

What is Co-Creation of Nature-based Solutions?

Key Points

What does it mean to co-create nature-based solutions (NbS)?

*CO-CREATION means collaboration.
Empowerment of stakeholders.
Embeddedness of public participation
Breaking The Silos*

What co-creation is:

Co-creation arose from the business world as 'the practice of collaborative product or service development: where developers and stakeholders are working together'. However, the evolution of co-creation in urban planning policies from a user-centred approach to a co-creative designing changed in the practice as well, since earlier 2007 emerging new domains of collective creativity.

What co-creation is NOT:

- A 'utilitarian' relationship (use of the positive image of the partner without a real project).
- A client/supplier or service provider relationship.
- A short-term relationship or operation.
- A way of sharing social (NGO) and economic responsibilities.
- Sponsorship or philanthropy.
- A mere co-branding or labelling operation.
- A joint communication or public relations operation.

Co-creation processes are meant to engage diverse actors with different **knowledge and background** in a **reflective way** and bring them together **to strengthen** and **develop** the implementation and upscaling processes of NBS (Kabisch et al., 2016). NbS requires engagement with **multiple actors** (Raymond et al., 2017) and **social innovation** and **diversity** as fundamental aspects for co-creation (Frantzeskaki et al., 2019). Co-creating NbS goes beyond traditional approaches, introducing **connectivity** and **multifunctionality** along the process of restoring, co-creating, and co-designing urban green networks with nature (Dushkova & Haase, 2020). Moreover, co-creating NBS highlights the necessity to join efforts between local authorities, municipalities, and stakeholders to speed up the updating of sustainable solutions (Mahmoud & Morello, 2021; McCormick, 2020). Additionally, co-creation fosters productive collaboration of parties and result-oriented approaches (see Pater, 2009; Sanders & Stappers, 2008).

Comprehensively, the co-creation process for NbS should respond to some features and principles that are intrinsic in the pathway:

- (i) **be an iterative process**
- (ii) a **learning by doing** process (Bulkeley et al., 2016)
- (iii) **design thinking** (DeLosRíos-White et al., 2020);
- (iv) a **locally adapted participatory process**.
- (v) a **creative** and **collaborative effort** (Wickenberg et al., 2021) of a variety of stakeholders.
- (vi) **thinking across boundaries** and
- (vii) **transdisciplinary** (European Commission, 2016) and **interdisciplinary** (Favre et al., 2017; Nesshöver et al., 2017).

Further to this, **planning** and **governance approaches integrated into policymaking** are considered **key aspects** for the success of co-creation implementation. According to Jansen and Pieters (2017, p. 4), **complete co-creation** processes are perceived as inviting and inspiring for cities to tap into their challenges, if the following principles are achieved:

- **Togetherness:** there is equal collaboration between all internal and external parties.
- **End-users:** they must play a central role in the overall process.
- **Ongoing:** the process is ongoing and participative in every phase.
- **Productive:** it leads to implementation of the co-created solution.
- **Transparent:** relevant information is accessible to all.
- **Supported:** supported by all stakeholders.
- **Value-driven:** results in value creation for end-users and involved parties.

What is special about co-creation of NBS compared to other types of co-creation?

- **NbS are living bodies**, which require constant care and maintenance. Hence, co-creation of NbS particularly stresses the continuous involvement of stakeholders, especially in the operational life of NBS, i.e., for co-maintenance and co-monitoring of solutions in place. In addition, the maintenance of green areas is a relevant economic cost for local governments, hence sharing responsibility with citizens and stakeholders is important.
- **NbS are manageable**, practical measures, easily achievable with simple co-construction (e.g., co-plantation) operations. This allows citizens to be involved in their production and maintenance, thus favoring the complete co-creation cycle, which is difficult to achieve in other urban regeneration application contexts where, on the other hand, the co-implementation of solutions by citizens is not feasible at all times.
- **NbS are place-based** which makes the co-creation process highly influenced by the context in terms of environmental and climate risks and hazards, as well as social impact. Co-creation processes hence become a melting pot of citizens engagement techniques with environmental analysis baseline information, to make it work at the ground scale.
- **Leave No one Behind:** Green creates a strong and empathic relationship with everyone. Everyone looks forward to connecting to nature, it is a primordial human need, and we aim to make nature accessible to all. Co-creation of NbS offers this opportunity to people, to get hands on with nature, from ideation to implementation and maintenance. This process needs time and shared governance schemes in order to succeed, which in its turn required the deep involvement of all stakeholders at different stages (co-design, co-implementation and co-management) and at different levels (information, collaboration, empowerment, etc).

Co-creation in the CLEVER Action Labs and their characteristics

Co-creation process within the CLEVER Cities project follows an iterative pathway entailed in 5 phases and 16 steps with the aim to be as much transparent as possible for local authorities and their facilitators to feedback within the project different stages to check its process and open up for citizen engagement whenever possible.

Co-creation of NBS is experimented through CLEVER Action Labs (CALs), which are characterized by:

- The active involvement of the (end-) users in living lab activities so that they can have a clear impact in the innovation process and can ensure the legacy of NbS maintenance in the long term; Embracing all (or some) phases of co-creation, namely: co-planning, co-design, co-implementation, co-monitoring, and co-development of NbS.
- Testing and experimentation in real-life settings through a place-based approach.
- The use of multiple methods and tools originating from a range of disciplines and domains.
- The participation of a multiplicity of stakeholders (e.g., including the involvement of land managers, technology providers, service providers, relevant institutional actors, professional or residential end users).

Real World Example : Milano Giambellino 129, Milan, Italy.



The CLEVER Action Lab of Giambellino Park 129, is an example whereas a complete co-creation process has taken place within the city of Milan. all images by Emilia Barone, PM, Milan local team.

Policy relevance and implications:

- **Co-creation as the new business as usual:** Integrating co-creation pathways in planning and management practices in local authorities' routines, to ensure the successful implementation and maintenance of NBS in cities; for every urban green area project binding a co-creation pathway involving local communities.
- **Breaking the silos:** enhancing collaboration among institutions and divisions in local authorities, and bringing citizens closer to local authorities, and local stakeholders, thus increasing the sense of belonging to places and the overall success of NBS (Mahmoud, et al., 2021a; Mahmoud, et al., 2021b)

An online co-creation decision support system is being designed for practitioners and other interested groups allowing for different pathways to move through the process of co-creation of NBS. The tool will also help connect a community of practice who can discuss and improve content over time. The Beta Version of the support system is planned to be concluded by the Fall of 2023.

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