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Engaging stakeholders and audiences in inter- and transdisciplinary collaboration

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The quality of stakeholder engagement determines whether inter- and transdisciplinary work translates into credible and usable outcomes.

Introduction

Engaging stakeholders and adapting communication for diverse audiences are central to the effectiveness and impact of inter- and transdisciplinary research, particularly for addressing complex societal challenges such as climate change [1,2]. This Briefing Note builds on literature insights that present what stakeholder engagement in inter- and transdisciplinary research is, what it requires, and what is the role of funding and institutional support. This scholarship urges a move beyond unidirectional stakeholder engagement, where researchers simply "disseminate findings", toward sustained, collaborative dialogue [1,3]. The SSH CENTRE experiments document how effective stakeholder engagement depends on clarity about who is involved and what motivates them, and underscore the importance of reflexivity, Open Science practices, and of transparency about impact.

What did the SSH CENTRE project do?

SSH CENTRE (Social Sciences and Humanities for Climate, Energy aNd Transport Research Excellence) is a Horizon Europe project that focused on generating best practices for incorporating both Social Sciences and Humanities (SSH) and inter- and transdisciplinary research into the European Union's climate, energy, and mobility transition policy. The SSH CENTRE project deliberately created spaces for *epistemic experimentation* – i.e. structured collaborations that bridge different epistemic (knowledge) cultures to co-produce policy-relevant knowledge:

Interdisciplinary Collaborations for EU Policy Recommendations

The SSH CENTRE project facilitated nearly 30 novel collaborations between the SSH and STEM (Science, Technology, Engineering and Mathematics) disciplines, for strengthening European climate, energy, and mobility policy. These resulted in three edited books, whereby each Interdisciplinary Collaboration produced a chapter. For more see SSH CENTRE Interdisciplinary EU Policy Book Collection.

Transdisciplinary Knowledge Brokerage Initiative

The Knowledge Brokerage Initiative for sustainability transitions gathered 30 early- and mid-career SSH researchers working on themes of climate, energy, and mobility. These researchers actively engaged in accelerating the transition process towards a carbon-free society by working with six European cities on sustainability issues and brokering SSH knowledge. The researchers organised workshops and produced a range of reports that provided knowledge to support the cities' transitions. For more see Knowledge Brokerage Reports.

Debating Europe Citizens' Engagement

Debating Europe conducted online focus groups with 160 citizens of 25 nationalities on the four sustainability-focused EU Horizon Europe Missions. Building on these discussions, four policy panels engaged senior policy makers and experts to explore how citizen's perspectives could inform Mission implementation across EU institutions. Insights were synthesised into Citizen-led recommendations for the Horizon Europe Missions on sustainability.

This Briefing Note is one of 10 that present the findings and recommendations from the evaluation of these epistemic experiments. For more, see the Introduction to the Briefing Note collection and the Formative Accompanying Research methodology.

We deliberately include interdisciplinary research alongside transdisciplinary research in this Briefing Note. Typically, transdisciplinary research is understood as going beyond academic boundaries to include societal actors, whereas interdisciplinary research typically concerns collaborations between researchers from distinctive disciplines [4]. However, interdisciplinary projects also increasingly recognize the importance of engaging stakeholders and reaching relevant audiences. Even when collaboration is primarily between academic fields, outputs must be translated for policymakers, practitioners, and other end-users if the research is to achieve societal impact. In this sense, stakeholder and audience engagement is a shared challenge across both interdisciplinary and transdisciplinary collaboration.

Problem description and literature insights

Stakeholder engagement is broadly defined as an iterative process of actively seeking the knowledge, judgment, values, and experience of relevant individuals or organizations to achieve a shared understanding and to make transparent and effective decisions [1,5]. Stakeholders are then understood as individuals, organisations or communities with a vested interest in the process and outcomes of a particular project, research or policy initiative [1].

There are typically four rationales for stakeholder involvement in inter- and transdisciplinary research: improving research quality, increasing the acceptance of research results, ensuring fairness and legitimacy, and fostering mutual learning [6].[1] **Improving the quality of research** involves integrating diverse perspectives and knowledges to co-produce a holistic and socially grounded understanding of problems. Stakeholders can contribute with valuable local knowledge, adding relevance to research projects [7]. **Increasing the acceptance of research results** includes enhancing impact and long-term usage. The experience of having an influence on the research process can create a sense of ownership among participating stakeholders, fostering trust and engagement in the project and its results, including sharing learned insights [6]. **Ensuring fairness and legitimacy** supports the democratic principle that those affected by the research project should have the right to express their views on its conduct and results. Further, meaningful engagement of stakeholders creates more credibility and dissemination opportunities [8]. Finally, **fostering mutual learning** often influences politically contentious power dynamics and indirectly supports changes in social systems [6].

Stakeholders can take numerous roles and be involved at all stages of the research and project process, from problem formulation and priority-setting to contributions during the work. Those contributions may include providing feedback on assumptions and methods, co-collecting or validating findings, and involvement in the dissemination and translation of outputs. A fair engagement of stakeholders requires **adapting public outputs to be relevant to all stakeholders involved**. Both the language used and the results should be as simple and widely understandable as possible [9]. It is reported that stakeholders appreciate when findings are shared freely and in a version that suits their ability to understand [10]. The understandability criteria, however, extend beyond the outputs and indicate that all communication with stakeholders should be carried out with them in mind.

While having many benefits, stakeholder engagement also introduces some challenges. As the literature emphasizes, **engagement is essentially a relationship-building process**. Briefing Note 8 (BN8), which focuses on spaces for communication in inter- and transdisciplinary research, highlights that this requires developing trust and mutual respect – which in turn requires sufficient time and dedicated space within the research project (see BN2), as well as effective support through skilful leadership (BN7). It also relates to overcoming communication barriers, for example, due to specialized terminology of researchers; as elaborated in BN6, inter- and transdisciplinary projects must devote effort to the creation of shared vocabularies and common understandings. A real dialogue takes place only when communication also involves active listening.

Funding agencies and academic institutions play a crucial role as drivers of inter- and transdisciplinary research, because **achieving effective stakeholder engagement requires explicit support, resources, and institutional flexibility** [11]. Dedicated time, skills training, and financial support should be foreseen in call design and project budgets, rather than improvised during the project [1]. At present, academic reward systems often undervalue engagement activities, creating a structural disincentive. Addressing this mismatch is essential for meaningful stakeholder engagement [9]. Importantly, this is not a recognition of any engagement of stakeholders without a nuance – historical analyses show that across disciplines, engagement frameworks have evolved in diverse ways. Recognising this diversity can help funders and institutions to provide more flexible support structures rather than imposing a one-size-fits-all model [2].

Manifestation in the SSH CENTRE

Within the SSH CENTRE project, stakeholders were engaged in three experiments: in the Interdisciplinary EU Policy Collaboration, in the Knowledge Brokerage Initiative, and in the Debating Europe Citizens' Engagement. One of the most significant findings was the importance of having a good understanding of who the stakeholders and audiences are. Such understanding allows for easier choices regarding communication and relationship-building with stakeholders.

In the Knowledge Brokerage Initiative, it was important to understand stakeholders' motivations. Such understanding supported in setting up the format of collaboration. It required balanced communication where researchers had to assess both the extent to which they should encourage interactions with busy city partners, and the degree of independence to give them in defining research objectives.

> *We had a specific relation with the city, I would say, which (…) in the end (…) turned out quite OK. After the workshop, they were quite nice to us, but we didn't have that much opportunity to actually talk (…) and I don't think they really knew why they want to be part of this. And we (…) were expecting maybe them to know what they need help*

1 Schmidt et al. name them as *normative, substantive, social learning*, and *implementation objectives* respectively [6].

> *with.* (FECR4, Transdisciplinary Knowledge Brokerage Initiative)

This citation highlights a common challenge in transdisciplinary work: partners may lack a clear sense of their own research needs, requiring researchers to invest extra effort in clarifying expectations. In cases where municipalities were not clear regarding the aim of the collaboration, research teams had to deal with this sort of uncertainty and use their knowledge brokerage skills to make the research meaningful for both parties.

> *I think a big part of [the knowledge brokerage] was coming back to [help] municipalities (…) to work out what questions they would like to ask. And that seemed to be a really big part of it. And then, once you have a question down that you can nail down and focus on, that makes things a lot easier. I think it's sometimes tricky to know what you're brokering for the person or whether it really does align with what they would like. (…) So I think one thing I learned is that it's a continually reflexive process of a lot of discussion back and forth.* (MECR2, Transdisciplinary Knowledge Brokerage Initiative)

The excerpt illustrates that effective brokerage is not a one-off negotiation but a reflexive, ongoing process of alignment, demanding flexibility, and patience from both sides.

Understanding who are the stakeholders that researchers are engaging with also means understanding who is missing. In the Debating Europe focus groups, several participants described a bubble effect: debates tended to draw pro-EU, environmentally minded, and highly educated participants, making it hard to connect across oppositional opinions. As one participant put it:

> *Well, I think the problem is mainly that there are bubbles, like these pro-European bubbles and the anti-European (…). And it's really hard to connect across or between these sorts of publics, they're sort of separated. For example, if I have someone who's reading these right-wing papers (…), then I don't think that this person will go and read the reports that Debating Europe publishes or take them into account when forming [their] own position.* (Citizen9, Debating Europe Citizens' Engagement)

Importantly, limited reach did not equate to poor participant experience. Those who took part consistently described high process quality – the process of participation was appraised positively, having a pleasant atmosphere, competent and relatively diverse debaters, and experienced moderators. Where participants' views diverged was on the perceived impact of participation – some citizens felt that their contributions could influence policy, while others doubted that the discussions would reach decisionmakers. Overall, the citizens participating were interested to know if the outputs are delivered anywhere that matters and wanted to understand the potential impact of their contribution.

> *Yes, it is useful, definitely. Is it useful enough? I'm not sure, I don't know. I cannot evaluate the impact that we have. Usually, from other discussions with Friends of Europe [the think-tank that Debating Europe is part of], what happens is a very nice-looking report generated in the end, quoting participants and so on, which is something I completely support, it's very nice. The problem is (…) I don't know what happens. We're definitely making some noise, but I don't know if it's enough.* (Citizen7, Debating Europe Citizens' Engagement)

Openness regarding outputs and transparency throughout the research collaboration was also an important topic for researchers. Researchers within interdisciplinary SSH-STEM teams emphasised the principles of Open Science, which are an essential part of the overall design of the SSH CENTRE project.

> *I see it as a way to make science more available to the general public, way to make it more democratic so that it can reach anyone, you know, from any social or economic position (…). And also that can bring people that initially can think that "oh you know, I can never be a scientist" (…) or "no one works in science around me".* (FEXP3, Interdisciplinary Collaborations)

Publishing the data used by researchers (e.g. on the Zenodo platform), organising public discussions, publishing in open-access journals, and using participatory techniques such as citizen science (see SSH CENTRE info sheet) are all ways of fulfilling the aforementioned four rationales for stakeholder involvement in inter- and transdisciplinary research.

Recommendations at individual, project, and systemic levels

Drawing on both literature and SSH CENTRE experiences, the following recommendations suggest how engagement of stakeholders and audiences can be strengthened in practice.

Recommendations at the individual/researcher level

- Maintain and demonstrate trust throughout the collaboration by being transparent, keeping promises, and engaging in two-way communication; consider remaining present even after formal projects end (staying in touch via calls, emails, occasional visits) to maintain trust at a distance [1,12,13].
- Employ cultural sensitivity: incorporate anthropological insights, such as culturally sensitive storytelling, visual representation, and narrative analysis, to effectively communicate complex research findings to diverse audiences, including policymakers and the public [14].
- Develop "interactional expertise" – the capacity to understand and translate the language, priorities, and practices of other disciplines and stakeholder groups – to collaborate effectively across knowledge systems [13].

Recommendations at the project level

- Jointly negotiate, clarify, and communicate the underlying objectives of stakeholder involvement, which may include the goals of improving research quality, increasing the acceptance of research results, ensuring fairness and legitimacy, and fostering mutual learning [6].
- Dedicate adequate resources (time, money, personnel) to support meaningful stakeholder participation from

the project's inception to completion; explicitly recognize that negotiating and co-producing knowledge takes more time to achieve genuine integration [8,15].

- Ensure that citizens' perspectives and local knowledge are meaningfully integrated into initiatives, valuing informal and community-based insights alongside academic expertise and using SSH competences for that.
- Organize stakeholder workshops not only during the project design and implementation phases but also at the stage of disseminating results, to ensure outputs are meaningful, understood, and actionable for diverse audiences [8].
- When working with policy makers, involve them early and actively in the project to ensure co-ownership of goals and outcomes, fostering stronger alignment between research and policy needs.
- Provide training for researchers on how to present their methods and tailor communication to different audiences, ensuring clarity and accessibility. Similarly, offer joint training for researchers and policy professionals to establish a shared understanding of terminology, issues, and challenges, thereby building a common ground for collaboration (see also BN6).

Recommendations at the systemic/broader academia and funding level

- Explicitly legitimize and reward stakeholder engagement from the beginning of funding investments to avoid relegating SSH to a mere communication or impact add-on at the end of technical projects [11].
- Tailor evaluation processes for inter-/transdisciplinary research: broaden evaluation criteria to include metrics that explicitly recognise high-quality stakeholder engagement, assessing not only academic outputs but also the salience, inclusivity, and credibility of research processes.
- Provide inter- and transdisciplinary education and capacity-building to equip researchers with essential skills and conceptual clarity regarding stakeholder and audiences' engagement [10,11].
- Ensure that funding agencies and institutional structures include good internal collaborative practices, especially when multiple entities are involved in funding or management, through good communication and shared vision [11].

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