

<p><b>Name of your approach to assess societal impact</b></p>	<p><b>Participation-effect pathways using a systems approach</b></p> <p>Livia Fritz (EPFL Lausanne, Switzerland) et al.</p>
<p><b>Approach description</b></p> <p>Please summarize your approach and its application context/options in a few sentences or bullet points.</p>	<p>We propose a systems approach to map diverse perceptions of participation-effect pathways in TD research projects. The participation process and its dynamics are at the centre of our approach.</p> <p>A systems approach allows to explicitly consider non-linear relations and feedbacks in participation-effect pathways. Differentiating the perceived effects of participation according to the system contexts in which they unfold, we propose a tripartite categorisation of effects in the context of TD research, namely in the ‘arena of actor collaboration’ (e.g. trust built); the ‘arena of involved practitioners’ (e.g. networks formed), and the ‘arena of the wider practice context’ (e.g. raised awareness of sustainability). Different links among effects and feedbacks across the three arenas are conceivable. This shows how recognising feedbacks and multidirectional links allows to grasp the bigger picture of participation-effect pathways that typically go beyond linear relations between participation and single societal effects. The process-related effects that we identified as feeding back into participation processes suggest the need for grounding studies of the societal effects of TD research in a procedural and dynamic understanding of participation, including personal and collective participation histories.</p> <p>We applied this approach in a qualitative meta-analysis of 7 TD research projects in the field of sustainability, but see potential for applying such an approach also during the design and implementation of single projects.</p>
<p><b>Concepts used in the approach</b></p> <p>Please insert definitions for key concepts and components.</p>	<p><b>(Societal) Effect:</b> We rely on a simplified terminology that builds on the understanding of <b>change</b> being ‘any event or variation in the state of affairs’ (<a href="#">Belcher and Palenberg, 2018, p. 480</a>). We consider the notion of ‘<b>societal effects</b>’ to refer both to changes affecting the involved practitioners and structural and processual shifts in the wider societal context of a project. Additionally, we consider ‘<b>effects</b>’ of participation in TD research to designate process-related changes in researcher-practitioner interactions and the overall research process that might or might not lead to societal effects.</p> <p><b>Participation-effect pathways and feedbacks:</b> we identify pathways i.e. sequential dependencies between the perceived effects of participation which allegedly affect the involved practitioners and instigate changes in the wider context as well as feedback effects which impact the participation process itself.</p> <p><b>Arenas:</b> We differentiate effects according to the system boundary – or arena - within which they are expected to unfold. We identify three types of system boundaries: (i) <i>the arena of actor collaboration</i>, where we analyse the effects of participation dynamics on the research and participation process itself; (ii) <i>the arena of involved practitioners</i>, where we examine effects on the practitioners involved in the project; and (iii) <i>the arena of the wider practice context</i>, which relates to changes in the wider context of the project.</p>
<p><b>Key challenges</b></p> <p>Please write down what you are struggling with concerning the application of your approach.</p>	<p>Considering the various interlinkages between perceived/expected effects can lead to complexity that is difficult to handle; the same type of effect can be expected to occur in several arenas, again complicating the mapping of effects according to the arena in which they unfold; in our application of the approach in the context of a meta-analysis of 7 projects we aggregated perceptions of several interviewees into one pathway model which necessarily led to a rather high level of abstraction and a lack of context-specificity. When used</p>

	for project planning, developing individual models as a basis for negotiating desired effect pathways seems advisable.
<p><b>Visualization and narratives</b></p> <p>Please add short information on whether and how you use visualization, narratives or other boundary objects in your approach.</p>	<p>We condensed and aggregated interview statements in the form of “models” representing participation-effect pathways. They illustrate different—albeit entangled—ways in which researchers and practitioners linked participation processes to societal effects. To inform the creation of pathway models, we specifically looked for dependencies in interview statements that indicated perceived relations between effects. The graphical display of our findings was inspired by <a href="#">Belcher et al.’s (2019)</a> generic representation of Theories of Change (ToCs), but adapted for the purpose of this study. This adaptation was guided by the elements of the systems approach used.</p> <p>In our empirical study we used these models as analytical tools; however, we think that developing such pathway models can also be a useful “boundary object” for researchers and practitioners when setting up their projects. The proposed systems approach can make tacit assumptions about interrelations between participation effects transparent, and negotiable. The development of pathway models early on can be a useful tool to elicit researchers’ and practitioners’ perceptions of the pathways to effects.</p>
<p><b>Strengths and weaknesses</b></p> <p>From your own perspective: What would you consider as strengths and weakness of your approach?</p>	<p>Strength:</p> <ul style="list-style-type: none"> <li>- offers <b>effect categories</b> for impact studies more narrowly <b>focused on participation</b> in TD research and contribute to process-oriented perspectives: Explicit focus on the dynamically evolving participation process and its features; Sharpens view for small scale effects closely tied to the interactions and relations of the involved actors as well as for feedback effects (e.g. developing a common language or building trust dynamically shape researcher-practitioner interactions)</li> <li>- <b>Easy to use terminology:</b> Since differentiating outputs-outcomes-impacts can be overwhelming particularly when working with diverse actors not familiar with impact terminology, the reduced ‘effect’ terminology suggested can be useful for eliciting researchers’ and practitioners’ ToCs. It allows to simply ask for changes which are supposed to emerge in different actor and system contexts. In so doing, a tripartite categorisation according to system contexts can serve as a way of disentangling the effects that primarily impact the involved practitioners from those that represent changes in the wider context and of grasping smaller-scale effects on the collaboration process.</li> </ul> <p>Weakness:</p> <ul style="list-style-type: none"> <li>- Does not include factors inside (e.g. formats and degrees of actor interactions) and outside of the participation process (e.g. socio-political factors, power relations) that impede or drive the realisation of effects</li> </ul>
<p><b>Learn more</b></p> <p>If possible, please insert a link to a website, paper etc. where details of your approach and its application can be found.</p>	<p><a href="https://doi.org/10.1016/j.envsci.2019.08.010">https://doi.org/10.1016/j.envsci.2019.08.010</a></p>