

# Re-Naturing the City: Nature4Cities Project to Elevate the Concept of Nature-Based Solutions <sup>†</sup>

Luca Cotta Ramusino, Mario Cortese and Zia Lennard \*

R2M Solution Srl, Via F.lli Cuzio, 42, 27100 Pavia, Italy; luca.cr@r2msolution.com (L.C.R); mario.cortese@r2msolution.com (M.C.)

\* Correspondence: zia.lennard@r2msolution.com; Tel.: +39-382-172-6596

<sup>†</sup> Presented at the Sustainable Places 2017 (SP2017) Conference, Middlesbrough, UK, 28–30 June 2017.

Published: 8 November 2017

**Abstract:** Nature-based solutions are positive responses to societal challenges, and can have the potential to simultaneously meet environmental, social and economic objectives. The EU research project Nature4Cities aims to deliver an online platform where all stakeholders, such as citizens, urban planners, experts and policymakers are encouraged to discover, discuss and rank nature-based solutions.

**Keywords:** urban re-naturing; nature based solutions; re-naturing cities; urban metabolism; participatory engagement; holistic assessment tools; extensive knowledge base

## 1. Nature Based Solutions

The environmental concept of Nature Based Solutions (NBS) has recently been identified by the European Union (EU) as a strategic framework to help the development of sustainable cities. NBS are widely recognized as effective responses to new urban challenges such as climate change adaptation, resilience and sustainability. NBS is a relatively recent environmental concept which emerged recently as positive responses to societal challenges, and can have the potential to simultaneously meet environmental, social and economic objectives. They are actions inspired by, supported by or copied from nature; both using and enhancing existing solutions to challenges, as well as exploring more novel solutions [1]. The EU recognizes the importance to develop a systemic approach and at the same time to adapt interventions to the local context.

## 2. Nature 4 Cities Project

### 2.1. Research Pillars

The Nature4Cities (N4C) project intends to produce knowledges and to empower urban projects stakeholders (involved in urban planning/design/management intervention) to take decision. N4C intends to take part in a general better understanding of the NBS concept and its contents. In this perspective, the research project aims to give an applied definition and specifically to read this concept into the urban context. NBS ideally are resilient to change, as well as energy and resources efficient.

N4C is based on four research pillars:

- the building of a NBS knowledge base and associated, integrated analysis framework
- the development of a holistic assessment methodology exploring technical, governance, business, financing models and economic aspects.
- the adaptation of existing technologies for citizen's participatory engagement, urban data acquisition and urban data management

- the co-development and assessment of actual NBS projects and strategies with Partner Cities

All along the 4-year project, researchers, policy makers, planners, professionals from the public and private sector and citizens will work together to develop knowledge, new collaborative models and tools in order to enhance the 'Re-naturing Cities' transition. The Nature4Cities (N4C) project is one of the two research programmes selected and funded by the EU in order to build a common ground for "NBS & Re-Naturing Cities", through the H2020 Research and Innovation Programme. The N4C project aims to develop a scientific and technical database and operational tool for the effectiveness of Nature Based Solutions applied in a framework which considers a holistic approach and, which integrates multiple stakeholders.

## 2.2. Stakeholders

N4C research team is an interdisciplinary and international team (from 9 countries). The consortium partners take a pro-active part in the EU dynamics of Research and Development and Innovation actions, at the crossing of urban green infrastructure planning and construction sector, environmental assessment, social sciences, innovation management and Information and Communication Technology supporting tools.

N4C specifically addresses scientists, urban decision makers, practitioners and citizens. The project aims to engage urban stakeholders on the issue of re-naturing cities. To this end, it shall develop a collaborative platform for citizens, planners and policymakers to discover, discuss and adopt nature-based solutions, including associated innovative business, financial and governance models.

The links with and between the N4C stakeholders will contribute to upscale results, share best practices generated by the project and widespread their expertise all over Europe. The knowledge built will remain and be spread through the decision supporting web platform. The project will thus sustain with its full services and operative capacity after the project lifetime.

## 3. Societal Impact of the N4C Project

N4C will bring about an integrated, holistic and hands-on framework to enable innovative business, financing and governance models to promote NBS in urban planning practices. N4C project indicators, methodologies, tools and platform will be field tested in real working environments and on real nature-based solution projects and developments in selected cities in Europe, which will be partners of the project and engage their technical urban and environmental planning teams.

Based on a detailed mapping of urban challenges and relevant nature-based solutions (NBS), N4C aims at developing complementary and interactive modules to engage urban stakeholders in a collective-learning process about re-naturing cities, develop and circulate new business, financial and governance models for NBS projects, as well as provide tools for the impacts assessment, valorisation and follow-up of NBS projects. The different modules are:

- a database of generic NBS and associated environmental, economic and social performances
- an observatory of NBS projects best practices/case studies
- a set of innovative business, financial and governance models for the deployment of NBS in a range of different contexts, together with a tool to help urban stakeholders identify eligible models regarding their NBS project contexts
- a NBS project impact assessment toolbox providing capabilities for environmental, economic and social impacts evaluation at different stages in the project development cycle from opportunity/feasibility studies to design steps and project follow-up). This toolbox will build on a range of tools, from generic indicator-based assessment for early project stages, down to detailed modelisations of NBS behaviors.

These modules that already have a proper purpose on their own, will furthermore be integrated in a NBS dissemination and assessment self-learning platform (N4C Platform) to assist the NBS project developers along the entire lifecycle of their projects from opportunity studies and project

definition down to performance monitoring. The N4C project can be referenced at <https://www.nature4cities.eu/>.

**Acknowledgments:** Nature4Cities is co-funded by the European Union under the H2020 programme, grant No. 730468.

**Author Contributions:** Paper written by Zia Lennard, reviewed by Luca Cotta Ramusino and Mario Cortese.

**Conflicts of Interest:** The authors declare no conflict of interest.

## Reference

1. EC 2015. Policy Topics, Nature-Based Solutions. Available online: <https://ec.europa.eu/research/environment/index.cfm?pg=nbs> (accessed on 30 October 2017).



© 2017 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).