HORIZON 2020

Urban Nature Labs

Reporting

Project Information

UNALAB

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Periodic Reporting for period 4 - UNALAB (Urban Nature Labs)

Reporting period: 2021-06-01 to 2022-11-30

Summary of the context and overall objectives of the project

The overarching goal of UNaLab was to develop, via co-creation with stakeholders and implementation of 'living lab' demonstration areas, a robust evidence base and European framework of innovative, replicable, and locally attuned nature-based solutions (NBS) to enhance the climate and water resilience of cities. Together, UNaLab partners explored innovative nature-based solutions (NBS) to current and future water and climate challenges within an innovative socially engaged, citizen-driven paradigm. UNaLab's ambition was to reassess and reinvent the role and responsibility of local government to facilitate co-design, scenario thinking and co-creation with stakeholders. UNaLab connected a range of local actors to design and take responsibility for the sustainable future city with an emphasis on re-naturing urban areas to simultaneously achieve multiple social, environmental, and economic co-benefits through collaborative NBS actions. UNaLab sought to link innovative technologies and decision-making processes with an in-depth understanding of the social fabric of cities. The aspiration was for the lessons learned from Urban Living Lab (ULL) demonstrations to provide input for long-term politically adopted and secured sustainability strategies.

UNaLab's core objectives were to : 1) foster urban innovation ecosystems, wherein stakeholders co-

create and optimise NBS for improved climate and water resilience; 2) develop a robust evidence base and European framework of innovative, replicable, and locally-attuned NBS; 3) develop and demonstrate the capability of city-level open data platforms to accelerate NBS co-creation and implementation; and 4) successfully transfer knowledge and NBS innovations to follower cities, and support the development and implementation of NBS roadmaps.

Work performed from the beginning of the project to the end of the \sim period covered by the report and main results achieved so far

UNaLab consisted of a network of ten partner cities seeking to co-create and demonstrate innovative water management systems in the context of an integrated urban ecological approach: the Urban Nature Lab (UNaLab). UNaLab employed innovative, inclusive, cost-effective models for coordinated implementation and management of NBS. The dual focus of the project was the establishment of co-created NBS demonstration ULLs, and the development of models and tools to facilitate upscaling and replication of NBS.

UNaLab partners Eindhoven, Genova, and Tampere each engaged in systematic co-creation with a wide range of stakeholders to co-define challenges and jointly plan and implement NBS. UNaLab project partners co-created and co-implemented integrated NBS with local stakeholders in Eindhoven, Genova and Tampere to demonstrate the benefits, cost-effectiveness and economic viability of NBS within an ULL framework. UNaLab developed and tested innovative monitoring, evaluation and decision-making processes and tools to support the implementation and replication of effective NBS actions based on solid business models and financing solutions.

Partner cities Başakşehir, Cannes, Castellón, Prague, and Stavanger, Buenos Aires, and Hong Kong worked with local stakeholders to develop green, sustainable, and climate resilient future visions. Visions for the future were analysed to identify key drivers for change and contrasting scenarios were formulated as input into a series of co-creation workshops including local citizens, key players from local/regional government, the business sector, and relevant experts.

UNaLab delivered 17 NBS actions in Eindhoven, Genova, and Tampere, which are published as case studies on the Oppla platform. All of UNaLab's learnings and outputs are captured within the UNaLab Replication Framework online content management system, <u>https://unalab.eu/en/urban-nature-labs</u>

UNaLab produced many publications, postcards, leaflets, posters and infographics to present the project and NBS, inform about developments in partner cities and present the project's outcomes and results. The outcomes of UNaLab have been disseminated at 141 events in 27 countries. UNaLab has yielded 43 publications in scientific and technical journals, 5 scientific reports, 27 theses, and 8 conference papers, and significantly contributed to 4 EU publications.

Progress beyond the state of the art and expected potential impact (including the socio-economic impact and the wider societal implications of the project so far)

UNaLab made significant contributions to the advancement of the current state of the art in NBS research and innovation to support NBS replication and up-scaling in different contexts. Each of UNaLab's core objectives were achieved with tangible outcomes that enable replication and upscaling of the project's results in different contexts. Specific results that strongly support mainstreaming of NBS and thus have wider potential societal impacts are linked to the project's core objectives.

1 - To foster urban innovation ecosystems. Main outcomes: establishment of ULLs in Eindhoven, Genova and Tampere; development of the ULL framework and Urban Living Lab Handbook; creation of an Urban Living Lab Online Toolkit with a wide range of co-creation tools and methods; an in-depth analysis of barriers to NBS implementation.

2 - To develop a robust evidence base and European framework of NBS. Main outcomes: creation of NBS impact analysis framework; UNaLab NBS Technical Handbook; NBS performance and impact monitoring protocols; NBS value chain analysis and value model; NBS business models and financing strategies.

3 - To develop and demonstrate the capability of open data platforms. Main outcomes: UNaLab ICT framework architecture; Online Nature Innovation Arena; City Performance Monitor; Systemic Decision Support Tool and NBS impact simulator; Digital Mashup Editor graphical modeller; online Nature Recommender tool.

4 - To successfully transfer knowledge and NBS innovations. Main outcomes: UNaLab Buddy System and webinar series; UNaLab Replication Framework; NBS Implementation Handbook, including lessons learned; NBS best practices booklet; Urban Living Lab Roadmapping toolkit; summary documents for key project resources.

The UNaLab project also contributed significantly to the advancement of the state of the art as part of multi-project collaborations via European NBS Taskforces. Members of the UNaLab project team led TF1 "Data Management and EU NBS Knowledge Repository" and co-led TF2 "NBS Integrated Assessment Framework". UNaLab took a lead role in the outputs of TF3 "Governance, Business Models and Financial Mechanisms".

European Commission, Directorate-General for Research and Innovation. Dumitru, A, Wendling, L, Eds. 2021. Evaluating the impact of nature-based solutions – A handbook for practitioners. Luxembourg: Publications Office of the European Union

European Commission, Directorate-General for Research and Innovation. Dumitru, A, Wendling, L, Eds. 2021. Evaluating the impact of nature-based solutions – Appendix of methods. Luxembourg: Publications Office of the European Union

European Commission, Directorate-General for Research and Innovation. Cardinali, M, Dumitru, A, Vandewoestijne, S, Wendling, L, Eds. 2021. Evaluating the impact of nature-based solutions – A

4 of 6

summary for policy makers. Luxembourg: Publications Office of the European Union Mačiulytė, E, Durieux, E. 2020. Public Procurement of Nature-Based Solutions. Addressing Barriers to the procurement of NBS: case studies and recommendations. Luxembourg: Publications Office of the European Union



Nature-based Solutions identified for UNaLab partner cities

Water and climate related challenges	Biodiversity loss	Climate driven health issues	Densification	Flooding	Habitat loss	AAA Heat stress	Pollution	Water scarcity
GENOVA	×			×	×	×	×	×
TAMPERE	×		×	×	×		×	
STAVANGER	×	×	×	×	×		×	
CASTELLÓN	×	×	×	×	×	×	×	×
CANNES	×	×	×	×	×	×	×	×
BAŞAKŞEHIR	×	×	×		×	×	×	×
PRAGUE	×	×	×	×	×	×	×	×
BUENOS AIRES	×	×	×	×	×	×	×	
HONG KONG	×	×	×	×	×	×	×	×
GUANGZHOU	×	×	×	×	×	×	×	
BRAZIL CITIES	×	×	×	×	×	×	×	

Water and Climate related Challenges of UNaLab partner cities



UNaLab Concept: From Challenges to Integrated Solutions for Climate- and Water-Resilient Urban Areas

MM ¢<u>∧</u>A ŗ IGITAL INTEGRATION EXPLOITATION, REPLICATION & STAKEHOLDER CO-CREATION NATURE-BASED SOLUTIONS DISSEMINATION 8 ENGAGEMENT et integration Citizen engagen NBS catalogue Public awareness participation IoT harmonisation Smart business & finance models Local innovation Systematic DST Federated real-tim data management Stakeholder engagement nnovation Co-development Performance monitoring nanagement framework NBS visualisation Multi-format Co-implementation NBS n ANSFORMATION TO WATER- AND CLIMATE-RESILIENT URBAN AREAS

UNaLab Approach

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