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18.15. Reflexivity: identified learning outcomes

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Reflexivity: identified learning outcomes	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. Only after a problem or solution is identified, a monitoring and evaluation process is designed. For example, indicators are selected to measure the effectiveness of the project(s) after implementation. This is done by experts and involves little participation of other actors. However, implementing nature-based solutions – especially on a large scale in cities – is complex: it touches on multiple goals and interests and requires innovative processes for collaboration, financing and design etc. It cannot be 'blueprint' planned beforehand. In addition, the context might change, new opportunities and barriers may

present themselves. Therefore, the existing evaluation methods are not sufficient because they leave little room for collaborative learning, experimentation and adaptations during the planning, delivery and stewardship phase of the nature-based solution.

Nature-based solutions planning, delivery and stewardship requires ongoing reflection 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, Miller, & Miller, 2017). This learning process is reflexive when participants are self-critical and reflect on the inherent political nature of how they build knowledge, the assumptions they make and the normative premises that guide them (Miller & Wyborn, 2018; Muñoz-Erickson et al., 2017). This requires a process 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). To support this process reflexive monitoring was developed as a method with specific tools developed for practitioners (van Mierlo et al., 2010), but there are other ways to increase the reflexivity of a learning process.

The learning process results in 'reflexive learning outcomes' when knowledge (the what), actions (the how) and relations (the who) become substantively interwoven (Beers, Van Mierlo, & Hoes, 2016) as a result of a shared experience in how to overcome barriers or use opportunities and learning about how to deal with them. Thus, learning outcomes are reflexive, when not only new insights are gained, but when these insights are implemented into the context within which the learning actors operate.

Reflexive learning outcomes can be operationalized in terms of changes in the existing 1) rules guiding actors' practices, 2) relations between actors, and between the initiative and context, 3) practices as the common ways of working and 4) discourse related to the future of the initiative's sector (Beers & van Mierlo, 2017). For application by the cities in the Connecting Nature project we developed a method to track and distill learning outcomes and reflect upon their reflexivity (Lodder, Sillen, Frantzeskaki, Hölscher, & Notermans, 2019).

Definition	This indicator is defined in terms of the number of reflexive learning outcomes identified throughout nature-based solutions process. Reflexive learning outcomes are changes in the existing 1) rules guiding actors' practices, 2) relations

	between actors, and between the initiative and context, 3) practices as the common ways of working and 4) discourse related to the future of the initiative's sector (Beers & van Mierlo, 2017).
Strengths and weaknesses	+ The learning process that results in reflexive learning outcomes is a practice-driven process in which the involved actors steer the direction in which the changes are needed.
	+ Harvesting learning outcomes can work empowering for practitioners as these illustrate the innovative processes in the achievements in terms of barriers that are overcome, or opportunities taken.
	+ Learning outcomes are rich qualitative data sources as they describe not only one experience but also how the experience influenced its context.
	- The learning process and creating space for reflection to formulate learning outcomes can be challenging and complex to manage.
	- The process can be a time intensive process for practitioners, facilitators and experts involved.
	- Formulating reflexive learning outcomes requires practice from practitioners and facilitators.
Measurement procedure and tool	*Quantitative P*: number (counting number of learning outcomes identified)
	T: Involved actors can start to list experiences in terms of how they overcame the barriers and used the opportunities they encountered. Then they can organise time to reflect upon the changes they established in terms of novel rules, relations, practices and discourses. In this way they can be reformulate their experiences as reflexive learning outcomes. This can be done by the practitioners themselves or by (external) experts who facilitate the learning process. The number of learning outcomes can then be counted per month or year.
	Qualitative P:
	T: Practitioners could apply reflexive monitoring tools to structure their learning process and integrate it in their daily activities. By working with tools as a 'Dynamic Learning Agenda' actors map the continuous and ongoing flow of decisions, observations, actions, thoughts, reflections, interactions, adjustments, etc. (Regeer, Hoes, van Amstel-van Saane, Caron-Flinterman, & Bunders, 2009). This agenda can serve as a data source for tracking and formulating reflexive learning outcomes in a structured way. This can be done by the practitioners themselves or by (external) experts who facilitate the learning process.
	T: Case study methodology – semi-structured interviews, case study analysis, participant and non-participant observation – can be used as a data source to formulate reflexive learning outcomes by (external) experts.

	T: Other participatory data collections methods, such as focus groups can also be organised to collectively reflect upon the learning process and to formulate reflexive learning outcomes facilitated by (external) experts if needed.
Scale of measurement	Number of identified reflexive learning outcomes per month or year that can be specified in number of changes in the context based on reflexivity type (rules, and/or relations, and/or practices and/or discourse).
Data source	
Required data	Essential: Group of practitioners with experiences in implementing the large-scale nature-based solution Goals they want to achieve with their nature-based solution Barriers and opportunities they faced and what they did to overcome or take them Desirable: Participatory identification of learning outcomes and the assessment of the type of reflexivity
Data input type	Quantitative (number of learning outcomes) and qualitative if data on the types and implications of learning outcomes are considered
Data collection frequency	Depending on experience of actors involved they can organize time to reflect upon their experiences and formulate learning outcomes themselves ones every 1-3 months to identify and every 6 months to revisit. When other methods are selected, and the analysis is done by experts, every 6 months to once a year is possible too.
Level of expertise required	Methodology and data analysis require high expertise understanding of reflexivity and analytical skills but also knowledge about the context to ensure the changes are reflexive and not optimizing existing structures, cultures and practices. Quantitative data collection (counting number of learning outcomes and innovations) 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 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 learning outcomes and how these affect the context and different types of actors.

Additional information

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18.16. Facilitation skills for co-production

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Facilitation skills for co-production	Participatory Planning and Governance
Description and justification	Workshops and interactive meetings with multiple actors are at the core of co-production processes. A workshop can be generally viewed as a structured meeting that is led by a facilitator and that emphasises participatory involvement (Weyers and Rankin 2007). One of the salient characteristics of such events is that the facilitator plays a pivotal role in their ultimate success or failure. Thus, facilitation skills are a key precondition for co-production (Reed and Abernethy 2018; Djenontin and Meadow 2018; Chatterton et al. 2018). Facilitation is about making meetings participative and more effective: "Facilitation is the art of leading people through processes towards agreed-upon objectives in a manner that encourages participation, ownership and creativity by all those involved" (Cserti 2019). Bens (2009) defines a facilitator as someone "who contributes structure and process to interactions so groups are able to function effectively and make high-quality decisions. A helper and enabler whose goal is to support others as they achieve exceptional performance." A facilitator has a wide range of tasks to perform in co-production processes. Cserti (2019) summarise three key roles of facilitators: A 'catalyst' that makes possible the transformation of input (ideas, opinions) to desired outcome without being an active part of the conversation itself. A 'conductor' of an orchestra who synchronises all participants, optimally guiding the use of their instruments toward the desired result – a harmonic musical expression of the musicians' complex interactions, creativity, and expertise. A 'coach' who helps the group form a constructive way of working together, identify its needs and wishes, and reach the outcome they would jointly like to achieve.