to join it. And just as in all other cases, that's OK. Some may join you later, while some might even leave – and that's OK too because the Bee Path should remain open to new members and flexible in its setting.
- Do not make a common mistake and see tourist service providers as merely “service providers”, as they can support you in numerous ways:
 - They can promote your story and tell it in ways you or other stakeholders cannot – directly through their services – and thus create an experience for your visitors.
 - They can interlink and cooperate with other producers, promote/sell their products for a higher price or jointly create new products/services.
 - They can teach other stakeholders marketing and business development skills, as well as expose them to the latest trends in the tourism industry, etc.

Professional Guidance on the BEE PATH (Guides and Guided Tours)

When Ljubljana acquired the title of the Green Capital of Europe in 2016, Tourism Ljubljana was searching for green stories in tourism. They had a lot of historical, cultural and architectural stories, but not many or almost no green ones. Therefore, they were eager to embrace the idea of creating guidance around the already established BEE PATH in Ljubljana.

At the time, Maruška Markovčič had already developed and prepared an idea on how to establish the physical BEE PATH and what points to visit. Various types of points were included – from historical points, architectural and art elements to urban beekeeping and the beekeeping tradition in Ljubljana. She prepared the materials (archive materials, written articles, etc.) for every location and created some guidance for the tourist guides.

At the same time, the Club of Professional Tourist Guides and the Slovenian Beekeepers Association organized a special educational course for tourist guides on the topic of beekeeping. Maruška Markovčič attended it and got a Bee Guidance License. She

used this knowledge, combined it with her knowledge of beekeeping, and upgraded the content on the BEE PATH in Ljubljana.

Based on all these materials, Tourism Ljubljana organized the educational course for local guides (Tourism Ljubljana educates its own guides and awards local guide licenses) and Maruška Markovčič presented the idea of beekeeping and the BEE PATH in Ljubljana. She guided new guides around the BEE PATH and in 2016, the first 20 local guides received additional training on beekeeping in Ljubljana and were trained to guide visitors around the BEE PATH.

After guide training, Tourism Ljubljana was able to offer a guided BEE PATH walking tour to visitors on a daily basis and to promote it as a special way to get to know Ljubljana. It is not available on a daily basis at a pre-determined hour, but rather on demand. It lasts roughly 2 hours and visitors also get additional knowledge about the history of Ljubljana and general facts about Ljubljana and Slovenia. The meeting point for groups is in front of the Tourist Information Centre in Ljubljana and the ending point is in the Botanic Gardens.

All the guidance is in the hands of local tourist guides, except for the Botanic Gardens, where melliferous plants and the City Apiary are presented by their own staff. If the visitors want to see the urban beehives on one of the roofs, its beekeeper is invited to present them. Guidance can be arranged in 7 languages.

Through cooperation with the Club of Professional Tourist Guides, other tours (some presented below) can be ordered. However, BEE PATH content is regularly used to enrich regular guided tours around Ljubljana – for example, some elements of the BEE PATH are added as a curiosity and to show how the heritage of beekeeping and concern about pollinators and bees is carried out and interpreted in Ljubljana.

Three additional on-demand guided tours are currently available to take visitors around the BEE PATH. They were co-developed by the tourism consultancy company URTP, Svetovanje v turizmu, Andrej Šumer s.p. (by Andrej Šumer) and the City of Ljubljana (by Maruška Markovčič).

2 half-day (cca. 5.5 hours) and 1 full-day (cca. 9 hours long) guided tours are available. They can be implemented as individual guided programmes. However, it is recommended that they are incorporated into general guided programmes around Ljubljana to make them more attractive to the average visitor.

Both half-day guided tours target the following types of visitors to Ljubljana:

- Visitors who do not want an over-crowded schedule – they are usually willing to spend half of their day in an organized manner while leaving the other half for their own exploration of Ljubljana, shopping, leisure or other free activities.
- Visitors spending more than one day in Ljubljana and searching for additional shorter attractive topic-oriented guided tours.
- Visitors focused on beekeeping or any correlated topic (e.g. biodiversity, local products and crafts, etc.), exploiting the opportunity to visit the BEE PATH.

The full-day guided tour targets the following types of visitors to Ljubljana:

- Visitors focused on beekeeping or any correlated topic (e.g. biodiversity, local products and crafts, etc.), coming to Ljubljana with the purpose of experiencing the BEE PATH.
- Visitors spending more than one day in Ljubljana and searching for additional full-day attractive topic-oriented guided tours, allowing them to experience the BEE PATH in full.

BEE PATH Half-Day Guided Tour – Option 1 – Focused on the Presentation of Bee-Products

Time	Activity	Required resources
8:00 – 8:30	Gathering of visitors at the meeting point and travel to the Honey Corner company	Tourist guide Transportation
8:30 – 10:00	A visit to the Honey Corner company – walking tour around the beehives with a presentation of the beekeeping, emphasis on the medicinal added value of bee-products and the use of bee-products in cuisine	Local guide Product tasting Product selling-point
10:30 – 10:40	Travel to the FerMedica company	Tourist guide Transportation
10:40 – 11:40	A visit to the FerMedica company – visit the beehive and the bee-product production, with an emphasis on various bee products (gifts, candles, dried fruits, honey, etc.)	Local guide Product tasting Product selling-point
11:40 – 11:45	Travel to the Beekeeping Jere company	Tourist guide Transportation
11:45 – 12:45	A visit to the Beekeeping Jere company – a short presentation and history of the company, a presentation of the production of honey-wines, sparkling mead presentation and wine tasting	Local guide Product tasting Product selling-point
12:45 – 13:30	Return to the meeting point	Tourist guide Transportation

BEE PATH Half-Day Guided Tour – Option 2 – Focused on Experiencing Green Urban Solutions

Time	Activity	Required resources
8:00 – 8:30	Gathering of visitors at the meeting point and walking to the Botanic Garden	Tourist guide
8:30 – 10:30	A visit to the University Botanic Garden – walking tour around the Botanic Garden, emphasis on biodiversity and the linkages between flora and bees	Local guide
10:30 – 11:15	A visit to the Primula tea-house in the University Botanic Garden – a special tea with honey tasting, a presentation of the urban beekeeping concept in Ljubljana	Local guide Product tasting
11:15 – 11:40	Walking to the B&B Hotel Park Ljubljana	Tourist guide
11:40 – 12:10	A visit to the B&B Hotel Park Ljubljana – seeing the urban beehive on the hotel rooftop and enjoying the scenic view	Local guide
12:10 – 13:30	A visit to the Ljubljana urban community – a unique community promoting urban gardening and beekeeping, open communication and discussion with community members	Local guide
13:30 – 13:45	Return to the meeting point	Tourist guide

BEE PATH Full-Day Guided Tour – Experiencing the BEE PATH in Full

Time	Activity	Required resources
9:00 – 9:30	Gathering of visitors at the meeting point and walking to the Slovene Ethnographic Museum	Tourist guide
9:30 – 10:00	A morning cup of coffee in the SEM coffee house with a presentation of the daily itinerary	Tourist guide Coffee house
10:00 – 12:00	A visit to the Slovene Ethnographic Museum – a guided tour around the Beekeeping Ethnographic Exhibit	Local guide
12:00 – 12:35	Walking to and visiting the B&B Hotel Park Ljubljana – seeing the urban beehive on the hotel rooftop and enjoying the scenic view	Tourist guide Local guide
12:35 – 14:00	A visit to the Ljubljana urban community – a unique community promoting urban gardening and beekeeping, open communication and discussion with community members	Tourist guide Local guide
14:00 – 14:30	Travel to the “Pri Lazarju” tourist farm	Tourist guide Transportation
14:30 – 16:00	Lunch – local cuisine with an emphasis on home-made honey-oriented food and drinks	Local guide Restaurant
16:00 – 17:30	A look around the “Pri Lazarju” tourist farm – a scenic viewpoint, seeing the local zoo and the beehive, discussion about beekeeping and a healthy lifestyle linked to the use of bee products, bee-product tasting	Local guide Product tasting Product selling-point
17:30 – 18:00	Return to the meeting point	Tourist guide Transportation

Tourism in Nea Propontida – Case study



The City of Nea Moudania
Author: Ioannis Sarakatsanos

Bees and Tourism in Nea Propontida

Greece has a long tradition of tourism and hospitality, mainly due to its history and ancient civilisation. Guests were considered sacred in ancient Greece. Zeus Xenios, the father of the gods, also became the god of hospitality to protect guests and inspire locals to look after them (Buhalis, 2001).

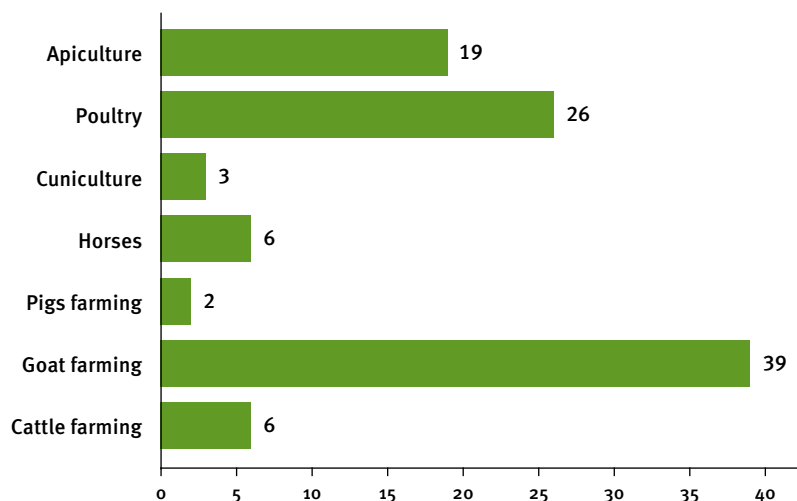
Halkidiki is the main tourist destination in the whole region of Central Macedonia. It is worth mentioning that Halkidiki is the prefecture with “the bluest flags” in Greece (the iconic **Blue Flag** is one of the world’s most recognized voluntary eco-labels awarded to beaches, marinas). In previous years, tourism in Halkidiki relied solely on the “sun and sea” model. However, the region needs to diversify its tourism offer and turn its focus towards alternative types of tourism.

The Municipality of Nea Propontida can capitalize on many advantages – for example:

- Local producers of high-quality agricultural and livestock products such as olives and olive oil, honey and other beehive products, grapes and wine, meat (goat and sheep especially), feta cheese, fruits and nuts, etc.
- Gastronomic tourism and agritourism, which have the potential to be further developed to introduce visitors to nature and a rural lifestyle, as well as local products.
- Its natural wealth like the AGIOS MAMAS lagoon area, a nature reserve belonging to the Natura 2000 Network

Tourism is the engine generating growth and income for the region, as it forms a large market for primary and secondary sector products. Maximizing the links between sectors, particularly between tourism and the agri-food sector, will produce multiple positive results in local entrepreneurship and employment. Subsequently, the qualitative upgrade of existing services and their enrichment with new and alternative types of tourism should be pursued, but always with respect for the environment, which is the primary attraction factor for tourists/visitors to the Halkidiki region.

Livestock farm distribution in Halkidiki area (2013)
Source: Hellenic Statistical Authority



Beekeeping and Apitourism

According to the official statistics, Halkidiki is Greece’s champion in honey production – with beekeeping (19%) being the third-largest livestock sector in Halkidiki, just after poultry farming (25%) and sheep & goats (39%). This makes local honey one of the most important and famous local products.

The main types of honey produced in the region are pine tree honey and flower honey, while a diverse range of other types of honey (heather, chestnut, etc.) are produced in smaller quantities. The production of secondary products, such as royal jelly, propolis and beeswax, is also important. Producers often join their forces in cooperatives such as the Nikiti “Sithon” Beekeepers’ Cooperative, well known for the production of high-quality certified honey.

Halkidiki’s well-developed beekeeping, supported by renowned expert institutions like the Department of Apiculture of the Institute of Animal Science of the Hellenic Agricultural Organisation “DEMETER” (HAO DEMETER) and combined with the unique natural environment (rare bee flora, ideal climate), favour the production of high-quality honey and enable the further development of the beekeeping sector.

With such advantages, the municipality seized the opportunity to participate in the URBACT BeePathNet Transfer Network, with the clear aim of strengthening cooperation between its two existing potentials – tourism and beekeeping.

Apitourism is a logical option as it is recognized as an alternative form of tourism, inextricably linked to the art of beekeeping and the life-cycle of bees. It provides the opportunity for visitors to discover the traditions and practices of beekeeping on-site, while learning about the use of bee products, the local culture, natural beauty, gastronomy and local traditions.

A visit to the apiary, the observation of bees in their natural environment, beekeeping museums, tasting various types of honey, candle- and cosmetics-making demonstrations, cooking and tasting traditional dishes with local honey, apitherapy, tours of melliferous gardens, etc. are the main activities of apitourism that could be developed or improved in Nea Propontida and Halkidiki.

As apitourism is a clear example of an activity where economic growth depends on the protection of natural resources and the quality of our environment, it is in its own interest to educate consumers to become more aware and responsible. This is why apitourism should be used as an important channel for the dissemination of knowledge and education, as all the offered services should also include full information about

bees, their life-cycle and their importance for maintaining the environment and our food sufficiency.

As such, apitourism is also easily connectable to other nature-based tourism products and services and addresses a specific type of visitor who are no longer just “tourists” and passive recipients of what has been organized for them. On the contrary, they expect to gain experiences, actively participate in everyday events, take part in local activities and are keen to experience the emotions and stories linked to the cultural and natural heritage of the destination they are visiting.

The Development Perspective of Apitourism in Greece

Currently, only a few businesses are active in apitourism in Halkidiki and Greece in general. However, the combination of the existing number of visitors, the search for alternative tourism products and services, and the indisputable high-quality beekeeping make it a potentially attractive apitourism destination.

The positive growth prospects of apitourism in Greece are already being investigated by a survey of honey consumers in the City of Thessaloniki (participants in leisure trips spending at least one night) by a Tourism Business Administration Programme (EAP). According to the results, consumers prefer Greek honey, are aware of its beneficial effects, and trust and select local producers to obtain it. Although the majority have not heard of apitourism before, they have a positive attitude towards it. Most express a desire to visit a beekeeping facility – not only to buy honey (73%), but also to participate in beekeeping activities and are willing to spend additional money on it (83.4%).

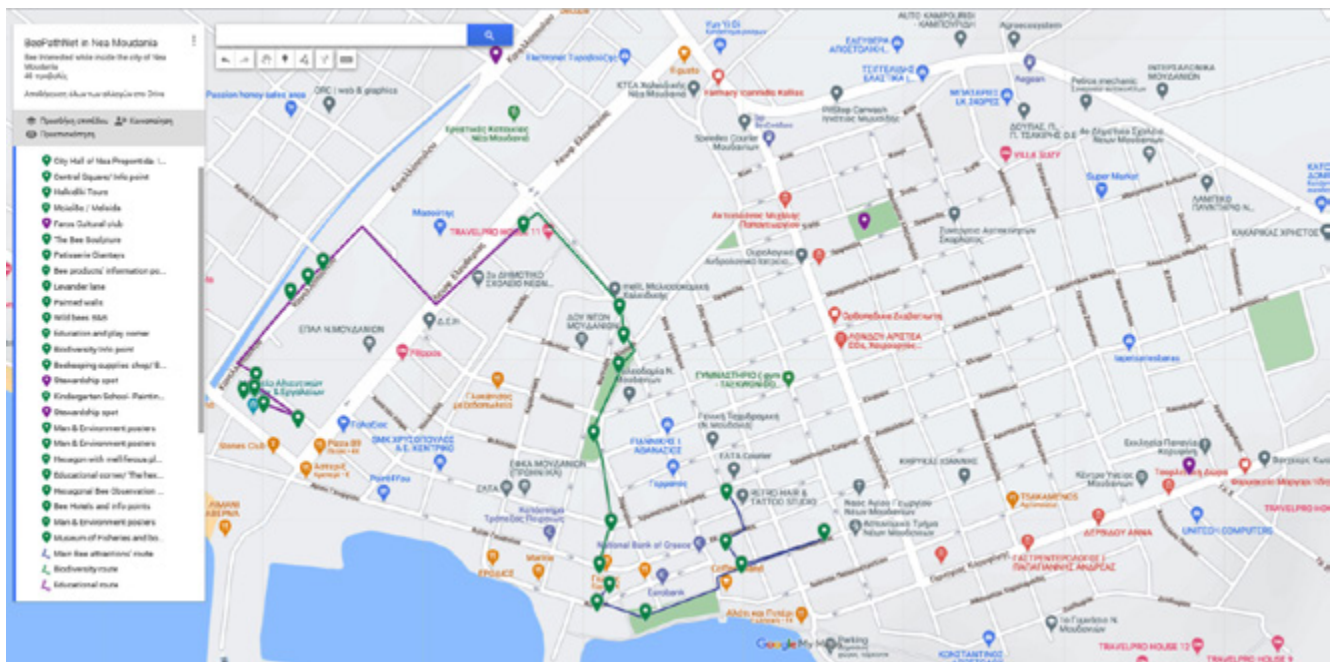
Based on this, we can foresee apitourism having many positive impacts – diversifying tourism, increasing its added value, generating additional income for beekeepers, and strengthening the fame of “Greek honey”. However, there are several prerequisites to be met before we will see any positive impacts, mostly linked to the responsibility and professionalism of all the stakeholders, cooperation, joining forces in marketing and promotion, the development and quality monitoring of apitourism routes, etc.

The First Steps Towards Apitourism

The first real steps towards the introduction of apitourism in Nea Propontida were done under the umbrella of the BeePathNet project – and as in any transfer process, they were slow but steady. Initially, the focus was on informing citizens, beekeepers, tourism professionals and other stakeholders about apitourism and its added value for Nea Propontida. In the next step, based on the participatory approach principles, we jointly identified existing potentials and interested ULG members. It was only then that the project team started designing Nea Propontida’s Bee Path in cooperation with ULG members.

In the end, not one but two Bee Paths were designed and we can present the initial maps (drafts or blueprints) for “BeePath 1” and “BeePath 2”.

The **Inner Bee Path** or “**BeePath 1**” is a short walking route within the city. It connects key points of interest – for example, an exhibition on beekeeping, cultural heritage and beekeeping connection points, a bee-friendly park with melliferous plants, pollinators’ nests and beehives hosted in a public area, bee-related information and educational boards for visitors, a hexagon-based outdoor recreation/relaxation area, several bee-themed games, observation beehives, works of art, a kiosk for info and local bee products, and local gastronomy focusing on local bee products.



Draft map of the Beepath of Chalkidiki
 Author: Antonis Pashos



ΣΗΜΕΙΑ ΕΝΔΙΑΦΕΡΟΝΤΟΣ
POINTS OF INTEREST

1. **Ν. ΜΟΥΔΑΝΙΑ | N. MOUDANIA**
 - Κεντρική Πλατεία | Central Square
 - Μουσείο Αλιευτικών Σκαφών και Μελισσοκομίας | Museum of Fishing boats & Beekeeping Education
2. **ΑΓ. ΜΑΜΑΣ | AG. MAMAS**
 - Ινστιτούτο Μελισσοκομίας | Institute of Apiculture
 - Παραδοσιακά προϊόντα - "Vagio Agrotism" | "Vagio Agrotism" - Traditional products
 - Αμφοθέλασσα - περιοχή Natura 2000 | Lake - Natural 2000 site
3. **Ν. ΓΩΝΙΑ | N. GONIA**
 - Αντάρθραϊκος | Windmill
4. **ΠΕΤΡΑΛΟΝΙΑ | PETRALONIA**
 - Σπήλαιο | Cave
5. **Ν. ΡΥΣΙΟ | N. RYSIO**
 - ANEL Honey Park | ANEL HoneyPark
6. **ΟΛΥΝΘΟΣ | OLYNTHOS**
 - Αγγία Γλυφός | Ancient Olynthos

7. **ΣΤΑΓΕΙΡΑ | STAGIRA**
 - Πάρκο Αριστοτέλη | Aristotle's Park
 - Αρχαίο Στάγειρο | Ancient Stagira
8. **ΝΙΚΗΤΗ | NIKITI**
 - Μελισσοκομικός Συνεταιρισμός "ΣΙΣΧΟΝ" | "ΣΙΣΧΟΝ" Beekeeping Cooperative
9. **ΑΡΝΑΙΑ | ARNIAIA**
 - Παραδοσιακό χωριό | Traditional town
 - Αγ. Στεφάνου | St. Stephanos Church
 - Αγ. Παράσκει - Πάρκο αναψυχής | Agia Paraskevi - Leisure Park
10. **ΑΡΝΑΙΑ | ARNIAIA**
 - Κέντρο Περιβαλλοντικής Εκπαίδευσης | Environmental Education Centre
 - Λιθογραφία και Μελισσοκομικό Μουσείο | Ethnographic and Beekeeping Museum
 - Πράσινο χωριό | Green Village agrotism
11. **ΤΑΞΙΑΡΧΗΣ | TAXIARCHIS**
 - Περιπατητικές διαδρομές (Περιοχή Natura 2000) | Walking paths (Natura 2000 site)
 - Μουσείο Πανεπιστημίου | Museum of the University
 - PASSION Honey Park | PASSION Honey Park
12. **ΒΑΡΒΑΡΑ | VARVARA**
 - Καταράκτες | Waterfalls

BEEPATHMAP
 ΝΕΑ ΜΟΥΔΑΝΙΑ - ΧΑΛΚΙΔΙΚΗ | NEA MOUDANIA - HALKIDIKI



Draft map of the BeePath in the City of Nea Moudania
 Author: Antonis Pashos

The **External Bee Path** or “**BeePath 2**” takes visitors both inside and outside the city limits, covering points of interest linked to beekeeping all over Halkidiki and linking it to the unique landscapes of natural and cultural heritage.

The visitors to the Municipality of Nea Propontida, following the Bee Path, will have the opportunity to:

- Discover the life of a bee and its importance for the environment.
- Learn about all kinds of beehive products and their beneficial properties for humans.
- Visit an apiary to see the bee community up-close and get to know, taste and feel the wonderful local bee products.
- Learn about native (some of them endemic) melliferous plants, their importance and properties.
- Play the game “Find the Bee in the City” and get an award.
- Taste a product associated with honey and bees from a local business – for example, a drink (beer, rakomelo, etc.) or taste a dish or dessert made with high-quality and flavoursome local honey.
- Play games in the bee park – if one is a child or feels like a child,
- Visit the exhibition dedicated to bees, discover important information about bees and beekeeping, and be taken into the past to find out how they used to practice beekeeping in the Halkidiki area.

Creating the Bee Path in Nea Propontida

This Bee Path development process could be best described by the following main actions carried out by the project team:

- An awareness-raising and education action entitled “Learning About the Bees From the Bees – I’m Not Afraid of Bees!” for citizens of Nea Propontida, designed to eliminate the fear of the bees.
- Transforming the city into a Bee-friendly city – urban beekeeping/biodiversity/sustainability action.
- An action devoted to building strong collaborations – cross-sectoral cooperation to create a new tourism product, build the foundations for apitourism, and strengthen the local economy.
- Designing the Bee Path in Nea Propontida.

Learning about the bees from the bees – i’m not afraid of bees

this was an activity organized with the aim of informing and raising awareness about bees and their importance for the environment and food production for humans amongst the general population. Through it, people had a chance to get familiar with topics like biodiversity, pollination, environmental protection and urban beekeeping. However, one of the more important goals was to eliminate the fear of bees.

Educational programs were implemented in schools with an emphasis on safety and protection. Or in other words, how children should behave when they find themselves near bees.

Education seminars for beekeepers and teachers were also organized, alongside workshops and brochures about pollination and the benefits of bee products, presentations of apitourism to local tourism agencies, the organisation of exhibitions and the annual Honey Festival, a seminar for raising the awareness of farmers about the use of pesticides, etc.



Awareness poster: Protecting bees from pesticides
Author: Vicky Fantidou

Elementary school children during a melliferous planting event during WBD celebration in 2020
Author: Elisavet Papoulidou



Transforming Nea Propontida into a Bee-friendly city

One of the main steps is the creation of the appropriate infrastructure in the Municipality of Nea Propontida, which means upgrading the urban environment by increasing greenery in the city with an emphasis on maintaining and enhancing biodiversity, creating spaces for information, recreation, and the promotion and advertising of local beekeeping and local bee products. In this context, the following activities were launched:

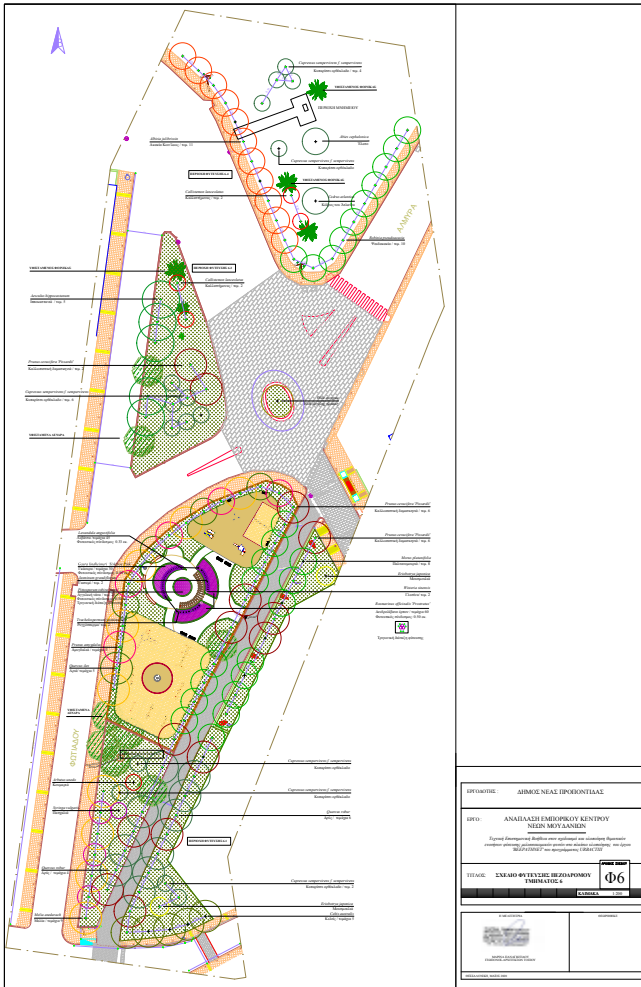
Plantings in the City

Today, in the Municipality of Nea Propontida, greenery is almost non-existent – there are no forests and parks are scarce. Targeted planting actions with a focus on endemic plants are attempting to change the profile of the city with the vision to gradually transform it into the most Bee-friendly city in Greece in the years to come.

This is why the Municipality of Nea Propontida started planting in public spaces – near schools – creating flowerbeds in the city with melliferous plants, native Greek flora and mass tree plantings in parks and roads.

It was fortunate that this action coincided with the implementation of three ongoing public space renovation projects in the city. ULG members suggested adapting/modifying the original plans of those three projects, so that native melliferous plants can be planted at the sites in question. Consequently, pedestrian streets, parks and gardens will be planted with melliferous trees and plants. Several technical drawings, like the one on the next page, have been prepared for other parts of the Bee Path in order to create a number of well organized “tree and shrub” alleys. Local plants are a priority of course.

External experts – from the Department of Apiculture and the Institute of Plant Breeding and Genetic Resources of HAO DEMETER – were consulted to select the most suitable plant species; the municipality will have an open call for citizens to volunteer and help with planting, thus reinforcing the awareness-raising efforts.



Graphic presentation of melliferous trees and shrubs along the Bee Path in Nea Moudania
Author: Marina Panagiotidou

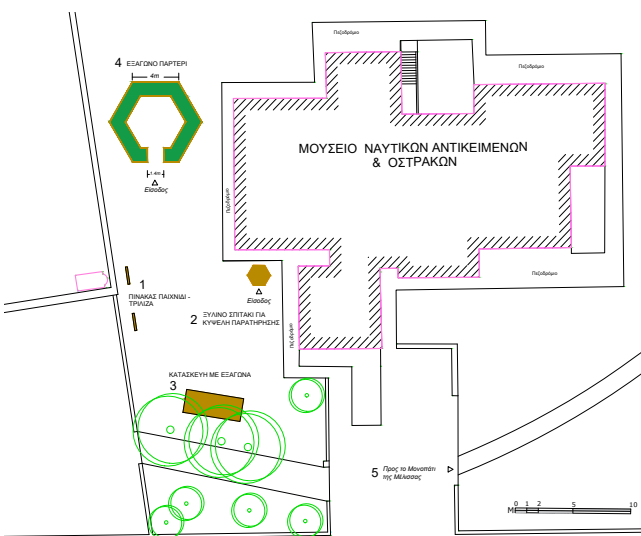


Diagram of construction in the Museum park
Author: Marina Panagiotidou

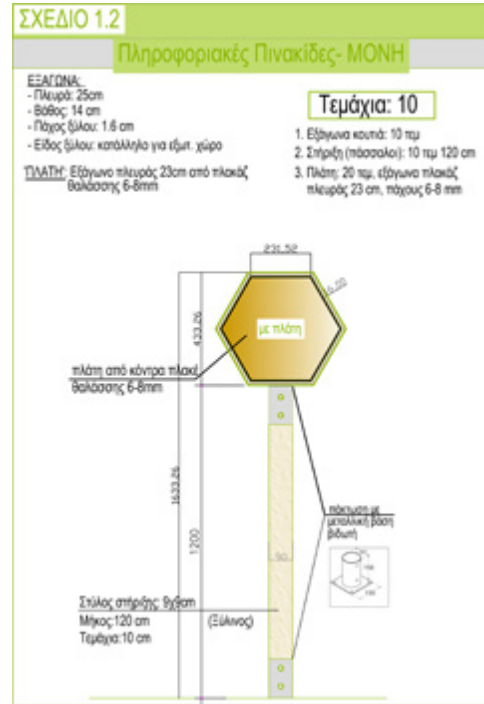


Diagram of information sign
Author: Elisavet Papoulidou

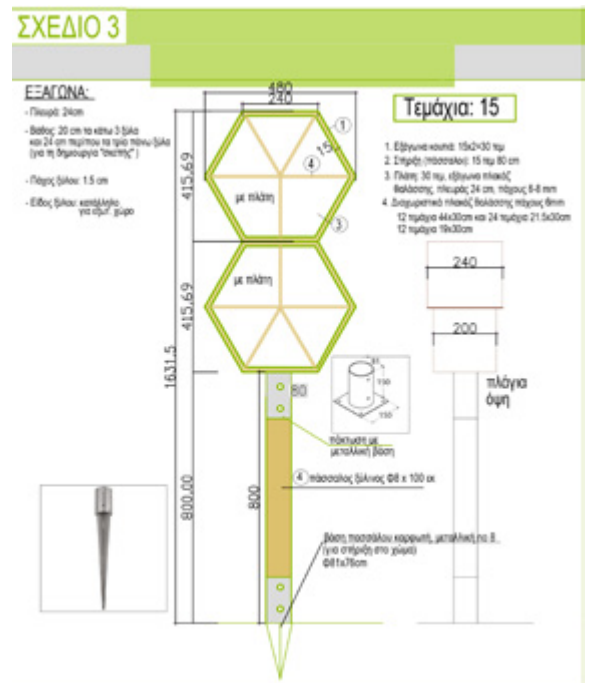


Diagram of nests for solitary bees
Author: Elisavet Papoulidou

ΕΠΙΔΑΠΕΔΙΟ ΠΑΙΧΝΙΔΙ
με εξάγωνους τσιμεντένιους κυβόλιθους πλευράς 10cm

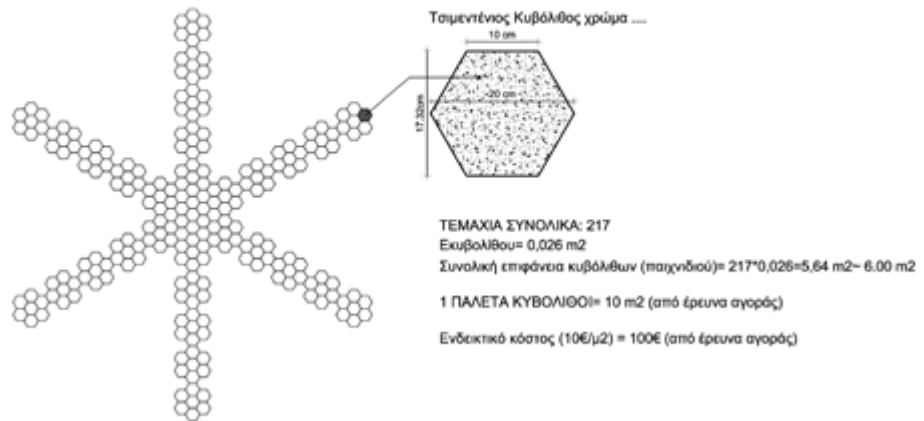


Diagram of an education ground game
Author: Elisavet Papoulidou

In total, 500 trees, 1,000 shrubs, 500 climbing plants and 2,500 flowers will be planted – all within the boundaries of the Inner Bee Path route and subsequently marked as interesting points under the name of Bees and the Environment”.

As the last step of the project, educational wooden boards with a hexagonal shape have been designed to be paced along the Bee Path. They will be devoted to information on melliferous plants, bees and wild pollinators, as well as urban biodiversity in general. Together with the educational boards, hexagonal wild bee nests will also be placed between the trees and the scrubs.

A Park Dedicated to Bees

Just outside the Museum of Fishing Boats and Gear is a relatively large public green space (cca. 2,000 m²) that was, until now, almost unexploited. This space will gradually be transformed into a park dedicated to bees and the environment. It will include the following:

Flowerbeds and corners with melliferous plants in a huge hexagonal shape, and of course hexagonal information boards about the plant species.

- Bee hotels and pollinator nests like the one already established
- An outdoor seating area will be created by combining hexagonal shapes, forming an image of the cells of the hive. The structure will have three uses – as an area for relaxation and recreation, as a children’s playground and as information/educational point. This location will also be used by teachers who will visit the park to educate students on environmental issues and bees.
- Games for children – for example, Tic-Tac-Toe game boards with questions and answers on the topic of bees.
- A hexagonal shelter, with a suspended hive from its roof, covered in glass, as an observation hive, where visitors will be able to get an up-close look at a real hive without the presence of a beekeeper.
- An open space game with hexagons forming flowers, (mainly to be played with the help of teachers in the context of implementing educational activities), etc.

The park will generally be open to the public all year round with no entrance fee. There will be an information board showing the layout of the place and other instructions for the facilities so that visitors can discover and use it without a special guide.



A bee hotel
Author: Fani Hatjina



Selection of old handmade hives
Author: Nikos Pashalidis

In the near future, a net cage containing 2 colonies will be placed on the roof of the museum. Demonstrations will be performed by ULG members, preferably beekeepers, who will receive appropriate training and instructions.

In collaboration with the members of the local team, activities for schools will be prepared every year. The schedule of each year's activities will be planned early in the autumn and will be decided on by the ULG members. Yearly activities could also include workshops on candle-making, crafts like pollinator nests, gardening, a presentation by a beekeeper, honey tasting, games, video watching, a play, music or dance event etc.

A Permanent Exhibition of Beekeeping History at the Museum of Fishing Boats and Gear in Nea Moudania

A permanent exhibition of beekeeping history is currently being created. The exhibition will be located in the building of the Museum of Fishing Boats and Gear. Traditional hives, beekeeping tools and beehive products with posted information related to the practice of beekeeping in Halkidiki will be presented here. Visitors will also have the opportunity to watch 15-minute videos about beekeeping. The exhibition will be open to the public free of charge.

List of Posters

The Museum will also serve as a learning hub, an educational centre for beekeeping.

A short beekeeping course for kindergarten and elementary school kids will be implemented, facilitated by a number of posters hanging on the walls of the main multi-uses room of the Museum, by educational cards and material, as well as with a virtual hive.

The themes of the posters will be:

- The Nest of the Honeybee – The Other Bees
- The Hive Nest-Mates – Biological Cycle
- Behaviour – The Communication of Bees – Safety with Bees
- The Food of the Bees – What the Bees Offer in Return
- Diseases, Enemies, Healthy Bees
- The Diversity of Bee Products



A virtual bee hive
Author: Athina Apostoloudi



Children searching for the queen in the virtual comb
Author: Athina Apostoloudi

Plantings in Private Spaces

BeePathNet ULG members have put in place the Best Bee Balcony (BBB) contest inviting citizens to create the best bee-friendly garden or balcony in the city. And they did it all – they set the terms for participation, selected the contest committee, prepared brochures with beekeeping plants and tips, created and published press releases, as well as found sponsors of prizes for the first three winners. In this way, several goals of the BeePathNet project were achieved simultaneously – empowering ULG members to take action, raising awareness and mobilizing citizens for action, making their balconies and gardens ‘bee friendly’ and laying the foundations for urban beekeeping.

In the future, the municipality plans to expand the action Turning my City Into a Green City to a greater extent within the boundaries of the whole Municipality of Nea Propon-tida, with the attraction of sponsorships and the participation of volunteers on an even larger scale.

Kiosk Promotion of the Bee Path and Local Bee Products

In order to strengthen the local economy, a promotion point will be created on the Bee Path, where visitors can get information about the Bee Path, bees and beekeeping in Nea Propon-tida. Visitors will also be able to find all other apitourism-related information here – for example, information about events, maps, brochures and other promotional material in order to promote and support the local beekeeping products of the region.

Outdoor Bee-Related ArtWorks

Along the Bee Path, street corners are planned to be decorated with bee-related works of art – for example:

- A wonderful sculpture by an artist from our city has already been created and placed at a central point on the Bee Path, also signifying our city’s symbol. Other sculptures or pieces of art will be added in the future.
- Paintings on walls, painted by inspired artists from the city, are also in the planning stage.



Small area with melliferous plants
Author: Vicky Fantidou



The Bee sculpture in Nea Moudania
Author: Charalambos Toumbekis

Urban Beekeeping – Hosting Beehives in the City

In the future, green areas surrounding streams and the coast near the City of Nea Moudania are planned to be enriched with native melliferous plants and trees, enhancing urban biodiversity and providing pasture for bees. Beehives may be placed in this area, which will be maintained and supervised by ULG members. Any honey produced will be distributed to schools/kindergartens for their breakfast.

Building strong collaborations to establish the Bee Path

the municipality developed strong collaborations with companies, organisations and people from the tourism and primary sectors, in order to be able to lay the foundations for apitourism, the benefits of which have already been mentioned.

Following more or less the transfer guidelines and steps of Ljubljana’s good practice, the Municipality of Nea Propontida cooperated with institutions, tourist enterprises (hotels, restaurants, etc.), beekeepers and producers of all bee products in general (candles, cosmetics, etc.). Thus, two categories of partners are distinguished:

- Partners who provide services with specific thematic content, so-called “content providers”.
- Partners from the tourism sector who are encouraged to adopt Bee-friendly initiatives and creating or enhancing the existing green profile of their businesses, so-called “tourist service providers”. Members of the same group will also promote bee products and increase awareness of bees and their services.

Cooperation with Content Providers

In our case, cooperation with public and private sector bodies whose work is already related to bees and the environment and can thus be easily connected to the Bee Path is quite strong. The stakeholders able to provide a service such as story-telling are mainly the municipality itself, beekeepers with apiaries suitable for visits, beekeeping cooperatives and beekeeping thematic parks. During the BeePathNet project, fruitful cooperation was established especially with the following content providers:

- **The Municipality of Nea Propontida** – organizes specific presentations and activities that will be implemented on a regular basis and will be addressed to the general public. After proper training, an employee of the municipality will deliver presentations of the permanent beekeeping exhibition in Nea



Apitouristic spot in the Vagio Agrofarm
Author: Vicky Fantidou



An observation hive at the event "Bee Day" at Passion Honey
Author: Athina Apostoloudi

Moudania, the theme park located next to the Museum and the flora of the area and the history of the city regarding beekeeping. Presentation of the observation hive, as well as of the beehives hosted in urban areas, will be implemented by local beekeepers. Activities acquainting people with the honey of the area – honey tasting, honey festival, workshops for children – will be programmed and organized on a regular basis.

- **The Vagio Agrofarms company** – where traditional products such as olives, oil, honey and aromatic plants are sold, also enables visits to its apiary. Two painted hives, many flowers and an insect hotel comprise a uniquely hospitable and friendly environment where visitors can be informed about the importance of pollinators in the environment.
- **Passion Honey** – the mountainous area of Holomonta, Halkidiki, in an area designated as a special protection zone by the Natura 2000 program, is home to the beekeeping unit Passion Honey. Visitors come in contact with a unique natural landscape based on melliferous plants – mainly firs. Certified organic honey – awarded in international competitions – can be bought here, alongside many other bee products such as pollen, royal jelly, propolis, honey dressing, 'rakomelo' and honey beer. Of course, a tour of the apiary is a unique experience that no visitor should miss.
- **The SITHON Cooperative** – founded in 1952, is one of the largest honey cooperatives in Europe and is located in a neighbouring municipality, in the area of Nikiti, Halkidiki. The Cooperative is the largest in Greece and produces a wide variety of honey types, predominantly flower and pine honey. Annual production exceeds 1,000 tons, which is equivalent to 12-14% of the annual Greek honey production. The Cooperative provides visitors with an opportunity to see the facilities of the cooperative, the process of collection and packaging, to taste the honey and to learn about the various types of honey and other bee products. The cooperative has a quality management system, a quality control laboratory and controls the entire production chain of its certified products.
- **The "ANEL" Honey Park** – is located on the border of the Municipality of Nea Propontida with the Municipality of Thermi in Thessaloniki. It is one of a kind in Northern Greece, allowing visitors to:
 - Follow the paths of the park with either a 'self-guide' map or a guide-beekeeper;



The apiary of Anel Honey Park
Author: Asterios Papastergiou

- Admire an open-air nature museum;
- Relax in the apitherapy houses, specially designed places where one can enjoy the “bee buzz” and beehive aromatherapy;
- Try out or taste pure beehive products, herbs and cosmetics and get info on their use and benefits from expert scientists;
- Watch the bees working in an observation beehive.
- Experience and learn about the beekeeping flora of Greece, which is constantly threatened by anthropogenic interventions.

Cooperation with Tourist Service Providers

The municipality has developed collaborations with tourist service providers that operate in the area. Businesses that participate in the Bee Path will get multiple benefits such as building or strengthening an environmentally friendly profile and offering different products to their customers while supporting top-quality local products, thus adding value to their services.

Collaboration between tourism companies (hotels, travel agencies, etc.) and beekeepers and producers of bee products in general (waxes, candles, cosmetics, etc.) are related to actions such as holding workshops, honey tasting, presentations, events organisation, etc. Tourist service providers will cooperate with apiaries and farms and offer this alternative form of tourism to their customers.

Through cooperation with restaurants, the rich gastronomy of the region will be highlighted, especially dishes, desserts and beverages based on bee products. Desserts such as yoghurt with honey, melomakarona, ‘diples’, donuts, etc., all made with pure Halkidiki honey, are only a few of what the region can offer. Original quality and award-winning products of the region such as oxymeli, honey, honey beer, etc. can be displayed through the restaurants and cafes of the region.

- **Gastronomy and the Bee Path – Stop for Some Delicious Treats!** – restaurants and cafés create products with honey and honey ingredients, exclusively from local producers. The patisserie makes “diples”, cookies and honey biscuits, the tavern prepares dishes inspired by traditional local recipes (e.g. chicken with honey and mushrooms, lentil salad with honey dressing such as oxymeli) and desserts like peaches with honey and vanilla and ice cream with honey, honey pie with cinnamon and honey cookies.



Traditional Greek honey desserts
Author: Elisavet Papoulidou



Traditional Greek Christmas honey desserts
Author: Elisavet Papoulidou

One can also drink beer made with quality local honey from a local brewery, as well as liqueurs with honey and rakomelo. Businesses work with local beekeepers to create a so-called “value chain” that allows consumers to learn and enjoy quality local products. The information that accompanies the product with the appropriate narratives, when serving the customer, is transformed into cultural communication and an experience of the locals’ lifestyle. All such partners participating in the Bee Path will be listed on the respective maps along with a description of the service and tourism product they offer.

- **Shops in the City** – Find the Bee in the City Game – the project team designed a bee-themed game in the city. The game is to be played as follows:



BeePathNet logo of Nea Propontida
Author: Elisavet Papoulidou

- Starting from the permanent beekeeping exhibition or from the information kiosk, the players (mainly to our little friends of the bees) will be able to get a printed map of the game. The purpose of the game is for players to visit specific points around the city, partner stores and members of the Bee Path, who have the special marking in their window. The player’s goal is to discover the bee and the bee story inside the store.
- When the bee is found, the player must answer an easy question about the bees and/or the bee products. If the question is answered correctly, the player gets a stamp on their map’s corresponding point. If they manage to collect all the stamps, they win a prize (a badge, a small jar of honey or a wax ointment, lip balm, plant seeds, etc.), which can be picked up from the starting point of the game (where the player got the map).

Companies of all kinds (bookstores, pharmacies, etc.) participate in the Find the Bee game – all will be listed on the respective maps along with a description of the service and tourism product they offer. The distinctive logo of the BeePathNet Nea Propontida will be placed outside each business, so the tourist can know who is participating in the game.



World Bee Day event in Passion Honey apiary
Author: Athina Apostoloudi



A small nest for Osmia bees resting on a tree
Author: Fani Hatjina

- **Hotels** – Cooperation with hotels includes:
 - Organizing gastronomy nights focusing on honey as a key ingredient.
 - Breakfast offered to customers includes bee products from local producers, members of the Bee Path.
 - Informing their customers about the Bee Path and the offered services and linked activities through their website and with the printed information material (brochures, booklet and map) that will be given to them by the municipality.
 - Creating a package for a half-day or full-day excursion that will include a visit to an apiary or a visit to the honey festival that the municipality organizes every summer.
 - Creating gardens with herbs and bee plants in their premises to promote their use in the kitchen and also for the promotion of the company's contribution to urban beekeeping and the protection of bees and the environment.
 - Placing a display of bee products produced by local producers within their premises (in the lobby).
 - Organizing events on the subject of bees and hive products that include: honey and other product tasting, children's presentation by a beekeeper, workshops for adults and children (cooking, confectionery, candles, soaps, ointments, etc.). The activities will be organized after the hotels have consulted with the beekeeping members of Bee Path and an agenda will be prepared every year.
 - The hotels participating in the Bee Path will be listed on the respective maps along with a description of the content of the service and the tourism product they offer.

To date, contacts have been made with representatives from hotels and tourist accommodation and there has been a positive response on their part to the above proposals for cooperation with the municipality in the context of the implementation of the Bee Path. However, it has not yet been possible to organize a specific action plan with any of these hotels, so we cannot present any good practices – yet!



A forager honeybee on Photinia Fraseri flowers
Author: Fani Hatjina

Overcoming Challenges and Conflicts

Through its involvement in the BeePathNet Transfer Network, the Municipality of Nea Proponitida seeks to:

- Exchange know-how and experience with partner cities that have developed good practices and translate this knowledge into projects.
- Establish cooperation and trust with key stakeholders (e.g. beekeepers, hotels and tourism companies in general, but also ordinary citizens, environmental organisations, educators, etc.). It is important to start developing a new citizens-government relationship where the citizens will be involved and have a say in planning and decision-making. By participating in the URBACT network, the City expects to get the appropriate tools for managing such a participative process.
- Gradually change the image of the city, creating the conditions that will allow the long-term sustainable development of the area by enabling stakeholders to capitalize on the municipality's efforts to promote new types of tourism, as well as locally produced products and services.
- Change the mentality of citizens associated with the fear of bees and increase their respect for nature and the environment. A particular effort is needed to find solutions and perspectives for cooperation between conflicting groups in the region, especially between farmers and beekeepers. For this particular task, we are seeking solutions by opening more communication channels (e.g. open discussions, workshops) and the dissemination of printed material.
- Overcome the general opinion that bees are dangerous. Firstly, people need to learn that solitary bees do not disturb people and are very docile, while their nests raise no danger for pedestrians, kids or citizens in general. Secondly, our citizens need to learn that the local honey bee, *Apis mellifera macedonica*, is not an aggressive bee and beekeepers are working towards developing an even more docile population. The possible conflict between beekeepers and hoteliers that can arise when bees visit the swimming pools can be solved and overcome with bilateral agreements.

If successful, the benefits to the region will be manifold as they will improve the city by applying the principles of sustainable development and sustainability and use this comparative advantage to stimulate the local economy by promoting local products from businesses that are active in the beekeeping and tourism sectors.

However, so far, cooperation has not proved an easy task.

The Municipality of Nea Propontida, like the rest of Halkidiki, has to face the weaknesses and problems that have accumulated during years of mass tourism development, such as tourism product standardisation, the deterioration of the environment and cultural identity, the lack of spatial planning for land use, high operating costs, seasonality, dependence on specific European markets (Germany, England) and major travel organizers and the scarcity of infrastructure, transport and other tourism facilities.

As mentioned, the Municipality of Nea Propontida began creating the Bee Path from scratch. To date, there have been few things done to redevelop the city and its environmental health. The existing City Green Office is unfortunately under-staffed and has few financial resources, so a policy for planning and implementing green projects in the city would be rather difficult to create when there are no conditions to ensure the growth and sustainability of these policies (problems in the design, maintenance and sustainability).

In addition, in our city, as is the case in almost all Greek cities, the citizens have been distanced from the decision-making processes that affect important aspects of their daily lives. When the city council decides how to implement a project that will change the city, it is quite rare for people to be asked for their views, let alone to propose ideas that would serve the design of the new project. Citizens' participation and consultation on important issues is, if not non-existent, certainly very rare.

The development of urban beekeeping and apitourism in the region is not an easy task. Difficulties are mainly found in fear. The residents' and visitors' fear of the bees, the fear of tourism professionals to try new approaches, but also the fear and distrust of beekeepers to expand their beekeeping activities to the tourism sector by making their apiaries suitable for visiting. Another difficulty in achieving this goal is the lack of a culture of developing collaborative relationships between different professional sectors, as well as between public bodies and between the public and private sectors.

Moreover, tourism businesses operating in the area wanted tangible and specific plans in order to cooperate on the Bee Path. The project team emailed proposals for potential joint actions by the municipality and beekeepers in the area and also asked for ideas and suggestions from those interested in cooperation. Unfortunately, no response has been received yet. One justification for this is that the region's tourism businesses operate fully for a specific period of time during the year (April to September). Therefore, due to the heavy workload, they have not had the time to study and work on the proposal and to eventually respond. Thus, the need became apparent for a face to face approach with this type of stakeholder and through the mediation of key people who could better influence them and motivate them for collaboration. Such persons are representatives of the Municipality Administration (mayor, deputy mayors, municipal councillors, etc.) who can more easily come into contact with people who make decisions in the field of tourism (chairman of a chamber or people from the professional chamber).

It is obvious that the difficulty of working with these stakeholders lies in the fact that, because the Bee Path is still in its infancy, it is not yet easy to understand and accept the idea. But when projects get into shape and both Bee Paths start to take place, it will be easier for them to understand what it is about and eventually motivate them to actively participate.

Finally, we would like to emphasize that designing the map and the final quality tourist product is a very time consuming, demanding and difficult task, especially for us who literally started from scratch and are without the relevant experience. We do not

Presentation of a new design of an observation hive during an Agronomy exhibition
Author: Charalambos Toumbekis



believe, therefore, that within the timeframe of the project, we will be able to deliver a perfect final tourist product, but we are sure that we will have made huge strides in this direction in the future. After all, we have laid the foundations in our municipality to change our city and our lives for the better. And as the saying goes: *The beginning is half of everything!*

Despite the difficulties, BeePathNet has taught us a lot. It is a project that gave an opportunity to people from different sectors to get involved in the design and implementation process. It was designed with the participation of citizens and all stakeholders (beekeeping institutes, environmental education organisations, beekeepers, hoteliers, enterprises, etc.) and it is a great example for the municipality of collaborating and implementing a bottom-up participatory approach. It is, therefore, an unprecedented process that is expected to teach a great deal to both the staff of the municipal services and the citizens themselves, who were invited for the first time to participate in the design of their city. Therefore, the good practice of the City of Ljubljana provides important help and a valuable guide for Nea Proponitida in developing its own path towards the sustainable development of the city and the tourism sector.

So, we are beginners in the process and this is why, at first, we kept close to Ljubljana's path of good practice. Hopefully, after this virgin flight, we will open our wings for more inspirational actions and collaborations!

7.3

Final tips and tricks

Everyone involved in the production of this guideline feels that tips and tricks are actually all we have talked about on the previous pages. However, there are still a few very important things that we need to take into account, if we want to successfully set up Bee Paths in all 5 transfer cities. Here are a few:

4) **Linking the bee path to the interpretation of local identity**

We need to be a bit self-critical and realistic at this point and admit that the topic of urban beekeeping is a very specific one and that its chances to attract many visitors are actually not that high. 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 we highly recommend that at least 1 version of the Bee Path should be merged with at least the most important elements of a classical guided tour around the city. In this way, we widen the target group of potentially interested visitors.

5) **Long-term management of the Bee Path**

The truth is that setting up a Bee Path is a challenging process. However, once we have successfully set up the Bee Path, the equally challenging work linked to its long-term management is only just beginning. Somebody has to manage it, coordinate all interest points, monitor the quality of experience and satisfaction of visitors, think about its future and development, etc. This is why it is both wise and necessary to pre-agree on its management model, roles, responsibilities and financing. BeePathNet partners have an advantage in that the project provided them with their own ULG, as well as with a Mid/Long-Term Urban Beekeeping Plan, designed to address all the stated issues.

6) **Keeping the Bee Path open for interested new stakeholders**

due to its almost NGO character, any Bee Path should remain open for interested new stakeholders, as this openness ensures its 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 needed.

7) **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...

8.

The development of bee products in the Bee Path

Endless possibilities for innovation and creation of green jobs

8.1

Bee Products in the City of Ljubljana

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 ULG members, how to motivate them for joint cooperation and how to keep them involved in the long run. Truth be told, all these challenges derive from the same **root challenge – understanding the reasons for participation and the goals and ambitions of your ULG 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 ULG members. **This is the all-important bait** or “carrot”, which we have only briefly talked about so far. Subsequently, **this makes bee products one of the top priorities in our work with ULG members.**

Of course, some ULG members enter the ULG with existing products (especially beekeepers) or with already prepared ideas that they want to pitch within the ULG. This is actually great, because we can identify these success stories and try to build on and around them – thus building the self-confidence of the entire ULG. It also gives an entrepreneurial character to our predominantly voluntary work dynamics.

However, 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 lines or borders and to reach an overall understanding and consensus about them within your ULG.

This being said, we need to emphasize that **bee product development usually starts taking off only after we have created a positive, creative and thriving environment** within our ULG – only when our members know each other, actively communicate with each other, trust each other and 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 something that begins to emerge as a logical step forward during your ULG 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 ULG members*”, etc. (all described in detail in previous chapters), which are crucial in establishing a suitable atmosphere within the ULG.

During the BeePathNet transfer process, we came to realize that the **time needed to reach this point varies greatly between ULGs and depends on many factors** – mostly on the ambitions of ULG members and the pro-activity of the ULG coordinator.

For example, **in Ljubljana**, the ULG coordinator realized that the beekeepers lacked the space and opportunities for communication and discussion. So, at the very start, the BEE PATH enabled beekeepers and their associations to discuss key opportunities and problems of urban beekeeping in a friendly and relaxed atmosphere. Solutions were identified, implemented and promoted, which attracted new members with new ideas. In this way, **a communication platform evolved into a development platform**, able to develop new bee-products and services, organize promotional and awareness-raising campaigns, improve educational programmes, etc. Of course, 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.

On the other hand, you must also be able to **realistically estimate the capabilities and capacities of your ULG 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 ULG members. If they recognize 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 ULG members, build their capacities and support them in their private entrepreneurial success? Firstly, by recognizing that there is nothing wrong with providing capacity-building to citizens, as long as it is based on free access to knowledge and information. Secondly, by developing appropriate and effective capacity-building programmes. Thirdly, 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 and recognized as relevant and important for the benefit of the city itself. This is why our BeePathNet transfer process offers a perfect opportunity for cities to identify capacity gaps and to develop and execute capacity-building programmes, while citizens can benefit from them.

However, you must not forget your role in this process – you are a facilitator, a networker, group coordinator and support provider. It must be clear from the start that members 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 you **establish clear ownership** – one of the most important things you are expecting from your ULG members.

How Does the City of Ljubljana Support its Entrepreneurs?

Entrepreneurial capacity-building support in Ljubljana is not an output of BEE PATH good practice. On the contrary, an outside observer might easily conclude that the BEE PATH good practice is one of the crown achievements of **almost 20 years of citizen entrepreneurial capacity-building processes** by the City of Ljubljana.

It all started with the widely accepted understanding that the City of 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, as early as 2004/05, the City of Ljubljana developed the first entrepreneurship capacity-building programme for farmers and their family members. Special attention was paid to younger farmers, as future farm-owners.

First Attempts

Based on knowledge/know-how gap analysis and identified needs, Maruška Markovčič (Department for Environmental Protection – Section for Rural Development),

with support from Bojan Ružič (external entrepreneurship skills development expert), created a 1-year educational programme divided into 3 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 put on the market and survive in the long term. This **first capacity-building programme was named “From a Business Idea to Success”**.

The overall aim of this Programme was to create an entrepreneurship support system for farmers under the following assumptions:

- Open market demands are becoming harder and harder on a daily basis.
- Farmers must change their beliefs if they want to maintain their position and survive in the long term.
- A capacity-building programme must be implemented by suitable experts and adapted to the actual needs of the participants, as it represents the first step on the journey towards their vision.
- The mission of the capacity-building programme is to stimulate individuals to create a group of new products in order to improve their competitiveness and ensure long-term survival on the market.

The capacity-building programme was divided into two parts. As a first step, in order to attract participants, an open **2-hour workshop** was organized on the following topics:

- What is entrepreneurship?
- What do we need to do to be successful?
- Which are our most important obstacles?
- Presentation of the capacity-building programme, its demands and its co-funding scheme.

After the workshop, a questionnaire was handed out to participant in order to assess the current situation and provide experts with an in-depth understanding of the actual gaps and needs of the participants. The participants were also asked to develop a short essay about their farm in order to reveal their mindset. Based on the collected information, experts assessed the individual situations and organized **individual meetings with interested farmers**.

In the second stage, the **capacity-building programme** was implemented over the next 6 months in the form of 3-hour workshops twice per month. It included theoretical lectures, practical exercises and homework – all carried out on their own business ideas, which were the focal point of the entire programme. In between workshops, individual consultations and meetings with experts were organized in order to provide constant on-site support to participants, but also to make sure they remained active.

To further support the participants, **side-events were organized to address specific issues** – for example:

- Understanding the market;
- Understanding the needs and habits of customers;
- Meetings with important expert institutions – e.g. the Farming Extension Service, etc.;
- Specialized lectures on specific products;
- How to join forces and cooperate, etc.

The City of Ljubljana co-funded the programme, though each participant still had to cover a part of the costs (roughly €100) in order to show their interest and take on a part of the responsibility for its success.

Over 200 farmers were invited to participate in this programme and 15 agreed to participate in 2004/05 – 10 of which successfully finished it. As the programme progressed, it was upgraded and extended in 2005/06, though only 3 farmers continued with the upgraded programme and only 1 successfully concluded it. Nonetheless, all the participants made clear progress in their daily operations and improved their entrepreneurship skills – of course, in line with their ambitions.

This success rate was anticipated to some extent and the programme developers took into account the fact that not all participants would stick with the programme all the way to the end. The fact that not all participants entering the programme have the same capacities, ambitions or stamina was also one of the more important lessons learned.

Improvements

Based on the lessons learned, the capacity-building programme was renewed and upgraded. It was divided into 4 modules, each representing a development stage. In general, the programme still used a similar approach to the original one, though it was implemented in a different timeline in 2007/08.

This time, over 700 farmers were invited to participate. 27 participants responded and finished the first development stage, which lasted only 1 month. 17 of them continued and finished the second stage, lasting 2 months. The third stage, which lasted for 10 months and in which the most visible accomplishments were made, was attended and successfully finished by 10 farmers. 4 farmers attended and successfully finished the fourth and final stage of the programme.

However, 4 fully-devoted farms (but also 6 farms that completed the third stage) made significant progress and achieved their goals in full, thus proving that the programme was successful, as long as committed participants were involved. The majority of them **successfully launched new products on the market or successfully re-oriented/diversified their business.** In the final de-briefing report, the City of Ljubljana and all the involved experts reported the following **key lessons learned:**

- Despite initial interest, not all participants are on the same level in terms of knowledge/know-how, or have the same level of ambition and willingness to implement needed changes in their daily operations.
- Each participant is able to move forward in line with their own capacities and timeline, which are (especially in cases of family farms) often and easily impacted by external factors (e.g. sickness, family disputes, intergenerational conflicts, etc.).
- Work with this specific target group demands a lot of patience, motivation and energy from the experts, as cross-generational behaviour/business patterns cannot change overnight.
- Farmers need continuous entrepreneurship support as new challenges arise – mostly linked to understanding changes on the market, staying ahead of their competition and the expectations/behaviour of their customers.
- If this support is cut off, a real risk exists that they will hit an obstacle and be unable to overcome it, putting all achieved progress at risk.

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 on a sufficient level to justify its continuation. At the same time, all those responsible learned a lot from the first attempt and understood that **different approaches could attract more participants and deliver better results.**

Things went quiet for the next 5 years. 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 in line with the existing challenges and actual needs. But **this time, the City of Ljubljana decided on cooperation** with the Ljubljana Public Education Centre – Cene Štupar – CILJ. This is one of the biggest organisations in the field of adult education in Slovenia, especially in the field of secondary education for adults, as well as in licenses for assessing and certifying National Vocational Qualifications.

From the start, all those responsible wanted to attract other partners in order to make the programme more attractive and to ensure the best possible support for attendees. Institutions included the non-profit institute Successful Entrepreneur, the Employment Service of Slovenia and Pharmacy Ljubljana. Jointly, they developed a new capacity-building programme for 2015 entitled **Creating New Opportunities for Future Entrepreneurs**. The capacity-building programme set the following goals:

- To provide all-encompassing and free support to future entrepreneurs.
- To offer individuals the opportunity to test and improve their entrepreneurship skills, as well as to learn how to assess the viability of potential business ideas.
- To increase employment.

All the partners took on specific roles in the programme:

- The City of Ljubljana offered its own agricultural land for free use to attendees, provided experts to deliver parts of the programme and co-funded its execution.
- The employment service of Slovenia took the responsibility of promoting the capacity-building programme and informing all the potential attendees, provided experts to deliver parts of the programme and co-funded its execution.
- Pharmacy Ljubljana provided experts to deliver parts of the programme and offered practical support to attendees during their start-up period, as well as offered to purchase standardized components/end products from attendees for its own pharmaceutical needs.
- Cene Štupar and Successful Entrepreneur provided experts to deliver parts of the programme.

The capacity-building programme was **focused on specific target groups**, especially young (under 30 years old) and older (over 50 years old), who wanted to develop new businesses or diversify exiting ones by venturing into the production/gathering of herbs, berries, fruits or other alternative farming opportunities. The programme also specifically requested that potential candidates clearly express their interest in cooperation, joint development and joint presence on the market, as well as embrace the entrepreneurship mindset based on self-employment principles. It was designed as a **2-stage programme**, but it is stage 1 we will focus on, as this can be directly linked to the BEE PATH and many of its members today.

Stage 1 – Searching for Entrepreneurship Ideas with Social Impacts on the Countryside

In the 1st stage, 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. It was carried out according to the following curriculum:

Week	Duration	Topic	Working methods
Week 1	2.5 h	Methods for the Development of Entrepreneurship Ideas	Lecture, group consultations
Week 1	2.5 h	Entrepreneurship – Success in Business	Workshop
Week 2	2.5 h	Identification of the Current Development Stage of Your Business Idea, Open Issues, Worst Fears and Doubts – Part 1.	Workshop
Week 2	2.5 h	Entrepreneurship – Our Mission	Workshop
Week 3	2 h	Social Impact and Farming – Breakfast with a Social Impact	Demonstration
Week 3	2.5 h	Introduction to the CANVAS Approach	Group consultations
Week 4	2.5 h	Entrepreneurship – Our Values	Workshop
Week 5	2.5 h	Testing our Entrepreneurship Ideas	Group consultations
Week 5	2.5 h	Individual Career Counselling According to the Story-Telling Method	Demonstration, individual counselling
Week 5	2.5 h	Identification of the Current Development Stage of Your Business Idea, Open Issues, Worst Fears and Doubts – Part 2.	Workshop
Week 5 – 6	2.5 h	On-Site Testing of our Entrepreneurship Ideas	Individual on-site testing with potential clients
Week 6	1.5 h	Reports on the On-Site Testing of Our Entrepreneurship Ideas	Group consultations
Week 6	2 h	Entrepreneurship Evening with a Social Impact – Farming and Social Impact in Slovenia	Workshop
Week 6	2.5 h	Entrepreneurship – Our Goals and Vision	Workshop
Week 7	3.5 h	Team, Communication, Conflict Resolution	Lecture, group consultations, additional individual consultations available if needed
Week 7	2.5 h	Reports on the On-Site Testing of Our Entrepreneurship Ideas	Group consultations
Week 8	3.5 h	Financing Opportunities for my Entrepreneurship Idea	Lecture, group consultations, additional individual consultations available if needed
Week 9	2.5 h	Legal and Operational Modalities – How do We Found/Register our Business in the Farming Sector	Lecture, group consultations, additional individual consultations available if needed
Week 9	2.5 h	How to Prepare for a Presentation or a Meeting	Workshop
Week 10	2.5 h	Marketing – How to Market and Sell Our Products or Services	Lecture, group consultations, additional individual consultations available if needed
Week 10	2.5 h	Review of our Entrepreneurship Ideas Development Progress	Group consultations, additional individual consultations available if needed
Week 11	2.5 h	On-Line Marketing, On-Line Tools, Webpage	Lecture, group consultations, additional individual consultations available if needed
Week 12	2.5 h	How to Pitch your Entrepreneurship Idea	Workshop, group consultations
Week 12	2.5 h	Stage-Fright and Public Performing	Workshop with performances
Week 13	2.5 h	Pitching the Final Entrepreneurship Ideas to the Approval Committee	Individual presentations

As you can see, the majority of topics from the original programme were preserved but were made much more flexible and incorporated two important new elements:

- An an-the-job training approach and
- The modern entrepreneurship principle “*Do you own a company or does the company own you?!?*”.

Throughout the programme, participants constantly work on their own business ideas, improving them as they progressed according to the programme. This is also why they receive homework on a weekly basis and are offered individual consultations with involved experts. Additionally, 5 voluntary activities are available to participants in the form of:

- Breakfast with a social impact – 2 topics – “Social Impact and the Community” / “Social Impact and Technology”
- Entrepreneurship evenings with a social impact – 3 topics – “Networking and Cooperation Between Social Entrepreneurs – Best Practice Examples from Slovenia” / “Business Success” / “New Entrepreneurship”.

The whole stage was based on the **Canvas Business Model** – a strategic management and start-up template for developing new or documenting existing business models. It is a visual chart with elements describing a firm’s or product’s value proposition, infrastructure, customers and finances. It assists firms in aligning their activities by illustrating potential trade-offs. Further information about the CANVAS approach can be found [on this link](#), while a **concrete CANVAS development web tool** is available [here](#).

The programme is 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 publicized through official communication channels and vocational training platforms. Although the programme was designed for a maximum of 10 participants (this limitation is necessary due to the design of the programme as it is much harder to work with a larger group), the partners decided to invite all 12 who enrolled. In the end, 8 of them successfully completed the full programme and developed their own business ideas in line with the expectations.

Subsequently, we can conclude that the programme implemented in 2015 was very successful and achieved all the set goals. It also received high grades from participants. However, the programme evaluation also revealed the following conclusions and recommendations for improvements:

- + **ADVANTAGES:** networking, good selection and flow of topics, a good tempo in the meetings, actual improvements of ideas, all-round and robust business knowledge package, new opportunities.
- **DISADVANTAGES:**
New identified needs: further individual topic related to support – especially (on-line) marketing, accounting, self-promotion, ICT/computer literacy, etc.

Recommendations:

- More focus should be placed on business idea presentations and public performance skills.
- As participants enter the programme with a diverse set of pre-existing skills and knowledge, basic entrepreneurship training should only be obligatory for the less experienced participants or should be delivered on an individual basis.
- A good idea might be a preliminary actual needs assessment carried out with the participants, allowing for a more flexible curriculum more in line with the actual needs and expectations of participants.

- More and regularly available individual consultations are highly recommended.
- More networking events and business idea testing opportunities are desired – especially when the audience consists of similar-minded or compatible people, potential customers and participants in previous programmes.
- The overall workload, especially the homework part, must be realistically calculated and announced to participants at the start of the programme, so that they can organize other obligations accordingly.

From the BEE PATH good practice and BeePathNet project perspective, we need to emphasize that **several successful business ideas and products**, which today represent important 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, etc.

Stage 2 – FERFL – Entrepreneurship Support Programme with Social Impacts

In the 2nd stage, an **Entrepreneurship Support Programme with Social Impacts – FERFL** was developed by the Ljubljana Public Education Centre – Cene Štupar almost simultaneously. It was not designed as a 2nd stage, but rather as a stand-alone programme. However, as the 1st stage participants were invited to participate and further improve their skills, we can consider it 2nd stage. It was based on the following stages:

- Stage 1 – An open public tender is held to **identify the best entrepreneurship ideas with social impacts**. A special committee is named to select the best ideas, which are automatically qualified to participate in stage 3.
- Stage 2 – Interested attendees participate in a 3-day **Start-up Weekend for New Entrepreneurs**. This is a 3-day event where attendees work with mentors on their ideas. In the end, a committee selects the best ideas, which are automatically qualified to participate in stage 3.
- Stage 3 – Selected attendees receive, over the following 3 months, 120 hours of training on business success entitled **The Countryside Challenge**. Only 6 teams are allowed to enter this competitive phase, though which ideas are further upgraded, piloted and prepared to enter the free market under the mentorship of experienced mentors.
- Stage 4 – All the remaining attendees were offered the opportunity to participate in a 3-month **“Entrepreneurial Co-Working Space”** focused on the further development of their business ideas and entrepreneurial skills. This is an entrepreneurship support programme designed to support entrepreneurs in a full-scale launch of their products and services on the market.

This programme represents a substantial upgrade from the 1st stage and additional support for entrepreneurs (already mentioned in the lessons learnt), as well as higher-level opportunities for networking and cooperation.

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 **promotion**. This is a skill in its own right and if it remains underestimated, we might end up with a great product that sells poorly and could end up abandoned just because its producer did not recognize or was not skilled enough to overcome this obstacle.

This is why we want to emphasise the importance of answers to the following questions:

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

Firstly, 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 mindset, needs, expectations and habits of the key target audiences, as the product can be further modified and/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 (e.g. older/younger, male/female, etc.) respond differently to various options. This is exactly why any product promotional campaign is liable to failure if a producer decides to use the wrong communication and promotion channels and/or approaches. Thus, it is wise to take your time and 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/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 + 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, or
- 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 refine-

ment 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.

We must emphasize that this module does not encompass communication and promotion, as this is a skill in its own right. Still, we can offer the following good practice examples produced during the BeePathNet project:

- BeePathNet Communication guidelines (see Annex 1),
- BeePathNet Communication plan (see Annex 2).

This is not an example of a communication and promotion plan for a specific product. However, the logic and many of the presented development stages used methods and proposed solutions can be modified to individual product needs. Of course, we encourage you to search for concrete best-case examples or training to improve this important skill.

BEE PATH Success Stories

In this chapter, we present 5 success stories of Ljubljana's BEE PATH members, which made use of the above-described capacity-building and, supported by new knowledge and skills, successfully developed new bee products.

Rent-a-beehive.si / Najemi panj.si

The Producer or Service Provider

The urban beekeeper Gorazd Trušnovec (b. 1973, architect, film critic, screenwriter) started beekeeping in his 30s with two beehives on the balcony of a multi-family house in Ljubljana and quickly realized that this was it! He quickly expanded his activity and now he has about 50 beehives at 17 locations. At the beginning of 2014, he and those

Beehives on a rooftop
Author: Žiga Koritnik





Taking care of beehives
Author: Žiga Koritnik

who thought alike founded the Urban Beekeepers Association, which is committed to promoting urban beekeeping. He gained entrepreneurial education through the above-described programme organized by the City of Ljubljana and the Cene Štupar Educational Centre, where he developed a special product called “Rent-a-beehive”. He upgraded his knowledge with the certificate of the National Professional Qualification for Beekeepers and andragogical training. Since 2016, he has been running a beekeeping educational circle at the Secondary Trade School in Ljubljana.

The Product – Rent-a-Beehive

The service that Gorazd developed is suitable for individuals and corporate customers. He says: *“I love working with people and bees – and I can combine both within my product Najemipanj.si!”* Since more and more big companies are recognizing the importance and added value of social and environmental corporate responsibility, he works with a diverse set of clients – for example: a bank, various cultural institutions, a gas company, a hotel... His service, as well as his marketing story, could be summed up as follows:

“Would you like to have a hive filled with bees in your city garden, balcony, terrace, roof, extension, garage, etc.? Would you like to get homemade honey from your own garden? Or maybe a zero-mile diet with complete control over production and processing? Are you interested in urban beekeeping, but not sure if this is really the right thing for you? Or maybe you just don’t have the time, knowledge and equipment for the year-round responsible care that bees require? If the answer is yes, then you should contact me!”

So how does it work? The rent-a-beehive service is usually based on a one-year agreement, where customers can rent two or more beehives. For an annual rent, a client gets 10 large glasses of honey per hive, with the option of buying up all the remaining honey, and he/she can attend to all the beekeeping tasks with beekeepers explaining the individual operations and the possibility of buying bee families and hives for their own beekeeping. Furthermore, he/she can decide on the mentoring package for further independent beekeeping, sustainable organic beekeeping, including hive protection with natural oils, year-round management of the bee family and expert control of the beehive.

However, the original service is evolving and now Gorazd organizes team-buildings for companies, workshops for children, presentations, training, joint honey dispensing, demonstrations of possible further processing of bee products (propolis, mead...), etc.

The Story Behind the Product

Urban beekeeping is currently trendy. Many would like to keep bees, just so they can tell the world that they are environmentally friendly. But they don't have the knowledge. Gorazd recognized this as a good business opportunity. In 2015/2016, he participated in the programme focused on the development of entrepreneurial ideas with a positive social impact and the DPlac business incubator to get some additional training and knowledge. Then he started his own business. Now he has 20 customers and more than 50 beehives. Urban beekeeping is logistically very demanding – the distances between hives, the difficult access to roofs, parking in the city. At the moment, he is a one-man-band and during the season (from March to October), he is often overwhelmed by obligations. But this business brings him knowledge, satisfaction and 2/3 of his annual income. As he constantly learns from his own mistakes, upgrades his knowledge and passes it on to his colleagues, he has become a renowned urban beekeeping expert. He and his bees play an important part of Ljubljana's BEE PATH.

The honey dessert – honey panna cota

The Producer or Service Provider

The Pri kolovratu (At The Spinning Wheel) guesthouse is one of the oldest guesthouses in Ljubljana. The first archive record of it was made in 1836 under the name Zum Spinnradl. In the 19th century, its regular customers included the famous Slovenian writer Fran Levstik, the first Slovenian mayor Peter Grasseli and many others. However, it was most famous in the period between the two world wars, when it was the main gathering point of the «Penati» (the most important people who worked in culture at that time). The guesthouse was also visited regularly by the renowned Slovenian architect Jože Plečnik.

Slovenian ethnologist and gastronomy specialist prof. Janez Bogataj, PhD, wrote: "Flooded with all possible (and impossible) names of restaurants in Ljubljana, especially in the old city centre, you can only be happy if someone decides to maintain the original name. Of course, it is not only the name as a brand of the restaurant, but also its cuisine, a selection of traditional Slovene dishes and drinks. This is the story of the revival of the old Ljubljana's Gostilna Pri Kolovratu, in which virtually every wall tells the story of the food and the people who were enjoying it here, who were socializing, having fun, singing and much more. We are also excited by their selection of dishes, which are typical national dishes of Ljubljana and Slovenia. Considering the location of the restaurant, in the big flow of tourists who are attending, Ljubljana has the restaurant with traditional national cuisine that is most asked for by each and every tourist. Therefore, Gostilna Pri kolovratu is a very important contributor to Slovenian culinary visibility!"

Honey based dessert inspired by the BEE PATH
Source: BeePathNet photo archive



The Product – Special House Honey Dessert (Honey Panna Cota)

A light and refreshing dessert that, combined with locally produced Ljubljana honey, offers a unique experience to tourists visiting the BEE PATH in Ljubljana. Made from cooked sweet crème served on a pastry made from almonds and covered with light, preferably acacia honey. It quickly became the most popular dessert in the restaurant. It also comes in a special dessert menu combined with sparkling mead (they offer sparkling mead made by the local producer and member of the BEE PATH Beekeeping Jere). The dessert is a part of a tourist tour around the BEE PATH and is also served as a presentation dessert on Honey Day in the Ljubljana city centre. It is a part of the regular menu of the restaurant and is also a promotional item – through the dish, the story of the bees in Ljubljana is presented and the story of the BEE PATH is disseminated.

The Story Behind the Product

The Gostilna Pri kolovratu guesthouse joined the BEE PATH in Ljubljana in 2018. Its main focus is traditional Slovenian cuisine (Tastes of Ljubljana), but they also include



Beehive at the tourist farm pri Lazarju managed by BEE PATH member
 Apiprodukt, Čebelarstvo Žerjal
 Source: BeePathNet photo archive



Stall with honey
 Source: Apiprodukt, Čebelarstvo Žerjal

other flavours in the dishes they serve – international cuisine and special menus for different occasions. At first, they included the story of Apple week in Ljubljana (the idea within this project, organized by the Section for Rural Development in Ljubljana, was to stimulate local restaurants to prepare food using locally produced vegetables and fruit and it was also a connection point between food self-sufficiency and bees), where they prepared various apple dishes for the occasion. Afterwards, they got acquainted with the BEE PATH and found the idea interesting. In connection with the High school of Gastronomy and Tourism in Ljubljana, with which they regularly cooperate, they started the competition for the best honey dessert. Students prepared three and presented them to guests. They decided to give the guests the last word. The majority liked the Honey Panna Cota the best. The guesthouse is also the place where World Bee Day is often celebrated. Moreover, they offer a permanent exhibition on the Ljubljana Bee in a comic (a project of the City of Ljubljana).

API tourism Žerjal

The Producer or Service Provider

Franc, Marija Žerjal and their son Tadej represent the Api-product Beekeeping Žerjal. They have more than 50 bee families and they keep bees in two apiaries and two movable apiaries that they use to drive bees to pasture around Slovenia. Because of the great locations, they produce many different sorts of honey, from wild flower to heather. They also produce honey mead, propolis and pollen. In 2015, they joined the quality scheme SMGO – Slovenian Honey with Protected Geographical Identification. They sell their products at various fairs and at carefully chosen stores. Their honey is great quality and every year wins gold, silver or bronze medals at the AGRA (the biggest agricultural fair in Slovenia) and other honey competitions. Franc is also a licensed apitherapist and also a member of Slovenian Apitourism Farms.

API Tourism Žerjal

The Slovenian Beekeepers Association developed a special service called Apitourism. It developed the categorisation of apitourism and marks them with the symbol of one to three bees, based on the quality of what is on offer. Franc Žerjal, as a trained apitherapist offers apitherapy – inhaling of aerosols (4 masks) and a massage with honey. He also offers sleep in the apiary, on top of the beehives, and sells honey and other products from the apiary. He welcomes groups in the apiary with the degustation of honey and honey products and offers the honey massage to individuals. His apiary is located on the stationary tourist farm with many different activities and a good start-

ing point for hiking. The vicinity of Ljubljana offers good possibilities for development and, as a part of the BEE PATH, many groups visit and have an excellent experience. Visits must be announced in advance. A honey menu at the tourist farm is also under preparation.

The Story Behind the Product

Franc Žerjal joined the educational programme for entrepreneurs and developed the business idea on apitourism. During the courses, he met the farmer Milan Bizjan, owner of the ecological Tourist Farm Pri Lazarju, and they decided to combine their business. Milan Bizjan provided his land and built the apiary while Franc Žerjal put in beehives and bee families and equipped the place with apitherapy equipment. What a great example of synergy and cooperation!

The apiary is an additional curiosity on the tourist farm, which is currently becoming an Arc Centre (a special programme where many autochthonous animal species from Slovenia are kept in one location and presented in a special way to visitors). One of the animals is the bees. The tourist farm offers additional food and accommodation. During the summer, they prepare honey ice-cream using Žerjal's honey and all year around they prepare two dishes with honey – a traditional drink made from dried pears and apples and sweetened with honey – “krhljevka” – and oatmeal cooked with milk and prunes sweetened with honey and baked in the oven. This farm and apiary are an interesting location to visit – so close to the city and far enough away to enjoy the view of the city from a distance. Apitherapy is an important element of the BEE PATH and this location also acts as a connection between urban and rural beekeeping. Apitourism Žerjal is currently the only apitourism centre in Ljubljana. A lot has already been done but this cooperation still has a lot of potential.

The honey experience/medeno doživetje

The Producer or Service Provider

The Slovene Ethnographic Museum (hereinafter the SEM) is the main museum in Slovenia that preserves and presents the ethnological heritage of the Slovenian way of life. The first collections were created in 1888 as part of the Crain Provincial Museum. It was later developed within the National Museum in 1921. In 1941 it was named the Ethnographic Museum and after WWII, it started to collect national heritage – from items to life stories. In 1964, it got the name Slovenian Ethnological Museum. As well as many temporary exhibitions, it has a permanent exhibition on all areas of human life – from social life to traditional art and emigration. A special part is dedicated to beekeeping and from 2019, the new permanent exhibition entitled The Candle and Pastry Workshop of Jakob Krbavčič is also available.

Facade of the Slovene Ethnographic Museum
Author: Jure Rus
Source: Slovene Ethnographic Museum





The Honey Experience Exhibiton
 Author: Marko Habič
 Source: Slovene Ethnographic Museum



The Honey Experience

Curators of the SEM have prepared a special adventure called The Honey Experience. Visitors are welcomed with honey, mead and Plečnik tea. They get to taste urban honey. First, they visit the *Lectarija* or pastry shop, designed by the architect Jože Plečnik.

The interior of the store, which used to be a part of a sales area in the centre of Ljubljana, has now been restored and turned into a museum shop. The story of Plečnik and his designs of candles and candlesticks are presented to visitors. They then continue to the permanent exhibition and get a guided tour of items connected with beekeeping and the history of Slovenian beekeeping is presented. Special emphasis is given to the *panjske končnice* – painted panels of the old beehives called *Kranjiči*. At the end, visitors get the opportunity to paint their own beehive panels and interpret traditional motifs. The Honey Experience is available to individual visitors every Thursday at 3PM and on Sunday at 11AM. For groups, a reservation in advance is required.



The Honey Experience Exhibiton
 Author: Marko Habič
 Source: Slovene Ethnographic Museum

The Story Behind the Product

The SEM joined the BEE PATH in the very beginning. The cultural and natural heritage of beekeeping in Slovenia is also an important part of the BEE PATH. The SEM was considered the second entry point if you wanted to approach urban beekeeping from the cultural point of view. From the beginning, the curators tried to prepare a kind of Small BEE PATH that would combine all the service providers in the vicinity – hotels, urban beekeepers etc. The BEE PATH always encouraged stakeholders to prepare programs for selling their products or services. The SEM created the programme and introduced it to Tourism of Ljubljana. The most important point was the constant offer – visitors (if there are any) can join the tour every Thursday and Sunday. The City of Ljubljana, in connection with the SEM and the Professional Tourist Guides Association, prepared a three-day course where tourist guides can get to know the basics of beekeeping and the facts about the BEE PATH in Ljubljana. The SEM connected urban beekeepers to the Honey Experience Programme and to the Plečnik house, through the “Plečnik tea”. Many connections were created – the story of Plečnik and urban beekeeping connected even more stakeholders. In 2019, there was a big exhibition on apiaries and beehives, and BEE PATH was a big part of this with its urban apiaries.

8.2

Cesena Bee products in transfer cities – Case study

Brief Description of the Bee Products in Cesena

One of the most important economic activities in the territory of Cesena is agriculture. Crops such as peaches, strawberries, apricots and others are strictly dependent on the bees as pollinators. Historically, the main bee service in the area was pollination itself, provided by beekeepers moving beehives according to agricultural needs. Interestingly, during the recent development of the seed production industry, bees were used as an indicator of the attractiveness of new hybrid plants to pollinators and experimental tests were carried out.

The City of Cesena recognized the importance of beekeeping as an activity that is not limited to the cultivation of bees, but also for awareness-raising on environmental issues, the promotion of social inclusion, vocational training, sustainability practices, etc. Last year, some valuable initiatives were developed in the urban area that helped to develop innovative integration, innovation and sustainability. They are especially promoted by educational institutions (the Agrarian Institute High School), vocational institutions (the BCity Project, Maggese 201 Istituto Lugaresi and **Gelaterie Leoni** – an educational apiary for education and social inclusion and the use of urban honey for artisan pastries) and innovative start-ups (**BEEing** and the development of innovative products for beekeepers and domestic beekeeping).

During the second year of the BeePathNet project, the Municipality of Cesena has, together with the ULG members, developed a specific work plan in the form of a special working table aiming to empower and support the main stakeholders by creating fertile support for the development of innovative ideas.

Starting from the challenges defined by beekeepers, such as the lowering of prices linked to entry into the foreign market, low quality and low product standards, it was decided to organize a friendly competition. This was structured as a co-creation path, inspired by the Design Jam model, which we called BeePathJam to respond to the challenge with concrete and feasible solutions.

Marco (one of BCity creators) showing honey cells to the kids before tasting it
Source: archive of Gelateria Leoni

One of the preparatory meeting of the BeePathJam process
Source: City of Cesena



Success Stories from Cesena

In this Chapter, we present 4 success stories of Cesena's Bee Path members.

The Field of Flowers / Il Campo dei Fiori

The Farm Il Campo dei Fiori and its Farmer Marco Lanzoni

Il Campo dei Fiori ("the Field of Flowers") is a farm managed by Marco Lanzoni and his wife Orietta Boschi. In almost four hectares of land, they produce apricots, grain and seed crops such as cauliflower and leek, following the integrated farming method (with more than 6,000 m² of greenhouses).

Moreover, with its circa 300 beehives, Il Campo dei Fiori produces acacia, linden, dandelion and wildflower honey, which can be bought on-site in a shop dedicated to direct selling.

Since 2001, Il Campo dei Fiori has been a teaching farm and a Cultural Educational Agritourism Centre with the possibility of overnight stays since 2009. Aiming to connect farmers and citizens of all ages, in addition to the farming, teaching farms offer their time, space and know-how to school students, families and individual consumers. These values led to the creation of the workshop Discovering the World of Bees, the first of six teaching experiences offered by Il Campo dei Fiori.



Marco Lanzoni and his wife profiting of autumn gifts
Source: archive of Il Campo dei Fiori



The farm "Il Campo dei Fiori"
Source: archive of Il Campo dei Fiori

The Discovering the World of Bees Workshop

This workshop aims to introduce the charming world of bees and their relevance, pollination and beehive products. It targets both children and adults and consists of two separate and complementary parts. In order to better understand the life of bees and the importance of the pollination service, adults and older children are led through the greenhouses or the open fields, where they can see how male and female plants are grown in separate parallel lines. This is a fundamental step in comprehending how seed crop farming has evolved through time for the production of hybrid seeds, and the paramount role bees have in such production.

After that, children and adults can observe the bees in a glass beehive, learn how their society works, try out the beekeeper's tools and visit the Honey Harvesting Room. Younger children (nursery or primary school-aged), dressed up as bees, can experience a bee's life through the interpretative game The story of Margherita the Bee and Mr. Piero the Beekeeper, which ends with the dance of the bees. At the end of the day, bread and honey-based refreshments are offered. The workshop is available all year round, with the exception of July and August, when the Honey Harvesting Room is not accessible due to honey harvesting activities.



Pupils discovering pollination and the world of bees
Source: archive of Il Campo dei Fiori

The Story Behind the Workshop on Pollination

After the completion of the regional training needed to become a Teaching Farm, Il Campo dei Fiori developed six teaching programs for schools. The first workshop was offered in 2001, after they were certified as a Teaching Farm by the Forlì-Cesena Province and the Emilia-Romagna Region, with the purpose of connecting the urban reality with the countryside and divulging farming and beekeeping practices, the source of produce and the life of animals – starting with children.

The farm is currently visited by almost 3,000 children from primary and secondary schools every year. Over time, the teaching programme has been supplemented with objects that children and adults can touch and wear, such as masks, gloves, bee markers, smokers and pliers, since actively doing things makes learning easier. As the saying goes, “If I hear about it, I will forget. If I see it, I will remember. If I do it, I will understand.”



Roberto Leoni, the ice cream artist
Source: archive of Gelateria Leoni

Gelaterie Leoni

Leoni Ice-Cream/La Galaterie Leoni

Roberto Leoni was born in Cesena in 1979 and he loves to call himself a true Romagnolo. Like many young people of his time, he took his first professional steps at the beautiful Riviera Romagnola even before he came of age, starting with jobs in the world of bars, kiosks on the beach, hotels and night clubs, discovering a passion for mixing and creating new flavours and combinations. Along this path, he discovered the world of ice cream and it was love at first sight.

In 2002, he opened a small ice cream shop in Cesenatico where he invested years in experimenting, reading books and history texts, and ice cream composition. For years, he collaborated as a consultant in the world of ice cream in 15 European countries, as well as in Kenia and Morocco, without ever forgetting his roots.

His first shop “Gelaterie Leoni” opened in Cesena in the spring of 2013. Many call him an «innovative and trendy ice cream artisan», but he feels very close to the traditions and stories of our area: “I think this is precisely the secret ingredient of my ice cream, the right dose of innovation and tradition. Continuous research into old recipes and culinary secrets hidden in old notebooks give life to MY ice cream, which is made of healthy and genuine ingredients, but also of human stories and imaginative anecdotes.”

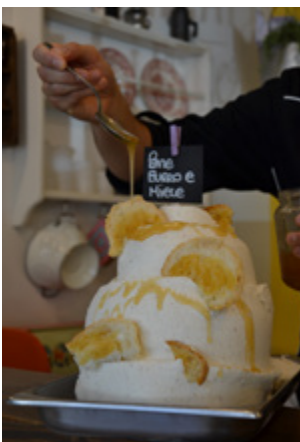
Bread, Butter and Honey Ice Cream / Pane Burro e Miele

One of his first childhood memories is of his mother preparing delicious snacks for him and his sister Elisa, every time they had to face something important. He wanted to encapsulate all those flavours in ice cream, which is the mindset in which the Pane Burro e Miele ice cream was created.

The answer was a recipe for an ice cream prepared with milk where only the good fats from the butter without the cream are used, and where instead of sugar, he only uses the urban honey of Cesena (the BCity Project).

Thanks to the particular and aromatic sweetness of honey, he created a low sugar ice cream that, besides the above ingredients, also includes a homemade bread prepared in their laboratory. The astonishing result is a flavour of home and family.

Bread, butter and honey ice cream / Pane Burro e Miele
Source: archive of Gelateria Leoni





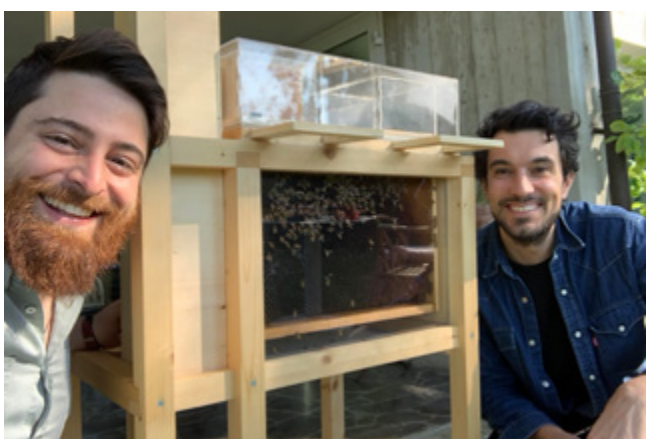
Seeds distribution during 2019 World Bee Day
Source: archive of Gelateria Leoni

The Story Behind Honey Ice Cream / La storia dietro il gelato al miele

In collaboration with the BCity project and its volunteers, they have created a workshop in ice-cream shops, where children are able to touch various beekeeping equipment and live the magical world of bees.

Every spring, during these workshops, more than 1,000 bags of seeds of melliferous plants are distributed as gifts to the kids, to be planted in gardens or on the balconies of their houses, to help the bees find food in the city. After the sweet lesson where they are informed about the bee's life, they can take home a small jar of honey, leaving them with a long-lasting memory of the experience.

Since 2014, Gelateria Leoni's ice cream has launched a concrete environmental project, by using only electricity produced from renewable sources, biodegradable detergents, recycled paper and compostable bowls and spoons. Moreover, in 2016, the Podere Leoni project came to life: an orchard in a sunny and hilly landscape where they take care of biodiversity by planting and managing more than 70 different types of forgotten and rustic fruit varieties, which are then used for ice cream and desserts.



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

BEEing

The BEEing Start-Up

BEEing is a young Italian start-up, established in 2017, based on a sheer passion for bees. Admiration for these special animals is what has driven us to create innovative solutions to protect bees and simplify beekeepers' and farmers' work. We help bee lovers. We develop innovative tools that simplify beekeepers' everyday operations, such as innovative beehives for urban beekeepers and sensors for professional beekeepers.

We (Roberto and Gabriele, the two founders) both live in Cesena and combine our skills to create new products. With a dream of a future in which anyone, by increasing their knowledge and studying, can take care of a swarm of bees using new and easy tools. We believe that digital devices can help professional beekeepers manage their bees in an easier way.

B-Box and Bee-Secure

The BeeSecure is a miniaturized sensor that you can hide inside the wood of one frame. It is connected to an app and it collects and communicates real-time data about the bees every day. The BeeSecure can measure the temperature, humidity and GPS position of the swarm. Thanks to the BeeSecure, every beekeeper can monitor their bees and check the health of the swarm, as well as protect it from theft.

The B-box is an innovative beehive design. It is intended for urban beekeepers and is made from special components and material. Thanks to the transparent wall of the B-box, you can observe the bees in their activity. The chimney allows the bees to leave the beehive at a certain height: in this way, the area around the beehive will remain bee-free and safe for observation. Honeycombs are the places in which bees build wax and store honey. Extracting the honeycombs is safe and easy, and they contain the right portion of honey, ready to be eaten.



The beehive anti-theft device BeeSecure
Source: archive of BEEing

The History of the Product

The BEEing experience arose from the beekeeping passion that our grandparents passed on to us. We look for innovative solutions that can help beekeepers do their job and that can also protect bees. It's not always easy to transform an innovative idea into a product. You need time, tests and experimentation to do that. The BeeSecure is now a trusted product installed on thousands of beehives all around Europe. The B-box was launched through a crowdfunding campaign and today there are B-box hives in every continent. We hope that BEEing may grow, but in particular, we hope to provide a valuable contribution to the protection and knowledge of bees.

THE BEEPATH JAM: A Tool to Trigger Innovation and Entrepreneurship

The BeePath Jam is not a classical product, but rather a problem solution and a new product development platform designed to bring together experienced beekeepers, idea-rich students and supporting experts. Together, they try to solve concrete issues and problems. It was modified by the BeePathNet team from Cesena and is presented here as a spin-off output of the BeePathNet project, which could easily be transferred to any other city interested in beekeeping or searching for a similar platform.

Why: The Challenge and the Objective

The challenge arises from the need to provide answers to the problem defined below and expressed by the A.F.A. – Associazione Forlivese Apicoltori (Association of Beekeepers) in the framework of the activities promoted by the ULG (URBACT Local Group) of the European BeePathNet project and translated into the following challenge:

Increase consumer awareness of the value, in nutritional and territorial economic terms, of hive products made locally to counter the tendency to buy low-priced products imported from foreign countries that do not apply the same criteria and rules to guarantee quality.

Given the complexity of the challenge, the problem was divided into 4 topics:

- **Traceability**, as a tool for monitoring and narrating the production chain, with the aim of creating a relationship of trust between producer and consumer.
- **Creation of a brand**, as an easily recognizable communication tool and guarantor of the quality of hive products (extendable to other local products).
- **Marketing channels** as tools to support the short supply chain, able to reduce costs and facilitate transactions between producer and consumer.
- Innovative services as application tools that A.F.A. could offer its members to implement the solutions identified.

The aim is to find integrated solutions to the topics highlighted through the involvement of local entities that act in the areas of training, research and innovation.

How: The Path

To respond to the challenge with concrete and feasible solutions, it was decided to organize a friendly competition based on the cooperation and inspired by the Design Jam model. Design Jams are collaborative design events open to everyone interested in sharing their knowledge and skills to develop original solutions and centred on people's needs. With this in mind, the BeePath Jam is divided into 5 meetings – the opening event/kick-off meeting in which the topics and formats will be presented and 4 multidisciplinary working groups composed of a maximum of 8 people. In each of the groups, there is one of the following profiles participating:

- 1 IT expert,
- high school students from the Cesena area,
- university students, undergraduates, doctoral students, trainees of the University of Bologna,
- 1 or 2 beekeepers.

Each group will be mentored by a tutor in charge of facilitating the meetings. The groups will have 4 business meetings that will open with an Inspirational talk in which a speaker will be invited to present concrete cases related to one of the topics. The results obtained will be presented and shared during the National Urban Beekeeping Convention, which will take place in Cesena on 24 October 2020 and where the winning team will be decided.

The events will be organized with the support of Cesenalab (www.cesenalab.it), Casa Bufalini (www.casabufalini.it) and Art-ER (www.art-er.it).

8.3

Bydgoszcz bee products in transfer cities – Case study

Brief Description of the Bee Products in Bydgoszcz

The City of Bydgoszcz has good natural conditions for keeping bees. There is a lot of municipal greenery (parks and squares), gardens and forests. Green areas in the city constitute 36.9% of the city area. In fact, Bydgoszcz has one of the largest municipal parks in Poland (the Forest Park of Culture and Recreation in Myślęcinek).

However, there isn't a strong beekeeping tradition in the city. This is also due to the city's policy because until recently (March 2018), there was a ban on beekeeping in the city (Resolution of the City Council).

The Pomeranian-Kuyavian Association of Beekeepers has its seat in the city. According to their data, at the end of 2019, 130 beekeepers from the city of Bydgoszcz and 2750 bee families were registered in the association. However, a large number of these beekeepers run apiaries outside the city. The association conducts training every year on modern apiary management or threats to the breeding or rearing and replacement of queen bees. The training, which was organised in 2020 at 3 different locations, was attended by 400 people.

For many years, the Botanic Garden and the ZOO of the Forest Park of Culture and Recreation in Myślęcinek have been carrying out educational activities related to World Bee Day (20 May) and Bee Day (8 August). Educational activities have been conducted in the apiary located in the Botanic Garden, where the beekeeper familiarizes participants with running the apiary and working with bees. During the meetings, the naturalist discusses aspects of the location of the apiary, the selection of plant species, biodiversity and delays in mowing. Similar educational activities are conducted by the Botanic Garden at the Kazimierz Wielki University, where another apiary is located.

Kujawsko-Pomorskie Centrum Edukacji Nauczycieli (Kujawsko-Pomorskie Centre for Teachers' Education), in cooperation with the City of Bydgoszcz, organized a one-time series of 3 training courses on bee education in the spring of this year. The last training was suspended due to the COVID 19 pandemic and we hope it will take place in the autumn instead.

Pollinator houses in Kazimierz Wielki Park "Murarkowe drzewo" ("Red mason bee Tree")
Source: Municipality of Bydgoszcz

Information kiosk at Balaton Lake in the Bartodzieje District, Bee Path in Bydgoszcz
Author: Dawid Kilon

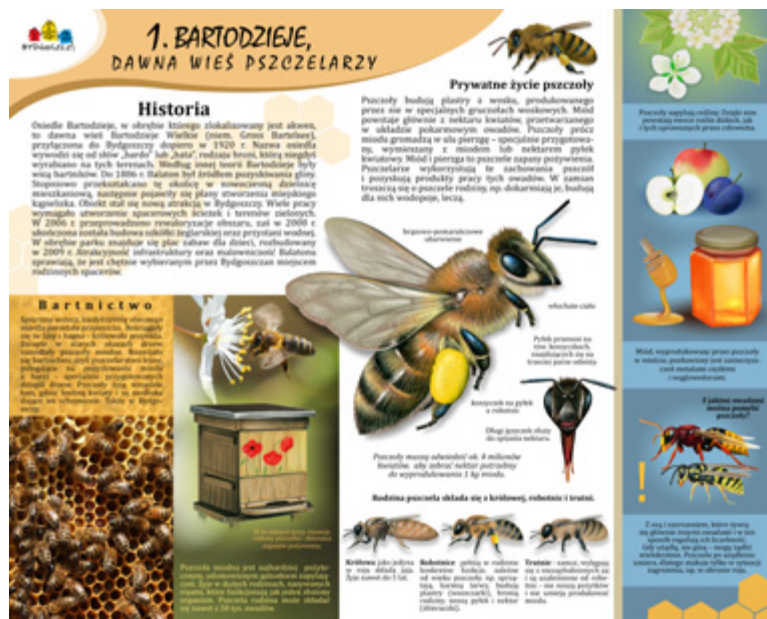




Photo of Pszczelarium – beehives on the roof of the Wyższa Szkoła Gospodarki w Bydgoszczy
Source: archive of the Wyższa Szkoła Gospodarki w Bydgoszczy

The Municipal Cultural Centre, in cooperation with a beekeeper, intended to establish an apiary in the area of the Palace and Park Complex in Ostromecko (outside the city) and to conduct educational activities in the spring of 2020, but the pandemic interrupted the plans. The apiary is expected to be established in the spring of 2021. The apiary with the educational offer could be a new product on the market thanks to the BeePathNet project connection.

There are also entities in the city that have introduced or have been developing products related to beekeeping (cosmetics, the food sector and professional spa treatments) and the BeePathNet team is reaching out for new possibilities of cooperation. But for a start, let's take a look at two active members of the Urbact Local Group who have developed new business products.

The University of Economy in Bydgoszcz (WSG), in addition to its teaching and research, is involved in commercial activities. Among the staff of this university, there are people who have a keen interest in beekeeping and who have led to the creation of an apiary on the roof of one of the university buildings. In addition to the production of honey, which is the university's promotional product, educational classes for preschoolers in the neighbouring kindergarten also held there. Moreover, to meet the needs of beginner beekeepers, the University has developed an educational programme – workshops for beginner beekeepers. Currently, the 2nd iteration of this programme is being conducted. In September 2019, the University was the host of the XXXVI Voivodeship Beekeepers' Day.

The second marketing product is **Beewatching**, created by David Kilon, a naturalist, ornithologist, wildlife animator, guide, photographer and illustrator. This activity was introduced to increase knowledge of the significance of pollinating insects to humans and nature, the principles of their protection and their diversity.

Success Stories from Bydgoszcz

University of Economy in Bydgoszcz

The University of Economy is the oldest private university in Bydgoszcz, which strongly encourages entrepreneurship in its students. The mission of the University of Economy was developed as a result of many years of gathering and developing experience in education, science and entrepreneurship. Skills, competencies and their practical application are the pillars of the University of Economy's activities.



The apiary of the University of Economy was the first apiary in Bydgoszcz located on the roof of a building in the city centre and it is owned by Marta Sikora. The concept of building an apiary on the roof, in a safe and isolated place, was consulted and approved by the regional Pomeranian-Kuyavian Association of Beekeepers in Bydgoszcz. Three beekeepers – Natalia Kamińska, Marta Sikora and Hanna Idziorek (the president of the District Beekeepers' Association in Bydgoszcz) – have been taking good care of the bees residing on the roof of the sports hall building since June 2017.

Due to the excellent site conditions – the proximity to the Brda River and numerous melliferous plants in the campus garden, the number of bee families has been constantly increasing. Honey from this apiary is extremely tasty and free from urban pollution (according to research carried out by the City of Bydgoszcz).

The apiary was created out of passion and awareness of the responsibility for the environment and the local community that the University's activities bring. The project was created to draw attention to the growing problem of bee population decline and the protection of the ecosystem in our immediate surroundings. The educational aspect is extremely important to the University, bearing in mind the youngest generation as well. Since the beginning, the University has cooperated with the Academic Kindergarten located nearby.

Beekeeping workshops are regularly organized for the youngest and once a year a beekeeping course for beginners is arranged.

Here is a description of a typical educational workshop "Bees in the Garden" for the oldest kindergarten group and grades I-III of the elementary school:

- Number of participants: 10-25
- Free of charge: co-financed by the City of Bydgoszcz
- Dates: 3, 5, 10 June 2019
- Hours: 9:00 – 14:00.
- Workshop duration: 1.5 h
- Workshop organizer: University of Economy in Bydgoszcz

The aim of the event was to shape a pro-ecological attitude among children, making them aware of the important role of bees in nature. It involves learning through play, touch, taste, sight and smell. Children learned the basic terms related to bees and apiaries. They became aware of who the drones are and whether there is only one queen;

whether the bee is a friend to protect. They have become a tracker of bees among the melliferous plants in the university garden. They draw bees, wondering what the wings and abdomen are for. The children learned about the taste of honey and, while dressing up, they felt like a real beekeeper.

Workshops for Beginner Beekeepers

Knowledge enhancement is the basis for positive change. The University organizes professional courses, where every participant can learn all the skills necessary for work as a beekeeper, deepen their knowledge of bee biology and learn the organisational and legal aspects of beekeeping.

The course, which started in the spring of 2019, is aimed at people who have started their adventure with beekeeping and want to learn the basic principles of apiary management. Participants, after completing the course, receive a certificate of participation issued by the Training and Certification Centre at the University of Economy. The workshops are conducted during the weekends and are composed of a theoretical part, presented in the classroom, and practical workshops in the studio and apiaries. Lectures are provided at the University of Economy campus in Bydgoszcz and practical workshops at the apiary on the University's sports hall roof in Bydgoszcz and at the apiary in Wałdowo Królewskie.

The programme of lectures is divided into 2 blocks:

- 1) *The Bee and its Meaning, its Role in the Environment – Biology of a Bee Family*, with the following topics, as an example: species and breeds of bees, the forms of bees in a bee family, anatomy and physiology of the bee, work performed by bees, the life of the bee family during the year, the queen of the bees, the exchange of queens, diseases and threats.
- 2) *«Innovative Working Methods in the Apiary – Apiary Economy»*, with the following topics, as an example: establishment of an apiary, including the specifics of the urban apiary, hives and apiary equipment, rules for working in the apiary, managing the development of bee colonies, apiary work during the year, conventional and ecological methods of apiary management, the extraction of bee products e.g. honey, pollen, royal jelly, propolis and wax, technology for apiculture products, storage and processing, the direct and retail sale of apiculture products in the light of the legislation in force, honey and pollen crops, the role of bees in plant pollination, economics of the apiary and finally the most common mistakes made in the apiary economy.

The practical part of the course is carried out in the workshop/studio and in the apiary (e.g. preparing the hives for work, assembling beehive frames, blending the wax foundation, practising honey collection, gathering pollen, distinguishing types of honey. We also learn how to manage the resources of bee colonies and to prepare the apiary for wintering.

The course has been taking place once a year since 2019. The university would like all determined people who approach bee-keeping with a passion to take part. That is why the university carries out only one course a year, with a limited number of participants. Workshops on beehives and bees are conducted in smaller groups. The course lasts from March to September (depending on the weather conditions and recently also on the pandemic). This year, people from all over Poland have been participating in the course. Currently, there are first-call applications open for the beekeeping course for 2021.

Beewatching

Beewatching is an innovative workshop created by Dawid Kilon – naturalist, ornithologist, wildlife animator, guide, photographer and illustrator. He was inspired by the boot camp organised for the BeePathNet project in Ljubljana, which led him to develop his own idea.

A few words from Dawid Kilon about himself and his love for nature: *“I’ve always been interested in nature. While still in junior high school, I became a laureate of the provincial beekeeping knowledge competition. It was then that my interest in bees arose. For years, I have run the Mergus Dawid Kilon company dealing with nature education, running ornithological inventory and also providing drawing and design services. I also decided to increase people’s awareness by organizing workshops on how to draw a honeybee with dry pastels with a focus on body parts that enable pollination and going out into the field and looking for bees in urban areas and photographing them, even through a telephoto lens. This is how creative beewatching was born”.*

This new activity offered by MERGUS is based on finding and recognizing common pollinating insects in their natural environment. The goal of the workshops is to increase people’s knowledge of the importance of pollinating insects for people and nature, the principles of their protection and their diversity.

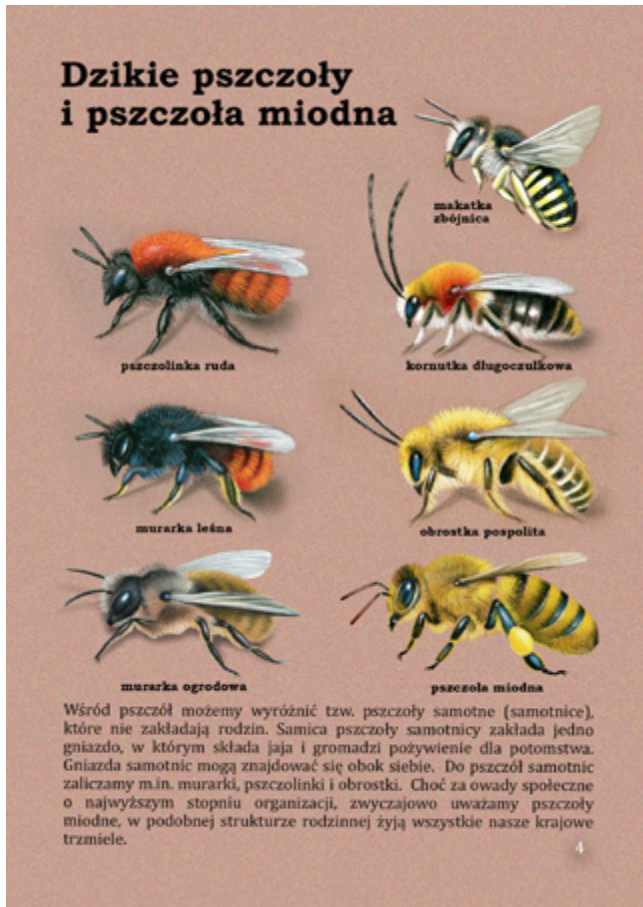
The workshops are intended for people of different age groups and their level is adapted to the needs of these groups and individual clients. They will be carried out in Bydgoszcz when the pollinating insects are active – from April to September. Due to the pandemic, classes will begin in the spring of 2021.

The participants will be searching for pollinating insects in the field, carry out observation and identification, as well as take pictures of them using mobile phones and a telephoto lens. They will learn the secrets of nature photography. It is also possible to arrange additional workshops on drawing honeybees with dry pastels.

Recommended number of people in the group: 5-10 people, a maximum of 15. Duration of fieldwork: 1.5-2 hours, additional drawing workshop: 30 minutes.



Photos of common dandelion, melilot and Viper's bugloss
Author: Dawid Kilon



Drawings by Dawid Kilon
Author: Dawid Kilon

The route of the trip depends on the availability of nectar and pollen in Bydgoszcz and will be discussed with the customer. Best bee destinations:

- 1) Boulevards on the Brda River,
- 2) Old Canal park,
- 3) Park of the Valley of Five Ponds,
- 4) Sections of the Bee Path in Bydgoszcz
- 5) The Botanic Garden of the Forest Park of Culture and Recreation in Myślęcinek.

The classes are taught by Dawid Kilon.

8.4

Hegyvidék bee products in transfer cities – Case study

Brief Description of the Bee Products in Hegyvidék

In the case of Hegyvidék, ULG members offered a number of products and services that were and will continue to be available for a wider audience (including outside the district), even before the BeePathNet program. However, there are novelties that have emerged from the project as a result of collaboration with ULG members.

Several of their members are involved in environmental education, offering great educational programs on pollinating insects and biodiversity – for example:

- [Duna-Ipoly National Park \(DINPI\) Visitor Centres](#),
- [School Apiary Initiative](#),
- [Honey-Hut Program](#),
- [The Day of Pollinators initiation](#),
- [National Centre of Biodiversity and Gene Conservation, HÁGK Institute of Beekeeping and Bee Biology](#),
- [Responsible Gastro Hero Foundation](#),
- [National Hungarian Beekeeping Association](#),
- [Foundation for School Gardens](#),
- [National Dendrology Association](#).

In connection with the Programme, several actors have supplemented their education portfolio or plan to supplement them, such as the DINPI Sas-hill Visitor Centre or the Responsible Gastro Hero Foundation. In connection with and within the framework of the BeePathNet project, [Városmajor Kindergartens](#) has developed and is implementing a Bee-Friendly Kindergarten program, in which several ULG members participate with kindergarten teachers. In the same way, the project resulted in the [Our Bees programme series](#), which was launched by the [MOM Cultural Centre](#) and joined by several of its member institutions – the [Barabás Villa](#), the [Hegyvidéki Cultural Salon](#) and the [Hegyvidéki Local History Collection](#).

On the other hand, they also have excellent local beekeepers who produce local honey that they are proud of. One of these named his honey Normafa, which means “harvested” in our district – Normafa is a forest nature reserve popular with hikers here.

Several other beekeepers outside of the district have also joined the network. Their beekeeping products are sold here and they also take part in district education programs and community beekeeping.

Normafa honey
Author: György Sárközy

International Dendrological
Foundation in the Earth Day
event of the municipality
Author: István Rác



The Municipality of Hegyvidék cooperates with ULG members in several ways. It also uses and promotes their services. It procures or introduces services and makes them available to the public. Within the framework of a series of educational programs, it provides an opportunity for members and professionals to introduce themselves, as well as using their services. It provides opportunities for participation and sales at its events. It also creates relationships through the operation of a local network so that everyone can benefit from the collaboration of the members.

Success Stories from Hegyvidék

The Our Bees Programme Series

The Our Bees programme series takes place in the institutions of the MOM Cultural Centre, where it was initially kicked off with a series of weekend programs for children.

Later on, the Barabás Villa and Hegyvidék Cultural Salon joined the initiative with lectures and programs for adults, which have since evolved into an independent trademark.

The Local History Collection of Hegyvidék provides another important upgrade and sets the programme in a historical context by exploring and presenting the beekeeping past of the area.

The idea of the Our Bees children's programme came from Petra Pollak, who joined the local network (ULG) at the very beginning of the BeePathNet project and also participated in the boot camp, where she was greatly influenced by the enthusiasm and willingness of the partnership. As a programme organizer in the MOM Cultural Centre, she looked for opportunities to bring the topic closer to the audience and the idea was born to design and organize a monthly programme for children aged 5-10 that would last for nine months. Each event in the programme series begins with a half-hour introductory lecture followed by a half-hour workshop. The lectures cover the topics of bees, pollinators and biodiversity. The programme series started in September 2019 at the MOM Cultural Centre and was originally scheduled to end in May 2020, in conjunction with World Bee Day. However, 3 sessions were postponed due to the pandemic.

The majority of the lecturers are ULG members (the Hegyvidék Bee-Friendly Network), so this cooperation is a good example of collaboration within the network. An [interactive programme booklet](#) provides information on current events.

Some examples of topics covered so far in the Our Bees programme series are:

- Why is it Good to Know the Bees? (Bees in School Initiative)
- The Bees – Let's Take a Closer Look (Csaba Mák, beekeeper)
- Who Loves Flowers...? (Tamás Vásárhelyi, biologist)
- Hegyvidék, a Paradise for Bees (Tamás Kutasi, beekeeper)
- Bees, Pollinators and Wild Pollinators (János Kremnicsán, environmental educator)

Under the umbrella of the Our Bees programme series, several events are taking place in other institutions of the MOM Cultural Centre, such as the Barabás Villa, where lectures, discussions and beehive visits for adults help make the days colourful. In the Hegyvidéki Cultural Salon, the beekeeper Olivér Szabó gives lectures and sells honey.

The Our Bees programme series has its own image and an independent [FB site](#), as well as online programs for its visitors, such as a [blog](#) about the harmony of pollinators and music.

The programs are currently hosted by Gábor Móczár at the MOM Cultural Centre, Kata Márton and Anna Görgényi are organizing great events at the Barabás Villa, Éva Menyhart is responsible for disseminating knowledge at the Hegyvidéki Cultural Salon, and the historian Gergely Földváry is introducing us to Hegyvidék's beekeeping past. These programs are all supported by the head of the MOM Cultural Centre, Gerda Hambuch.



The Our Bees children programme in the MoM Cultural Centre
Source: Hegyvidék – XII District of Budapest



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

Demonstration Beehive in the Barabás Villa

In cooperation with the [Barabás Villa](#) and the [School Beekeeping Initiative](#), a demonstration beehive was set up in the garden of the villa. The garden is open to the public and visitors can observe and follow the life of the bee family. The opportunity to visit the hive is complemented by programs/lectures related to other bees and pollinating insects. The demonstration hive is also a good opportunity for educational institutions to do field practice, thus providing an excellent educational tool.

As an upgrade of its educational programs, the Beekeeping School Initiative also offers individuals and families a chance to try individual hive construction, which is also used by the residents of our district.

Lectures, demonstrations, professional walks and publications related to pollinators and the topic of biodiversity are services provided by the municipality to residents and visitors to the district. Many of the speakers are ULG members, so they can share their expertise with a wider audience.

Under the umbrella of the Bees in School Initiative's projects, they have established small beehives in kindergartens, schools and even in private residences where children and adults can monitor the everyday life of the pollinators and live together with them. In the garden of the institution or family, you can follow the process of raising the queen bee for about six weeks with the help of a glass plate in a small demonstration beehive. After six weeks, the bees are returned to the beekeeper. This could be the first step for humans and bees to get closer to each other and in the long term, it could lead to keeping bees in a way that suits them best.

Bees in School wants to introduce the possibility of being close to the bees so that people can benefit from the experience of being close to a bee family while gaining experience and knowledge through observation. Aiming to achieve this goal, the Barabás Villa (Kata Márton and Anna Görgényi, programme organizers), the Bees in School initiative (Helga Radics, organizer) and the Green Office of the XII District Municipality of Hegyvidék have established a demonstration beehive in the Barabás Villa's garden. The back of the garden of the Barabás Villa proved an ideal place for the demonstration beehive, which is accessible for those who want to see it. Through the plexiglas wall, you can watch the bees' everyday life, which will take you closer to their important role in the ecosystem. Alfons Wirth, a natural beekeeper from the Bees in School Initiative, is taking care of the bee families, so visitors can also watch a beekeeper at work if they are lucky enough to meet with him. That's how the first community beehive was established in the XII District.

In the first half-year period after installation, employees of the district municipality, pedagogical and cultural institutions, members of the BeePathNet network and district citizens took part in awareness-raising lectures on the approach to natural beekeeping and the importance of bees, as well as field visits where they could learn more during the preparation phase. The program organizers of the Barabás Villa, together with Bees in School has organized small group discussions and lectures in the Our bees programme series, where participants could learn about different aspects, methods, tools, challenges, successes and good practices of beekeeping.

With the installation of the demonstration beehive, the first goal of the Bees in School Initiative, the Barabás Villa and the Green Office was to get visitors to learn more about the life and importance of pollinators through their own experiences. Accordingly, they organized visits to the beehive in the springtime and interested participants could look inside the structure, feel the vibration of the bees as they heat up the hive, and also meet the beekeeper, ask questions and start discussions.

Living together with bees and meeting them face to face while learning about their role and behaviour is the first step to overcoming fear. We can turn to the bees with trust and safety, knowing their importance. It is well-known that humans and bees can live together. Meeting them face to face can increase interest and respect without fear. That is how motivation will kick in, the willingness to do something for bees, for their environment, for better beekeeping and for the Earth – to be responsible. We want to strengthen this sense of life through conscious cognition.

The Nature in Our Gardens Tender

In our tender, entitled Nature in our Gardens, an award can be won by owners and maintainers of private gardens, condominium gardens and institutional gardens in the district. The idea of the tender came from a local entrepreneur and resident who, as a private person, provides financial support for its implementation.

The tender is aimed at maintaining and increasing biodiversity and encourages the rethinking and close-to-nature design of the gardens. The tender is implemented by the local government and awards are given to owners of local private, condominium and institutional gardens based on the criteria of close-to-nature garden design. The tender is unique, as professional support (with guidance and advice) is provided by a team of experts, most of whom are ULG members, as well as the entrepreneur supporting the application itself.

For many people, a garden means work – obligatory tasks. By presenting good examples and by giving new ideas and new approaches, we would like to show residents how they can find joy in their gardens. We would like to show that the garden is not just a working space, but a green habitat that can be a home not only for us, but also for the living world around us. It can become a community and leisure space for us, for our neighbours, family members and co-workers.

The close-to-nature garden is embodied in the diversity of established habitats and the diversity of the plants and animals living in it. A garden like this, in addition to admiration and providing an opportunity for active relaxation, is a venue for gatherings of family and friends – but its lush vegetation provides food, nesting and hiding places for many animals. The close-to-nature garden also ensures the retention of rainwater and the soil is alive and chemical-free – nutrients are replenished.

James had this to say about the background of his idea:



Nature friendly garden
Source: Hegyvidék – XII District of
Budapest

“The purpose of the competition is to promote nature-friendly gardening in the XII District of Budapest and to help people discover what a joy this kind of gardening can be. I learnt six great things about a nature-friendly garden and I wanted to share them.

- 1) *It is less work than having a manicured garden. You don't have to mow all the time; you don't need to spend time spraying or spend money on noisy equipment. You have more time to enjoy your garden.*
- 2) *It's much more relaxed: you don't need to worry about “order” and what the neighbours or passers-by might think; you just sit back and let nature introduce its own order. And if they complain, you explain “this is a nature-friendly garden”.*
- 3) *It is beautiful and visually more interesting. A nature-friendly garden has more colour, more variety of forms – it doesn't like boring straight lines: it prefers zig-zags, wiggles, wobbly lines, splashes of light and shade, tangles of things.*
- 4) *It is an amazing world of discovery. With the help of a naturalist app, I've counted 100 kinds of insects and other creatures, and over 40 kinds of birds in my garden just in the last few months. Every day, you see new things you've never noticed before.*
- 5) *It helps the bees, butterflies and other insects, which are being decimated around Europe by urban development and industrial farming.*
- 6) *The kids love it. They learn, they discover, they remember – the garden becomes a much richer experience for them.*

I thought that if we had a competition for the best nature-friendly garden, it would help people find out more about nature-friendly gardening and experience its many benefits.”

Evaluation criteria in the application:

- How is the diversity of the flora and fauna of the garden realized?
- What solutions increase the soil life and organic matter content?
- How is rainwater retention realized?
- How do the garden's building materials support wildlife?
- How do the garden's labour and energy requirements decrease?
- How does the garden relate to the green network of the district and the city?
- What other activities can make the garden into a close-to-nature garden?

The tender not only encourages the rethinking and close-to-nature design of the gardens through the award, but the professional group who created the tender helps the applicants with guidance and advice.

Within the framework of this project, The Fruitful Hegyvidék Programme was also launched. This is provided by the municipality to the residents of the district. Under the program, local residents can purchase native fruit trees at a discounted price, while municipally-owned institutions have free access to seedlings.

8.5

Nea Propontida bee products in transfer cities – Case study

Brief Description of the Bee Products in Nea Propontida

The BeePathNet project was a real awakening for the Municipality of Nea Propontida! A tourist destination for Greek and foreign tourists and a centre for beekeeping activities and research, Nea Propontida found a key opportunity to address within this project: developing alternative forms of tourism through apiculture experience and education. Through this experience, Nea Propontida used its capacity to develop new products, promote old products and services and highlight its citizens' abilities and values.

It is the history and tradition of beekeeping, as well as the high number of professional beekeepers in the area, that helped establish the Department of Apiculture, a well-known research centre that is unique in Greece. Several of the local beekeepers have been well-recognized in the food industry for their organic and high-quality products, and they have been awarded several times! The love for bees and their world is probably inherited from Aristotle, who was born and lived in Chalkidiki. Citizens of Nea Propontida are in love with the sea and boats, as well as literature, and many writers have emerged from this area – though we will only mention here a book written by a local group member and beekeeper, as well as the production of a book on Beekeeping History in the Mediterranean. Many others need to be discovered!

One of the various products that make us proud in Chalkidiki is the bee educational programme designed, developed and implemented by the Environmental Centre of Arnaia, in collaboration with the local beekeepers and the Department of Apiculture in Nea Moudania. This unique project in its various forms brings together Elementary and High School teachers and pupils from all over Greece and teaches them about the beauty and intelligence of the bees' society.

However, new bee products also began to be developed during the BeePathNet project. Among them, a city game called Find and Protect the Bees will take the visitor around the city, educating the younger citizens. Last but not least, the establishment of an educational department devoted to the bees, their biology and eco-services will soon be realized in the area of the existing museum. It is because of the new products that we believe that the BeePathNet project is still an awakening experience and at the same time an endeavour for Nea Propontida! Below, we present 4 of the existing and successful products of our ULG members!

Success Stories from Nea Propontida

Oxymeli, by the Passion Honey Family

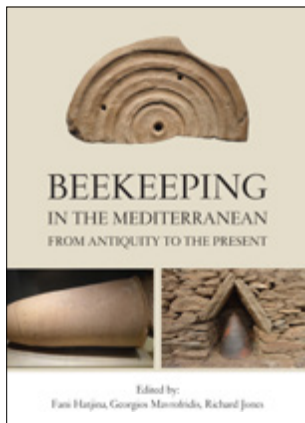
Oxymeli is a sweet-sour ancient Greek food made from honey and vinegar, which was first mentioned by Hippocrates, and then by Gallinos. It is mixed from 70% Greek organic forest honey and 30% Greek grape vinegar.

It is an award-winning product made without any chemicals, preservatives or additives, and only from high-quality grape vinegar and organic forest honey. The racy flavour of the vinegar is perfectly combined with honey, while the sweetness of the honey is tempered by the vinegar. Both ingredients are very beneficial for our health and are regularly used in daily nutrition – vinegar reduces the greasiness of food, while honey has a dissolving effect.

Oxymeli is usually preferred as a dressing – for salads, grilled and boiled vegetables, main courses, legumes, rice, as marinades or as a meat sauce, as well as a topping for yoghurt and ice cream. Oxymeli has digestive properties and, if dissolved in water, can be a refreshing drink any time of the day.



An education excursion to Aristotle's Park
Author: Fani Hatjina



Front cover of the book "Beekeeping in the Mediterranean"
Author: Fani Hatjina

Oxymeli – a new product by
Passion Honey
Author: Athina Apostoloudi

The Passion Honey family
Author: Vicky Tsigganou



The following information on its benefits and effects on the human body can be found in ancient Greek texts:

- Reduces and immediately treats indigestion.
- Contributes to the liver's blockage and all the narrow gall bladders.
- Contributes to thinning and dissolves thick body juices.
- Suitable for all ages.
- Does not cause any stomach discomfort.
- Does not have dietary side effects.



Award Winning star given to
Passion Honey
Author: Vasileios Tsigganos

The Passion honey is a Greek family business that loves nature and quality of life. Thanks to the advantage of the location of their beekeeping apiary – the mountainous area of Cholomontas in Chalkidiki, where 212,480 acres are protected and designated as a Special Protection Zone according to the NATURA 2000 nature protection areas – Athina, Vassilis, Bicky and Panagiotis Tsigganos – they were inspired by the beauty of nature and decided to use one of its most important gifts, bees and honey.

At some point, they had to deal with a serious health problem in the family and, since they do not favour classical medicine, they instead applied a special Mediterranean diet with an emphasis on honey, pollen and royal jelly! So they timidly started bee-keeping.

"The magical world of the bee influenced and helped us so much that we decided to make our hobby our main profession. As supporters of the Mediterranean diet, we have been looking for recipes, including from antiquity".

And it is the cultural heritage and ancient history texts that prove a great advantage for all Greeks, as they can learn from the nutritional habits of the ancients, revive the knowledge, rediscover the culinary habits of their ancestors, as well as understand the use of herbs for medicinal purposes. Passion Honey creates innovative nutritional products and can be consumed on a daily basis by young and old. They fulfil the body's needs and enrich our cooking, as our recipes faithfully follow the information passed on by Aristotle, Hippocrates, the Nymphs, Democritus, etc. And if you don't trust them, remember – even the ancient Greek gods ate nectar!

Passion Honey created oxymeli because they wanted to support and promote Greece, its history, its cuisine, the excellent quality of its agricultural products and the creativity of its producers. Passion Honey is well known not only in Halkidiki and Greece, but also around Europe. And not only for oxymeli, but also for other new products such as melenda (honey with cocoa and nuts) and propolis in oil!

Anel Honey Park visiting apiary
Author: Eleferios Pantelakis

Margarita the donkey and her son in
Anel Honey Park
Author: Eleferios Pantelakis



ANEL Honey Park

The Anel Honey Park was founded 6 years ago (2014) in the area of Neo Rysio, 15 minutes outside Thessaloniki, on the main Thessaloniki-Nea Moudania road with the aim of *raising awareness about the bees and their products*. The Anel Honey Park is a multifunctional farm visited by 8,944 students over the 6 years of its operation, which includes:

- A botanic garden with melliferous plants;
- Recreation and play areas;
- The honey factory/honey packaging facility;
- Training-demonstration-monitoring workshop and seminar space;
- Children's party and event space;
- Guest rooms;
- A vegetable garden;
- A beekeeping area;
- A dining area;
- A gift shop.

The Story of the ANEL Honey Park

In the summer of 2014, what was then a totally new ANEL beekeeping store opened its doors. It was one of those first days for the store, just after the products had been put on the shelves and the warehouse was full. Eleferiow Eleferios Pantelakis and Mary Mavraganiiri, the owners of ANEL, sat down to enjoy an iced tea outside the store. They were surrounded by a large unformed space with lots of grass. This made them start thinking and asking friends and acquaintances if there was a better way to deal with the many wild herbs beyond frequent mowing. And they came up with an interesting idea – a donkey could eat them! That's how Margarita, ANEL's famous donkey, came to the store.

Of course, the greens proved a lot even for the massive appetite of Margarita and the owners quickly understood that just one "lawnmower" would not be enough. This line of thinking, as well as the fact that the store was located on a busy road to Halkidiki, led them to the idea of forming a bee garden with beehives and aromatic plants along with a mini-farm with animals.

A park, open to the public (students, tourists, families, etc.), where visitors could learn about the world of the bees and the work of the beekeepers, get high-quality beekeeping products and experience apitherapy. And so, with an outdoor space designed with alleys, gardens and pergolas, an apiary and space for animals (donkeys, ponies and goats), the ANEL Honey Park, the first beekeeping park in Greece, was born.

The apitherapy house in Anel Honey Park
 Author: Eleferios Pantelakis

Eleferios Pantelakis and Mairy Mavragani, owners of Anel Honey Park
 Author: Eleferios Pantelakis



About the Company

The company ANEL STANDARD was founded in 1968 in Athens and since then, it has been active in the production and marketing of beekeeping products throughout Greece and around the world. It holds some of its own patents. In 2014, due to their great love for the environment and bees, the company created the environmental awareness park to pass on the knowledge to future generations.

Meloida's Therapeutic Cream



Katerina Kalaitzi and her wax cosmetics
 Author: Nikos Tsaldaris

The name of our company – Meloida – stands for a knowledge of honey, as “meli” is the Greek word for honey and “oida” in ancient Greek means to possess knowledge of something. The inspiration for the name came from the famous quote by the ancient Greek philosopher Socrates: *The only true wisdom is in knowing you know nothing.*

Dimitra, Katerina and Nikos Tsaldaris are a first-generation family of beekeepers and, wanting to navigate the magical world of bees and beekeeping, we have striven since day one to gain the necessary knowledge and made a commitment to deliver the best possible products to our customers.

Not only active in honey production and its marketing, Meloida is becoming well known in the exciting and still emerging industry of beeswax ointments and natural cosmetics. Alongside the use of honey, we embraced the plethora of natural raw materials that a beehive can provide, namely propolis, pollen, royal jelly and wax. With them, we created a full range of trusted beauty products available to our customers, such as eye creams, creams for natural lifting, creams with sun protection, natural deodorants, anti-ageing serums and more. One of Meloida's best-sellers is its bespoke therapeutic propolis cream.

Meloida's therapeutic face cream
 Author: Nikos Tsaldaris

Nikos Tsaldaris, owner of Meloida company, during beekeeping camping
 Author: Nikos Tsaldaris



Since antiquity, propolis has been renowned for its antibacterial, antiviral and antifungal properties. Combining propolis with the antioxidant properties of green tea, the regenerative and healing properties of almond and calendula oil and the antiseptic properties of pure essential oils such as tea tree, lavender, cedar and cypress, we created a specifically active product that may treat skin conditions such as acne, psoriasis and eczema.

Meloida takes pride in this particular product since they have been constantly receiving feedback from thrilled customers who observe a marked improvement in the skin conditions they were trying to treat. By trusting Meloida's product, they showed trust in the power of nature to heal and uplift. **Meliferi the Bee – An Educational and Entertainment Children's Book**

Who is Meliferi?

Meliferi is a unique bee with special abilities, which help her to be a leader of all worker-bees. For example, her antennae are too big and constantly fall in front of her face. But this is why Meliferi can "hear" and "understand" people's speech. Her transparent wings are large and have a honey-coloured mark. That is how her name was created, from the words honey and wing – "meli" and "fero" in the Greek language.

In the first part, the story explains Meliferi's life from the moment she was born to the moment she left the hive for the first time to explore the beautiful world of flowers, in a simple and very informative way. Children can follow Meliferi through 5 independent short stories. In this way, they get to know all the phenomena, behaviour and characteristics of her life and her community. Breeding, feeding, nursing, bee products, hive individuals, workers and drones, honeycomb building, food storage, food exchange, communication, foraging, dancing, hive recognition and coexistence with the beekeeper! We could say that although it is a children's book, it is a book on Beekeeping.

And the Author is...?

The author is a biologist, daughter of a beekeeper, answering to the name Fani Hatjina, who also happens to be a ULG coordinator in the BeePathNet project in Nea Propon-tida, Greece. Fani's studies have been concentrating on honey bee behaviour and all aspects of bee biology. Even as a child, she was very curious. This curiosity caused a small problem with her eyes, as she disturbed a wasp's nest as a child and they massively attacked her! Antihistamine medication was dropped into her right eye and since then, her right pupil has been dilated. Despite this, she is now working with honey bees as a researcher and enjoys teaching people about organic beekeeping and breeding local bees. However, not all the book-related work was done by her alone. Fani's husband, Charalambos Toumbekis, is an artist and it was he who created the image of Meliferi with lots of love and patience. That's good for him, because he had to consume lots of honey for energy as well!

But How did Meliferi the Bee Come into the World?

Sure, she would have a queen mother if she was a real bee! However, as a hero in the book, she was born in Fani's head, after her three little (at the time) daughters were asking for more and more books to be read to them. All sorts of books and animations on animals and nature were collected at home. But interestingly enough, there was no book on bees (in the Greek language) and only a few in other languages. So, Fani thought: *"Let me explain how the bees live to my kids in a simple way."* As always with kids, narration is not enough when these demanding little creatures need to hear the same story again and again and again. This is how the first draft was created. And through time, one after the other, the stories were written and Meliferi was finally alive in the children's world. Now, already in its 2nd edition, Meliferi the Bee is also freely available online through [this link](#).



Children's book "Honeywing the bee"
Author: Fani Hatjina



Fani Hatjina, author of the book "Honeywing the bee" explaining the story
Author: Klemen Strmšnik



A bee painting in the book "Honeywing the bee"
Author: Charalambos Toumbekis

8.6

Amarante bee products in transfer cities – Case study

Brief Description of the Bee Products in Amarante

The city of Amarante is known for its amazing synergy between the urban and rural areas. It is thanks to this mindset that Amarante recognized the importance of bee-keeping as an economic activity, but also as a complementary activity able to improve biodiversity awareness, as well as the awareness of citizens about other important environmental issues.

The City of Amarante is lucky to have such a diverse BeePathNet ULG group, able to offer an array of products and services for all the community. The diverse range of products and services is an important advantage, as well as added value, as our co-operative includes members from various sectors like education, the economy, tourism and innovative products. It is this diversity that makes us stronger.

We have some great beekeepers in our city who produce high-quality local honey from different types of plants. These producers are present in local stores and fairs and their products are preferred by the general population. We also have niche tourism companies able to explore and present the amazing landscapes and experiences that we have to offer to any Amarante visitor. On the other hand, we also have very proactive and dynamic people able and willing to promote new products, such as mead and other types of special drinks.

The Municipality of Amarante is trying to actively cooperate with all ULG members and is proudly using and promoting their products and services.

Runas Hidromel mead production
Source: Runas Hidromel

Honey at the municipal food market
Author: Pedro Fonseca



Success Stories from Amarante

Alexandre Morais, Beekeeper from Quinta da Macieira

How He Fell in Love with Bees

His name is Alexandre Morais and he's 61 years old. In 1985, he worked in the civil service, called Casa do Povo, where he performed Social Security functions. His work colleague was a beekeeper, much older than him, but in love with bees and beekeeping.

In the spring of that year, a swarm appeared in his house. The swarm entered through a hole in the wall and settled between the foundations of the house and the wooden floor. Alexandre was very curious and he realized why they had started working through that hole in the wall. That same day, he asked his work colleague for help. There was no time for hesitation; if they needed to remove the floor from the room, they would do it to save the bees. They did just that – and there were so many that the “bee show” fascinated Alexandre. They took the bees to a hive and that's how Alexandre's first hive was created.



Quinta da Macieira's stalls in preparation for the fair
Source: Quinta da Macieira



Quinta da Macieira's stalls
Source: Quinta da Macieira

A Beekeeper's Journey

He realized how much this colleague was in love with the bees, but in fact he had very little knowledge and did not know how to answer questions... And Alexandre had so many questions. In the same year, Alexandre attended training in beekeeping. *"Everything was much simpler at that time because there was still no varroa in Portugal,"* Alexandre confess.



Hives of beekeeper Alexandre Vieira
Author: Alexandre Vieira

After training, Alexandre already felt like a beekeeper. He knew how to deal with them and get more hives. He soon reached 40 hives, which at the time was unusual as few beekeepers had more than 10 or 12. However, a few years later, his life changed. Free time was limited due to his other professional activities and he only had time for a smaller number of hives. However, the passion for bees was still there. And as soon as his professional activities allowed him more time, he devoted himself to the beekeeping life again.

At this moment, his ambition was greater than ever and he felt that in order to expand to 200 hives in 9 apiaries (which he currently has), he needed more knowledge. So he decided to attend the beekeeping class at UTAD, among others. Alexandre has always been very interested and curious about the world of bees and always wanted to learn more.

Beekeeping provided him with a lot of work, but a lot of satisfaction and honey as well. He started looking for a market for the 2 to 3 tons of honey he was able to produce. This is how he started cooperating with Dolmen, a local products store and a great supporter in the marketing of local producers in the region.

The next step was a small factory for processing and packaging honey, licensed by the Regional Directorate of Agriculture, in Vila Meã, Amarante. This allowed him to pack and sell his many varieties of honey such as rosemary, orange, chestnut and others.

However, the challenges are growing too – the pests and diseases that are increasingly affecting bees, such as the velvetina wasp. Although more or less controlled in the last two years, especially thanks to the action of official entities in 2016 and 2017, Alexandre still lost about 50% of the workforce each year. Also, competition from Asian countries introducing honey to the European community at impossible prices with our production costs is causing losses and some discouragement. However, Alexandre truly believes that the spirit of resilience and the passion for bees will prevail over all obstacles.



Apitourism with Inside Experiences
Author: Pedro Fonseca



Apitourism in Marão with Inside Experiences
Author: Pedro Fonseca



Picnic in Marão with Inside Experiences
Author: Pedro Fonseca

Inside Experiences

Inside Experiences is a tourism company located in Amarante. Founded by citizens, its goal is to promote the city through different experiences that recount its history, reveal the magnificent natural landscapes, provide a taste of the local flavours (food & wine) of Amarante's gastronomy and introduce you to the local traditions that have lasted until today.

Inside Experiences was created by two young Amarantinos (citizens of Amarante) who, after living abroad for a few years, came to the conclusion that there was no better place in the world than their homeland. After travelling all over the world, they decided to share with everyone who visited their city its history, culture, landscape and gastronomy.

Inside Experiences aims at creating extraordinary experiences filled with unforgettable memories and moments of pure harmony with nature and history. Sharing these memories with other people will allow all of us to revive the traditions, cuisine and landmarks that define and preserve our city of Amarante, one of the most beautiful cities in Portugal (you can learn more about their activities on their [Facebook](#) and [Instagram](#) accounts).

After learning more about the BeePathNet program, they decided to adapt some of our experiences to create two tours related to bees and honey:

Tour no. 1 – a jeep tour that takes visitors to the mountains. It is there that we visit the locations of the oldest beekeeping hives and we learn about the whole history of bees and honey production to this day. The tour concludes with a picnic of local products, including different types of honey.

Tour no. 2 – takes us to a local producer, where we experience his job and lifestyle for a day. And after all that hard work, we can taste all the local products we have learned about and more.

One of the biggest challenges is to find customers looking for this type of experience and to be able to go against the big tourism companies (which end up controlling the system) that take tourists to attractions without providing any local experience.



Runas Hidromel's stalls at fair
Source: Runas Hidromel



Runas Hidromel mead production
Source: Runas Hidromel

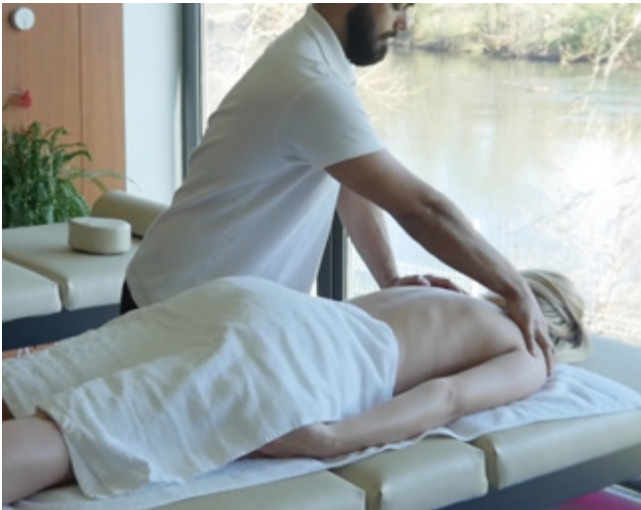
Runas Hidromel / Runais Mead

Runas Hidromel is a company that produces and sells mead. It is based in Amarante, in the Tâmega Park industrial area. Its producer, Tiago Morais, has always had a special taste for Nordic cultures and the various products that are known from that region. One day, just for fun, he decided to try producing mead at home. And by chance or otherwise, it was very good. He gave the mead to his friends and they were all delighted with it, totally different from what they were accustomed to or expecting, and they suggested that he should start producing it on a grander scale for them to offer to family members on festive days. Tiago began to produce more and more mead for more and more people. Word got around and suddenly, unknown people started asking where they could acquire it. This is how Thiago's mead production company was born.

Until this moment everything was going well, but then a small problem occurred. According to Portuguese law, the production of mead is only allowed in an industrial zone. Thus, Tiago decided to start searching for industrial areas in Amarante. However, they are scarce. In the end, the IET – Tâmega Business Institute – an entrepreneurial incubator that helps and supports new entrepreneurs in the creation of new businesses, proved to be the best solution. Tiago applied for the location. The project was interesting as mead is a relatively unknown product and there is almost no one producing it legally. The project was approved in 2017 and the adventure began.

Runas Mead is a 100% national product. It uses honey from Portuguese producers and generally from the north (Amarante), thus ensuring the quality of the product. But what is mead? Mead is made from water, honey and yeast. It has an average fermentation time of 1 to 3 months to reach an alcohol content between 6% and 11%. However, this time may be longer, depending on the type of mead we want to produce. After fermentation, the mead is filtered to achieve its wonderful colour and pasteurized to eliminate yeasts. It is then bottled, labelled and prepared to be sold. Or it is put in isobaric vats to gain carbonation and then put in barrels to be sold especially to restaurants, bars, etc.

In addition to traditional mead, Runais is the only nationally licensed company producing special flavoured mead – like Red Fruit Mead, which is perfect for the high summer and cocktails, Blueberry Mead, which almost resembles wine in its acidity, Fennel Mead, which is promoted as “an acquired taste” and Coffee Mead, which is known as a digestive.



Stay to Talk thermal and honey massage
Author: Pedro Fonseca



Stay to Talk tourist experience
Source: Stay to Talk

However, the production also has some unique challenges – for example, the price and quality of honey and the fact that honey is purchased at 6% VAT, while mead is sold at 23% VAT – a problem for all manufacturing industries. This is not meant as a complaint so much as to inform people who think that the product is expensive. We understand this viewpoint. However, mead is a product with important added value – not only for mead producers, but also for beekeepers in our country.

Tiago is a professional firefighter in Amarante and runs this company as a second job. He has an extreme passion for it and has been dedicating as much time as possible for over 3 years. 3 years of ups and downs, challenges and dreams achieved. Tiago also delivers workshops on the Handmade Production of mead all over the country, so that people can learn how to make their own mead or just learn about how it is produced. You can learn more about his activities on their [Facebook](#) and [Instagram](#) accounts.

Stay to Talk – Honey in Amarante as a Learning Experience

[Stay to Talk](#) is a social enterprise involving tourism activities and cultural programming that invites both national and international tourists to stay for learning experience programs. This company not only provides discovery and experience as a form of cultural immersion with the inhabitants, but also allows tourists to express themselves in Portuguese in a playful practical learning context.

The Stay to Talk Institute invites you to travel with a purpose and, thus, make a contribution to local development, inclusion and social cohesion.

From the time of caves, through different civilisations and until today, honey has been used in our food for aesthetic and medicinal purposes. It is, arguably, an essential food for our well-being.

The Stay to Talk Cultural Immersion Institute proposes a learning experience dedicated to honey and challenges visitors to (1) get to know the history of a people over two thousand years old, feel the Castro culture when visiting a castro, which is considered evidence of the predominant presence of Celtic peoples in the Iberian Peninsula. It is known that this culture consumed mead, a very old alcoholic drink of the wine family and, as its name suggests, obtained by mixing honey and water. It also proposes that the visitor (2) get to know the recipe and try making this drink, choose its flavour and, with a specialist, (3) perform the tasting of this drink of the gods. (4) Finally, it invites visitors to relax and opt for a massage at Termas de Amarante where honey and mead are the main attraction that will delight the body and soul.

This popular tourist product was a challenge that we took on and made sure we added to our portfolio of tourist options for local cultural immersion.

We combine history, gastronomy and leisure to create an unforgettable weekend in Amarante.

We operate in the area of cultural and sustainable tourism and we work with a purpose – to contribute to local development, inclusion and social cohesion. Such as? Facilitating the interaction between the visitor and the local inhabitants through local cultural immersion experiences – getting a health/cosmetics treatment (exfoliation), enjoying a vintage, a literary tour, a painting workshop or why not a trip into history and experience a mead workshop. Both parties gain from this interaction. On the one hand, visitors gain local and genuine knowledge; on the other, the local inhabitants can show and sell their products directly to customers.

8.7

Dolmen – the case study from Amarante

Dolmen – the Selling Point and Much More

The beginnings

Dolmen is the name of a co-operative for local development located in Amarante, Portugal. It includes members from different sectors – from the public sector (like the Municipality of Amarante), other associations, SMEs, producers and individuals.

The mission of Dolmen is to promote local development through the valorization of local products, culture, heritage and people. Its operation focus is on rural areas, not only from Amarante, but also from other neighbor municipalities, such as Baião, Cinfães, Marco de Canaveses, Penafiel and Resende.

Dolmen was, though a long development process, created on the initiative of the civil society, to try to benefit from the support of community funds available to the other rural territories of Portugal, in the majority through the associations founded by Municipalities. It's original founders were 3 people, from 3 central municipalities (Marco de Canaveses – Rolando Pimenta | Amarante – Jorge Costa | Baião – Pinto Henrique). They founded the co-operative Dolmen, with the objective of filling existing gaps – more specifically, to channel funds for rural development towards topics such as education, training and territorial development of the counties constituting the area of Douro Verde.

At the beginning, Dolmen supported itself only through community funds and inscription fees from cooperatives, beginning with diverse voluntary collaborations, work wise. In its second phase, Municipalities were at first included as honorary cooperatives, however, in time they began to participate also financially in the cooperative. While all three Municipalities took over their share of responsibilities within the cooperative, the Municipality of Amarante had especially facilitating role in the opening of the Douro & Tâmega store and selling point. This has proven to be successful, most notably by being awarded the Center of Promotion of Local Products in the whole Portugal.

Dolmen began with the support of small individual and collective projects, of social and productive areas, through community funds. In this way, Dolmen ended-up creating its own commercial spaces, where traditional/typical products of the region were promoted – as such, representing an important step forward for the region.

Resulting from the programme LEADER, Dolmen widened its reach and applied for other financed projects, enlarging its human resources. All this led to a bigger recognition of the cooperative, as well as increased potential of investment in its territory.

The operational model

As a co-operative Dolmen is governed and managed through the governing body, members of which are elected every 4 years, with the role of defining strategy and priorities. This governing body works closely with an executive team of 15 people.

Any person or collective can become a cooperant by subscribing capital titles (inscription fee), which maintain itself active through the payment of an annual quote (annual fee). Another important source of funding comes from commercial selling of cooperants' local products in Dolmen shops. Each price is composed out of the cooperants price and a margin (increased to the price of selling of the producer), intended to cover co-participation of cooperants in the costs of promotion and selling.

As nowadays Dolmen's activities are based mostly on structural funds, it respects European and Governmental orientations and operates in accordance with them. This is



Dolmen logo
Source: Dolmen



Chestnut honey, multi-flower honey and orange blossom honey
Author: Ana LÍrio



Dolmen shop in Amarante
Source: Dolmen

why Dolmen has its own Local Development Strategy, based on the potential of the territory and the expectations of the population, through partners and cooperatives, between them the Municipalities.

The municipalities became more than financiers and adopted the role of partners in rural development, many times contributing with strategy adaptation and collaboration with local agents in the inherent formalities to implement projects and investments. The fund that has supported Dolmen since its beginning is called LEADER, mostly FEADER, but also DLBC and other programmes.

The mission of promoting local development is ensured through a range of projects normally funded by ERDF and other European funds dedicated to rural development, agriculture, tourism, etc. Besides that, Dolmen manages a network of local products shops that have different roles, to better support all needs of rural development.

They promote their area, by working as an interpretation center and in a certain way as a tourism office. They are the location of several events related to subjects of their interest, and they also have a shopping area where local products are exposed and are available for purchase. In Amarante, Dolmen's premises are located in the heart of the City center in order to be close to tourists and local people.

The activity of the shops within its local product selling network isn't directly profitable. However, it is believed that the overall balance of the above-mentioned structures and activities is very positive, due to the support and consequently generated income that is received by the backbone of the cooperative – the small producers. Furthermore, this is additionally enhanced by the better visibility of the region.

Dolmen Shops

Inside their shops there is a huge range of products that visitors can purchase, each of them produced in Dolmen intervention areas. There are food products such as wine, honey, jams, craft beer, biscuits, and there are handicraft products like traditional pottery, textiles and even cosmetics.

Visitors can see all the products inside the shop and Dolmen staff is there to support them and answer any questions. Normally, several of the food products, especially wines, are available to be tasted by visitors in order to know more about the products before eventually buying some.



Dolmen shop in Amarante
Source: Dolmen

Their spaces are tastefully decorated, with an attention to details such as lighting or the way products are exposed to visitors. The design of Amarante's shop is inspired by the regions' heritage and includes details like Teixeira de Pascoaes poetry on the floor about the typical wine of the region, the Vinho Verde.

These shops are open the whole year-round, 7 days a week. The peak of visitors occurs in the high tourist season, and on Christmas when Dolmen promotes local products baskets as gifts.

Producers can use these spaces as places to promote their products, not only having them for sale in the shop, but also organize promotional events or even receive customers on the premises. Dolmen's premises are shared spaces, that producers can use to promote their activity and business.

Lessons & tips about local product shops:

- Promoting local products should help them to be seen as special, so the exposition conditions should be good looking, with good design, lighting, and using the culture and heritage of the regions;
- The location of these shops should be central in cities in order to attract inhabitants and tourists all year round;
- These spaces should not only be places for selling products, but also places where expositions, workshops, small events can be located, and promoted not only by the city council and nonprofit organizations but also by producers.

8.8

A conceptual design of a local product promotion & selling point

Why does the City of Ljubljana need a product promotion and selling point?



ČEBELJA POT
BEE PATH

Ljubljana BEE PATH logo
Source: Ljubljana archive



"Ljubljana Honey" brand

Due to favorable natural conditions, a diverse landscape, responsible spatial development and its traditions, the City of Ljubljana is a city with well developed countryside, that is closely connected and integrated into its urban core.

Close connection between the urban and rural part of Ljubljana is evident from a diverse supply chain of many local products flowing into the city from its countryside – vegetables, fruits, milk and milk products, honey and bee products, meat and meat products, etc.

However, as in many other cities, the detachment of urban population from its countryside is present also in Ljubljana. This is why the Core Management Team of the BeePathNet project recognized the need to strengthen already exiting efforts to strengthen local supply chains.

Urban beekeeping, urban gardening, local food self-sufficiency, lower carbon and environmental footprint, increased biodiversity and improved management of urban forests and other types of green infrastructure in the city are all on the rise. But they are dispersed and not nearly visible enough.

Due to all stated reasons we firmly believe that **the City of Ljubljana needs a product promotion and selling point.**

Based on results of projects like BeePathNet, URBforDAN and APLAUSE, we also feel that **the time is right for this step**, as the City of Ljubljana has gathered enough experiences, developed enough capacities, strategies and operational plans, tested enough concepts and successfully mobilized its citizens – thus, creating a sound base and ensuring its long-term existence.

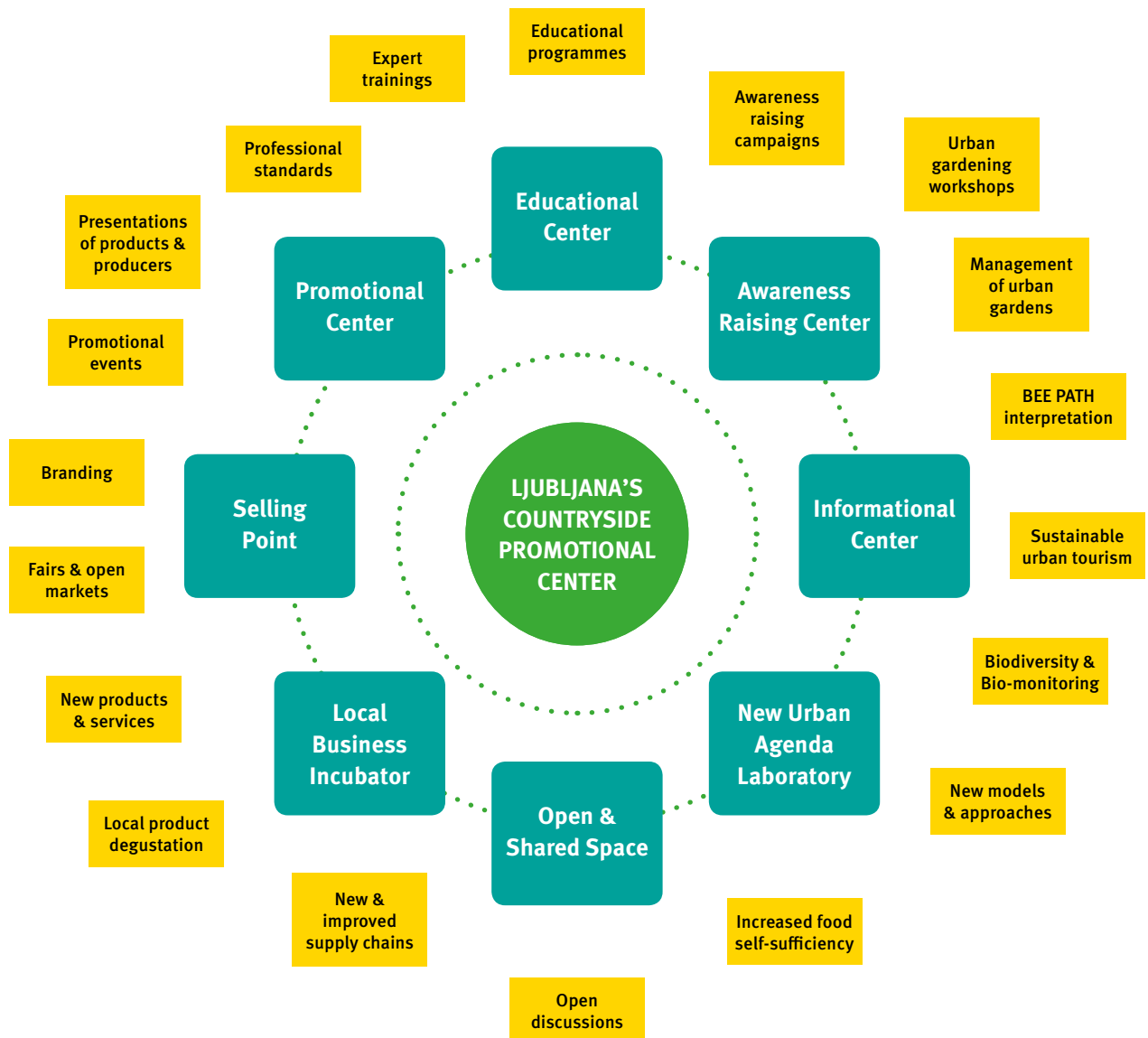
Beehives in Tivoli Park, Ljubljana
Author: Luka Dakskobler



Ljubljana's Countryside Promotional Center – the Vision

Ljubljana's Countryside Promotional Center will be an open space, where local producers and consumers meet, not only to buy and sell local products and services, but also to get to know each other, understand each other and build long-lasting trust needed for resilient local supply chains.

Ljubljana's Countryside Promotional Center will also be a shared space for the City of Ljubljana, its local producers, citizens and visitors, where all stakeholders can exchange their knowledge and experiences, cooperate, discover synergies, create long-lasting partnerships and explore new opportunities.



Ljubljana's Countryside Promotional Center – the Conceptual Design

In this chapter, BeePathNet Core Management Team dared to dream about Ljubljana's Countryside Promotional Center, then took a step back and undertook a critical review of that dream and came up with the following conceptual design.

At this point, we have to emphasize that BEE PATH represents only one segment of topics which Ljubljana's Countryside Promotional Center will cover, as a rural development center. Nonetheless, it was the BeePathNet project that allowed us to dream and plan for the future. It was also the BEE PATH good practice that taught us to join forces, grow together and understand our joint future.

It shouldn't be considered a finished product, but rather a starting point on the long journey towards realization of the dream called Ljubljana's Countryside Promotional Center. However, we believe it is concrete enough to also represent a clear roadmap to be followed in coming years. As such, we expect that the City of Ljubljana will endorse it and integrate it in the Rural Development Strategy of the City of Ljubljana 2021-2027.

The Partnership

Just as the rest of the BEE PATH good practice, Ljubljana's Countryside Promotional Center (LCPC) will also be based on mutual respect, trust, active cooperation and relentless search for synergies between key stakeholders. Thus, creating a long-lasting partnership.

At this point it is too early to speculate who will join this partnership and what legal and operational form it might take. However, we so-far recognized a clear interest from the following key stakeholder groups:

- **The City of Ljubljana** with relevant departments and its public companies – they would play a key strategic role, oversee the content and the programme, as well as provide the “operational skeleton” to LCPC.
- **Ljubljana's local producers** – this is a diverse group of stakeholders, including Ljubljana's farmers, beekeepers, gardeners and all other producers of local products.
- **Other interested institutions and organizations** – this is a specific group of more loosely inter-connected stakeholders, with specific interests for participation in this partnership. It primarily includes all BEE PATH members not directly linked to production of products, as well as other potentially interested institutions, companies and individuals.

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



The Management Model

Given a diverse array of potential partners and still unknown interests, it is difficult to speculate about a concrete legal form of the LCPC, as well as about its management model. However, it is clear that LCPC should be an **autonomous economic body, based on public-private cooperation principles**.

This would allow it to be flexible in its operational form, **conduct a diverse set of activities**, while **relying upon various forms of funding** (e.g. public co-funding, funding from own economic activities, donors, application to various public tenders and EU funds, etc.).

This also means that its management model will have to allow for **2 predominant types of activities**:

- **Public activities** – aimed at awareness raising and education of key target groups, ensuring high quality standards of local products, providing advanced training for producers, etc.
- **Own economic activities** – aimed at coordination of local producers, branding and promotion of local products and services, search for synergies and development of new products and services, organization of promotional events, selling of local products, etc.

This is important, as not all legal forms and management models allow it. So far, the **BeePathNet Core Management Team recognized cooperative, NGO, social enterprise and public center as potential legal forms**.

Regardless of the selected legal form, at this point it seems clear that the City of Ljubljana would play a key role in its strategic and operational management.

Location, Contents and Facilities

Given its purpose, **LCPC's location** should be selected based on the following criteria:

- A location in the city center or in its vicinity, allowing both citizens and visitors easy access, as well as visibility and high profile.
- Easy access for local producers to deliver their goods.
- Easy access to public transport and nearby parking for customers.
- Space available for both in-door (a building) and out-door activities (open public area).

Putting a concrete location aside, envisioned **LCPC facilities** should be designed as follows.

The ground floor should be divided into 2 units:

- **The information center**, where visitors are greeted and can get all needed information, awareness raising and promotional materials. It would function as a local product and service exhibition and degustation area. It would also serve as a reception center for business meetings between larger clients and local producers – a sort of a local products and services “stock exchange”.
- A larger **in-door area for selling local products and services**, either in the form of permanent small shops and cubicles or non-permanent stands. This area could also be used for various promotional events and markets.

The educational center should be located in the first floor. It is envisioned as a large open area, with possibility to be divided into smaller rooms, and allowing organizations of events, lectures, workshops, as well as business meetings. A part of it should be devoted for the **local business incubator**, allowing local producers to design and develop new local products and services.

In front of the building, **an out-door open space** is envisioned, allowing selling of local products on non-permanent stands (sort of a small open market), as well as larger out-door events, fairs, presentations, etc.





9.

Awareness raising

From a project to a Bee-friendly movement in the city

9.1

Planning awareness raising

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 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. The primary task of BEE PATH group members is to promote different activities connected with urban beekeeping 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. We firmly believe that this is the only way for urban beekeeping 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, organizations 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 we just want to highlight some BEE PATH members such as the pioneer of urban beekeeping Franc Petrovčič, who placed a beehive on the top of the Congress Centre Cankarjev dom; BTC d.d. that attracted their business partners like Minicity, Merkur, Hofer, Semenarna/Kalia, SiTi Teater BTC,



Wandering with a bee
Author: Luka Dakskobler

Medex, etc and initiated the “Help the Bee in the City: Plant the City with Flowers” awareness-raising campaign; University of Ljubljana, especially with the Biotechnical Faculty, its Botanical garden and Faculty of Architecture; Gorazd Trušnovec, founder of the Urban Beekeepers Association that developed a special product called “Rent-a-beehive” and 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.



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

Within the BeePathNet project Ljubljana transferred its BEE PATH good practice into five EU cities covering the majority of climate conditions for beekeeping, 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 Proponitida (Greece). It is important to point out that all of them, prior to joining the project, put a lot of emphasis on environmental preservation and maintenance of biodiversity. They also implemented some urban beekeeping 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, promotion of sustainability through education on food, biodiversity and food waste reduction in Cesena, and training Amarante’s municipality technical staff 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 beekeeping key competences and knowledge we put each of them in charge of one of 5 key Ljubljana BEE PATH transfer modules. By this we mean that the city hosted partnership thematic meeting which gave them the opportunity to present its good practice to the whole partnership. Additionally, this city prepared a main article and several other texts for the thematic newsletter and also a description of its good practice that is a part of these guidelines. We strongly 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 ***BeePathNet Communication plan*** and more detailed information is provided in the ***BeePathNet Communication GUIDELINES Phase 2***. The documents determine communication activities and target groups matrix, the geographical division of target groups, time plan, reporting... In addition to those two documents on the partnership level, we developed ***BeePathNet guidelines for communication on the local level***. They 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 in the last six months of the project. The partnership agreed on obligatory elements, still leaving enough room for each city to prepare events in their local 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), Anastasia Liourta (Nea Propontida, Greece).

Key elements of BeePathNet communication plan and communication guidelines

The communication officer developed the communication plan that contains five parts: communication objectives, BeePathNet messages, target audiences, communication periods, activities, evaluation and a time plan.

The general BeePathNet Transfer network communication objective is to promote urban beekeeping as a holistic and participatory approach to sustainable management of the environment among EU cities, in short: “Bees live in a healthy environment!”

Specific BeePathNet Transfer network communication objectives are:

- To promote urban beekeeping as a holistic approach to environmental protection among EU cities administrations
- To address EU and national policymakers to support and promote sustainable cities management through urban beekeeping
- To address professional stakeholders and economy to join their city’s ULG or to initiate such a movement in their city
- To involve residents of partner cities and other EU cities to participate in the BeePathNet initiative and activities
- To spread information on project development, partner cities activities and good practices within the partnership
- To support ULGs in BeePathNet activities implementation

The BeePathNet network long-term objective is **to spread the initiative to other EU cities.**

A short project description or boilerplate is an essential and very useful tool. The BeePathNet message is:

BeePathNet – Enriching the Urban Jungle with Bees.

A holistic approach to urban beekeeping developed in the City of Ljubljana is being transferred to five European Bee-friendly cities and the BeePathNet network, supported by URBACT III programme, will set the ground for sustainable urban beekeeping.

Through the promotion of bees and hand in hand with everybody living in the cities, from a single resident to the city administration, we are contributing to a cleaner environment, lower pollution and also to the preservation of natural resources and biodiversity.

- As described before, the network communication officer was in charge of communication on an international level and partners’ communication officers for communication on the local level. As for the target audiences three communication focuses were set:
- on the local level in PP cities / regions / country
- on the transnational level to PP countries
- to EU institutions, other EU stakeholders and EU cities – potential new network partners.

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

Next issue is time planning. We defined 8 communication periods. We dedicated the first period to preparing the communication plan and communication kit which was confirmed at the Kick-off meeting in Hegyvidék, XII District of Budapest. The following **6 communication periods** were dedicated to **5 topics**, assigned to each 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 our results, with the **final event** that took place in Ljubljana.

Theme	PP responsible	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 Proponitida, Greece	Transfer city visit in Nea Proponitida	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	July – December 2020

Comment: periods and main events changed due to project prolongation because of COVID-19 and a key topic was added.



We developed a **communication kit** containing all elements and templates that assure a common visual identity and above all are tools that support partners' activities. It contains logos, word and PPT templates, banners, roll-up, press release...

Each partner prepared a **vox-pop** – short video where different city stakeholders are explaining their opinions on the importance and impact of urban beekeeping. People find shooting videos a very unpleasant task, but later they turned out to be a great promotional tool that can be used in various occasions.

We planned **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

To support the transfer of the good practice to more cities **thematic newsletters** and **guidelines “The evolution steps toward a Bee-friendly city”** were developed. The latter is a step by step guide for transferring our experiences and implementing them according to the city’s needs and preferences. On the other hand, for promotion reasons two types of outputs were developed. The **BeePathNet booklet** is a tool to disseminate urban beekeeping and the partnership good practice and to promote the urban beekeeping initiative to (new) EU cities and to other interested stakeholder groups. The partnership also developed two types of giveaways. There are **small giveaways** – bags with melliferous plants that partners distribute at local events to address citizens. We also developed a **VIP giveaway to invite new cities to join our Bee-friendly city initiative**. It is a box with honey samples from all 6 partner cities with an empty space for a sample from the recipient of the gift.

BeePathNet national and international events

We also organised international and national events in the project’s lifetime. The two key events were the **World Bee Day celebration** in 2020, which is described in more detail below and the **Final conference**. Each partner also organised a **local event**, that in most cases turned into a month of celebrations as urban beekeeping is a theme that can include themes such as environment, locally produced food, biodiversity and many other similar themes.

9.2

Some cases of BeePathNet’s awareness raising approach

In all chapters of these guidelines, you can find several very diverse examples on how partner cities approached awareness raising. They addressed stakeholders in their city – municipality administration, institutions (especially educational institutions), companies (to truly support this initiative or at least to “look greener”), NGOs and citizens. They also spread the initiative of the Bee-friendly movement to other cities in their country and across Europe. A careful reader can also find out how some excellent approaches were transferred between partner cities.

To present the BeePathNet network logic in awareness raising we will describe two key communication activities in more detail: design and production of thematic newsletters and the World Bee Day celebration in 2020 as the main transnational awareness-raising campaign of urban beekeeping.

Design and production of BeePathNet thematic newsletters

To support the transfer of knowledge the partnership issued **thematic newsletters on biodiversity, education, awareness raising, tourism, the World Bee Day 2020, new products** and an additional one on **Bee Paths and tourism**, due to the project prolongation.

A **thematic newsletter’s structure** was as follows:

- the redline topic article prepared by the partner in charge of the theme
- Brainy Bee – some relevant research / projects on the theme – to provide readers with additional relevant information
- News from Bee cities – info on project development and activities in partner cities in the past months

- What is buzzing up – events and activities that are coming up
- Amazzzing facts about Bees – “cherries” from Facebook and Twitter posts, and other interesting stories to address the general public.

They were prepared in English by the partner city with the support of the Lead partner and partners translated it into 6 local languages. This turned out to be really a looootttt of work (altogether 77 pages in English and the same number in each of the 6 partners languages; in total over 550 pages), but it was crucial in reaching different local stakeholders not just in the 6 cities, but in the 6 states, and additionally with the English version the rest of Europe and the world.

There are (May 2021) over 650 subscribers to our newsletter and additionally stakeholders in Poland and Hungary receive the newsletter directly from their city representative, therefore we estimate that we reach around 700 persons.

We “built up” the library of thematic newsletters so you can find them easily.



Newsletters’ thematic articles:

Bees and pollination are important factors for biodiversity as well as in the economy

Teaching the youngest to take care of the environment will green each street of your city

Awareness raising in the Anthropocene: defending the bees is defending ourselves

Apitourism an alternative, enjoyable and challenging activity for demanding citizens and tourists!

World Bee Day 2020 – #BeTheBee!

The power of Honey

Walk on a Bee Path and learn a city Bee Story



Newsletter no. 7 – new products: Bee products for dogs are a great alternative to products filled with chemicals and toxins
Source: <https://topdogtips.com/bee-products-for-dogs>

By translating the Newsletter into 7 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 (at least) the six countries.

Some of our partners informed us that the newsletter structure gives a very good overview of project development and comprehensive information on activities that took place in each city, so they will publish them in a book form.

The World Bee Day celebration 2020 – transnational awareness-raising campaign of urban beekeeping



20th of May (1743) is the birthday of Anton Janša, a Slovenian and a pioneer of modern beekeeping techniques. He was a beekeeping teacher at the court of the Empress Maria Theresa of Habsburg and adopted revolutionary beekeeping methods for that time, introducing bee grazing and redefined the role of drones.

Briefly about the World Bee Day

After over a decade, in 2014, “The Honey for Breakfast” day in Slovenian Kindergartens and Schools received its international recognition and several EU countries implemented “The European Honey Breakfast”. The movement also spread to public institutions and companies. It was one of the important grounds for the proclamation of World Bee Day within the framework of the United Nations in December 2017. The campaign was initiated by the Republic of Slovenia in close cooperation with several governmental and nongovernmental institutions, such as the Slovenian Beekeepers’ Association on the national level and Apimondia, the International Federation of Beekeepers’ Associations on the international level. It was supported by all UN states, while 115 countries also co-signed the resolution, i.e., they acted as co-sponsors, including major countries such as the USA, Canada, China, Russia, India, Brazil, Argentina, Australia and all EU Member States.

The celebration of World Bee Day is addressing the biggest global problems – the role of bees and other pollinators to the existence of life on planet Earth, assuring food safety, preserving biodiversity... Though BeePathNet’s aim is more modest – we just want to show a variety of actions that cities, neighbourhoods, institutions, companies and last but not least each of us can or shall take to contribute to a bigger story – to a cleaner and greener environment, and also to the preservation of natural resources and biodiversity.

Awareness raising campaign for World Bee Day 2020

The BeePathNet main transnational awareness-raising campaign on urban beekeeping in partner cities and wider at the EU level took place in the framework of the worldwide celebration of The World Bee Day on 20th of May 2020. Celebrations (6 local events) were coordinated and promoted “under the BeePathNet umbrella” at the international level and implemented in all partner cities – each partner city prepared a national celebration (an event or a series of events) and promoted them at the local level, targeting city specific groups of residents, city political and professional stakeholders and the economy.

This was supported by a thematic project newsletter and promotional campaign at the EU level to spread information primarily to EU cities administration and stakeholders from institutions related to the project. Coordination of all activities and international promotion was managed by the network communication officer and on the local level, local communication officers were in charge.

We planned that each partner will prepare activities listed below, though, some of them were not implemented due to COVID-19 restriction:

- Prepare a story on your city celebration of WBD 2020 events (title, short abstract, full story) – for its promotional purpose and it will be published in the WBD 2020 newsletter
- Organise an event or a set of events
- Organise a round table on bee / environmental issues with BPN project presentation (presentation of partnership and initiative to spread the movement)
- Involve one city in your country to organise (any kind of) WBD 2020 celebration and make a vox-pop about it



- Live stream one event to BeePathNet Facebook
- Organise a press conference / send a press release to the media
- Promote an event / set of events at the local level (their webpage, Facebook, other channels – see attachment 1 with detailed indication on target groups)
- Prepare posts to be posted on partnership social media in English

What was buzzing up in BeePathNet partner cities on World Bee Day 2020

These are some highlights of BeePathNet partner cities World Bee Day 2020 celebrations to give EU cities and residents inspiration. Due to the circumstances, we moved a part of the activities from the streets to the social environment and in May organised different awareness raising campaigns, online games, webinars... Some of them were organised in the following months when the safety situation calmed down. Nevertheless, we need to protect our neighbourhoods and cheer up the city bees with beautiful melliferous flowers most of the year.

In **Ljubljana** (Slovenia) under the title »Young bees build the green city of Ljubljana« you were able to visit the exhibition of designs of hives and useful objects like souvenirs, flower pots with honey plants, carrier bags and boxes for bee products... designed by students of the Faculty of Design under the project BeeKull; hike through the city's Bee Path, flower your balcony or public places within the initiative »Let's help the bee – plant flowers in the city«... or at least stick a Bee ribbon on your chest or FB profile.

In Cesena, the celebration of WBD 2020 was the trigger for their campaign “**Cesena amica delle api**” (Cesena – a friend of the bees; Italy) that took place in the following months. During that freaky spring when citizens remained stuck in their houses and (re)discovered the smell of clean air, the sound of birds and bees and butterflies on balconies they shared knowledge, ideas and good vibrations.

Bydgoszcz (Poland) named its campaign »Urban reality of bees and people – let's create a more **Bee-friendly world**«. In addition to educational short films, a brochure... they stepped into citizens' life by publishing information about bees, bee proverbs... photos appeared on LED boards at bus and tram stops as well as with special graphics that appeared on billboards on 20th May 2020.

»Amarante, a **Bee-friendly city**« (Portugal) was a set of diversified activities seeking to raise awareness on the importance of bees in the natural world, as well as of hive products. Balcony displays of homemade bees – school children gave wings to their imagination while producing bee models, writing contests of stories about bees, on-line tale time, lectures, round table...

Under the title »**#stayathome and become an urban gardener!**« **Hegyvidék** (Hungary) carried out several exciting activities by the end of May. To protect pollinators and for the benefit of the district's residents they were seeding more than thirty melliferous plant species on multiple public green spaces; planting melliferous saplings in one of the districts' streets that could be adopted by the area residents who could spoil them with water on dry days...

In **Nea Propontida** (Greece) »Learning from the bees and for the bees, through Apitouristic activities« took place online, but as soon as the time was right, they started their first apitouristic activities such as a wonderful trip to gastronomy, a journey to the knowledge and contribution of the bees to pollination, a tour of the city and establishment of hotels for solitary bees, a trip to a hospitable apiary in the mountains...

There were several opportunities for cities, neighbourhoods or citizens to celebrate World Bee Day. If not for the Bees, do it for yourselves and your children's children. So, be the Bee – join the initiative of the Bee-friendly cities movement!

#BeTheBee!

Read more in newsletter no. 5 that you can find in the [library of thematic newsletters](#).



Common, funny and to the general public understandable interpretation of a greener CO2 footprint (not precisely in line with scientific facts) made this story very popular.
Photo: BeePathNet archive

BeePathNet acting green enabled a one day “holiday” to at least 7.333 trees

Just by being creative in meeting organisation on the system 3 in 1 we »saved« one workday on carbon dioxide emissions for at least 7.333 trees.

Let us explain. 3 in 1 meeting – our first partnership meeting on Biodiversity took place for two days in Hegyvidék, Hungary. After that, all of us travelled by bus to Poland and had bilateral meetings and activities on capacity building on the road. After several hours of interesting discussions, we arrived in Bydgoszcz, Poland and for another two days, we discussed Education in relation to urban beekeeping. So, instead of 20 persons travelling back and forth three times, we did it just once.

And meeting the CO2 footprint?!! As we are curious brainy bees (also a part of our Newsletters) we made calculations but just for the bus ride for travelling from Hungary to Poland. Taking a bus emits 0,03 tonnes of CO2 of emissions while taking an airplane would emit an unimaginable 0,44 tonnes. Based on this we calculated that 7.333 trees got 1 free day of work on retaking CO2 emissions into the biomass.

P.S.: it did not happen because Ljubljana also joined the European Mobility Week, it is who we are [Ljubljana European Mobility Week 2019](#).



Programme of the conference on urban beekeeping
Design: Borut Kajbič

Conference: “A way to a holistic transformation into green sustainable cities”

With the final conference “A way to a holistic transformation into green sustainable cities” that was organized in virtual form on the 11th of May 2021 we concluded the two and a half year journey. Interest from residents of over 50 European cities for participation in the conference was special confirmation of our work.

The conference was opened with a welcome speech by Marko Alauf, vice-president of the Slovenian Beekeepers’ Association and Dejan Crnek, deputy mayor of the City of Ljubljana and later five sessions followed. First, eminent international speakers from URBACT, the Food and Agriculture Organization of the United Nations, APIMONDIA and Slovenian Beekeepers’ Association presented development trends. In the second session Ljubljana’s BEE PATH, which became 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, and further developed into the BeePathNet partnership, was presented by Maruška Markovčič from the City of

Ljubljana, the BEE PATH initiator and BeePathNet project manager. Experience of this good practice transfer and its adaptation to five EU cities – Amarante (Portugal), Bydgoszcz (Poland), Cesena (Italy), Hegyvidék – XII District of Budapest (Hungary) and Nea Propontida (Greece), with different social character, bee types and citizens perceptions towards bees, was presented. In the next panel seven members of Ljubljana's BEE PATH: Cultural centre Cankarjev dom, Association Urbani čebelar, University Botanic Gardens Ljubljana, The BTC Company, Association Eneja, National Veterinary Institute and Zavita Ltd had presentations. We concluded the conference with a look beyond BeePathNet – towards a Bee-friendly city network by the project's lead expert Klemen Strmšnik. Sessions were moderated by Klemen Strmšnik, Vesna Erhart and Maruška Markovčič.

Example of a good communication activity as well as a good technical solution (a lot of partnership meetings).

9.3

Tips and tricks

Choose a partner city 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 partnership 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. **This is a breaking point between “just another project” stage and a Bee-friendly city movement.**

10.

Swarming

Adaptation of humans to the habits of city bees

10.1

Swarm Shelter – Introduction

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, 1700 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 1/3 of the weight of the bee. So, we can say that one-third of the swarm's weight is a food reserve. The bees in the swarm have enough food for 3 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. 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 2-4 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.

Beekeepers 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. Beekeepers 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 beekeepers 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/km². 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 Osrednjeslovenska 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.

One of these is the Varroa mite, the cause of what is currently the most problematic disease of the western honey bee – varroosis. Varroa is most easily transmitted between colonies by adult bees. It is estimated that a swarm carries 35% of the Varroa from the parent colony. If the swarm comes from a colony that is heavily infested with Varroa, if we settle such an infested swarm in our own apiary without taking measures, sooner or later the number of Varroa will quickly increase in all our colonies. 40% of foragers will fly into neighbouring hives if the hives are a meter or less apart, the same colour, and facing the same direction.

Another bee disease that can be transmitted by swarming is the most economically important bacterial disease of bees, American foulbrood (*Pestis apium*). American foulbrood has been shown to spread through swarming from colonies with clinical signs of the disease, as well as from colonies without any clinical signs. Although sufficient spores to cause clinical signs of disease are difficult to transmit through the swarm (the mechanism for reducing the number of spores in the swarm is unknown), it makes a lot of sense to do everything we can to minimize the spores present.

We 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.

How was the Subject of Swarms Regulated in Ljubljana?

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 beekeepers from Ljubljana, a network of swarm collectors has been established, who are present in the field 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 beekeeper'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. Beekeepers are happy to get foreign swarms, but they need to handle them properly so that they do not introduce diseases into their hives.

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 don't 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 beekeeping 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 (24 hours) – usually in a cellar where it is 10-12°C. 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 we starved the bees. After settling and feeding in the new hive, the bees will defecate outside and any spores of the American foulbrood pathogen (*Paenibacillus larvae*) will remain outside.

The instructions for such a procedure have long been known, as American foulbrood was once the disease beekeepers feared the most. Although the bees in a swarm have a 3-day supply of honey with them, we don't always know how long the swarm has been out in the open. We need to monitor the swarm in the box as often as possible so our bees don't die of starvation.

We always colonize 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 we have settled the swarm 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 we 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 5-5.5 days, or 8-8.5 days after egg development. We can 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).

10.3

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 bee swarms 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, we 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.

In this way, we will ensure the removal of escaped swarms from the urban area 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. We will make sure we allow these swarms or new colonies to develop in a location that is suitable for beekeeping. Most importantly, we 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, we will carry out a sanitation operation in accordance with the regulations in force.

Activities Required to Establish the Shelter

In order to establish a shelter, the requirements in terms of space/location, caretaking, veterinary care, and financial resources for equipment, care, food, medications and other material costs must be met.

- 1) The first step will be to determine a suitable location for the shelter. The site must be accessible to larger vehicles (such as a fire truck). The shelter site must be fenced and communally equipped (electricity, water supply and sewerage). It must be possible to set up a larger number of swarms, i.e. young bee colonies in loading hives. We estimate that a single site can accommodate up to 100 swarms per year. An area of approximately 300-500 m² is required for the placement of this many hives, depending on the shape and nature of the site. The location should be as far as possible from other apiaries, preferably at least 500 m away. The bees must have access to drinking water and some pasture. Hives and storage for equipment and materials must be located on the site (e.g. 2 containers of 20 m²). In the warehouse, space must also be provided for recording beekeeping activities (a mini-office) and sanitary facilities. It is necessary to set up video surveillance at the site and ensure that the lawn is mowed twice a year or as needed.
- 2) The next step is to appoint a beekeeper at the shelter. This caretaker must have a good knowledge of beekeeping. The caretaker must receive the swarms, place them properly, mark them and record them. He/she must provide food and drinking water for the colonies, provide space for the colonies to develop, cooperate with the veterinary service in the prevention, diagnosis and treatment of bee diseases, and keep appropriate records of all activities. The caretaker must also see to the timely purchase of feed, hives and other necessary beekeeping equipment and supplies. During the summer, fall and early spring, the caretaker may arrange for the delivery/sale of properly developed and healthy colonies, and the emptied hives and related equipment will be cleaned, disinfected and prepared for the next season. When working in a shelter, the caretaker must follow the principles of good apicultural practice and good management.
- 3) In order to remove swarms from urban areas, it is necessary to identify the responsible service and establish a protocol. The protocol must include the sequence of events from the report of the discovery of the swarm until reception in the shelter, with all necessary contact persons and telephone numbers. Under current practice, swarms are removed by the fire department, which has the necessary knowledge and equipment (lifts, ladders, protective clothing...), and it is reasonable that this should continue in the future. There is a need to establish a phone number for citizens to report the discovery of a swarm, as well as an action plan for how to proceed within the fire department. The action plan must specify who will take calls, who will inform, who will remove the swarm and with what equipment, who will take it to the shelter and how, and who will communicate with the caretaker and how.
- 4) Citizens need to be informed about the protocol. To this end, we will create a leaflet to be distributed to households with brief information about the importance of bees in the city, what a swarm is, what a shelter is, and clear instructions on who to inform about the possible discovery of a swarm of bees and how.
- 5) In the shelter, we will provide veterinary care for the bee colonies, which will be provided by the National Veterinary Institute, Faculty of Veterinary Medicine, University of Ljubljana, which has a concession to provide bee healthcare in Slovenia. According to the agreement, the VF NVI veterinarian will carry out a clinical examination of all the bee colonies 1-3 times a year. At the same time,

he or she will take samples for testing for spores of American foulbrood and nose mosis. The sample examinations are carried out in the laboratory of the VF NVI. The veterinarian will advise the caretaker on controlling and treating Varroa infestations or, depending on the agreement between the shelter manager (MOL) and VF NVI and how long the swarm has been in the shelter, this will be carried out by the veterinarian with the caretaker's help. In the event of an outbreak of American foulbrood or any other disease in the shelter, the VF NVI veterinarian will provide professional support and advice.

- 6) After the development of a young colony and a veterinary examination confirming that the colony shows no signs of disease, the colony can leave the shelter. Depending on the decision of the Shelter Manager (MOL), the colonies can be donated or sold in the summer-autumn or early spring to interested beekeepers/clubs/city apiaries etc.

Predicting the Effects

The impact of a swarm shelter on life in the city of Ljubljana will be extremely positive in several ways. Citizens will be even more sympathetic to the bees in the city, as they will have clear instructions on how to behave if a swarm is found or settles in a residential building without being exposed to stings. In addition, coexisting with bees will enhance the quality of life in the city, including with the awareness that the bees are being well cared for there. Citizens will be proud that Ljubljana is a pioneer in this field.

The impact on the health of the bees in Ljubljana and its surroundings will also be positive. By collecting swarms of unknown origin and taking proper care of them, we will prevent the possible transmission of disease and, by examining the samples taken, we will also gain insight into the health status of the population of bee colonies in the city and its surroundings. Both will make a useful contribution to the conservation of bees as important pollinators in maintaining the biodiversity of urban green areas.

10.4

Swarm Shelter – Description of the Pilot

What Will Happen to the Swarms?

- 1) To begin with, we will inform citizens about the protocol for notification when a swarm is found. We will create an information sheet for this purpose.
- 2) There will also be a mobile application to help work with swarms of bees.
- 3) The process of swarm management will begin with the receipt of a notification about a swarm from citizens. The designated service for this task (firefighters) will remove the swarm from the reported location using a designated hive, wooden box, PVC box or cardboard box. If necessary, they will use ladders and other equipment to remove the swarm from a high place, as well as appropriate protective clothing and equipment.
- 4) The beekeeper at the pilot site will report the removal of the swarm and arrange for delivery/acceptance. In this way, we will collect 5 swarms for the pilot test in 2021.
- 5) The caretaker will place the swarm in a suitable hive at the pilot experiment site. He or she will add frames to the hive using new foundations that are proven to be organic and contain no pesticide or drug residues. The swarm will consume the food it carries with it (estimated at 24 hours, depending on the condition of the swarm at the time of removal), then food (sugar solution) will be added periodically for as long as necessary or until it has built up a suitable supply.

- 6) The caretaker will monitor the development of the swarm, i.e. the construction of the combs, the laying of the queen, the development of the brood, the delivery of pollen and nectar and the build-up of food stores, keep appropriate records, report to the project officer (MOL) and consult with the VF NVI.
- 7) When all 5 swarms at the pilot site have developed to the point where capped brood has been present for more than one month, the VF NVI veterinarian will make an initial inspection of the colonies and take samples for laboratory testing for the causative agents of American foulbrood and noseosis. If necessary, the veterinarian will advise the caretaker how to proceed.
- 8) Bacteriological and qPCR examination for spores of the pathogen of American foulbrood (*Paenibacillus larvae*) and a microscopic examination for noseosis (*Nosema* spp.) are carried out in the laboratory of the Faculty of Veterinary Medicine.
- 9) The VF NVI veterinarian will re-examine the colonies in July and August and, with the help of the caretaker, will diagnose the degree of infestation of the colonies with *Varroa*. If necessary or in time, according to the requirements of the regulations, the veterinarian will prescribe *Varroa* treatment and monitor the progress of the treatment/suppression.
- 10) The pilot experiment will be completed at the beginning of September when the colonies that develop successfully and do not show any signs of disease are suitable for permanent settlement outside the experimental area according to the wishes and needs of the City of Ljubljana.

In the case of swarms in the pilot experiment, we will control:

- colony development, i.e. comb construction, queen laying and brood development,
- the food supply, i.e. the flow of pollen and nectar and the amount of honey in the stores,
- the presence of disease changes in the brood and bees,
- the presence of pathogens causing American foulbrood and noseosis in the samples taken,
- infestation of the colonies with *Varroa* and the effectiveness of treatment.

Expected Results of the Pilot Trial

At the start of the project, we expect a good response from citizens who report swarms of bees near their homes. We also expect a successful test of the swarm-finding protocol from the receipt of the report and the removal of the swarm to the release of the swarm at the pilot project site. Depending on the pilot project site selected, we expect the adequate development of the young bee colonies. We expect good cooperation between all the project participants, i.e. citizens, the fire department, the project manager (MOL), the caretaker and the VF NVI veterinarian. We also expect the successful delivery of healthy colonies in the autumn.

The result of the pilot project will be the establishment and testing of all steps and players on the path from informing citizens about finding a swarm to taking care of colonies and handing over healthy and well-developed bee colonies to a permanent settlement in autumn.

Requirements for the Good Functioning of the Shelter in the Pilot Project – The Caretaker, Regular Maintenance and Cost Calculation

For the pilot project, we have chosen a site in Tivoli Park where beehives have already been set up and it is possible to accommodate 5 bee colonies. Site preparation is not required but suitable hives and other equipment for working with the bees will be needed. The proximity of green space also makes the site suitable in terms of providing bee pasture. The site is accessible by car, which allows for the delivery of equipment, feed, tools and the like. As the site is located in a city park, it will be necessary to provide some security measures, such as video surveillance and the mechanical security of the hives (e.g. a strong chain with a lock) to prevent them from being opened or moved by unauthorized persons.

In addition to site preparation, it is necessary to provide a diligent caretaker who has sufficient beekeeping knowledge for the proper care of swarms or bee colonies. The caretaker regularly takes care of the development of the colonies in the project by checking on them weekly and carrying out beekeeping measures as needed, such as colony inspection, feeding, providing suitable space for colony development and communicating with the project manager (MOL) and the veterinarian.

The healthcare of the bee colonies in the project will be provided by the VF NVI veterinarian through several visits and examinations, sampling, diagnostic tests and consultations.

Cost calculation for the pilot project:

Preparation of the study, presentation, preparation of the leaflet	€300.00
Equipment, tools and food	€1,492.00
Caretaker	?
Healthcare and medicines	€1,102.00
Total: €2,894.00	
+ costs for the caretaker	

IV. How we did it – look into the background of the transfer journey

In this sort of “behind the scenes” chapter we are publishing interviews with Mr. Klemen Strmšnik, the BeePathNet lead expert and mag. Vesna Erhart, the BeePathNet network communication officer. They revealed some of the backstage secrets of the transfer process while providing some useful transfer journey conclusion and communication tactics.

If you want good things to happen, you must say “Yes!!!” first and then make the first step.

11.

How we did it – look into the background of the transfer journey

Inside the transfer journey from our lead expert and network communication officer points of view

A transfer process overview by Klemen Strmšnik, the BeePathNet Lead Drone



11.1

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

Answers to some questions nobody dared or bothered to ask so far...

It’s funny how I always regret not writing a personal diary. Especially during those special moments in life when you feel that you are a part of something wonderful, exciting and simply great.

Sometimes, it is even hard to notice those special moments, as things are happening almost too fast for you to register them. But you just feel that you are playing an important role and that you should be taking notes, as these moments actually matter. And that someday, someone, will ask you to explain how you did it and what mattered the most...

And here I find myself yet again... Without any notes, just a head full of impressions, experiences, and a good transfer story to tell.

An interesting introduction to the interview. Any specific reason for it?

Well, to be honest... I was so impressed by some of the Transfer Diaries our transfer partners were producing, that I made a promise to myself after the mid-term reflection point, that I would put in some extra effort and force myself to write an official Lead Expert Diary. But as usual “life happened”, and I simply failed to make good on my promise. Then I thought, “OK, you can still catch up in the Learning Log process!” However, at that point, so many special moments worth capturing had already passed...

What do you mean by “life happened”?

Well, you know what they say: “Life is what happens, while you are busy making plans...!” And this transfer process proved to be a real rollercoaster – just look at the transfer process diagrams of all six cities... So, I guess I will use this opportunity to the fullest and share the transfer process Lead Expert’s point of view.

Do you really feel you hadn’t already had enough of an opportunity to do that in the Guidelines? Since you are one of the co-authors...

I guess it does sound a bit greedy when you put the question like that. However, the Guidelines were written for a specific audience. And there was very little space for my personal point of view, especially linked to the transfer process itself. The Guidelines don’t always reflect the whole extent of the “blood, sweat and tears” or the enthusiasm and passion invested into the BeePathNet transfer process.

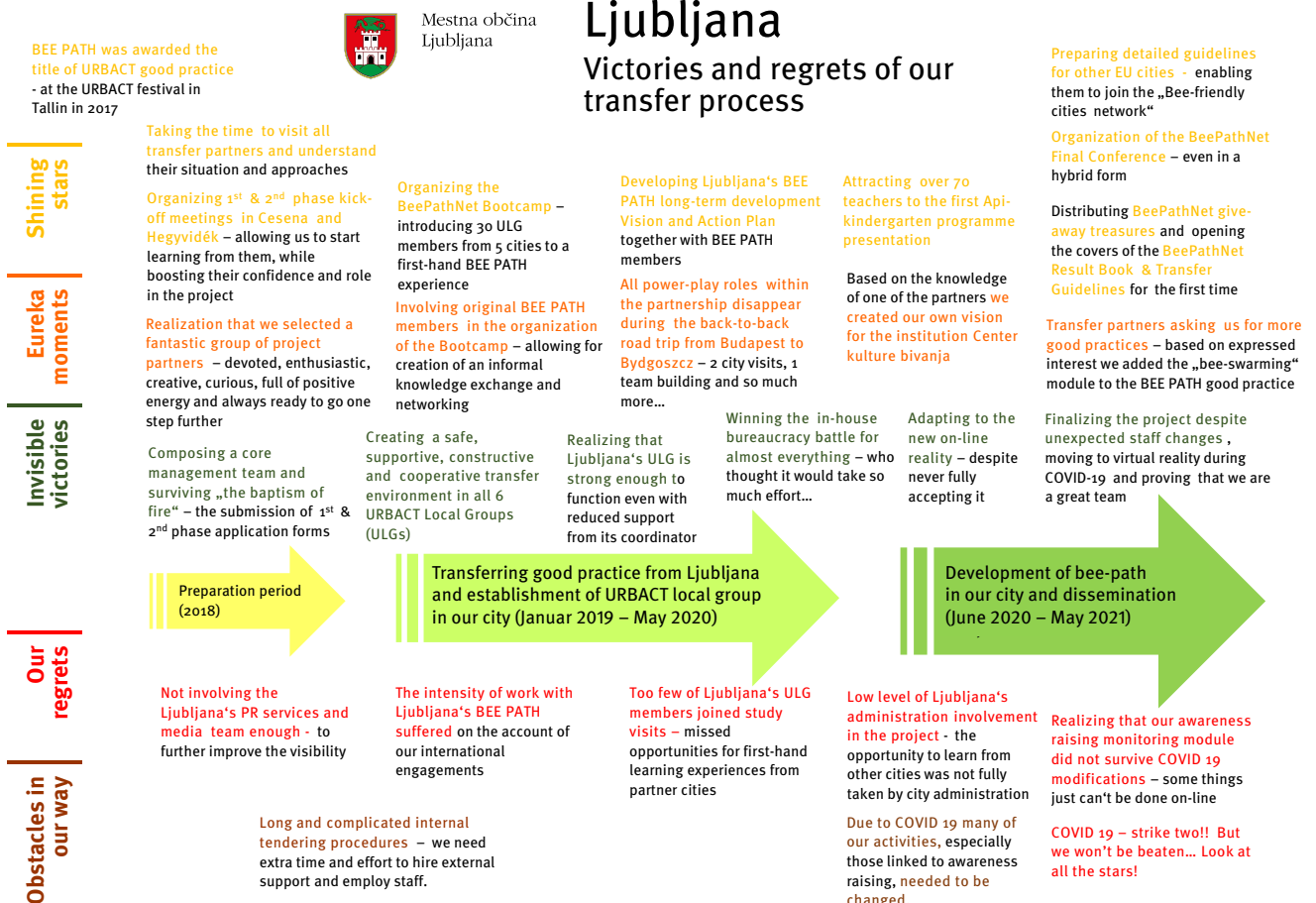
For instance, I really need to point out that the key to a successful transfer process of a good practice like the BEE PATH lies in the enthusiasm, motivation and voluntary will-power of the URBACT Local Group (ULG) members. And such observations of “an outsider” – in this case myself as the Lead Expert, who is not personally involved in the transfer process at the local level – can be easily overlooked.

Would you say that a transfer process is not feasible without a Lead Expert, or some other form of external guidance, for the city interested in the transfer of the BEE PATH good practice? Could they not do it relying only on these Guidelines?

I believe that from this point on, now that we have proven the transferability potential of the BEE PATH good practice, any city can freely attempt to transfer it on its own. The presence of external guidance can be beneficial – it is always smart to have someone experienced to offer support – but it is no longer a necessity. And it is my sincere hope that the Guidelines will prove to be a useful tool in that process. However, learning experiences can come from all angles, and mine was quite a unique one. So, I hope this interview will help me share it.

OK, how about without a Lead Partner, in this case the City of Ljubljana?

I guess my response has to be similar to the one before. In the end, the whole point of preparing the BEE PATH good practice transfer Guidelines was aimed at ensuring a self-relying tool, delivering detailed and high-quality information, enabling any city or citizen driven initiative to transfer the good practice without interference of the Lead Partner. Maruška Markovčič is the “heart and soul” of the BEE PATH in Ljubljana. However, there is only one Maruška...



The same was true even within the BeePathNet project framework, where one of the key challenges was how to ensure the knowledge transfer without the constant presence of Maruška. One of the answers was, by creating specific topic devoted networks of ULG members from all six cities. This enabled a direct “beekeeper-to-beekeeper”, or “teacher-to-teacher”, or “producer-to-producer” communication and knowledge transfer, as well as taking the pressure of Maruška, as the key knowledge-hub.

It also enabled the emergence of clearly recognized “knowledge focal points” in all cities, as most interested ULG members quickly took on most active topic devoted roles. Even better, they quickly became unofficial deputies of local ULG coordinators and subsequently “dynamos” constantly pushing activities towards the next step. In my personal view that is a true testimony to the power of networking.

So, all potential transfer cities should know that they can do it on their own. Just as Ljubljana did, initially. Nonetheless, should someone feel the need to reach out to any of the BeePathNet Core Management Team members, I am sure you will always be greeted with open arms and friendly advice.

What about the support from a programme like URBACT? Is a transfer process possible without it?

I really have to emphasize the importance of the URBACT transfer framework, which was a pilot programme on its own. It really created a safe, supportive and constructive environment for all 23 URBACT good practices. With it, the transfer process was easier, faster, but most of all well coordinated and monitored. Due to its existence and support, we were able to prove the transferability potential of the BEE PATH and develop these Guidelines. Without it, I am sure the BEE PATH would continue to develop on its



Amarante Victories and regrets of our transfer process

- Shining stars
- Eureka moments
- Invisible victories
- Our regrets
- Obstacles in our way

Maruska in Amarante, having Maruska's visit was extra motivation for the whole group.

The beekeeper Luciano Carvalho and bees at the Museum – Bees chose the city to live in and the museum became their home.

A more cohesive internal team, more frequent work meetings, more active participation in external meetings, several partnerships created.

Preparation period (2018)

Due to the many extra tasks of the BeePathNet team, it was not easy to schedule ULG meetings (we wish we had done more).

Change of the project coordinator: Tiago left, Mafalda entered.

Our bee species, a little aggressive but hardworking, made overcoming the fear of bees an obstacle.

Participation of the councilwoman and stakeholders in the Bootcamp (project start-up in Hegyvidék).

Implementation of the BeePathNet route – creating a honey route in Amarante and a set of tourist bee experiences in the city.

Patricia travelled to Ljubljana, a key member of the group represented us in Ljubljana.

Dolmen: contest with a highlight for some of our stakeholders in September.

Transferring good practice from Ljubljana and establishment of URBACT local group in our city (January 2019 – May 2020)

Sometimes the project is not what the stakeholders think, and it doesn't captivate enough ULG members.

Too many projects, too many tasks, internal team in overworked.

FLC claim failed, the 1st refund request was denied

Sale of bee products in the Municipality market - despite the pandemic situation, we managed to market honey and bee products at the municipal market.

We found the solution for the Bee Garden – we found the ideal space in the city center with a beautiful information panel.

Luciano Carvalho hosted beekeeping classes at the Senior University.

Difficulties in selecting the bee-friendly garden: 1st and 2nd ideas for the bee garden failed.

Due to the pandemic situation, we had departures and lack of motivation from ULG members so some activities were canceled/delayed.

Despite the lockdown due to COVID 19, we managed to have an incredible World Bee Day 2020, full of bees and sweetness all over the city.

Melliferous Campaign – Christmas 2020 - the whole community was offered melliferous seeds to help bees in the spring.

BeePathNet route mobile application – the Amarante tourism app enables visitors to have the route on their mobile phone in a simple and accessible way.

Tiago Morais one of the most active ULG members: joined mead workshops and a contest in Spain.

More active participation by the Business Association: several partnerships.

Development of bee-path in our city and dissemination (June 2020 – May 2021)

Due to COVID 19 many of our activities, especially those linked to schools/education, need to be changed.

Although not physical the virtual visit to Amarante offered the sun, the sweetness of honey and the green mountains.

New stakeholders arrive - a breath of fresh air arrived with the new stakeholders.

Betting on the proximity and dissemination of products, Dolmen created the Online store.

Amarante's beekeeping plan, a long-term plan, created by the ULG group that will keep BeePathNet present in Amarante.

“Colmeia do Marão/”New Project “Marão Hive,” creating a honey interpretative center at the mountain.

COVID 19 – second round!! Here we go again. Let's reinvent ourselves.

own in Ljubljana, but its transfer to other cities would have had to wait until some other opportunity came along.

However, from this point on, the transfer of the BEE PATH to any other interested city is possible without the support of the URBACT transfer framework. In the end, we have to emphasize that the BEE PATH good practice was developed without any external support or funding framework.

Was there any added value in the partnership itself?

Having partners on this transfer journey proved to be an extremely valuable asset. I don't know, if it was the partner selection process criteria or simply luck, but the BeePathNet partnership was extremely devoted, motivated and cooperative. So, official project roles simply didn't matter anymore. Which was excellent, as transfer cities contributed with their own "best practice examples", so everyone could learn from everyone. This enabled breaking down the usual power-play walls, which are obstacles on their own in so many EU projects, as well as allowing all partners – even Ljubljana – to learn and evolve.

This is also why we made sure all transfer partner case studies of their own best practices became an integral part of these Guidelines. I am convinced that they only improve their quality and reinforce our key messages. I also hope that potential transfer cities reading them might, at least partially, identify themselves with one of the BeePathNet partner cities, making the transfer experience even more appealing.

But there was another "partnership element" I need to point out. The ability to bring ULG members to each of the transfer city visits ensured ULG members direct access to



Bydgoszcz Victories and regrets of our transfer process

- Shining stars
- Eureka moments
- Invisible victories
- Our regrets
- Obstacles in our way

City cooperation with ULG - Engagement of ULG in activities devoted to honeybees and wild pollinators

Yes, we can moments – during the preparation period of 2018 – we got inspired at the first meeting with Maruska/Klemen and teachers of the School Complex no. 6. In the wake of this meeting 3 teachers from CS no. 6 created the educational program for primary schools and kindergartens.

Changing the mindset of ULG members about working with the city since the city officials are not seen as very cooperative outside the building of the City Hall

Preparation period (2018)

Realization that the human resources within the Municipality are quite scarce

URBACT projects requires more time and effort than anticipated – the budget didn't take this into account.

World Bee Day Celebration - ULG members and the Bydgoszcz municipal BeePathNet Team organized the event, Dawid Kilon draws for the Bee Exhibition

Exploiting synergies between on-going city projects - some utilities companies are interested in bee activities, they want to participate (MWIK, ZDMIKP, LPKIW)

The reception of the project: the city departments and utility companies were very friendly and enthusiastic

Transferring good practice from Ljubljana and establishment of URBACT local group in our city (January 2019 – May 2020)

The need for awareness raising is great as many of our citizens are afraid of bees and know very little about them. We even tested it on ourselves – Justyna and ULG members educated the project management team all the time.

Few tourism stakeholders were willing to actively participate in the project, but at the same time also a source of one of our eureka moments as the Bydgoska Wytwórnia Mydła that is run by one of the most active tourist operators in the region joined our Bee Path

Creating the map, bee-logo of the Bee Path and Bee Path Facebook page - the work on spreading the bee and pollinators knowledge in the city got started!

Establishment of the ULG group – coordinated by Justyna Olszewska, a municipal officer from the City - we all agree the ULG group in Bydgoszcz is amazing to work with!

Changing the mentality: recognition/acknowledgement of the importance of bees and wild pollinators; activities of utility companies (MWIK, ZDMIKP) and municipal departments (WGK); enlargement of wild meadows, delayed mowing, plans for creating an apiary at Ostromecko Park and Palace Ensemble

As many as 16 points of interest on the Bee Path – in March and April Shopping Mall CH Focus and Bydgoszcz Soapworks joined in!

Long-term Beekeeping Plan in Bydgoszcz – the activities regarding bee promotion, education and protection were defined and discussed within the Department of Communal Services Management and are planned to be presented as a document to the City Council in the future

Development of bee-path in our city and dissemination (June 2020 – May 2021)

Due to COVID 19 many of our activities were cancelled, there were no face-to-face meetings, no workshops, no guided tours

Limited availability of ULG members before 4 p.m. for online meetings and not much enthusiasm for online meetings

Creation of the Bee Path in Bydgoszcz : Creation of a separate bee-themed path within the city highlighting the protection of pollinators

Creation of the Bee hive on Wheels and Bee Programme - as an education tool for all schools and kindergartens

Human resources – we are in dire need of more people to be involved in the beekeeping promotion and coordination

the BeePathNet project knowledge, and it enabled them to experience the BEE PATH in Ljubljana and all transfer cities first-hand. Even more importantly, foreign experiences reinforced internal ULG relationships and created a support base for ULG coordinators.

I would advise interested transfer cities to try to simulate such experiences by organizing excursions and field-trips. You can also organize ULG meetings at ULG members' "business premises". Yes, it is not the same, but it is still quite a good substitute. It allows you to get to know and understand each other better.

Speaking about in-person experiences... What about COVID-19 restrictions? How did they affect you?

Well, I guess there is no point in hiding the fact that it was a nightmare for us... However, we were all in this storm together – in different size boats for sure – but still together. Change in intensity and quality of ULG and partner meeting dynamics, alongside with the re-design of the awareness raising campaign, really hurt the BeePathNet project. In such conditions even simple activities get prolonged, so we are really grateful to the URBACT Joint Secretariat that they understood our difficulties and allowed us a six-month project extension. All in all, it is not impossible, but we cannot deny the importance of in-person experiences, exchange of knowledge and ideas for voluntary citizen driven initiatives like the BEE PATH.

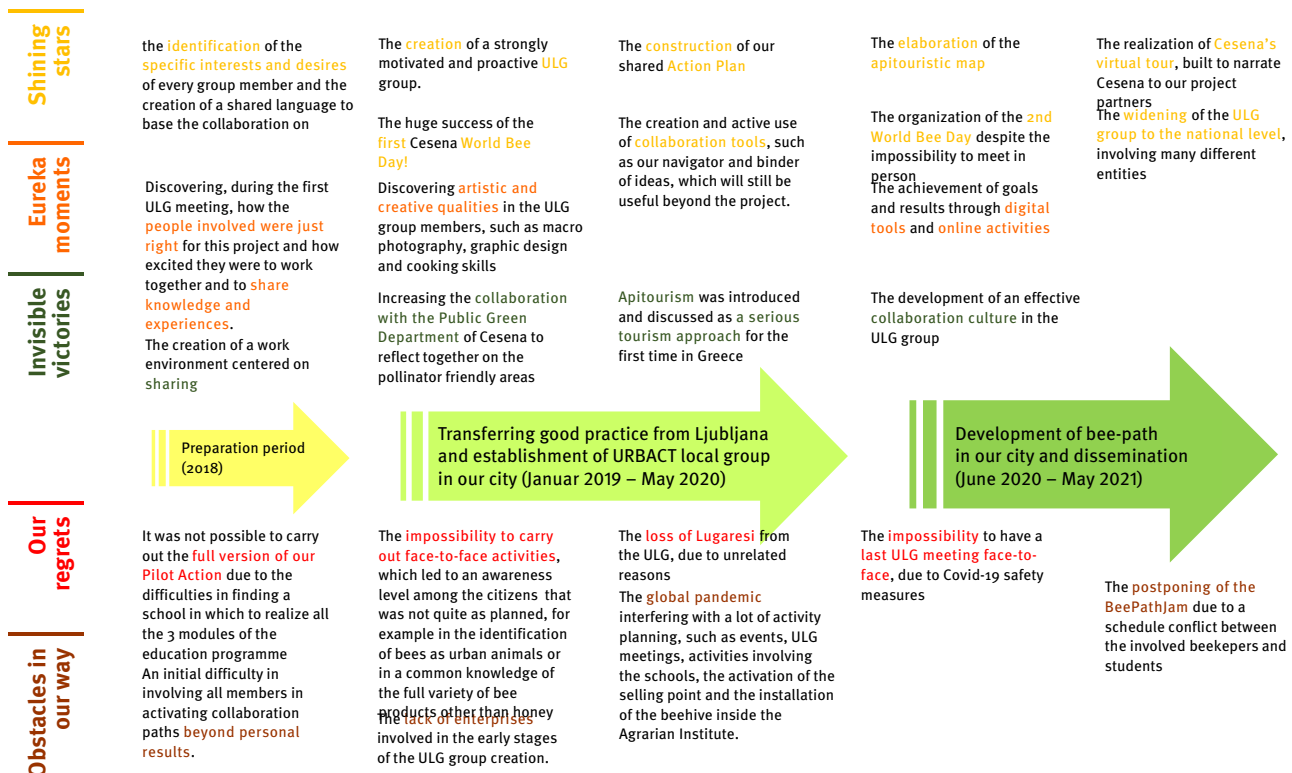
Can such citizen driven and project supported initiatives survive in the long-run?

For me it is not so much the question "If they can survive?", but rather "How to make sure they prosper in a self-sustainable manner?". Of course, maintaining an active ULG is the first priority. But knowing where you are going and how to get there is just as important. This is why we asked all BeePathNet partners to develop a Long-term



Cesena

Victories and regrets of our transfer process



Urban Beekeeping Action Plan at the city level. They were designed as sustainability tools for BeePathNet cities with a multi-fold purpose; 1) To enable embedding of urban beekeeping into the city-level policies and strategies; 2) To determine and agree upon a clear path of actions for the next few years in order to make sure «the wheel keeps spinning»; 3) To enable ULGs to search for financial and operational support; 4) To determine long-term operational modality of the ULG and its functioning. I guess all cities interested in the transfer will eventually reach a point, when such a plan will be needed. And I recommend it.

After all you said so far, could you summarize the key pieces of advice for potential transfer cities?

Well, I can try... But I am sure any transfer process is a unique experience, so please do not consider it a comprehensive list:

- **Select a devoted ULG coordinator with “people’s skills”** – she or he will be the bridge between the city administration and ULG members and a dynamo pushing thing forwards, especially in “hard times”.
- **Mobilize a diverse group of stakeholders** – the diversity enables different ways of Bee Path development, brings out creativity in people and allows for creation of new partnerships and unexpected synergies.
- **Don’t work for them, but rather lead and coordinate them** – initially there is a high tendency to provide ideas, but then leave it to the city to implement them. However, the Bee Path provides a voluntary cooperation platform, where everyone is actively involved in the implementation of ideas. This is how you **create ownership** and ensure long-term sustainability of Bee Path solutions.



- **Invest in creating a supportive and constructive atmosphere** in the ULG – everyone works and cooperates better if they have fun. Having fun brings out creativity and makes overcoming challenges seem easy. Also, it is important to meet more often at first (once per one/two months), later you can shift it to a slower meeting tempo.
- **Ensure internal operational support within the city administration** – you wouldn't believe how important this is when activities need to be implemented. This is how any city can show tangible and effective support to citizen driven initiatives and lift the enthusiasm within the ULG to a new level.
- **Don't worry about the fluctuation of ULG members** – every citizen driven initiative has its ups and downs. In my experience it is better to have five devoted ULG members than 50 uninterested ones.
- **Modify the BEE PATH solutions to fit your needs and expectations** – don't just copy-paste, make it your own success story. And when you do, reach out to us and brag about it!

But most and foremost – start! Then, “life will happen”, your Bee Path will develop at its own tempo and into the direction that is best for you.

You said that you were quite inexperienced in the URBACT approach and methods. How did you even get involved in the BeePathNet project?

In my opinion the best marketing strategy is a job well done. And in this case I was proven right. In 2017 I successfully supported the City of Ljubljana in the application process for another EU project. So, they called me when this opportunity emerged.



Nea Propontida Victories and regrets of our transfer process

- Changing our city** - Municipality gives the green light for the wooden constructions and the games in the park outside of the Museum
- The first workshop Agriculture with or without bees organized for farmers**
- Long term support to 2 BeePathNet actions** - The Best Bee Balcony competition and The Adopt a Green Patch are to become traditional
- The first urban beehive set-up on the roof of the city hall**
- Establishment of a Greek Bee Path initiative** – the team proposed to the Municipality to support this initiative and become its leader
- Establishment of a Bee Path devoted website** – as a communication, coordination and local bee product producer promotion platform
- Decision to maintain the ULG as a working-group in the long-term** – proposed by the Municipality and accepted by all ULG members.
- Receiving long-term political support based on project results
- Halkidiki Tourism Organization officially declares support to the project and decides to actively cooperate

Shining stars

Eureka moments

Invisible victories

Our regrets

Obstacles in our way



To be fully honest... My initial response was very sceptical, as at that point I was not a validated URBACT Expert, let alone a validated Lead Expert. Also, the City of Ljubljana had no prior experience with the URBACT Programme. But they said, we are willing to risk it and nominate you for our expert, if you are willing to support us in trying something new. It was this high level of trust and partnership that characterized the whole project.

I guess that three years later we can say that we proved to everyone, but mostly to ourselves, that all good things happen only when you say “YES!!!” to new challenges.

And now, what does the BEE PATH or the BeePathNet project mean to you personally?

For me it is always important that I personally believe in projects I work on, and in the consultancy business this is not always the case. It's a bit strange that I needed to get involved in two transnational projects led by my home city to get more involved in citizen driven initiatives in Ljubljana. But this is exactly what happened. I am proud to say that the environmental consultancy company ZaVita I work for became a fully pledged BEE PATH member. So, I guess you could say I got fully hooked!

Any last-minute advice for cities willing to tackle the BEE PATH transfer process on their own?

Don't think about it too much, because the time will never be right. Start as slow and gentle as you need, but do start. The BEE PATH good practice and the BeePathNet project are living proof that it can be done. Even better, with these Guidelines you have a comprehensive guide how to do it in practice.

Just don't forget the most important thing when you are “trying to eat an elephant”... “Don't panic. Just do it, one bite at a time...” And starting with “the elephant's tail” is certainly a manageable first step...

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

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

A transfer process overview by mag. Vesna Erhart, the BeePathNet Worker bee



To warm up: Why does BeePathNet’s get so much attention among EU cities?

Bees are cute and well-known hardworking small animals. On the other hand, bees (and other wild pollinators as well) are very important pollinators and several plants and a lot of our food production depends on them. As such they are excellent for communicating environmental and sustainable issues. Bees are more than a suitable icon to involve all city residents in making their neighbourhood a better place to live.

What kind of a person are you? Are you a creative dreamer or a perfectionist planner?

In my belief, the key point of communication is a matrix – you need to know who, when, how... Like a jigsaw puzzle where every single piece has its place and purpose. It is a part of the puzzle only if it supports the big picture. You must know who you would like to address and then “speak the language” of this group. Not all target groups at once, but step by step. In our case the very first goal was to address city administrations and citizens of our partner cities, so our partnership communication had to support building awareness raising in our partner cities. By doing this we supported our partners in their local groups’ (city group of key stakeholders – institutions, economy, NGOs, citizens) establishment. Those local groups (we call them URBACT local groups) would later organise local activities and eventually turn “just another project” into a movement in each partner city.

To support our partners in building a Bee-friendly city (so they could reach their local stakeholders) we published 8 thematic newsletters in 7 languages – 6 partner cities languages and in English with over 60 pages in each language and over 400 in total.

First you need to make strong movement in partner cities, then you can conquer the world.

Our next target audience were other EU cities. But you know what, this was an easy task! All we needed to do was to publish reports (yes, there were also other parts of newsletters) on events and activities from our 5 transfer cities. They were “a living proof” that addressing environmental issues through urban beekeeping gives numerous opportunities for each and every type of city. Six city teams were a source of endless creative ideas that no network communication officer is able to provide.

I believe that this analytical approach comes from my study of Economy. To manage a group dynamic and managing communication in 6 countries, you need to set detailed rules, so everybody knows what she / he needs to do. Certainly you need to create a positive and stimulating environment. If you did a good job at the beginning, you created a movement that will reach the set goal by itself. A confirmation of this was a question to partners at the final meeting, after really a lot of work was done and in the beginning of the reporting period: »Do you think that you will manage to do an additional promotional thing? It is not necessary, we do not need to do it.«. And they unanimously replied: “Yes, we want to do it!!”

So, I can say, I put a lot of effort into planning. With the support of partners’ communication officers, we prepared a Communication plan and all key points were determined in more detail in the Communication guidelines. We also prepared additional guidelines on our key activities such as the World Bee Day celebration 2020 and local events. The main point of preparing those documents (and later implementing them) was for network communication to support local activities and vice versa – for local activities to support our intent to spread the movement beyond the partnership.

Creative dreamer – oh, yes! I really enjoy this part of my job. Let my work speak about that.



BeePathNet partners on the roof-top of Park Hotel in Ljubljana, Slovenia
Source: BeePathNet archive



BeePathNet partners learning a bee game in Bydgoszcz
Photo: BeePathNet archive

Partner cities are very diverse – covering the majority of climate conditions for beekeeping, various types of bees, as well as different situations related to the public perception of bees among the general public. How can you manage communication for such a diverse partnership?

The honest answer is – no one can do it! It is more a question of cooperation between partner’s communication officers.

The BeePathNet project is supposed to (by URBACT general rules) focus on the transfer of a good practice from the lead partner (Ljubljana in our case) to partner cities. We turned this “ex cathedra” approach into an “open platform”. We were well aware that, in addition to Ljubljana’s experiences, every partner brings specific knowledge and experiences that can contribute to our mission. First, the lead expert and key management team determined modules that needed to be transferred. Then we asked our partners to host a thematic partnership meeting on the theme that they have most experience on. This partner also prepared a redline article for the newsletter that was published approximately at the same time as the partnership meeting took place. Such an approach enables the partner city to present its good practice and share its ideas with other partners (meeting) and wider with other EU cities (newsletter in English), as well as with local residents’ through a newsletter in their local language. Each partner was certainly also in charge of its communication at the local level.

So, diversity of partners can be easily observed from our communication at the partnership level. This was a special added value, as it catapulted our movement closer to a wider spectre of EU cities.

Partner’s empowerment, in my opinion, also contributed to very strong connections between partners (today they are my friends) and above all in very strong personal engagement of everybody involved.

There were certainly some problems, things that did not turn out as you planned...

Certainly, some of them even big ones. It was at the time of BeePathNet’s key umbrella event – the World Bee Day 2020 celebration when COVID-19 happened. A lot of our great and ambitious plans turned to dust. But we stuck our heads together and found solutions that were possible. It turned out that this pandemic disaster gave wings to our creativity and really excellent ideas popped up – see our thematic newsletter No. 6 – #BeTheBee!



BeePathNet partners in park in the grounds of Villa Barabas
Source: Hegyvidék – XII District of Budapest

We also planned to establish a library of key urban beekeeping research, as a support to new cities; We started to translate bee related proverbs from different languages. It was a great idea and it would be a great promotional opportunity. The same goes for the Etiquette on behaviour when close to bees. And I could keep on enumerating.

In the final months of our project, we also planned to prepare key urban beekeeping political statements and present BeePathNet’s potential contribution to the EU Green Deal on Biodiversity, Farm to Fork initiative as well as to the United Nations Sustainable Development Goals (i.e., addressing sustainable development and sustainable lifestyles, sustainable tourism, sustainable consumption and production patterns). With this we would go far beyond our ambitions when applying for the project, but somehow the time was not right to do it.

Nevertheless, when a door closes, you need to find an open window. And we did ☺

Sometimes you just need to let go of some good ideas, so you have enough time for other ones. And sometimes it is just too soon to bring some ideas to life. The important thing is to write them down for the future.

Did your BeePathNet message reach the people?

We put a lot of effort into reaching diverse groups of people. For city management professionals we published thematic articles and short info on scientific researches, reports on activities from our partner cities. But we also wanted to engage EU city residents with news (in the style Did you know?) like sniffer bees have been trained in finding unexploded land mines and other explosives in Croatia, bee products in dog food, lightening up the COVID-19 nightmare with an article honeybee also practice social distancing to avoid getting sick.

We have over 1.000 followers from 66 countries. They come from Europe, the former Soviet Union countries, the Middle East, America, Africa... Our Newsletter has over 650 subscribers and our partners additionally send this newsletter to their local stakeholders (due to the GDPR restriction), so we assume the number is over 800.



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

What are you especially proud of?

The BeePathNet project is about issues that I also personally believe in. Also Maruška Markovčič, the lead partner's project coordinator and Klemen Strmšnik, the lead expert believed in me and allowed me to organise communication as I found best – to give my creativity wings. Hand in hand with communication officers Sónia Files from Amarante, Portugal, Natalia Majewska and Bożena Katarzyna Napierała from Bydgoszcz, Poland, Elena Giovannini and Mario Laghi from Cesena, Italy, Viktória Soós and Miklós Kelenffy from Hegyvidék – XII District of Budapest, Hungary and Anastasia Liourta from Nea Propontida, Greece and their teams we made this Bee story big.

If I really need to point out one thing – then this would be the limited edition of a prestigious Bee-friendly cities gift. In over a year of creative thinking, detailed planning and with the support of our designer Borut Kajbič we developed this BeePathNet gift. It is a collection of the best urban honey samples from Ljubljana (Slovenia), Amarante (Portugal), Bydgoszcz (Poland), Cesena (Italy), Hegyvidék (Hungary), Nea Propontida (Greece). There is also an empty space in the box – an invitation for other cities to join the Bee-friendly city movement.

So, the Bee-friendly movement keeps on flying.
Will you join us?



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!







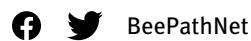
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Comune di Cesena



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More about the project:

www.urbact.eu/beepathnet

To join the Bee-friendly movement visit our webpage which has all the needed information and links (left side of the page) to: the project monography, the transfer modules guidelines “The evolution steps toward a Bee-friendly city” and the library with thematic newsletters on Biodiversity, Education, Awareness raising, Tourism, the World Bee Day celebration 2020, New Products and partner cities’ Bee paths in 7 languages.

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