



NATURVATION

cities – nature – innovation



ADDRESSING CLIMATE AND SOCIETAL CRISES WITH NATURE-BASED SOLUTIONS



Photos by: City of Malmö

KEY POINTS

- Cities tend to be overlooked as sites for nature-based solutions (NBS), but have tremendous potential for creating a step-change to address climate and societal crises.
- Pilot projects from Malmö and other Swedish cities clearly show that working with nature is key to support sustainability objectives.
- Support from the national level is needed for upscaling nature-based solutions through a systematic integration and learning.
- Cooperation and broad stakeholder involvement across all sectors and levels is needed.
- Guidelines, regulations and financing schemes can support local authorities and increase uptake and impact.

THE NATURVATION PROJECT

NATURE-based URban inNOVATION is a 4-year project involving 14 institutions across Europe in the fields of urban development, geography, innovation studies and economics. We are creating a step-change in how we understand and use nature-based solutions for sustainable urbanisation.

Durham University **LUND UNIVERSITY** **eco logic**

GRIMMA **Utrecht University** **UAB**
Universitat Autònoma de Barcelona

ICLEI Local Governments for Sustainability **CEU** CENTRAL EUROPEAN UNIVERSITY **ent** environmental management **Newcastle City Council**

PBL Netherlands Environmental Assessment Agency **City of Utrecht** **Malmö stad** **Leibniz-Institut für Länderkunde ifl**

This project has been funded by the European Union's Horizon 2020 research and innovation programme under grant agreement No. 730243

Fostering urban nature: The role of local and national governments



Local and subnational governments are increasingly recognised for their central role in protecting and restoring nature for sustainable urbanisation. Nature-based solutions (NBS) are at the forefront of such discussions, boasting a multifunctional character which can simultaneously contribute to social, environmental and economic goals. Nature-based solutions can, for example, improve public health and wellbeing, reduce pollution, conserve biodiversity, decrease flood risk, increase resilience, and regenerate urban spaces. Yet these benefits have not yet been realised to their full potential.

Wider implementation of nature-based solutions requires, amongst other factors, increasing awareness of their benefits as an alternative to traditional grey infrastructure, leveraging resources and finances for implementation, capacity building and pilot projects, and developing standards for urban nature (e.g. quality, quantity and access). National governments have an important role to play in creating these conditions and developing a regulatory framework which supports local and subnational governments in mainstreaming nature-based solutions across planning and policy.

This brief outlines lessons learned from Malmö city's experience in the EU-funded Naturvation project in trying to increase the local consideration of nature-based solutions. Opportunities for increased national support are outlined to encourage wider impact in cities across Sweden and help urban decision-makers to overcome common barriers.

What are nature-based solutions?

Nature-based solutions are spatial interventions that use the natural properties of ecosystems to deliver multiple benefits. As such, they have the potential to limit impacts of climate change, enhance biodiversity and enhance the environmental qualities of the living environment while contributing to economic activities and social well-being

Malmö: Paving the way towards sustainable urbanisation



Malmö has engaged over the last four years through the Naturvation project in a process of change in how nature-based solutions are understood and has begun integrating nature-based solutions into local policies and plans for sustainable urbanisation. Together with Lund University and strategic urban governance actors, Malmö is bridging knowledge between research, policy and has created a shared vision and roadmap for how to address critical sustainability challenges through nature-based solutions.

The main challenges identified in the city of Malmö are considered to be climate adaptation, biodiversity and densification to achieve a dense and green city. To address these challenges, a series of interactive events, workshops, awareness raising campaigns and other activities have been carried out, such as: stepwise engagement of new stakeholders in nature-based solution discussions (e.g. with property

owners and building developers in the Kirseberg area); identifying ways to include nature-based solution principles and thinking in internal municipal practices; and testing the application of the Naturvation Business Puzzle in the local context.



As such, the city of Malmö has co-developed cutting-edge tools which can be applied in other cities, such as the Urban Nature Atlas, the world's largest database of nature-based solutions with over 1,000 cases worldwide and the Urban Nature Navigator to evaluate nature-based solutions and identify how they contribute to sustainability goals.

Towards the end of 2019, the local network facilitated a collaboration between the city of Malmö and three of the involved consultants in the local process, with the aim of integrating ecosystem services in the land allocation agreement process. This process includes a planning support for the municipality on how to evaluate developers' proposals with regard to the integration of ecosystem services. The approach will be tested in Nyhamnen during 2021. Malmö will also continue to collaborate with local stakeholders to make outreach as meaningful as possible, including holding a conference in Stockholm (Dec. 2019) on Urban Greening (organised by the National Board of Housing, Building and Planning & Swedish Nature Protection Agency and others). Malmö also supports nature-based solutions beyond the project – linking to other activities and engagements and increase policy support by engaging politicians to mainstream nature-based solutions throughout internal municipal practices.

Nature-based solutions in action: BiodiverCity project

Malmö faces the challenges of increasing rainfall paired with a malfunctioning stormwater management system. These are compounded by issues like densification and social integration due to a growing and diverse population. Weak integration of urban greenery and biodiversity in urban planning is exacerbating such challenges. However, the city has been increasingly successful in addressing these challenges through different nature-based projects, such as in Augustenborg and the BiodiverCity project. The latter delivered more than 30 multifunctional green and blue nature-based solutions in five main domains: green roofs, green walls, mobile plant-system, three-dimensional greenery and urban biotopes. These multifunctional nature-based solutions have helped to address the interconnected sustainability challenges outlined above.

Opportunities for increased national level support

Building on the lessons learned throughout the Naturvation project, several opportunities have been identified for how the national government and its bodies can provide increased support for local and subnational governments regarding nature-based solutions. Pilot projects such as Augustenborg and BiodiverCity in Malmö clearly show that working with nature is key to supporting innovations towards sustainability. They have been shown to help address urban challenges, such as climate change mitigation and adaptation, biodiversity loss,





urban densification as well as associated societal aspects (e.g. social cohesion and health). At the same time, current nature-based solutions' implementation and innovation at the local level heavily relies on individual efforts and champions who fight for green solutions as a complement or alternative to traditional grey in infrastructure approaches. As a result, the upscaling of nature-based solutions through systematic integration and learning is hardly possible under current conditions.

National support is thus needed to address these gaps and support wider systematic integration and learning. Such support needs to go beyond incremental change (e.g. in the form of adjusting single paragraphs of legislative planning documents) and work towards a broader, cultural change. National bodies can achieve this goal by fostering broad cooperation and stakeholder involvement across all sectors and levels as well as targeting efforts to mainstream nature-based solutions across government departments and within decision-making processes. The production of tools and documents can support this effort, such as by developing targeted guidelines for nature-based solutions, creating a comprehensive regulatory framework, producing accounting models and developing long-term compensation and financing schemes that can support local decision-making towards nature-based solutions. These actions are key to increasing local authority and mandate regarding public as well as private land owned by citizens or private developers. In combination, these pathways for change can augment the uptake, mainstreaming and implementation of nature-based solutions across Swedish cities.

