

# ThinkNature Webinar 1 “NBS: Concept, Practices and Benefits”

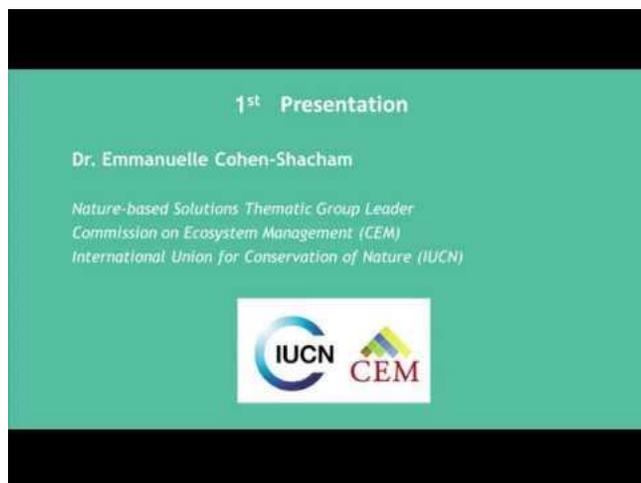
## Introduction



This webinar is the first of a series of webinars organized by ThinkNature H2020 Project. Specifically, ThinkNature is organizing a series of four webinars between January and April of 2019 that will introduce and cover several aspects of Nature-Based Solutions (NBS) to a wide

audience. The objectives of this webinar series is to raise awareness and understanding on the concept of NBS and to support and promote knowledge on multiple aspects of NBS design and implementation. The expected target audience would be researchers, policy-makers, practitioners and businesses that are active or interested in NBS. Focusing on this first webinar, it invited scientists, business/market actors, policy makers and authorities'/organizations' representatives to discover the concept, practices and benefits of NBS. The agenda of this webinar consisted of the following steps: introduction, first presentation and poll, second presentation and poll, third presentation and poll, as well as discussion (questions and answers).

## 1st Presentation: “The Nature-based Solutions Framework” by Emmanuelle Cohen-Shacham<sup>1</sup>



This presentation provides an overview of the development of NBS, presents IUCN’s framework for NBS, the links between NBS and other similar concepts, and gives an update on the development of global standard for NBS.

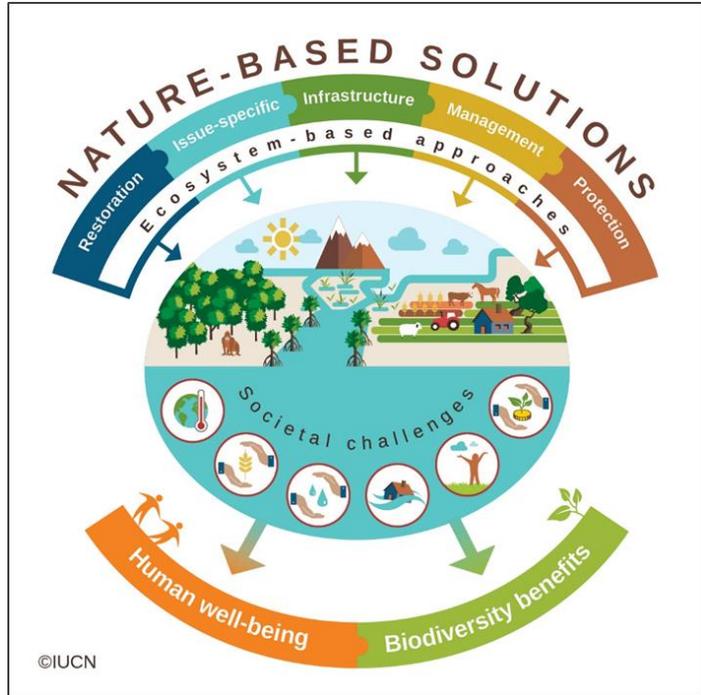
As part of the rise of NBS in policy, practice and research, IUCN has adopted NBS as a third of its global work programme since 2012. The IUCN Secretariat and IUCN Commission on Ecosystem Management have developed in the past few years, a framework for NBS, setting a definition and a set of 8 principles for NBS (endorsed at the

2016 World Conservation Congress). NBS have been defined as “actions that protect, restore or sustainably manage ecosystems and the services they provide, to address major societal challenges, simultaneously providing benefits for biodiversity and human well-being” (IUCN, 2016).

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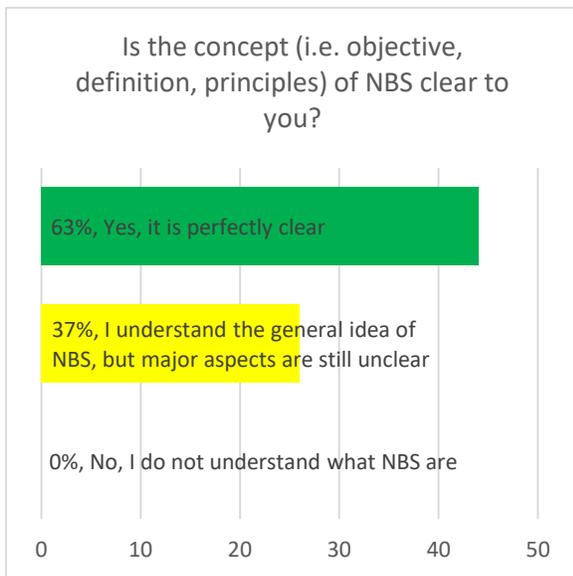
<sup>1</sup> Nature-based Solutions Thematic Group Lead, IUCN Commission on Ecosystem Management; email: minacs@gmail.com

NBS emerged from the Ecosystem Approach and is considered an umbrella to various approaches that are based on ecosystems, address global societal challenges (e.g. climate change, disaster risk, food security, water security, human health) and result in benefits for humans and nature (Cohen-Shacham et al., 2016). Such approaches include ecosystem-based adaptation, ecological restoration, or green infrastructure. Three principles of the NBS framework, stand out and should be taken into account in further development of its operational framework (Cohen-Shacham et al., under review): NBS can be implemented in combination with other types of solutions (e.g. engineering); NBS should be implemented at the landscape scale; and there is a need for policy integration when implementing NBS.



A global standard for NBS is currently under development by IUCN and currently focuses on 7 main criteria such as transparency and inclusion, adaptive management and governance, synergies and policy integration. It intends inter alia, to build a common language and understanding on NBS, ensure the quality of their implementation, and being applicable to a wide range of contexts and sectors. The standard is now open for comments and it will be launched at the 2020 World Conservation Congress.

### Results of the 1st poll



## 2nd Presentation: “Typologies and Classification of NBS practices” by Nikolaos Nikolaidis<sup>2</sup>



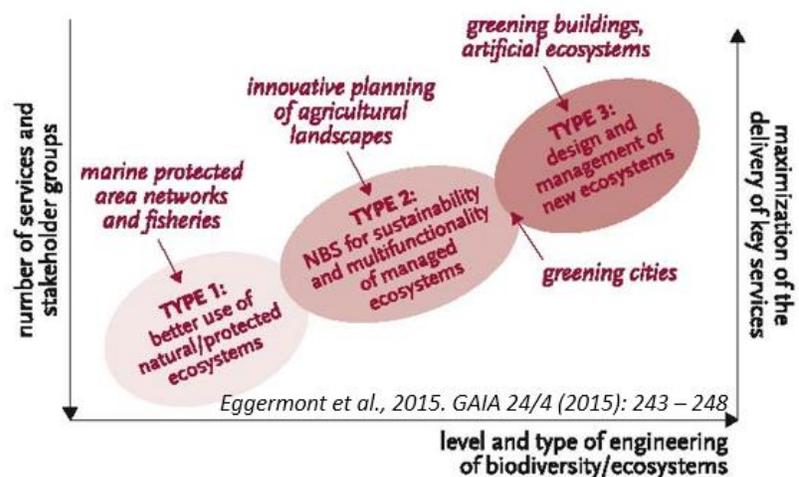
The European Commission Directorate General Research and Innovation (DG RTD) roadmap for promoting NBS at the European and International scale and to establish EU as a world leader in nature-based innovation for sustainable and resilient societies is the following:

- Establishing the NBS evidence and knowledge base
- Develop a repository of best practices
- Creating an NBS Community of innovators
- Communication and NBS awareness

A central element of the strategy is the development of the NBS evidence and knowledge base which necessitates the need for an NBS classification scheme that would facilitate the ease of search of case studies and exemplary examples as well as identify the knowledge gaps. A multilevel classification approach has been developed that was a result of synthesis conducted from literature review and stakeholder consultation/discussion in the ThinkNature platform. The typology took under consideration the Commission's report (EC, 2015) that was based on ecosystem services, Eggermont et al. (2015) NBS typology based on the degree of intervention/level and the type of engineering, and the UrbanGreenUP H2020 that was based in terms of Strategies, Actions and Physical Projects, which were further subcategorized and then listed NBS under each of the categories. A final classification was found in the new platform "Nature Based Solution Initiative" ([www.naturebasedsolutionsinitiative.org](http://www.naturebasedsolutionsinitiative.org)) where NBS was categorized in terms of the NBS approach and the NBS challenge addressed.

The adopted scheme classifies NBS according to the degree of intervention/level and type of engineering:

- TYPE 1 - no or minimal intervention in ecosystems - better use of natural/protected ecosystems (Strategies)
  - Protection and Conservation Strategies
  - Urban Planning Strategies
  - Monitoring
  - Coastal Areas
- TYPE 2 - NBS for sustainability and multi-functionality of managed ecosystems (Actions)
  - Urban Green Spaces Management



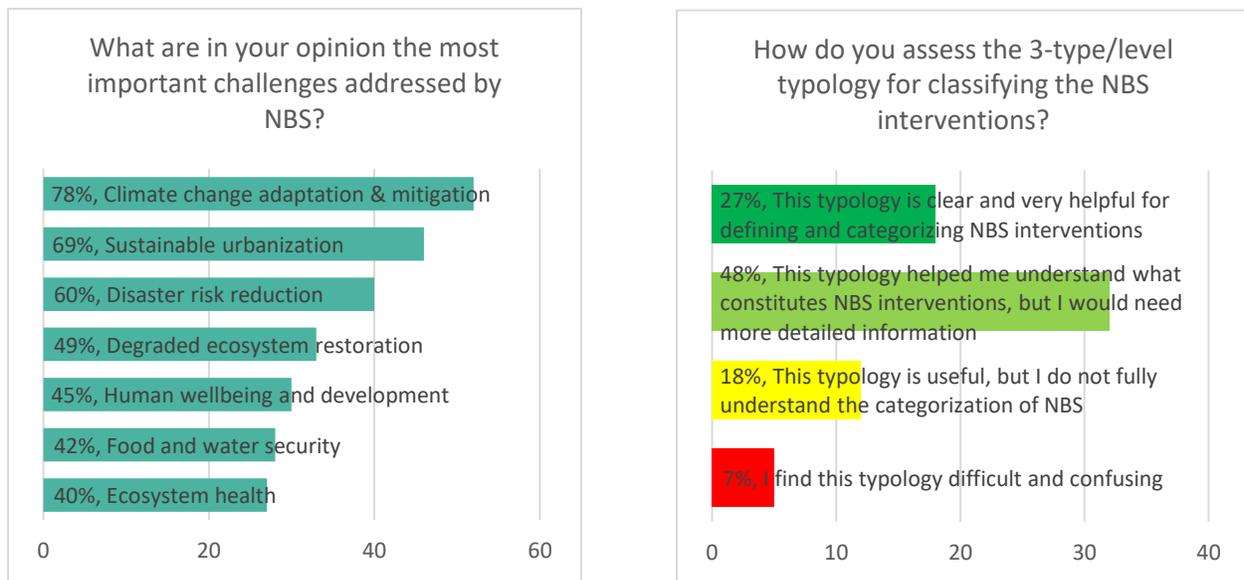
<sup>2</sup> ThinkNature Coordinator, School of Environmental Engineering, Technical University of Crete (TUC); email: [ninikolaidis@isc.tuc.gr](mailto:ninikolaidis@isc.tuc.gr)

- Waste Management
- TYPE 3 - Design and management of new ecosystems (Physical Projects)
  - Ground
  - Water
  - Building and Structures

All levels of the classification scheme are given in detail. A total of 100 NBS have been identified. The multiple levels give more explicit information regarding the type of intervention, the setting, the actions and the goals of the applied NBS.

Two significant elements in the design of NBS were discussed, namely the need to be bold and think outside of the box and the need to hear all the voices and involve the stakeholders in co-designing the NBS. A case study was presented to further elucidate the above two issues.

### *Results of the 2nd poll*



### **3rd Presentation: “Multiple benefits of NBS” by Nadja Kabisch<sup>3</sup>**

Today, the world is facing major global changes. One of them is urbanization. Today only 3% of global area is projected to be urban and 55% of global pop live in urban areas. If current trends continue, by 2050 the global urban population is estimated to be 6.3 billion; by 2050, 68 per cent of the world’s population is projected to be urban (United Nations - Department of Economic and Social Affairs, 2018). This urban

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Nature-based solutions & ecosystems services

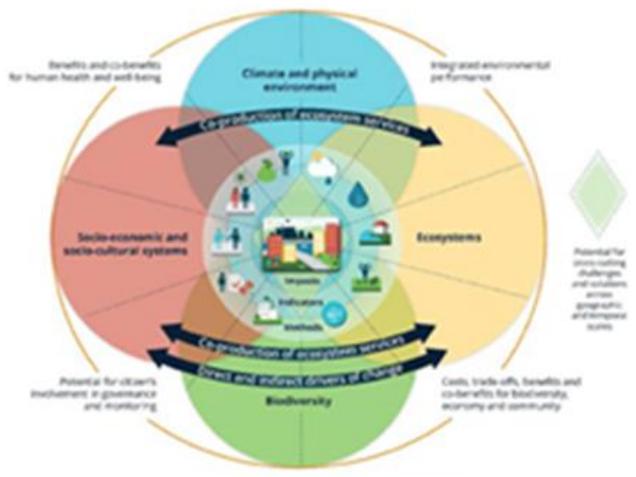
Nature-based Solutions provide multiple benefits with the provision of urban ecosystem services.

Courtesy of Thomas Eitzinger and Erik Gomez Baggettun, 2013, 6th Conference, Bonn

expansion will draw on natural resources, including open and green space, with knock-on effects on ecosystem services. Urbanization is particularly affecting urban residents' health and well-being through air pollution, noise, lack of recreational green and blue space or water pollution. Climate change is the second global change, which is particularly affecting urban areas through temperature increase, heat waves, extreme precipitation and flooding, droughts and water scarcity. The challenges of urbanization and climate change are profound, but so too are the opportunities, because cities

can generate innovation. They can use NBS as sustainable solutions that use ecosystem services to address societal challenges related to climate change and urbanization and simultaneously provide multiple benefits (Kabisch et al., 2017). A tree lined street is not only a habitat for a diversity of species, it is an eco-link providing connectivity between many green spaces but also provides many other ecosystem services such as temperature reduction or minimization of impacts of extreme precipitation events. Particular multiple benefits from NBS are generated for health & well-being: NBS such as the installation of an urban park on a former brownfield site promotes physical activity to do sports, to relax, to recreate, to enjoy and learn from nature while may originally implemented to improve climatic and air conditions in an urban neighborhood.

**EKLIPSE** **The EKLIPSE NBS assessment framework**

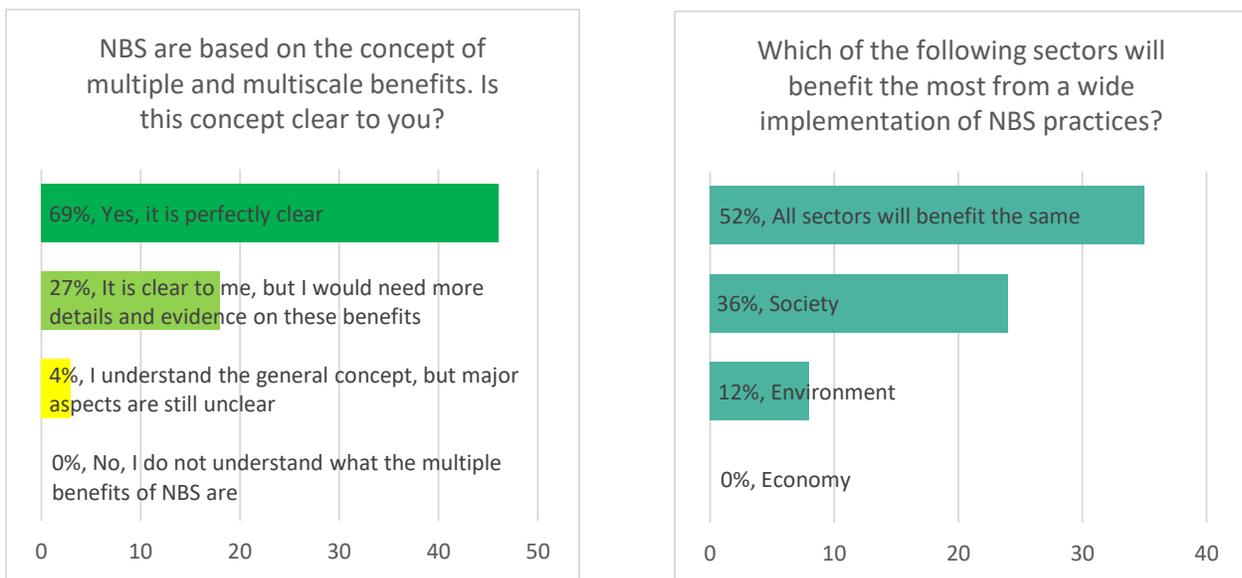


Framework illustrating the relationships among elements of biophysical and social systems, climate resilience challenges and the NBS actions, impacts, indicators and methods for addressing each challenge.

- Climate Mitigation and Adaptation
- Water Management
- Coastal Resilience
- Green Space Management
- Air Quality
- Urban Regeneration
- Participatory Planning and Governance
- Social Justice and Social Cohesion
- Public Health and Well-being
- Economic Ops. and Green Jobs

An Expert Working Group on Nature-based Solutions to Promote Climate Resilience in Urban Areas was developed as part of the EKLIPSE EU-project to explore multiple dimensions of impact that NBS projects may have when implemented at different scales (Raymond et al., 2017a). The aim was to introduce a framework to guide an assessment of the impacts of NBS projects within and across different challenge areas. The framework illustrates the relationships among elements of biophysical and social systems, climate resilience challenges and the NBS actions, impacts, indicators and methods for addressing each challenge. It systematically identifies how NBS may provide both synergies across ecosystem services, but also co-benefits in other elements (such as socio-cultural, socio-economic system, environment, biodiversity, ecosystems, and climate elements) with a particular focus on urban areas. It shows through a list of indicators and reference studies that a NBS targeted towards a specific societal challenge is likely to produce co-benefits, costs and/or neutral effects in other challenges (Raymond et al., 2017b). For example, flood peak reduction actions designed with nature in mind are likely to have co-benefits for not only coastal resilience, but also for quality of life by improving urban living conditions. By improving environmental qualities and the related increase of property values; however, such actions may adversely affect social justice and social cohesion. These multi-directional effects underline the importance of a holistic approach to NBS design, implementation and assessment in urban areas considering synergies and potential trade-offs.

### Results of the 3rd poll



### Discussion (Questions & Answers)

Several questions relevant to presentations were posed by attendees, of which the following were answered during questions and answers section:

- ✓ Would it be possible to pilot test these proposed standards on individual urban NBS case studies?
- ✓ How much does it cost to apply NBS?

- ✓ Is there any equally good NBS evidence base outside of urban spaces?
- ✓ How do we evaluate the multiple benefits of NBS? What methodology is available?
- ✓ As a benefit of NBS, is the higher value of real estate somewhat controversial?
- ✓ Does EKLIPSE NBS assessment framework evaluate existing techniques for measuring benefits?



## References

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