POLICY BRIEF **08**

Localising the SDGs: The untapped potential of nature-based solutions in cities

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Localising the SDGs: The untapped potential of nature-based solutions in cities

This policy brief explores the potential of nature-based solutions (NbS) in cities to localise global sustainability goals and targets such as those enshrined in the 17 Sustainable Development Goals (SDGs). It presents the methodology used in CONEXUS to capture policy-relevant evidence on the integrated benefits of NbS for urban sustainability, building on the experiences of the projects' Life-Labs.

Key Messages

- NbS benefits span multiple policy sectors and scales of governance, having the potential to deliver against virtually all SDGs simultaneously.
- Maximising the potential of NbS to locally attain the SDGs requires setting up robust, comparable, yet place-relevant monitoring frameworks.
- In many cases, local NbS indicators can be used as proxies for SDG indicators. They can also be complementary to global sustainability benchmarks by capturing values that are intrinsic to NbS, such as place-basedness and biodiversity enhancement.
- While NbS can be seen as instruments to deliver against multiple SDGs, it is also relevant to explore how the SDGs as a politically recognised framework can help to elevate NbS and support policy integration. In fact, linking local monitoring frameworks to the SDGs brings about multiple opportunities for policy integration.
- Justice and inclusivity are crucial aspects of NbS interventions and SDG localisation.

Introduction

The heart of the United Nations' *2030 Agenda for Sustainable Development*,[1] the Sustainable Development Goals (SDGs) lays out a global roadmap for addressing pressing sustainability challenges – from the climate and biodiversity crises to food insecurity, public health emergencies and rising inequalities – and their intertwined, cumulative effects on people, planet, and economies.

IMAGE: Dreamstime / Ludmila Derevyankina

Beyond a normative call for action, the SDGs codify 17 thematic goals, offering a global benchmark to measure and monitor sustainability holistically. In fact, they establish 169 targets and 231 unique indicators to assess progress against the interlinked dimensions of sustainable development: social development and inclusion, environmental resilience, and economic growth.

In the Horizon 2020 CONEXUS project, we explore the potential of nature-based solutions (NbS) in cities to localise the SDGs, capturing new evidence on the integrated benefits of urban NbS for global sustainable development. This potential is vividly typified by the wedding cake model developed by the Stockholm Resilience Centre in 2016, where the environmental SDGs (SDG 14 '*Life below water*', SDG 15 '*Life on Land*', SDG 6 '*Clean water and sanitation*', SDG 13 '*Climate action*') are positioned as foundational to all other goals, layering socio-economic development and human well-being upon the health of the biosphere.

As an umbrella term for a range of interventions that provide both societal and biodiversity benefits, NbS are defined as actions that aim to protect, conserve, restore, sustainably use, and manage natural and modified ecosystems.[2] They encompass but go beyond ecosystem-based approaches for nature protection and restoration, climate change adaptation and mitigation, disaster risk reduction (DRR), green and blue infrastructure, and integrated management interventions, ensuring benefits for societies at large.[3] Their urban implementation brings 'more, and more diverse, nature and natural features and processes into cities',[4] and in so doing, contributes to all-around urban resilience, accruing integrated benefits for multiple policy sectors. Yet, capturing values and data on NbS co-benefits remains challenging.[5]

1 United Nations (UN) (2015). *Transforming Our World: The 2030 Agenda for Sustainable Development*. https://doi.org/10.1201/b20466-7

2 European Commission (n.d.). [Online] Nature-based solutions

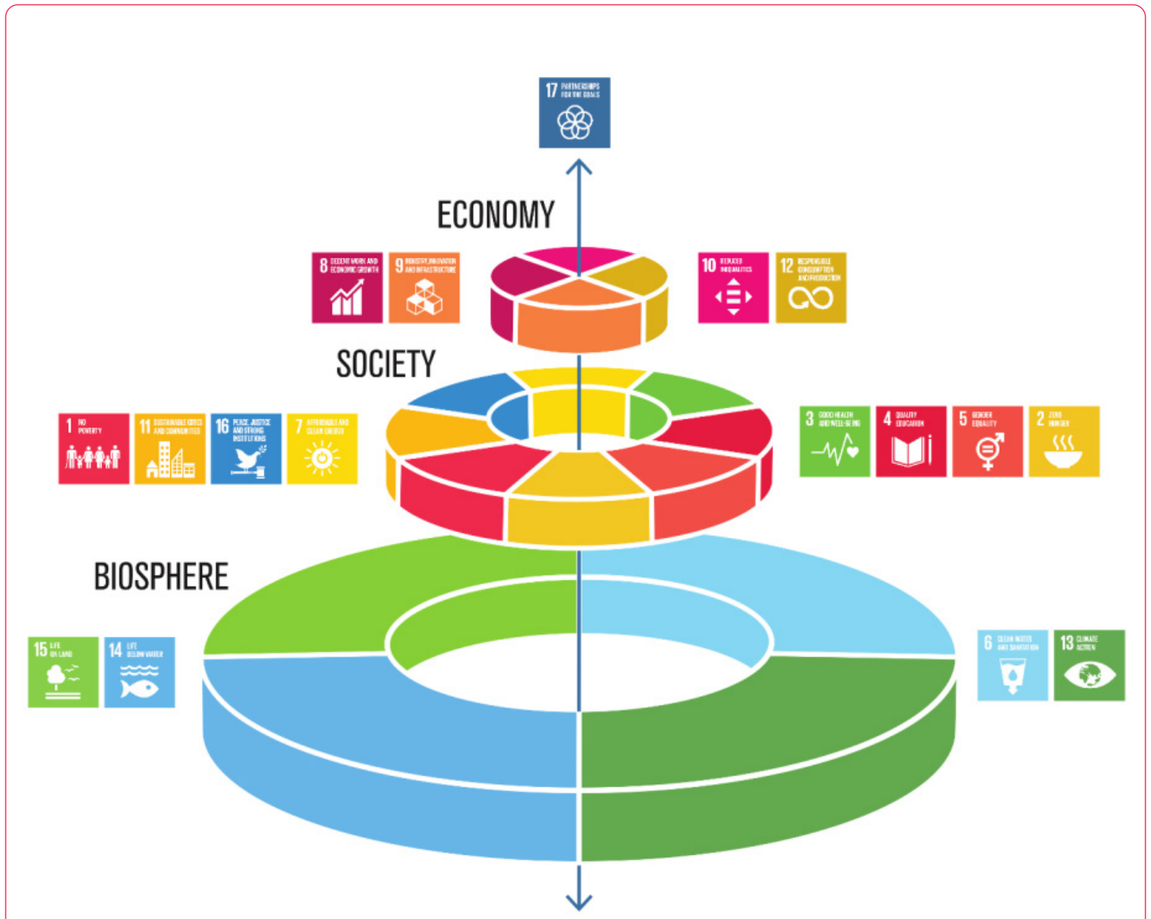
3 International Union for Conservation of Nature (IUCN) (2016). Nature-based Solutions to address global societal challenges. Eds. Cohen-Shacham, E., Walters, G., Janzen, C. and Maginnis, S. Gland: IUCN.

4 European Commission (n.d.). [Online] Nature-based solutions

5 Risi, F., Grisel, M., Lorentz, L. A., and Rizzi, D. (2023). *Data on SDG/NUA impacts/potentials linked with investment propositions uploaded to OPPLA: nature-based solutions' contributions to the global goals. Deliverable 6.1 Report, H2020 CONEXUS project.*

In this Policy Brief, we make the case for linking local (urban) NbS monitoring systems to the global assessment framework of the SDGs, thus promoting standardisation and comparability of data on NbS co-benefits. Such a linking exercise can help substantiate the evidence base on NbS contributions to holistic sustainability, bridging the SDGs data gap while giving the SDG framework place-based relevance. We also highlight how, on the other end, the SDGs, as a strategic and politically endorsed framework, can help elevate and structurally integrate NbS into policy.

Figure 1: The SDGs wedding cake model.
Source: Stockholm Resilience Centre, 2016.



Methodology

CONEXUS established seven real Life-Labs[6] to deliver NbS co-creation and innovation in seven cities in Europe and Latin America: Barcelona, Lisbon, Turin, Bogotá, Buenos Aires, São Paulo, and Santiago. As evolving learning communities that embed NbS into urban places, plans, and policies, CONEXUS Life-Labs apply indicators to measure and monitor the viability of NBS pilots in the socio-ecological context of each city. These indicators form the basis of local Information Systems, which draw on the CONEXUS Impact Assessment Framework[7] and a participatory selection process with Life-Lab stakeholders.[8]

Adopting a qualitative methodology and mixed-method approach,[9] the project developed a *linking matrix* where local Information Systems could be matched to the 17 SDGs, their (sub-) targets, and, where relevant, equivalent SDG indicators. It also connects pilot indicators to the New Urban Agenda (NUA) goals and strategic urban agendas at the city level as well as submitted Voluntary Local Reviews (VLRs). As such, the approach goes beyond the state of the art and innovates our understanding of the SDG-NBS nexus moving away from a simple "ticking-the-box" exercise of broad thematic association. In fact, the matrix helped produce seven detailed case studies and *city fiches*, giving context to the localisation potential of the different NbS pilots in the seven cities. Moreover, the matrix indicates whether specific indicators could help monitor social inclusion and empowerment aspects (i.e. SDG 1 '*Poverty reduction*', SDG 5 '*Gender justice*', SDG 10 '*Reduced inequalities*', etc.), by, for instance, collecting disaggregated data.

IMAGE: Dreamstime / Noipornpan

6 Transdisciplinary partnerships set up to identify, initiate, and co-create NBS interventions in CONEXUS cities, bringing together NBS actors across scales and sectors, including from civil society, businesses, policymaking and the scientific community.

7 The Framework builds on the handbook for practitioners published by the European Commission (2021) 'Evaluating the impact of nature-based solutions'. See: van der Jagt, A. P. N., and Buijs, A. E. (2021). *Assessment framework, indicators and participatory monitoring process: CONEXUS Deliverable 4.1.*

8 See: van der Jagt, A.P.N., Buijs, A., Dobbs, C., et al. (2023). An action framework for the participatory assessment of nature-based solutions in cities. *Ambio 52*, 54–67. https://doi.org/10.1007/s13280-022-01772-6

9 The iterative methodology is detailed in: Risi, F., Grisel, M., Lorentz, L. A., and Rizzi, D. (2023). *Data on SDG/NUA impacts/potentials linked with investment propositions uploaded to OPPLA: nature-based solutions' contributions to the global goals.* Deliverable 6.1 Report, H2020 CONEXUS project.

Evidence from CONEXUS pilots

CONEXUS Life-Labs have been critical providers of place-specific knowledge and arrangements, demonstrating the untapped potential of NbS to deliver multiple sustainability goals, at different levels, simultaneously. From the renaturation of urban spaces in Lisbon to climate-proofing of disadvantaged neighbourhoods in Turin, the restoration of hydro-social systems in Bogotá, the establishment of an Urban Agriculture Observatory in Barcelona, the protection of urban forests in São Paulo, the development of a metropolitan Green Infrastructure Plan in Santiago, and the enhancement of urban biodiversity in Buenos Aires, the case studies evidence the high multifunctionality of NbS. Figure 3 summarises the results of the linking matrix, providing a panoramic snapshot of the SDGs tackled locally by each CONEXUS city.

What emerged from the linking exercise is that, understood as urban policy and planning instruments, NbS can meaningfully help 'bridge governance across sectoral agendas in cities'[10] and deliver co-benefits for multiple policy sectors. In several pilots, by restoring and rehabilitating urban environments (SDG 6, 11, 13, and 15), cities are also tackling aspects related to strengthening governance institutions and processes (SDG 16) as well as promoting citizens engagement, ownership, and access to benefits (SDG 10), thus addressing a fundamental aspect of the 2030 Agenda: *leaving none behind*. However, to maximise the full transformative potential of NbS, it is necessary not only to assess co-benefits but also potential trade-offs and negative externalities of implementation.[11]

It was also evident that there is no *one-size-fit-all* approach to localisation. Because of the intrinsic context specificity of NbS, indicators and measurement methods need to reflect the typology, objectives, and socio-ecological conditions of the NbS in question. As a result, mapped SDG contributions for the same type of NbS might vary depending on the implementation approach, scale, geography, and stakeholders involved and/or targeted and will rely, in part, on implementers' self-assessment.[12] Moreover, while some NbS indicators can be used as proxies for SDG ones, other indicators are highly context-specific and can thus offer complementarity to global sustainability benchmarks such as the SDGs. This is particularly observed for local indicators tracking 'Biodiversity Enhancement',[13] a core aspect of NbS, which is not traditionally integrated into most urban assessment frameworks.

Figure 2: Overview of CONEXUS' cities contributions to the UN SDGs.
Source: EUKN, 2023.

Lisbon's urban nature. IMAGE: Paula Nicolau

10 Frantzeskaki et al. (2023). Governance of and with nature-based solutions in cities. In: McPhearson, T., Kabisch, N., & Frantzeskaki, N. (Eds.), Nature-Based Solutions for Cities, Edward Elgar Publishing.

11 Frantzeskaki et al. (2023). Governance of and with nature-based solutions in cities. In: McPhearson, T., Kabisch, N., & Frantzeskaki, N. (Eds.), Nature-Based Solutions for Cities, Edward Elgar Publishing.

12 Mahmoud, I., Morello, E., Rizzi, D., and Wilk, B. (2022). Localizing Sustainable Development Goals (SDGs) Through Co-creation of Nature-Based Solutions (NBS). In R. Bears (Ed.), *The Palgrave Encyclopedia of Urban and Regional Futures* (pp. 980–996). Springer International Publishing. https://doi.org/10.1007/978-3-030-51812-7_354-1

13 One of the twelve societal challenge areas identified in the handbook 'Evaluating the impact of nature-based solutions' (European Commission, 2021).

Takeaways and recommendations for policy

- There is much scope for cities and NbS implementers to design monitoring frameworks that link to the SDGs' indicators framework. By developing robust databases that feed into SDGs reporting, implementers can substantiate the evidence base for elevating and mainstreaming NbS into urban policy and planning. Using the common language of the SDGs can also support comparability across cities globally and NBS data standardisation.
- NBS interventions are necessarily context-dependent and need to be tailored to places, their cultures, and communities. Monitoring frameworks and linking matrices must reflect context specificity.
- Data is a key entry point for weaving social justice and inclusivity principles into NbS design and monitoring. Monitoring frameworks and indicators can help track how different stakeholders are being included (or not) in the design and management of NbS interventions as well as how benefits are distributed.
- NbS in cities can deliver simultaneous benefits for urban biodiversity, environments, people, and economies. While it is important for monitoring systems to capture data on these positive interdependencies, it is equally important to scope potential trade-offs and negative externalities of NbS interventions, before and throughout implementation.

Conclusion

NbS are a powerful vehicle for attaining integrated sustainability objectives as enshrined in the UN SDGs. Evidence on the multifunctionality of NbS is abundantly clear, however, in order to leverage the uptake of NbS into policy instruments for sustainable development, more robust and comparable data is needed. By offering a methodology for linking local monitoring systems to the global framework of the SDGs, CONEXUS demonstrates the enormous potential of NbS to meaningfully contribute to the localisation of global targets, while giving them local footing and place-based relevance.

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São Paulo's green corridor. IMAGE: Prefeitura Municipal de São Paulo

Buenos Aires' Breathe/Respirar pilot. IMAGE: Veronica Fabio

Urban allotment users in Barcelona. IMAGE: Arnau Lluch

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