



The Compact City with Integrated Agriculture and Ecology

Nature-Based Solutions: From Innovation to Common-use (NBS 2017): Project proposal

Abstract

The growing problem of urban sprawl – low-density, fragmented, and car-dependent development on greenfields – is increasingly serious for both Europe and the rest of the world. It brings with it a number of negative consequences for human health, well-being, social and economic performance, and negative ecological impacts, including emissions contributing to climate change. Therefore, in order to improve urban quality of life and address the “20-20-20 strategy” global objectives, we propose a series of pilot projects that introduce significant planning, managerial and technology initiatives combined to enhance cooperation of the European citizens with experts.

We will bring together experts from complementary fields to introduce a feasible model of “compact cities” integrating nature-based urbanism. Among other innovative tools and strategies, it will include Agrarian Urbanism, Transect-Based Planning, Lean Urbanism and Placemaking (all recent but proven methodologies for developing more compact, resource-efficient cities). In this project, the “nature-based solutions” would be applied both within the public space and urban agriculture systems to improve impact on quality of life. This outcome will be assessed for its impacts on GHG reductions, sustainable development, and “cities for all” as outlined in the New Urban Agenda, the Sustainable Development Goals, and COP21. In this sense, CitAgra would leverage the new UN agendas by making the project a form of pilot implementation of these agendas. By leveraging European expertise and experience, we can provide benefits for other parts of the world confronting related challenges.

In our vision, the Nature-Based Solutions would be applied both within the public space and urban blue-green systems to improve impact on quality of life and to identify the optimum factors such as residential density.

Keywords

Heaty cities, Integrated solutions, Nature-based solutions, Resilient Cities, Social innovation

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European Cities involved in CitAgra (preliminary list)

Climate EU Zone	front runner cities	follower cities
NORTH	Steinkjer	Stockholm
CENTRAL	Glasgow, Krakow	Warsaw, Prague
SOUTH	Thessaloniki	Barcelona

Additionally, Chinese city of Wuhan is involved, supported by two strong academic institutions: HUST and Wuhan University.

Dimensions of the project

- Social** (institutions, governance, perceptions, use)
- Ecological** (processes, functions, biodiversity, cities as landscape we live in)
- Technical** (with special focus on traditional knowledge in agriculture, building and urbanism)

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Theses

- To increase the extent and **health** of the urban cultivation and maximize the benefits of an urban canopy, cities need integrated approach and innovations from city planners, engineers, landscape architects as well as **citizen advocacy and participation** along the lines of public-private partnerships. We presume that even if various actors share a common vision, it needs more knowledge for maximum benefits to develop.
- Our thesis is that urban cultivation can have not great in amount, but significant role as a catalyst for socio-economic sustainability. Urban agrarian strategies should work basically to sustain and grow the **benefits of blue-green networks**. We would like to compare benefits from urban forest and agrarian functions which in many places would rival for the same space.
- It is already proven that busy city centres beat suburban living when it comes to **human wellbeing, socializing, and walking**. Residents of higher-density areas are more active, more socially engaged – and less obese. However, further evidence is needed to identify potential pathways and thereby effectively guide urban policies.
- Density** is a key parameter around which **land uses and services** that affect health are planned and developed. There is now an increasing body of knowledge that several measures of high urban density, including residential, retail and service density, street-intersection density, and land-use diversity, might have important public health consequences. With more evidence, one can plan neighbourhoods that are more compact and more attractive (thanks to the activity-influencing factors such as local services, public transport, leisure, agrarian activities and more), halt invasive sprawl; promote **physical activity and social interaction**, and shield from environmental and social negatives such as pollution and feeling unsafe.

CitAgra methodology

- Transdisciplinary
- Problem-solution chain analyses
- Addressing complex problems
- Indicator setting
- Indicator measurement

With this project, we aim to show that being able to exercise a proactive role in ensuring place responsive development by those inhabiting urban environments is fundamental, and has a direct relationship with the physical structure of place, its ownership and possibilities of management and engagement. This ambition challenges the prevailing tendency to remove users from the conception, production, development and maintenance of space, and **argues for a more inclusive and responsible approach at several urban scales**, whereby **new operative tools** are used to support urban communities in the sustainable improvement of urban environment and wellbeing in different countries.

The disciplines involved (and represented by our university collaborators) include urban design, architecture and landscape architecture, anthropology, sociology, environmental psychology, economics, and public health. The topics that will be applied to the improvement of public space using nature-based solutions include:

- Affordance** (the ability of an environment to afford an action by a user)
- Agglomeration benefits and knowledge spillovers** (the ability of public space networks to promote exchange of knowledge and innovative economic activities)
- Biophilia** (the environmental psychology of natural elements and its restorative effects),
- Capacity-building** (the ability of public space occupants to interact and gain knowledge or resources)
- Entry-level economic opportunities** (the ability to develop economic enterprises at small scales, especially important for immigrants, the young, the poor, and other deprived populations)
- Resilience** (the ability of a population to recover from disruptions, including social capacities)
- Salutogenesis** (the generation of higher states of health and wellbeing through design)
- Territorial co-presence** (the ability of different populations to occupy different parts of public space without threats or conflicts)

Many of these concepts are well-developed in the literature, but **what is missing is a comprehensive, integrated application of tools and strategies by which they may be deployed**.

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