

INVITATIONAL ON-LINE EVENT
ARC2020: Achieving Resilient Cities & Communities
Friday 13th and 20th November 2020

Abstracts and Questions Day 2: Friday 20th November

#5. Nature-Based Solutions Toolkit

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Abstract

The Build Solid Ground EU funded project has developed a Nature Based Solutions Toolkit. This toolkit will inform, educate and train users to develop a NBS strategy for their community. It will also allow users to analyse the vulnerability of their community to shocks and stresses. This presentation will present the methodology and give an overview of the hardcopy and online resources developed.

Questions for discussion

- 1) In your experiences what are the barriers to communities understanding and developing their own NBS strategies?
- 2) How informative did you find the methodology presented?
- 3) Would you use this toolkit in your own work?

#6. Nature-based solutions in Granollers and Cemowas2: circular economy for cities and communities

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Abstract

The city of Granollers (Barcelona) is located in a geographical area that suffers from frequent draughts. The Granollers city council is a local authority with a high level of environmental commitment and has, as one of its municipal strategies, to prevent that the city lives under water-stressed conditions. Several policies and actions have been implemented to fight against water scarcity in dry periods, but one of the best solutions has been the creation of a water reuse network. This local water reuse project began like a conventional restoration process of a degraded periurban area, but today it has become a multifunctional initiative. Varied benefits have been delivered for almost 20 years: ecosystemic services from a NBS wetland and a social corridor from city centre to the recovered periurban area. In the framework of the project CEMOWAS2, some scientific reports and demonstrative projects are complementing and overseeing this green infrastructure project of the Granollers city.

CEMOWAS2 is a project financed by the Interreg Sudoe Programme, with 8 partners from Portugal, Spain and France, aiming to include a circular economy vision on the management of organic waste and the urban cycle of water, within southwestern European regions. Lisbon has been embracing this

vision by tracking the food chain in the city and studying the perception of reuse of recycled water within the population. It has also been promoting demonstrative actions related with watering green public areas using recycled water and educational initiatives towards the closing of the organic waste cycle in schools

Questions for discussion

- 1) Would you like to share your experience with any experimental, academic, or executive Project targeting Nature-Based Solutions in your region similar to Granollers and Lisboa initiatives?
- 2) What are the major barriers (social, financial, legislative) to adopt or implement Nature-Based Solutions? Any suggestions to overcome them?
- 3) Do you consider there is strong legislative support targeting the integration of Nature-Based Solutions? What could be reinforced?

#7. Nature Based Solutions for Buildings

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Abstract

Climate Change poses unprecedented challenges for society. Declan will explore the benefits of adopting a Green Infrastructure strategy for buildings including reducing heat island effects, improved air quality, enhanced urban biodiversity and improved wellbeing for building users and why Green Building is the “new normal” for the built environment and enables society to move forward to a more resilient future.

Questions for discussion

- 1) Do you think Covid-19 will change the way we think about and interact with buildings?
- 2) Do you see this as a challenge or an opportunity?
- 3) What are the barriers to Green Building in your municipality?

#8. Public perceptions on coastal renaturalization projects

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Abstract

Some coastal environments facing climate change risks are starting to be managed with nature-based solutions (NBS). Strategies based on the rehabilitation of green infrastructures in coastal municipalities, such as renaturalization of seafronts, are considered adaptive to the effects of climate change but may cause misconceptions that could lead to social conflicts between the tourist sector and the society. This research studies public perceptions on the effects of climate change, preferences for adaptation strategies, and the assessment of projects of dune reconstruction. We find that while general public recognize the benefits of NBS for environmental conservation and storm protection, they show little concern about possible effects of climate change on recreational activity and have limited understanding about the protective capacity of NBS. Thus, a greater effort must be made to better explain the effects of climate change and the potential benefits of NBS in coastal risk management.

Questions for discussion

- 1) To what extent does general public perceive the co-benefits of NBS (Climate change adaptation for instance) in other contexts different from coastal areas?
- 2) What type of barriers favor or hinder NBS implementation? Do you think that priority should be in overcoming technological barriers or social and political aspects deserve more attention?

#9. Wetland-based solutions

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Abstract

Constructed wetlands (CWs) are engineered systems that emphasize the physic-chemical and microbiological processes occurring in natural wetlands. They have proven to be a sustainable alternative at decentralized scale for the treatment of different kinds of wastewater, and are nowadays spread around the globe with thousands of facilities. CWs are shallow tanks filled with a gravel layer and planted with emergent rooted wetland plants such as *Phragmites australis* (common reed). In such systems, the water circulates through the gravel and the plants roots, where pollutants are removed by several processes taking place simultaneously (e.g. adsorption, absorption, precipitation, biological processes). The effluent quality is often suitable for reuse in agriculture or other environmental purposes. The necessary infrastructure for their construction is simple and their O&M costs are well below those of conventional WWTPs. Besides, CWs do not require the addition of chemical reagents, there is not sludge production, and the energy requirements are very low or close to zero. Due to their low cost and their versatility, CWs can be applied in different fields, such as rain water and wastewater management in cities, household wastewater treatment, treatment of mountain huts effluents, treatment of winery industry effluents and ecosystems' restoration.

Questions for discussion

- 1) Did you already know constructed wetlands? Have you got any experience with CWs that can be shared with us?
- 2) We have seen different possibility of applications of CWs. Do you think CWs could have an application in your municipality/region? Which one?
- 3) Do you have any concern about the technology? If you would have to possibility to install a CW, would you do it or would you hesitate?