Setting up a transdisciplinary framework: Brief step-by-step guide [1]

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Purpose. The purpose of this Brief is to inform good practice for the development and activities that seek to include actors from across society, science and policy to inform research and dissemination activities. The guidance is at a high level in order to avoid 'micro-management' of an activity, thereby leaving space for account to be taken of the particularities and local context of activities, and the types of participants. The guidance for the transdisciplinary Multi-Actor Approach contributes to comparability and robustness of implementation across engagement activities, with an underpinning set of common aims which include: i) the identification and interpretation of societal expectations using participatory processes with a range of actors (including end users); ii) the integration of knowledges across actors in the process of solution development for transitions to agro-ecological farming systems and in sustainability assessments; iii) guiding the efficient planning and implementation of engagement in line with the ethical and regulatory requirements (e.g. General Data Protection Regulation, GDPR); and iv) recognising time and labour requirements of engagements in Multi-Actor Platforms.

> **What is a transdisciplinary Multi-Actor Approach?**
> A Multi-Actor Approach should facilitate "demand-driven innovation through the genuine and sufficient involvement of various actors … all along the project: from the participation in the planning of work and experiments, their execution up until the dissemination of results and a possible demonstration phase (European Commission, 2016)." Through the cross-fertilization of ideas between actors from across sectors and practices, innovative solutions can be co-created with co-ownership of results (European Commission, 2017), and "foster the effective uptake, use, dissemination and deployment of research and innovation results" (European Commission, 2021). Expanding the Multi-Actor approach to a wider mechanism bringing together complementary perspectives of actors in practice, policy, science, innovation and society in transdisciplinary Multi-Actor Platforms provides forums to co-construct strategies for agro-ecological transitions, and their implementation.

Project background. The UNISECO project sought to promote the co-learning and the co-construction of new knowledge across academic disciplines, and with non-scientists associated in some way with agro-ecological transitions of farming systems. The UNISECO transdisciplinary framework comprises two levels of Multi-Actor Platforms (MAPs): i) EU level Multi-Actor Platform, a single European-level 'pool' of individuals, drawn from across organisations with European or international remits, and individuals with relevant expertise and availability; ii) 15 Case Study-level Multi-Actor Platforms, each one associated with a UNISECO case study.

For the Case Study MAPs, the pool of individuals is drawn from those of most relevance for the case study area, thus their frame of reference may be national, regional or farm-level. This structure reflects the levels at which the UNISECO project has been working and aimed for the creation of impact. The insight from the co-learning fed into the development of strategies and incentives for transitions to agro-ecological farming systems in the case studies and informed the assessment of environmental, economic and social impacts of agro-ecological practices at farm and territorial levels.

Step-by-step guide to applying the methodology

1. Defining the remit and roles of the transdisciplinary Multi-Actor Approach

The remit for a Multi-Actor Approach (MAA) as envisaged by the EU is to provide more than what a stakeholder advisory board might deliver (e.g. facilitating impact), and to be more than a targeted dissemination mechanism (European Commission, 2017).

It is recommended to incorporate multi-actor engagement into all stages of the project, starting with the proposal development process (e.g. initial identification of actors and discussion with actors to define research questions and to identify practical implications). Different actors have different perspectives or 'stakes' in the issues that will be investigated through the project. The contribution of a variety of perspectives will strengthen the applicability and impact of findings. Thus, core to the remit of the Multi-Actor Approach is to 'bring these voices to the table' and not 'stay neutral' as might be expected in other situations (e.g. EU-level organisations associated with the support of research project proposals). Examples of roles of Multi-Actor Platforms within a project include:

- The contribution of different sources of information, knowledge and insight;
- The identification and refinement of specific direction and content for methods and tools;
- Discussion of, and feedback on, intermediate and end-of-project research findings;
- Probing the validity of research outputs;
- The co-construction and evaluation of the robustness of tools, results and recommendations; and,
- Reflective review of the MAP approach incorporated into the project.

2. Defining criteria for the identification and selection of actors

The identification and selection of individuals and/or organisations for the Multi-Actor Platforms needs to be based on a set of key criteria. Based on the experience in UNISECO we recommend the criteria explained in Table 1. Awareness of the possible participation of actor's in other similar projects will be considered, and where possible, synergies created with other stakeholders.

Table 1. Criteria for selecting actors to be applied for selection of EU-level and case study level MAP membership as appropriate.

Interest	Actors should demonstrate an interest in the topic. A knowledge of agro-ecology at the outset of the project is not required, but there should be an interest in learning more about the topic.
Availability /Commitment	Actors will be asked if they can make a commitment to being part of a MAP for the duration of the project lifecycle. It is valuable for the groups of people who make up each MAP to remain consistent over the course of the project so that the members get to know each other, build trust, and are more comfortable participating together in an open way. Too much change in the make-up of the groups over time may hinder the ability of the group to work together in an effective way.
Relevance	The relevance of each actor will be considered with respect to their relationship with the types of groups identified for the EU-level MAP (e.g. EU-wide environmental NGOs and sector organisations, EC), and the Case Study MAPs (e.g. companies along the supply chain, farming advisory services and local / regional administration). The balance of membership of the MAP as a whole will be considered to ensure that it represents the range of groups, views, approaches, etc; no one individual group

	should make up a disproportionate proportion of a MAP which might render its purpose ineffective.
Appropriateness	Each actor should be well-suited to participation in a MAP, having no declared implacable opposition to a particular stance, open to considering credible scenarios of alternative futures, farming and land management options.
Representativeness	This criterion describes the extent to which an individual or body can be considered as representative of a particular group. This may be evaluated based on their participation in existing networks, or if they are part of a membership organisation. Invitations to actors will specify if they are representing an organisation or as individuals.
Willingness	Actors will be selected for their willingness to share their own knowledge, and to listen to others. For the MAPs to work effectively, actors need to be willing to share their own opinions, to listen to others and take the concerns or points of view of other actors into consideration.
Gender	Efforts will be made to ensure that no single gender dominates a MAP.
Age	Efforts will be made to ensure that the actors in the MAPs represent a broad range of ages.
Geographical spread	Efforts will be made to ensure that the members of the EU-level MAP are drawn from across Europe, enabling perspectives to be brought from different regions e.g. Eastern Europe, Central Europe, the Mediterranean, and North-West Europe. Efforts should be made to ensure that the membership of the case study MAPs represent locally significant geographical variations.

Source: Budniok *et al*. (2018)

3. Selection of members for Multi-Actor Platforms

To apply the selection criteria defined in Step 2, project partner teams will assess the proposed candidates for the MAPs (see Budniok *et al*., 2018, for examples of such assessments). The operation of the MAPs should be reviewed regularly (e.g. at six-monthly project meetings) to consider the fit of the members against the selection criteria. If it becomes apparent that a difficulty has arisen then a member could be asked to stand down from a MAP, and an alternative member sought, although not necessarily from the same organisation. Similarly, if a member requests to withdraw from a MAP, as above, an alternative member will be sought. The aim of the reviews will be to retain the balance of the MAP across the criteria set out above.

Identification of candidate members of the EU-level MAP:

1. Creation of a preliminary list of potential members of the EU-level MAP using the Selection Criteria for MAP Involvement.
2. Provision of an Information Sheet about the project, incorporating completed assessments against the criteria, explaining why individuals have been identified as candidate members of the EU-level MAP. This is followed by the development of a list of potential members. The compiled list of 'Candidates for the EU-level MAP', based upon the information provided by all partners, will then be refined by the Executive board of the project and a short list produced.
3. **Invitation to Participate in the EU-level MAP:** Candidate members will be provided with an Information Sheet about the project and note of the roles of members of the EU-level MAP. The official letter of invitation will be sent by the Project Coordinator.

The identification of candidate members for each Case Study MAP:

1. Creation of a preliminary list of potential members for the Case Study MAP, taking into consideration the recommendations of the Champion Stakeholder. In line with the Communication, Dissemination and Impact Strategy and Plan of the project, each partner leading a case study will characterise individuals as 'Candidate for Case Study MAP' using the criteria defined in the previous step, and provide a short note of the assessment explaining why individuals have been identified as candidate members of the Case Study MAP.

2. Development of a short list: The final decision on membership of the Case Study MAPs is taken by the partner leading a case study in consultation with the leaders of the Multi-Actor Approach in the project, and with representatives of the Work Packages where the case studies will be used.

3. Invitation to Participate in a Case Study MAP: Initial contact with candidate members of the Case Study MAP will be made by the partner leading the local case study and/or the Champion Stakeholder. Candidate members will be provided with an information sheet of the project and the roles of the members of the Case Study MAPs. The official letter of invitation will be sent by the case study partner.

4. Designing activities with the Multi-Actor Platforms

A core set of issues should be formulated for used when designing and planning the implementation of project activities that require the involvement of actors, in a meaningful way, to enable knowledge co-construction. This set of issues can be used as a 'protocol' for thinking through the design of an activity. Figure 1 illustrates a set of decision points associated with each issue, including the types of sub-issues that might be considered for each.

Purpose of involvement: It is important to understand the type of involvement being incorporated into a particular activity. It is possible that an activity will include several type(s) of involvement, e.g. collecting information (i.e. data collection) and co-constructing solutions (i.e. partnering). The type(s) of involvement desired for any given activity can be selected by examining the aim of the activity, such as seeking stakeholder knowledge about drivers and barriers for the transition to agro-ecological farming systems. The mechanism for engagement should then be chosen that matches the purpose of the project activity.

Importantly, there should be clear consideration of how actors will benefit from each activity. Such benefits will be reflected in the outputs and outcomes identified for all activities for both the project itself and the actors. So, it is recommended to: i) set clear goals for the activity; ii) identify benefits for involvement; and, iii) communicate goals to participants and highlight their benefits from the engagement.

Who to include in a specific activity of the Multi-Actor Platform: The following set of guiding questions can be used to inform consideration of who to invite to participate from the Multi-Actor Platforms and the identification of additional participants to be invited:

- What are the objectives of the activity?, and 'what are the intended outputs and outcomes of the activity'?
- Who has the relevant knowledge, experience, and insight to contribute? Note that the individual or organisation identified as 'who' might change over time.
- Who could provide the richest insight and information relevant to acieving the objectioves of the activity?
- Who is particularly well connected and could play a crucial role when it comes to networking and mediating (e.g. between actors with different stances)?
- What are the benefits of involvement for the MAP member or other individual?
- How can the involvement benefit actors (e.g. farms) and what incentive can be provided to them? Who is available to contribute?
- What are the ethical requirements to be met and best practice to be followed?

Format for involvement: Decisions need to be made about whether engagement will be face-to-face (in situ) or remote. For example, interviews can be done in person (e.g. at a farmer's home) or remotely (e.g. using online tools). Often, decisions will be driven by the purpose of the activity, the proposed method (e.g. focus group), and the time constraints of both potential participants and the 'lead time' for the partner(s) to implement the activity. The COVID-19 pandemic has increased the accpetance of, and expertise with, remote forms of engagements. Advantages of remote engagements are higher likelihood of availability to participate (e.g. saving travel time). If an intended purpose of an activity is to develop a shared understanding across different sectors of policy mechanisms to support agro-ecological farming systems, then face-to-face group-based contact (in situ or online) may be more appropriate than individual interviews or via mechanism such as an online survey.

Spatial and temporal context of activity: Issues for consideration in terms of where, when or how an activity might take place, as well as a non-exhaustive list of 'infrastructure' related topics for its implementation. Alongside these decisions, factor in the time and budget that might be necessary to arrange an activity; for example, for an *in situ* activity how far in advance does a venue need to be booked? What extra cost might be incurred to obtain necessary 'infrastructure' or to cover the cost of attendance? For an online activity, what platform has the appropriate functionality? What licences require to be purchased? Are there any cyber-security issues to be addressed to enable secure access by all paerticipants?

Information considerations: The flow and content of information can play a critical role in facilitating meaningful engagement with actors and the possibility for co-construction of new knowledge. As a general principle, information should be thought of in terms of the project, the activity, and the participants. It will be important that partners have a generally good knowledge of different steps and interactions/integration of results between the Work Packages within the project. Crucially, do not underestimate the amount of time it takes to prepare and distribute materials that can facilitate effective engagement.

Intended outputs and outcome: The activities are intended to have outputs and outcomes that are relevant to and benefit the project itself and participants. Outputs are considered short term, generally the 'things' created immediately after the end of the activity. Outcomes are a mid-term result, generally the 'things' (e.g. change or achievement) that occurred as a result of the activity which could be several months or longer after the activity took place. The outputs and outcomes might be process-related (e.g. willingness to participate in subsequent activities) or tangible (e.g. a co-constructed strategy). These will be valuable for the monitoring and evaluation of the engagement, and for the development of clear goals of, and expectations from, the activity as well as for individuals who take part in the activity. Allow sufficient time and resource to develop clear outputs and outcomes, and to incorporate monitoring and evaluation into the activities.
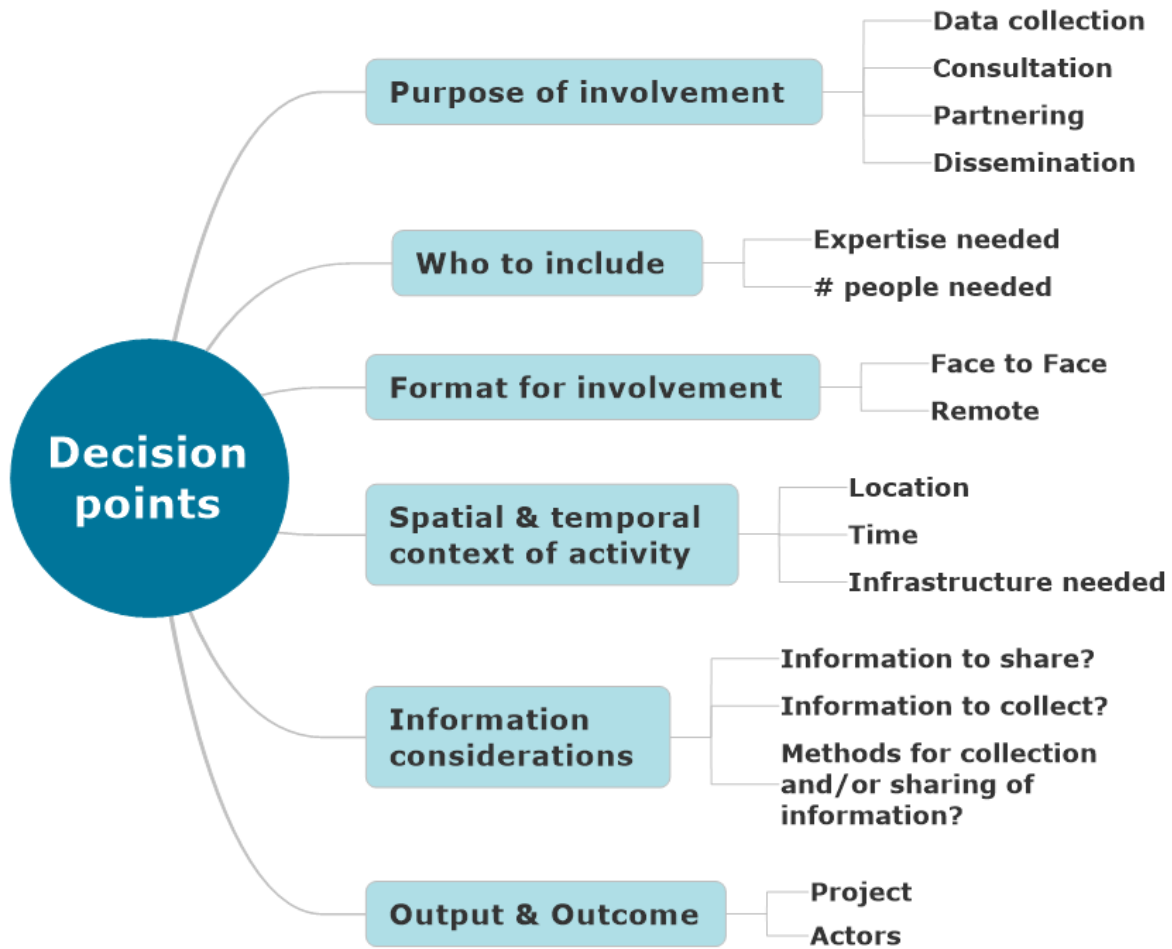
Figure 1. Decision points for stakeholder involvement in UNISECO project activities (Source: Irvine et al., 2019).

5. Facilitating Full Participation and Contribution to Co-construction

Table 2 contains a set of principles to inform the implementation of activities that involve actors from EU-level and Case Study MAPs and, more broadly, the transdisciplinary process as a whole. The principles will inform the operation and management of the MAP, providing a reference to which to refer if problems arise.

Table 2. Principles for engagement across disciplinary and sector boundaries within the UNISECO project, particularly in their application with the Multi-Actor Platforms

Respect	Multi-Actor Platforms have the explicit aim of bringing together what could be considered as divergent or disparate voices in order to share knowledge in all its forms. Respect one another and treat each other with decency regardless of differences of opinion.
Sharing	Actors are invited to join Multi-Actor Platforms because they have been recognised as having a relevant contribution to make. Encourage opinions to be shared and let everyone know their contribution is valued.

Listening	Respect that each person has a contribution to make to the topic of the activity, and listen to the opinions of each another. A facilitator will intervene in situations where people are speaking over one another.
Attention	Being part of a Multi-Actor Platform is a participatory process. When the MAP meets, give full attention to the topic being addressed. In so far as possible, be "in the moment" and limit distractions from mobile phones, emails, etc.
Teamwork	Some participatory methods which will be used in facilitating the group will require teamwork. Participate in activities in a meaningful and 'whole-hearted' way.

Source: Irvine *et al*. (2019)

See Miller *et al*. (2021) for further reflections on the experience of working with Multi-Actor Platforms in a transdisciplinary project focused on agro-ecological transitions, and recommendations for its design and operation.

Additional information:

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