

URBAN NEXUS



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The URBAN NEXUS partners

PLATFORM31



The Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning



BAUHAUS DESSAU



REGIONAL ENVIRONMENTAL CENTER

Engaging society for a sustainable city

URBAN NEXUS research findings



Creating Partnerships in Sustainable Urban Development



European cities face many significant challenges, including the current economic crisis, urban sprawl, and the longer-term implications of climate change and resource scarcity. Cities themselves currently account for around 70% of global emissions and are major contributors to the overall ecological footprint. However, cities present opportunities as well.

Many cities are growing, and concentration of people can lead to more efficient use of space, water, energy and other resources. More people means more creative ideas too. Urban-Nexus wants to live up to this creativity and put forward new ideas to enhance urban sustainability. A lot of research already either exists or is being executed. This particular urban field is characterized by a multiplicity and diversity of overlapping and typically disconnected urban policy research. There is a huge potential benefit to be gained in reviewing and connecting this urban research, rather than initiating new research. By uniting stakeholders with extensive knowledge, and by discussing and combining this knowledge, new and fruitful results have been produced.

Interactive dialogue and creating partnerships

The main goals of Urban-Nexus were creating a dialogue on integrated sustainable urban development and successful partnerships between diverse stakeholders with different

geographical, cultural and professional backgrounds. This, by using the so called Learning Spiral approach for each Urban-Nexus work package. This approach aims to ensure the formation of new, supported knowledge, the transition from knowledge to action, as well as the constant updating of the acquired knowledge. New insights on how to shape partnerships and to create interaction have gradually improved as Urban-Nexus progressed. The set up of events of Urban-Nexus was aimed to maximize interaction and give the participants the ability to mingle properly.

Dialogue Cafés

In a series of Dialogue Cafés five work packages were approached and analyzed:

- Urban Climate Resilience
- Health and Quality of Life
- Competing for Urban Land
- Integrated Data and Information
- Integrated Urban Management

The interconnections among them can be seen in the graph on the next page..

The involvement of relevant stakeholders and EC experts in the provision of spatial and statistical harmonized data, efficient mechanisms for monitoring of urban changes and mainly, with their participation in the Dialogue Cafés, are crucial parts of the Urban-Nexus project development.



For more information about our iwork on partnership creation, scan this code:



Key messages on creating partnerships

One of the main outcomes and conclusions of the Urban Nexus project is that it is necessary to have all stakeholders on board when it comes to decision making. There are several views on the stakeholders role and responsibilities in the urban processes. Projects and programmes that strive to engage society in urban research can benefit from the results of Urban-Nexus. These networks will include civil society organizations, media, education establishments, science academies, museums, science centres, research performing or funding organizations, industry/business and policy makers. Bringing these networks together and creating a structured dialogue will build a bridge between the scientific community and society.

The results of the Dialogue Cafés show that an increasing number of diverse groups have entered the discussions along these topics.

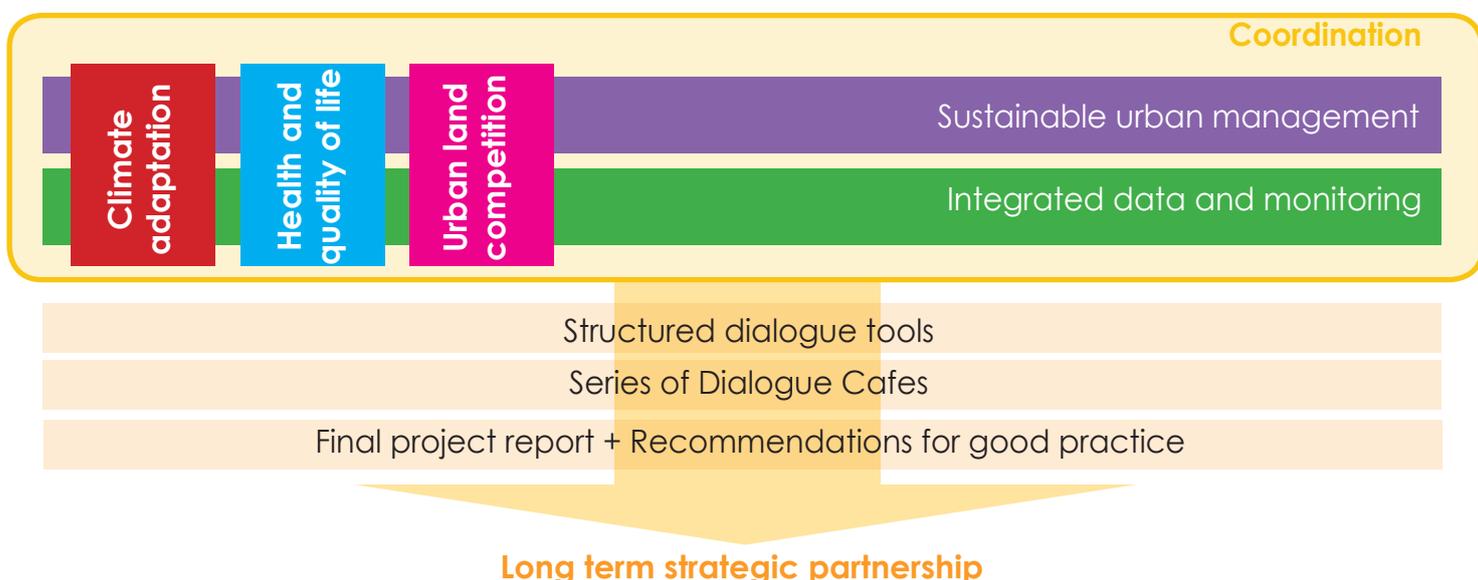
We have learned how to engage society and seen many practical examples where society was involved in urban processes. The links made with Urban Nexus could feed in for the research done in within SEiSMiC. Where Urban Nexus will end in August 2014, SEiSMiC has started recently.

Value of participation

To set up a meeting where all people have a connection with the topic discussed and having all stakeholders present is a difficult task. Creating long-term partnerships definitely does not happen overnight. The partners of Urban-Nexus have taken big steps in creating the right atmosphere and discuss the right content during the Dialogue Cafés. The last meeting in Bristol in April 2014 proved lessons were taken from the previous Dialogue Cafés.

A critical element for participants of the Dialogue Cafés is the value of participation. It is important to be aware of the position of the potential participants. Urban Nexus has been facilitating several meetings with various subjects, all related to sustainable urban development. Invitations were done within the own network of the Urban Nexus partners and with the detailed approach explained in a document especially developed for Urban-Nexus. The document ' Strategic Dialogue and Partnership Framework'.

Creating partnerships with Urban-Nexus



Urban climate resilience



Higher temperatures, changes in precipitation patterns, rising sea levels and increasing frequency and intensity of weather extremes pose significant risks to urban communities and the complex systems and processes that support everyday life in European cities. Climate resilience requires positive action and effective partnerships to reduce vulnerability and promote optimal benefits for urban communities. Four dimensions/topics that are of importance for Urban Climate Resilience will be highlighted in more detail .

Risk

This first topic concerns the problems of assessing climate risks at a city level. Modelling climate change and predicting future trends at different spatial and temporal scales introduces a range of uncertainties, including feedback loops and potential tipping points in the natural environment and environmental processes and unknown impacts from socio-economic drivers which will influence future emission trajectories. These uncertainties are compounded by a range of data and monitoring issues.

Governance

To understand how uncertainty influences policy and decision-making and how communications can help effect positive behaviour change is an important element of our second topic on Governance. As a cross-cutting issue, climate change highlights the need for new approaches to governance in order to overcome the lack of coordination and integration. We conclude that the integration of social sciences and associated skills are vital in influencing key decision-making processes and behaviours

People

Governance may be thought of as being fundamentally about people and how people live and carry on their social, cultural, personal and

economic activities in a place. People and place are of course inextricably linked and are the final two topics to be considered. A changing climate will have direct effects on people's health and quality of life and will also bring indirect risks to broader social and economic activities. People's vulnerability and their ability to respond to climate change impacts are not determined solely by geographical location or physical attributes. Economic factors also play a substantive role in determining the vulnerability and adaptive capacity of households and communities.

Climate resilience requires positive action and effective partnerships to reduce vulnerability and promote optimal benefits for urban communities.

Place

How we develop and redevelop land, build and modify infrastructure, design, (re)configure the urban fabric plays host to how the changing climate is impacting and will impact urban lives. The impacts of climate change on place, include: flooding, landslides, drought, subsidence and the urban heat island effect. All of these have implications for the social, cultural and economic

activities that take place in cities. The design and use of urban space and infrastructure is a fundamental driver in how resilient our cities are to climate change. Urban green space offers a relatively low-cost solution to managing a range of impacts such as flooding, drought, urban heat island effect etc., while bringing wider health and quality of life benefits and favouring economic investment.



Key messages on urban climate resilience

1. There is a profusion of scientific and business research on climate change but a relative dearth of coordinated studies that adopt an integrated perspective.
2. The majority of urban climate change research, policy and practice appears to be concerned with mitigation, energy efficiency, new developments, eco-towns etc.
3. There is a potentially confusing array of “urban sustainability models”, many of which omit any climate resilience considerations.
4. It is imperative to integrate the social sciences into cross-disciplinary research on urban climate resilience.
5. There appears to be more emphasis on research and technological measures for flood prevention, than on drought alleviation

and associated risks from lower rainfall such as subsidence and wildfires.

6. Just as the climate and climatic projections are changing, adaptation and building resilience must be understood as a continually evolving process.
7. Building resilience at the city scale requires more partnership working and collaborative approaches.

For more information on our climate resilience research, scan this code:



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- Health and Quality of Life
- Integrated Urban Management
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city, a vast range of interconnected issues need to be linked up which is done through the different dimensions.

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Health and quality of life

The challenge of urban health and quality of life is to find solutions tackling environment and health problems together; it is essential to meet a balance between all policies and developments, and integrate the solutions into future urban planning.



The urban structure is highly dependent on urban management and policies applied at different levels of government, together with other drivers like market and globalisation. These aspects determine urban development, influence urban patterns, flows and, at the same time, the quality of the surroundings of the urban areas.

Moreover, the perception, aspirations and behaviour of citizens influence to a great extent many socio-economic dynamics and even certain developments in the urban context. Linking quality of life and health of citizens, the primary components of people's well-being, with urban structures, patterns and flows is the main objective of this research strand.

Key messages on health and quality of life

1. Environmental stressors and alleviators. Air pollution is a major environmental risk to health. The exceedance of air quality standards seriously increases respiratory and cardiovascular diseases, in particular in young children and in the elderly people. This is also harmful for the environment, causing soil and water acidification and damage on vegetation.

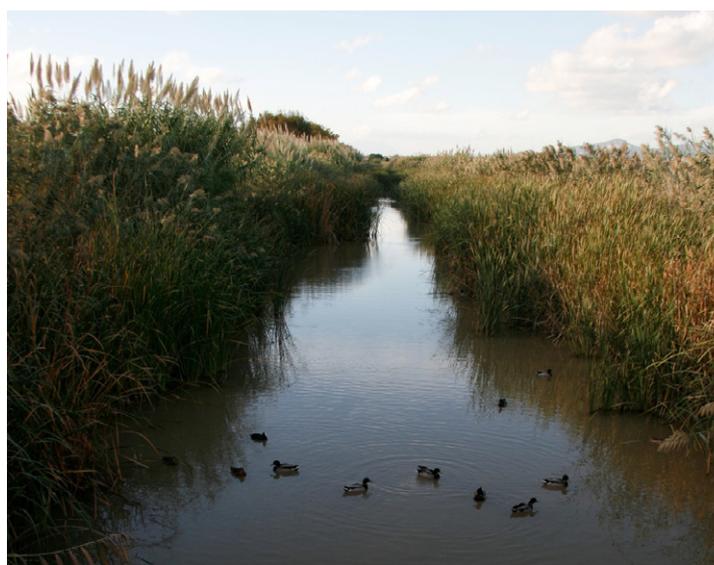
2. Noise and air pollution are mainly caused by road transport in most European cities. Only an integrated approach will be successful concerning policy, legislation and measures at all levels and extended beyond air and sound quality to include urban management, mobility and social policies, but also energy, safety, urban design, and public space.

Quality of life considerations need to be integrated into urban planning if we want our cities to develop and our citizens to stay healthy.

3. Green cities keep doctors away! There is empirical evidence for different beneficial effects of natural environments and green spaces on health and well-being. The more often a person visits urban open green spaces, the less often he or she will report stress-related illnesses.

4. Socio-economic and cultural stressors and alleviators. Social health inequality refers to the differences in health opportunities and resources in relation to a person's social class, gender, geographic area and race, which generally lead to a lower health status for under-privileged groups. Improving data quantity and quality for the evidence base for the assessment is required. Inequalities in health outcomes should be recognised at the urban scale but the state and European level policies are decisive to build social cohesion.

5. It is necessary to identify the most vulnerable population to environmental risks





and health inequalities, who usually coincide with social and economic disadvantaged groups. Policies on disadvantaged areas are expected to reduce social inequalities in health. Urban renewal or gentrification often results in negative consequences for the most deprived populations.

Urban-Nexus Dialogue Café

The resulting analysis of state of the art on Health and Quality of Life is described in the Synthesis Report, mainly focused on health aspects in cities, considering quality of air and green areas, noise and social aspects. This speech was enriched along the Dialogue Café, stressing the focus to the society and the public space, as well as highlighting the importance of sharing knowledge, in particular in local planning.

For more information on our health and quality of life research, scan this code:



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Data and monitoring

The Urban-Nexus integrated information and monitoring research strand tackles important issues such as information quality, availability, transparency, accuracy and accessibility of various spatial and non-spatial databases, as well as their integration and harmonization.

Regular monitoring of urban changes are an important base for objective analyses of the public benefit results or to prepare prognosis for future development and to avoid risks and challenges. Innovation technologies are widely applicable in planning and sustainable city management, and the new developed IT opportunities for remote and in-situ services must be implemented by the city administration and urban planners.

Our work is also closely related to the implementation of various EU activities and documents with relevance to the sustainable urban management, such as:

- INSPIRE;
- PSI Directive;
- A Digital Agenda for Europe ;
- JRC Report "Direct & Indirect Land use impacts of the EU Cohesion Policy".

A brief extract of the vision and the conclusions, resulting from the exchange of expert ideas between project partners and participants at the Sofia Dialogue Café in Sofia, Bulgaria, is presented in the scheme below.

The graph comprises the general Urban-Nexus concept including the three main thematic areas and their integration through the two basic horizontal sources of sustainability – the urban management mechanism and integrated information and monitoring. An important upgrade of the primary concept is the inclusion of:

City administrations need to integrate information sources and incorporate data into local development plans to ensure their success.

- Integrated risk and strategic foresight/ planning, as the real basis for an applicable and realistic sustainable management urban action plan.
- Monitoring of land changes/policy effects; reference data control and EEE auditing of the acquired funds.



Key messages on integrated data and monitoring

- 1.** A balanced centralized & decentralized management approach is important for sustainable urban management. This approach provides real time and integrated interpretation of both remote and in-situ data in close relation with the end user needs and EU requirements.
- 2.** Regional networking. The establishment of regional units, centres and clusters could support the sustainable city management by mobilizing several countries from a specific EU region.
- 3.** Special attention should be given to the transition from research to operational capacity when speaking about integrated urban management. It is necessary to foster the transition from pure scientific research and analyses, towards more user-oriented practical tools and mechanisms.

For more information on our integrated data research, scan this code:



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- 4.** Regular monitoring of changes through Earth Observation (EO) is a must. Besides the regular monitoring of physical changes in the urban environment, all actions, plans and projects impact, realized by city administration or different investors should be regularly monitored.
- 5.** Data harmonization and monitoring, supported by a reference layer and geo-referred statistical information is needed. Earth observation produces important information on the physical status of the environment and the changes in land cover and land use.
- 6.** Economy, Efficacy and Efficiency auditing of EU- and national public funds should also be considered as an important part of the integrated city management. The complexity of the programs increased cases of conflicting goals and unintended side effects caused by overlapping or matching functions. Most decisions on public programs could not guarantee that they will achieve the goals set.



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Urban land competition

The quality of urban development and the urban structure highly depend on management style and policies, as well as on forces related to globalization and the market. The appreciation of the urban environment is also connected to people's perceptions, aspirations and behaviour. The achievement of sustainable land-use and settlement structures seems to be mainly a question of decision-making and implementation. Thus scientific analyses, advice and evaluation are important parts of implementation.

Europe has a polycentric structure of large, medium and small cities. Some cities will grow, some will be stable, and others will shrink. In European policy, the compact city seems to be a key response to urbanization. It is argued that cities no longer can be allowed to sprawl out over unsafe locations, valuable agricultural land and areas of natural resources and values.

The compact city ideal is, however, not unproblematic. By focusing on dense and dynamic urban cores, and by emphasizing economic growth, it may conflict with or overlook essential local needs, not least in how to improve life in small towns and sprawling suburbia.

However, 40 percent of all European cities with more than 200,000 inhabitants are currently experiencing population decline. Shrinking cities find themselves in the unusual situation of an abundance of land with no demand for new industrial, commercial or housing structures. There is no investment, prices are declining, and estates lose their value. Very few cities will be able to turn this around, and competition between cities and city districts will only make things worse. We argue that cooperation between cities or city districts, qualitative regulation of land use on a regional level and equalisation of financial burdens between those municipalities that won inhabitants and income and those, where poorer inhabitants were left is the only way out.

Well-functioning green-blue infrastructure offers many benefits to cities, and often for comparatively low investment and management

costs. It improves a city's resilience and capacity to adapt to climate change effects, such as heavy rains, flooding, heat island effects and heat waves. Urban greenery also improves the health and wellbeing of its citizens, both by reducing air and noise pollution and by offering appealing areas that stimulate physical activities and strengthen cognitive abilities. Urban green space furthermore

provides opportunities for citizens' initiatives – such as community gardens and allotment gardens – in this way fostering social networks and cohesion.

Making cities "smarter" is put forward as a key response to urban development challenges, where the opportunities of innovative technologies can only be

Sustainable land-use in an urban context is mainly a question of decision-making and implementation of balanced and "smart" local policies.





realized by research and practice in collaboration. However, such approaches need to shift from seeing “smartness” as an engineering challenge to dealing with “smart cities” as a wider societal challenge involving a multitude of urban stakeholders and to placing justness and users perspectives first.

Key messages on competing for urban land

There are several paths to sustainability making it difficult to advocate general strategies as well as universal advice. Conditions and potentials for cities with different backgrounds differ profoundly making advices either to general or irrelevant. However, research and experience from “flagship” cities point to some success factors.

1. Develop strategies, instruments and procedures to negotiate conflicting interests

2. Aim for multifaceted solutions across city and regional levels

3. Make the most of what is already there

4. Invest in green-blue infrastructure

5. Promote dense, mixed-use and polycentric cities

6. Increase the smartness of “smart cities”

For more information on our urban land competition research, scan this code:



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Integrated urban governance

When talking about an integrated approach to governance we suggest that it engages the widest possible assemblage of stakeholders in the deliberation of a comprehensive set of issues.

This implies a holistic, rather than compartmentalised approach to policy formulation, implementation and evaluation. It seeks to ensure that sustainability objectives are acknowledged and pursued as a priority within and between sectoral policy communities individually (vertical integration) and collectively (horizontal integration). An integrated approach such as this would exploit a variety of modes of government; direct state intervention and regulation plus the galvanising of collective societal action. This implies the need for a strong lead from government in line with an 'ensuring' state model; one that animates a co-operative response but enforces adherence to strict targets.

Key messages on integrated urban governance

During the Dialogue Café in Bristol several views and elements of Integrated Urban Governance have been discussed. This has led to the overview below of the most important key messages on Integrated Urban Governance.

1. Sustainable urban development is a 'super wicked problem'. It is characterised by a high degree of complexity in terms of: defining the nature and scope of the issues to be addressed; deciding which course of action to follow; adapting existing structures and process to meet the challenge. Moreover, the timescale for action is diminishing and the behaviour of politicians, business, citizens and consumer behaviour remains influenced by short term benefits rather than long term risks.

Urban sustainability objectives need to be acknowledged and pursued as a priority within and between sectoral policy communities.

2. A fundamental challenge is moving from dialogue to action. The traditional focus on 'big bang' policies is inappropriate. A 'progressive incremental' approach that focuses on how small steps cumulatively produce significant returns over time is more appropriate.

3. Sustainable urban development therefore requires a broader societal dialogue. A transition is needed from a rational, technocratic policy process towards a participative process of 'messy governance' in pursuit of 'clumsy solutions'; one that recognises the validity of multiple, subjective stakeholder viewpoints.

4. Collaborative governance is needed to achieve effective policy making. This advocates a collective, consensus-based process based on argument and discussion. It assumes a two way dialogue between public and non-public actors. This transcends mere consultation and involves a genuine sharing of responsibility for outcomes between participants.

5. Sustainable urban development requires 'social learning'. Social learning seeks to change understandings on the part of urban stakeholders (and, thus, their behaviour) through social interaction and, in so doing, stimulates new ways of thinking about and responding to the challenge of sustainable urban development

6. Building bridges between stakeholders ('boundary spanning') is key to effective social learning. Knowledge 'boundaries' between different stakeholder groups represent a key



obstacle for sustainable urban development. Boundary 'spanning' is possible through the 'co-production' of knowledge (intensive engagement of participants on each side of the boundary) and the production of 'boundary objects' (common products of negotiation – e.g. maps, diagrams, plans, codes – at the boundary between science and policy).

7. The challenge of sustainable urban development requires public authorities to adopt a decisive leadership role. It is vital for the European Union, national, regional and local government to encourage experimentation and but also to monitor and direct this activity to predetermined ends. This is encapsulated in the concept of the 'ensuring state'

8. Critical success factors for integrating urban governance include long-term strategic vision

that provides for local differentiation of policy and practice and a transparent process that permits consumers, citizens and businesses to make informed choices.

9. Key constraints for integrating urban governance include the democratic electoral cycle that reinforces a political culture of short termism and the proliferation of sector-specific funding regimes, conceived and implemented separately, which compound further the challenges of coordination.

For more information on our integrated governance research, scan this code:



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