UNaLab
URBAN NATURE LABS

UNALAB PROJECT SUMMARIES OF KEY RESOURCES FOR THE ADOPTION OF NATURE-BASED SOLUTIONS

CREATING A SUPPORTIVE ENVIRONMENT FOR NATURE-BASED SOLUTIONS AT CITY LEVEL

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TABLE OF CONTENTS

WHAT ARE NATURE-BASED SOLUTIONS? 4

RESOURCES PRESENTED IN THIS SUMMARY DOCUMENT 4

THE UNALAB PROJECT IN A NUTSHELL 5

CO-CREATION & URBAN LIVING LABS 6

- Urban Living Lab Handbook 6
- Handbook on Implementation and Adoption Barriers of Urban Living Labs Developing Nature-based Solutions 7

SUPPORTING MUNICIPAL GOVERNANCE ARRANGEMENTS IN THE ADOPTION OF NATURE-BASED SOLUTIONS 8

- Municipal Governance Guidelines 8

CREATING A JOINT AMBITION, VISION AND ROADMAP FOR A CITY 9

- Roadmaps towards climate resilience through nature-based solutions 9

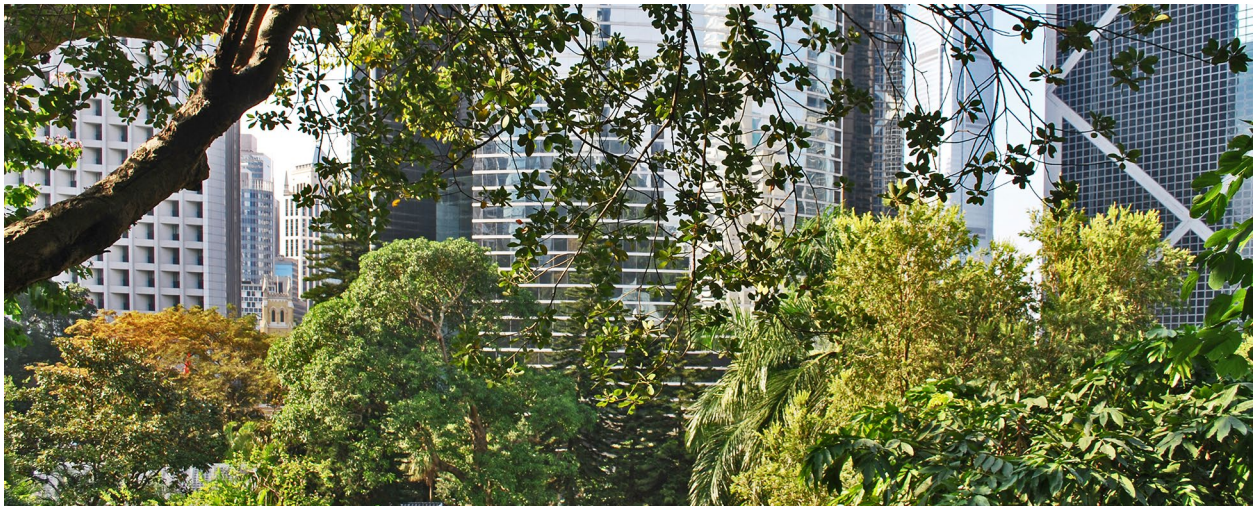
WHAT ARE NATURE-BASED SOLUTIONS?

Nature-based solutions (NBS) are actions to protect, conserve, restore, sustainably use and manage natural or modified ecosystems[1]. NBS are co-created systems that utilise natural features and ecosystem-based processes to effectively and adaptively address social, economic and environmental challenges. In other words, NBS are able to protect, manage or restore ecosystems and their services, thereby addressing a multitude of urban challenges posed by the world's changing climate and rapid urbanisation. These innovative solutions bring more diverse nature and natural features and processes into cities, landscapes and seascapes, thereby creating more sustainable and resilient societies.

RESOURCES PRESENTED IN THIS SUMMARY DOCUMENT

NBS can be a powerful tool for cities dealing with contemporary urban challenges, as they can help communities address these challenges while protecting and enhancing natural systems and providing a range of co-benefits to improve the well-being of urban residents. As a cross-sectoral concept, the successful mainstreaming of NBS requires the involvement of a broad range of stakeholders, including research and academic institutions, businesses and industry representatives, decision-makers and regulatory authorities, financial institutions, NGOs, local community groups and individual citizens. To support this multi-stakeholder involvement, local administrations need to shift from a top-down approach towards a more inclusive approach - allowing all urban actors to play a role in the way cities are planned, built and managed. This shift will require the creation of appropriate structures and processes to collaboratively plan and guide cities towards a sustainable and resilient future.

The UNaLab project has developed resources that can help cities create a supportive environment for the adoption of NBS. These include handbooks to support co-creation and multi-stakeholder engagement through the Urban Living Lab approach, as well as guidelines to support favourable municipal governance arrangements. Additionally, a strategic planning technique for the creation of climate resilience roadmaps that was used the UNaLab follower cities can help cities looking to develop a roadmap that sets a clear direction together with actions to be implemented.



1. https://www.naturebasedsolutionsinitiative.org/news/united-nations-environment-assembly-nature-based-solutions-definition/

THE UNALAB PROJECT IN A NUTSHELL

The EU-funded UNaLab project is contributing to the development of smarter, more inclusive, more resilient and more sustainable urban communities through the implementation of nature-based solutions, which are co-created with and for local stakeholders and citizens.

Our three front-runner cities - Eindhoven, Tampere and Genova - are through the establishment of Urban Living Labs demonstration areas experimenting, demonstrating and evaluating a range of different nature-based solutions addressing climate- and water-related urban challenges. The front-runner cities actively collaborate and share their experiences with our seven follower cities - Stavanger, Prague, Castellón, Cannes, Başakşehir, Hong Kong and Buenos Aires – as well as our two observers - Guangzhou and the Brazilian Network of Smart Cities.

The project results will contribute to the growing evidence base on benefits, cost-effectiveness, economic viability and replicability of nature-based solutions, which will guide cities across Europe and beyond in developing and implementing their own co-creative nature-based solutions.

CO-CREATION & URBAN LIVING LABS

Urban Living Lab Handbook

TYPE OF RESOURCE:
Handbook

TARGETED STAKEHOLDERS:
Municipalities, Living Lab professionals, anyone interested in following the Living Lab methodology or developing a Living Lab

LINK TO THIS RESOURCE:
https://unalab.eu/system/files/2020-07/living-lab-handbook2020-07-09.pdf

INTRODUCTION TO THE RESOURCE

The *Urban Living Lab Handbook* is a publication created to guide Living Lab enthusiasts and professionals through the different steps in developing Urban Living Labs. There are many aspects to consider when setting up a Living Lab in terms of organisation, operations, resources, business models, users/citizens, openness and value. By consulting the handbook, users can learn how to develop an Urban Living Lab based on the experiences, research and practical examples from the UNaLab project.

Additionally, the handbook includes tips by Living Lab experts who have successfully set up Living Labs in their own communities, as well as a hands-on tool that encourages readers to consider different development stages and corresponding challenges when embarking on an Urban Living Lab development journey.

DESCRIPTION OF THE RESOURCE

The handbook is a valuable resource for any individual or organisation interested in using the Living Lab methodology in their work. It guides the readers through the key components of Urban Living Labs and points out challenges and obstacles that can be encountered along the way. Readers will learn about the questions that need to be asked, the people who are working in a Living Lab and the obstacles they will need to watch out for. At the end of the handbook, an interactive tool to guide readers through their Living Lab journey is presented.

The handbook can be used as a starting point when embarking on a co-creative journey. It can be used complementary to the *Co-creation Toolkit* and *the Handbook on Implementation and Adoption Barriers of Urban Living Labs Developing Nature-based Solutions*.

EXPECTED IMPACT

Readers can expect to learn how to develop an Urban Living Lab and successfully implement it in their local environment. Through an Urban Living Lab, greater economic, social and environmental impacts are expected to be achieved. Urban Living Labs build on and respond to local needs and increase the impact of their activities through the inclusion of different social groups and stakeholders, as they are strongly rooted in their local context and have access to local communities. In addition, Urban Living Labs can also have strong economic and environmental impacts by making local communities more desirable for living and investments, as well as healthier through the introduction of environmentally friendly initiatives.

Handbook on Implementation and Adoption Barriers of Urban Living Labs Developing Nature-based Solutions

TYPE OF RESOURCE:
Handbook

TARGETED STAKEHOLDERS:
Municipalities, Living Lab professionals, anyone interested in following the Living Lab methodology or developing a Living Lab

LINK TO THIS RESOURCE:
https://unalab.eu/system/files/2021-09/handbook-implementation-and-adoption-barriers-urban-living-labs-developing-nature-based.pdf

INTRODUCTION TO THE RESOURCE

The handbook presents a number of barriers that Urban Living Labs focusing on developing nature-based solutions may face along the journey. It is based on the studies performed within the frame of the UNaLab project. The identified barriers are divided into four categories: organisational and structural barriers; cognitive and behavioural barriers; knowledge and process barriers; and ethical barriers.

DESCRIPTION OF THE RESOURCE

The handbook is a valuable resource for Living Lab professionals, researchers and those individuals who want to explore the Living Lab methodology further. The handbook should be used after the *Urban Living Lab Handbook* and the *Co-creation Toolkit* have been explored.

The handbook identifies and studies the barriers that the UNaLab cities experienced. Due to the interconnectedness of the barriers, an Interpretive Structural Modelling (ISM) soft system methodology was used. Through the ISM, relationships between the barriers are explored and a structural model is developed. In addition to presenting barriers, the handbook also explores enablers that can help to address the barriers to the implementation and adoption of Urban Living Labs developing nature-based solutions.

EXPECTED IMPACT

Readers can expect to gain further insights into the Living Lab methodology and the challenges that you may face when developing an Urban Living Lab, together with enablers for overcoming these challenges. It will help readers to foresee future challenges and therefore develop stronger Urban Living Labs in their local communities, which in turn will contribute to particularly social, but also economic and environmental benefits for the community.

SUPPORTING MUNICIPAL GOVERNANCE ARRANGEMENTS IN THE ADOPTION OF NATURE-BASED SOLUTIONS

Municipal Governance Guidelines

TYPE OF RESOURCE:
Handbook and inspiration cards

TARGETED STAKEHOLDERS:
Municipal departments, policymakers, urban planners

LINK TO THIS RESOURCE:
https://unalab.eu/system/files/2020-02/d62-municipal-governance-guidelines-2020-02-17.pdf

INTRODUCTION TO THE RESOURCE

As a cross-sectoral concept, the successful implementation of nature-based solutions in urban areas builds on a combined effort of different actors, both inside and outside the municipal organisation, and an understanding of the factors that will either support or inhibit the effective coordination of these actors. The municipal governance guidelines for NBS explores a range of governance-related barriers inhibiting the effective integration of NBS in cities and highlights a range of actions that can be taken to help overcome these barriers.

DESCRIPTION OF THE RESOURCE

The governance barriers addressed in the handbook include:

- Lack of knowledge and awareness
- Lack of political commitment
- Organisation
- Perceived Costs and Benefits and financing
- Socio-environmental justice and land use trade-offs

An *executive summary* providing an overview of the guidelines and touching on the key findings and takeaways from the report has also been produced. The governance *inspiration cards* aim to spark new ideas and enrich discussions within cities looking to adopt nature-based solutions.

EXPECTED IMPACT

The goal of the municipal governance guidelines is to promote the creation of supportive framework conditions on a city level for the implementation of NBS. They should help in identifying prevailing barriers and in finding ways to overcome these. The inspiration cards aim to support planning processes in cities by providing inspiration and scientific knowledge on the topic of governance actions.

CREATING A JOINT AMBITION, VISION AND ROADMAP FOR A CITY

Roadmaps towards climate resilience through nature-based solutions

TYPE OF RESOURCE:
Strategic planning technique for the creation of climate resilience roadmaps

TARGETED STAKEHOLDERS:
Municipalities and their internal and external stakeholders (companies, organisations, knowledge institutes etc.)

LINK TO THIS RESOURCE:
https://unalab.eu/en/roadmaps-towards-resilience-through-nbs

INTRODUCTION TO THE RESOURCE

The roadmapping process is intended to support municipalities, as a strategic planning technique, in creating a climate resilience strategy with locally adapted nature-based solutions (NBS) projects in a city-wide context. It can be a strategic element when wanting to include climate resilience and NBS in urban planning. The process does not focus on individual greening projects, but rather on developing the municipal goals and strategy behind the projects.

The process builds on a four-stage approach consisting of 1) ambition setting, 2) urban system and status quo analysis, 3) vision development, and 4) roadmap development. All steps are interconnected, but each has its own methods, materials and results.

In all the steps of the process, the municipality acts as the administrative and organising actor, supported by scientific knowledge and advice. Our learning has been that developing a holistic roadmap is only feasible when all relevant stakeholders and affected groups of people are involved in the process and contribute to it.

The UNaLab project has gathered all findings and results of the co-creative roadmapping process, including the full descriptions of the methodologies and final reports on how they have been applied, of the UNaLab follower cities Stavanger (NO), Castellón de la Plana (ES), Cannes (FR), Prague (CZ) and Basaksehir (TU). Tools and materials, such as facilitator's manuals for the roadmapping workshops, inspiration cards, and future telling outcomes for the respective co-creative sessions are also available for you to take part of.

DESCRIPTION OF THE RESOURCE

The roadmapping steps can be summarised as follows:

Step 1- Ambition setting

The aim is to set the city's ambitions for climate and water resilience and nature-based solutions. For this purpose, the city's ambitions for climate and water resilience in general, and nature-based solutions in particular, are defined and refined in a co-creation process with important local stakeholders in the city.

Step 2- Urban system analysis

The aim of an urban system analysis is to understand the baseline upon which the city can start working towards its desired vision. It consists of three main levels, which include the assessment of:

- objective city-level indicators,
- action fields which the city has already engaged in or could be more active in,
- local impact factors to identify site-specific opportunities and challenges.

Step 3- Vision development

The aim is to develop a shared vision of a climate resilient city among the involved stakeholders. The vision is based on a long-term perspective on the city – in the case of the UNaLab follower cities, the year 2050. In the UNaLab project, the vision was formulated through scenario work and visualised in a drawing.

Step 4- Roadmap development

In the final roadmapping workshops, individual city roadmaps for NBS towards climate and water resilience and a coherent project portfolio are developed. Based on the desired future vision, the results of the urban system analysis, and scientific knowledge and tools, suitable NBS and supporting governance interventions are defined together with specific milestones.

EXPECTED IMPACT

The process of developing a roadmap towards climate resilience supports municipalities to capture their status quo and decide on specific NBS and governance interventions, in order to reach specific milestones in their work towards a jointly defined vision. Through the involvement of different internal and external stakeholders, a variety of local perspectives are included to paint a more comprehensive picture of the status quo and to create momentum around the topic of climate resilience and NBS. By creating a shared vision on the part of the municipality, citizens, scientific institutes, retailers and experts, a common goal is formulated and agreed upon. The end results is a roadmap that combines many dimensions and sets a clear direction together with actions to be implemented. Through the roadmap, common goals can be pursued in the urban planning process and conflicts of interest can be identified and negotiated at an early stage. Ideally, this process can help mobilising different urban stakeholders to jointly improve the climate resilience and liveability of their own city.

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