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18.19. Reflexivity: time for reflection

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Reflexivity: time for reflection	Participatory Planning and Governance
Description and justification	Conventional governance, policy-making, planning and project management approaches aim to optimize existing processes starting from pre-defined problems and solutions. After a problem or solution is identified a monitoring and evaluation process is designed by selecting suitable evaluation methods. For example, by selecting indicators to measure the effectiveness of the project(s) after implementation. This is done by experts and requires a low level of participation of other actors. Implementing large-scale nature-based solutions is a complex process that includes innovative processes that are hard to oversee and plan on beforehand. Therefore, time for reflection is needed to create room for collaborative learning, experimentation and adaptations during the planning, delivery and stewardship phase of the nature-based solution.

	Time for reflection can contribute to increase the reflexivity of the actors when they reflect on how their daily activities contribute to systemic change and why this is needed. Beers & van Mierlo (2017) studied the relation between learning in and reflexivity of system innovation (in this case a nature-based solution) and argue that collective reflection on changing context helps to increase its reflexivity. Time for reflection includes the interweaving of knowledge (the what), actions (the how) and relations (the who) (Beers, Van Mierlo, & Hoes, 2016). It builds on a shared experience of involved actors in how to identify and overcome barriers or use opportunities. Specifically, spending time on reflection means constantly reflecting about who is involved, who isn't, and who benefits and who doesn't, as well as adaptability to respond to new insights, demands and needs (Chatterton, Owen, Cutter, Dymski, & Unsworth, 2018; Ferlie, Pegan, Pluchinotta, & Shaw, 2019; Muñoz-Erickson et al., 2017). Thus, investing time in reflection is not only about generating new insights, but also on how these insights are influencing their context. Time for reflection can be facilitated through various methods. Reflexive monitoring is a concrete method to structure and guide the learning process embodied in time for reflection in the context of system innovations such as nature-based solutions (Sol, van der Wal, Beers, & Wals, 2018; van Mierlo, 2012; van Mierlo, Arkesteijn, & Leeuwis, 2010; van Mierlo, Leeuwis, Smits, & Woolthuis, 2010). Reflexive monitoring allows to capture and assess processes of learning-by-doing and doing-by-learning in terms of goals achievement, adopt lessons learned into new or existing structures, strategies or practices and identify needs for adaptation (Beers & van Mierlo, 2017; Dentoni, Bitzer, & Pascucci, 2016; Frantzeskaki, Kabisch, & McPhearson, 2016). Herewith, reflexive monitoring can also involve developing institutional mechanisms to include outside actors to be part of the design and review process (Muñoz-Erickson, Miller, & Miller, 2017).
Definition	This indicator is defined as the sum of the time invested in reflection on how implementing nature-based solutions contributes to changing its context (e.g. the spatial planning system) by taking a step back from the daily activities to look the bigger picture. Reflection time is defined in terms of time spent participating in reflection meetings and sessions as well as learning about the methods and tools (e.g., reflexive monitoring tools, but other methods can be applied as well) that support this process and practicing with the skills.
Strengths and weaknesses	+ it is easy to track the time simply given to reflection - the amount of time does not say anything about the quality of how the time was spend (e.g. what was the result in terms of learning, skills of insights though analysis and quality of reflexive learning outcomes)

Measurement procedure and tool	*Quantitative P*: number (counting number of hours spent on reflection per week/month) *Qualitative P*: T: reflexive monitoring tools (see e.g. van Mierlo, Regeer, et al., 2010) or the Connecting Nature reflexive monitoring process for cities (Lodder et al., 2019) T: case study methodology – semi-structured interviews, case study analysis, participant and non-participant observation T: participatory data collections methods, such as focus groups
Scale of measurement	Hours or days per week or month
Data source	
Required data	Essential: Timesheets of total amount of time spent on reflection Desirable: Overview of reflexive monitoring activities How much time was spent per activity Reflection about barriers and opportunities for, gains etc. from spending time reflecting
Data input type	Quantitative (time for reflection) and qualitative if data on barriers, opportunities etc. are considered.
Data collection frequency	Monthly
Level of expertise required	Tracking time for reflection require medium level expertise in terms of understanding of reflexivity Quantitative data collection (listing activities and counting number of hours/days spent on them) requires no expertise Qualitative data collection (facilitation of participatory sessions to identify reflexive learning outcomes) require high expertise in action-research and basic training in participatory data collection, appreciative inquiry and critical analysis.
Synergies with other indicators	
Connection with SDGs	Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable Goal 16. Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels Goal 17. Strengthen the means of implementation and revitalize the global partnership for sustainable development
Opportunities for participatory data collection	Participatory methods (e.g., narrative studies, participatory data collection methods, and/or participatory action research) are crucial for this indicator to collect relevant

	information on reflexive learning processes and how these affect the context and different types of actors.
Additional information	
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