Sciences & technologies Update

TRANSFORMATIVE PARTICIPATION FOR SOCIO-ECOLOGICAL SUSTAINABILITY

Around the CoOPLAGE pathways

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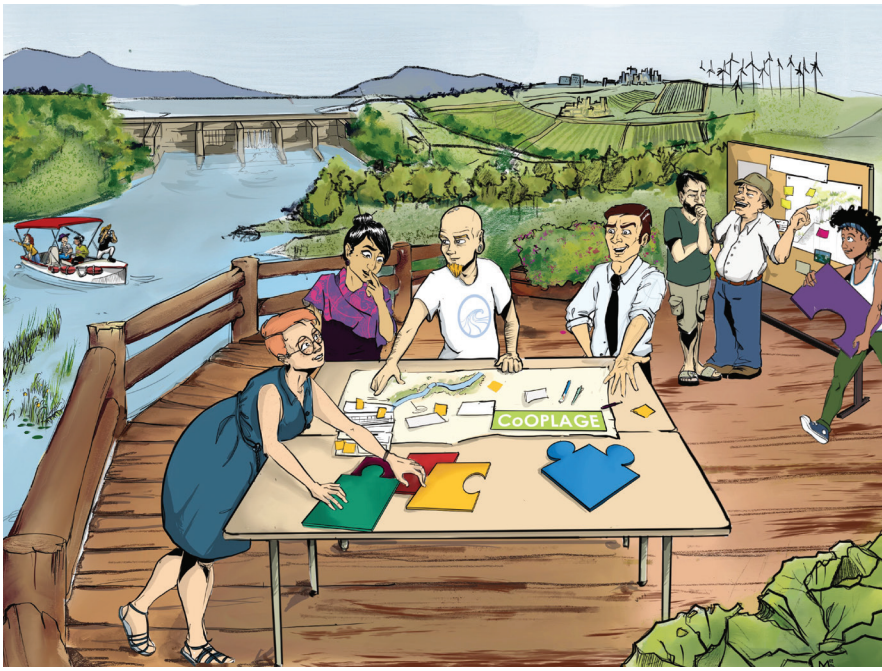

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Chapter 9

Engineering participation: Preparing and designing a participatory process

Nils Ferrand, Emeline Hassenforder and Sabine Girard

In concrete terms, participation engineering involves thinking about the objectives, design, choice of methods, implementation, and monitoring and evaluation of a participatory process. Based on their experience and on a methodological tool they have developed, the authors identify four key ideas to keep in mind and six structuring questions to ask to support project leaders in preparing their participatory process.

In general, the first question that people ask themselves when they want to start a participatory process is: Where to begin? Many of the project leaders who we have supported wanted to set up a participatory process, either because they had followed a training course on a particular participatory method which they had enjoyed (forum theatre, role-play or other); or because they had had a successful "test experience" (a meeting with citizens, an online forum or other), which made them want to go further. Whether or not this is the case for you, we believe the first thing that is important to remember when embarking on a participatory process is to:

⏩ Idea 1 – Think in terms of a process rather than a sequence of events

In both of the above cases, the leaders' attention is focused on a method (forum theatre, role-play) or on a specific participatory event (meeting, forum). These two elements are of course important, but there are other important questions to ask before proceeding.

Question 1: Why do you want to set up a participatory process? In other words, what is the objective of the participatory process?

Participatory methods and events are an actual means to an end. What is that end? Why do you want to involve different actors? The underlying question here is also: what do you want them to participate in?

In general, this chapter addresses decision-making. The decision may be simple (e.g. deciding whether to maintain or remove a retainer) or more complex and involve a range of actions and stakeholders (e.g. deciding how to control flooding in a territory).

Both the nature of the decision and the constraints linked to it (timetable, deadlines, budget, etc.) condition the participation methods that can be chosen. Whatever the decision, the main thing is to leave some room for manoeuvre for participation (see chapter 2).

⏩ Idea 2 – Leave room for participation in decision-making

Because if everything is already decided, what is the point of bringing people in to participate? At best you will create frustration, at worst a feeling of manipulation. We often hear statements from participants such as: "In the end, they only expected us to validate the principle", "Our opinion was not taken into account". The consequence? Distrust, even hostility towards the initiator of the process, rejection of the decision taken, and above all, the desire to never come back to participate, in other words virtually the exact opposite of what was intended. It is however possible to propose different levels of involvement in the decision (figure 9.1), depending on your objectives, your means as well as your constraints. What is important is that there is room for manoeuvre and that it is explained to all participants from the start of the participatory process (see chapter 4).

Once the objective of the process has been determined, it is time to look into the mechanics of participation, i.e. to "get your hands dirty". We deliberately use this technical metaphor, since the term generally used to describe this entire thought process is participation "engineering" (see box 9.1).

Figure 9.1. Participation scale (adapted from Arnstein, 1969; Lisode, 2017)

Based on a previously defined objective, the next step is to design a participation plan to achieve this objective (figure 9.2). Through a series of questions, the PrePar methodological approach, which stands for "preparing for participation", helps you construct such a plan. This approach was formalised by researchers from the G-EAU joint research unit "Water Matters" in Montpellier. It is part of the CoOPLAGE[1] approach presented in chapter 2.

1. Coupler des Outils Ouverts et Participatifs pour Laisser les Acteurs s'adapter pour la Gestion de l'Environnement = Coupling Open and Participatory Tools to Let Actors Adapt for Environmental Management.

Box 9.1. Participation engineering: definition and origins

Participation engineering can be defined as "a type of meta-level engineering and organisational decision-making that defines the rules and processes of collective choice in water management policy and planning" (Daniell *et al.*, 2010). In concrete terms, this engineering takes the form of a thought process to define the objectives, design, choice of methods, implementation, and monitoring and evaluation of a participatory process.

The "participatory engineering of participation", also called co-engineering of participation, differs from the engineering of participation in that this reflection is carried out by a mixed group of actors, including future participants. The group may include the process initiator, the facilitator, elected officials, specialists and any other participant targeted by the participatory process.

The term "participation engineering" comes from a view of engineering that applies not only to mechanical processes, but also to cognitive and decision-making processes (IEA, 2000; March, 1978). It also takes into account collective action and the social processes associated with practical engineering (Bucciarelli, 1994).

Question 2: Who should be involved?

A distinction should be made between those concerned (i.e. all the actors potentially affected by the decision or who can influence it) and those who may actually participate in the participatory process. First, draw up the most exhaustive list possible of all the stakeholders potentially affected by the decision in question: Who could be affected? Who could influence the decision? Who could be interested in the decision? Who could oppose it? Who could defend it? Then, decide which of these actors should become "participants" by choosing at which stage(s) each actor or category of actor should participate and in which capacity (see question 5).

⏩ Idea 3 – Consider all the stakeholders involved in water management (users, managers, etc.) and in participation (facilitator, lead, warrant, etc.)

There are various ways of developing a stakeholder map based on the interests of the different stakeholders, their power, their role in the decision, etc. (Hassenforder *et al.*, 2020, p 29-31). A fairly simple and pragmatic way of doing this is to consider broad categories of stakeholders and to list under each category the individuals and organisations implicated in the region. Figure 9.3 gives broad categories of actors often linked to socio-ecological sustainability which can be used as a guide. To ensure that no one is forgotten, the "snowball" technique used in social sciences can be quite effective. It involves asking the above questions (Who may be affected? Who may influence the decision? etc.) in regard to the stakeholders already listed to see if anyone has been forgotten.

In addition to the stakeholders involved in the decision, the list should not forget the actors whose role is dedicated to participation, such as those presented in table 9.1 and figure 9.4.

Catchment area/territory:
Management objective(s) for the river: (e.g. restore the ecological continuity of the watercourse)
Participation objective(s): (e.g. choose from various management options and organise user dialogue)

Steps of the decision process ➔	Engineering participation					
Actions of participation ➔ / Stakeholders (participants) ↓	Constitute a pilot group	List the different stakeholders involved	1st meeting with stakeholders	Establish a participation planning	Communicate on the participative process	Organise an information meetings
Lead						
Facilitator						
Steering group						
Political backer						
Observers and evaluators						
Warrants						
Experts, consultants, trainers, researchers						
Technical consultancy						
Water agency						
Local land management offices						
Regional environment, land management and housing department						
National agency for biodiversity						
Local council						
Elected officials						
Water supply network						
Fishing federation						
Environmental organisation						
Chamber of agriculture						
Chamber of commerce and industry						
Farmers						
Local residents associations						
Residents						
Companies						

Figure 9.2. Example of a participation plan made using the PrePar approach (information filled in only for step 1 "Engineering participation")

Colours correspond to the stakeholder's role in each of the participatory actions: green, organiser; black, active participant (provides opinions, decides); grey, passive participant (is present, listens, is informed); white, does not participate, is absent.

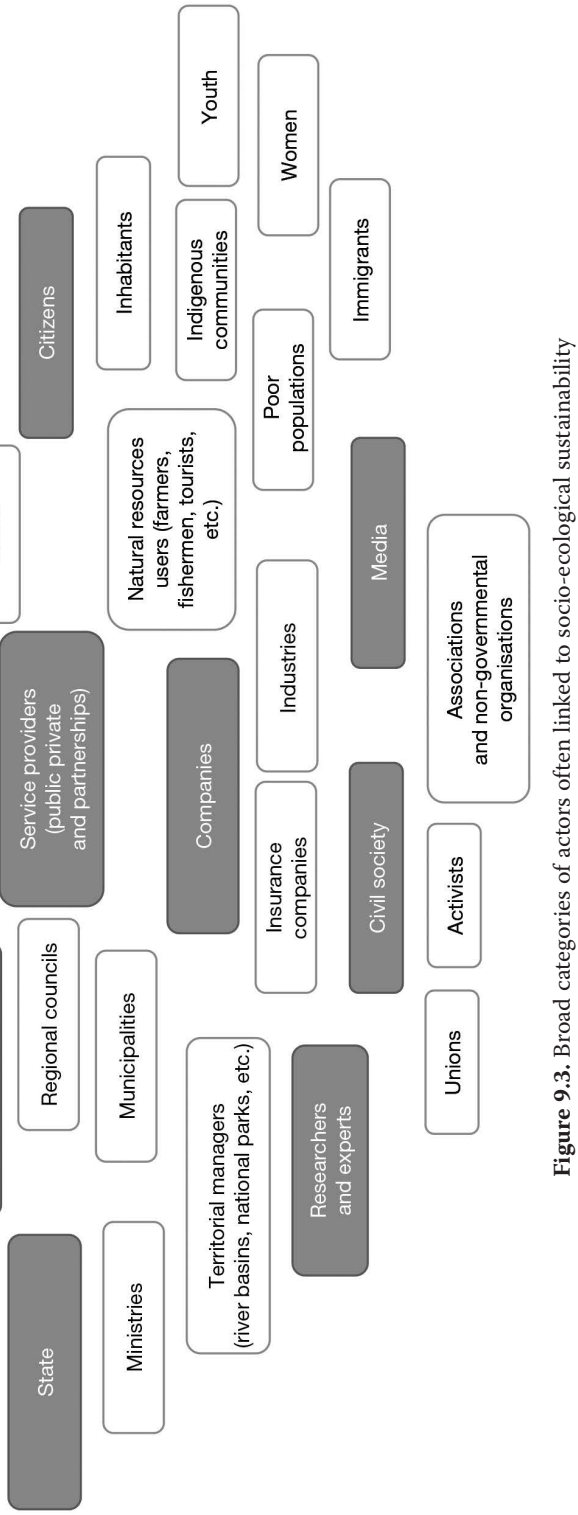

Figure 9.3. Broad categories of actors often linked to socio-ecological sustainability

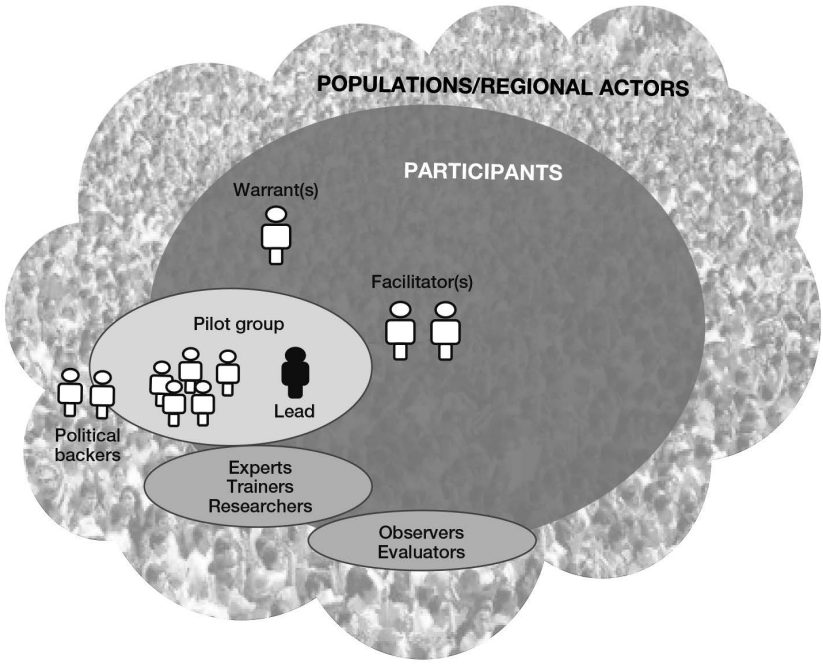

Figure 9.4. Actors dedicated to participation (definitions of the various roles are indicated in Table 9.1)

Table 9.1. Actors dedicated to participation: roles and definitions (Source: Ferrand *et al.*, 2017)

Actors dedicated to participation	Roles and definitions
Lead	Is the initiator of the participatory process. She/he ensures the operational and administrative management of the participatory process with the facilitator (organisation of events, mobilisation of participants, link between the different actors, etc.).
Facilitator	Is responsible for organising, leading and facilitating all local actions with the different stakeholders.
Pilot Group (optional)	Supports the lead in making strategic choices regarding the participatory process. Should help the lead understand and cover the different issues, connect with the relevant networks, and mobilise the participants. It does not decide on the participatory process, but advises and supports it.
Political backers	Support the lead with the political backing of the participatory process. Help institutionalise the participatory process and defend it with regard to elected officials and management bodies, and ensure that participation is given room for manoeuvre in decision-making.
Observers and evaluators	Contribute to the monitoring and evaluation of the participatory process and its effects by reflecting on the framework, collecting and/or analysing data, sharing results. They generally attend the various participatory events to draw up the attendance list, take notes on the discussions and contributions, distribute questionnaires if any, and write up a summary.

Actors dedicated to participation	Roles and definitions
Warrants	Ensure compliance with the rules and good conditions for participation (CNDP, 2023). See chapter 4.
Experts, consultants, trainers, researchers	Accompany the lead and the facilitator in the design, implementation and/or monitoring and evaluation of the participatory process. This support can take the form of training, advice, meetings or informal discussions.

Question 3: What are the steps?

The decision-making process, i.e. the different stages leading to a decision, can be broken down into different steps (figure 9.5). Several of these steps are fairly generic and are common to all decision-making processes: a diagnostic, also sometimes called an inventory, is often carried out whether it concerns the development of a Water Development and Management Plan (SAGE[2]), a Flood Prevention Action Programme (PAPI[3]), or a development project (e.g. construction of banks to combat erosion). A description of these different steps is available in the step's sheets presented in Irstea and AERMC (2016).

Depending on the decision-making process being considered, not all of these steps may be relevant. For example, the stage for scenario exploration or foresight may be relevant in the case of a Quantitative Water Resource Management Plan (PGRE[4]) to discuss different scenarios related to climate change or population growth and their impact on water availability and allocation of the resource between different uses. But this step may not, for instance, be relevant for a hydro-morphological restoration project.

These steps do not necessarily take place in the order shown in figure 9.5. Monitoring and evaluation, for example, takes place throughout the process and not just at the end (see chapter 10). A choice/priority/vote can be proposed to the participants in order to choose between different possible scenarios, and not necessarily after the identification of actions and plans. These steps are given as an indication to help you build a participation plan adapted to your situation. It is up to you to make them yours, to name and organise the steps so that they correspond to your project.

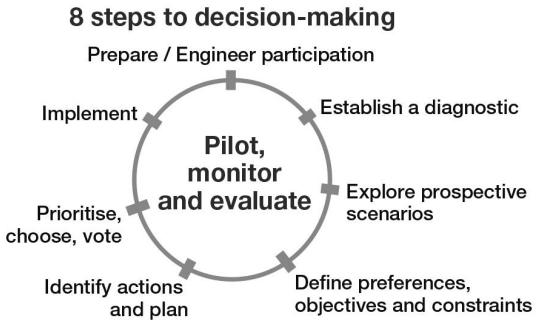

Figure 9.5. Generic steps in the decision-making process (source: Irstea and AERMC, 2016)

2. SAGE = Schéma d'aménagement et de gestion des eaux
3. PAPI = programme d'actions de prévention des inondations
4. PGRE = plan de gestion quantitative de la ressource en eau

Then, for each step, the desired degree of participation (low, medium or high, see figure 9.1) should be determined based on the descriptions provided in the step sheets (Irstea and AERMC, 2016).

Question 4: What actions should be taken?

For each stage, as in traditional project management, the next step is to list the actions to be carried out, i.e. detail the activities that will be conducted for each stage. For example, for the "structuring participation" stage, one might consider:
– establishing a pilot group,
– listing the different actors involved,
– meeting with the stakeholders to identify other potential participants and to present the proposed approach to them,
– establishing a participation plan,
– communicating on the participatory process (radio, flyers, digital displays, etc.),
– organising an information meeting,
– ...

These actions can be reported in the PrePar plan (figure 9.2).

Question 5: Who is involved in what steps and actions and in what capacity?

For each actor or group of actors, the objective is then to determine their role in each action (figure 9.6):

	Organizer	Organise, get things done
	Active	Give an opinion, decide (active participation)
	Passive	Be present, listen, be informed (passive participation)
	(Nothing)	Do not participate, be absent

Figure 9.6. Colors of boxes corresponding to roles played by actors in each of the actions

Green, organiser; black, active participant (provides opinions, decides); grey, passive participant (is present, listens, is informed); white, does not participate, is absent.

Figure 9.2 gives an overview of the participation plan obtained at the end of this step.

By going through the plan from top to bottom, you can then ask yourself whether for each stage the listed actors and their roles correspond to the expected degree of participation. For example, if you have selected a high degree of participation in the action proposal phase, does the plan actually foresee that most of the actors concerned will have an active role during this phase?

Reading the plan from left to right allows you to analyse at which stage(s) you plan to mobilise each of the different actors listed and to see if this mobilisation is consistent over time. For example, if you have planned to mobilise certain stakeholders only at the implementation phase, will they agree to implement a project on which they have not given their opinion beforehand? (the answer may be yes if it is a sub-contractor, for example, or no if they are citizens who are asked to reduce their water consumption without having been explained why).

Question 6: What participatory methods should be used?

The participatory methods listed in figure 9.7 and detailed in the method sheets (Irstea and AERMC, 2016) can help guide the choice of participatory methods at different stages.

Steps of the decision	Degree of participation	
	Co-construction	Co-decision
1. Prepare / Engineer participation	Participatory analysis by actors	
	Participation charter	
	Participation plan	
2. Establish a diagnostic	Participatory analysis by actors	Participatory photo & video
		Participatory modelling
	Participatory cartography	
	Participatory simulation/role-play	
		Participatory diagnostic
	Participatory theatre	
		Participatory observatory/ inventory/monitoring
	Summary of collective memory/participatory archive	
3. Explore prospective scenarios		Participatory scenarios/prospects
	Participatory simulation/role-play	
	Participatory theatre	
4. Define preferences, objectives and constraints	Preference elicitation	
	Citizens charter	
		Mental map
5. Identify actions and plan		Participatory planning
	Participatory map	
	Participatory budget	
	Participatory theatre	
		Mental map
6. Prioritise, choose, vote	Evaluation of actions and plans (per criterion)	
	Prioritisation and vote	
	Consensus building	
	Deliberation	
7. Implement	Participatory financing	Participatory observatory/ inventory/monitoring
	Participatory worksite	
	Participatory cleaning	
8. Pilot, monitor and evaluate	Participatory monitoring and evaluation	
		Participatory observatory/ inventory/monitoring
		Participatory photo & video

Figure 9.7. Examples of methods for co-constructing or co-deciding at each of the eight stages of the decision (Irstea and AERMC, 2016)

⏩ Idea 4 – Choose participatory methods according to the objectives, not the other way around

This list is not exhaustive. More transversal methods can also be used. They are not necessarily specific to one or more stages of the decision-making process (wish tree, brainstorming, World Café, focus group, etc.). Digital tools are also an integral part of these participatory methods. This is evidenced by the multiplication of private service providers and technological providers of "civic-tech" (civic technologies).

The French Etalab website (www.consultation.etalab.gouv.fr/) lists a certain number of open online consultation tools (see also Aucante *et al.*, 2020).

Table 9.2 summarises the six phases for designing a participation plan following the PrePar approach.

Table 9.2. The six phases for designing a participation plan (PrePar)

PrePar phases	Description
1. Formalise the objectives of participation	*Question 1: Why do you want to set up a participatory process? In other words, what is the objective of the participatory process?* Define the objectives; this can be done by the project leader alone (future pilot), or in discussion with the stakeholders
2. Identify stakeholders (participants)	*Question 2. Who should be involved?* Make a map of stakeholders. In addition to the water management stakeholders (elected officials, industries, associations, users, etc.), also consider the participation actors (facilitator, warrant, evaluator, etc.).
3. Validate the steps of the decision	*Question 3. What are the steps?* Using the step-by-step sheets, validate the order of the decision-making steps most relevant to the local participatory process and define the desired degree of participation. Eight decision-making stages can be mobilised: – Structure participation – Establish a diagnostic – Explore scenarios – Define objectives, preferences and constraints – Identify actions and plans – Choose, prioritise, vote – Implement – Monitor and evaluate
4. List the actions to be taken	*Question 4. What actions should be taken?* For each step, list the activities that will be needed to achieve the objectives.
5. Define the role of the actors for each action	*Question 5: Who is involved in what steps and actions and in what capacity?* Define the role of each actor for each action; these can be: – Organiser (O) = Organise, get things done – Active (A) = Give opinions, decide (active participation) – Passive (P) = Be present, listen, be informed (passive participation) – (Nothing) = do not participate, be absent

PrePar phases	Description
6. Discuss participatory methods	*Question 6: What participatory methods should be used?* For each activity, depending on the level of participation and the target audience, and on the resources available to you (financial and human resources, time and skills), identify the participatory methods to be used. Think about diversifying these methods and do not hesitate to go beyond what you usually do (through training for example). The choice of methods can be decided along with the actors involved and available skills can also be mobilised for their implementation.

Conclusion

The particularity of participation engineering is placing the identification of stakeholders and their roles at the heart of the organisation and decision-making processes for water management planning. The PrePar method proposes a way of preparing and thinking about this engineering, but many others exist (e.g. Lisode, 2017; Graine Guyane, 2017; World Bank, 1996; OECD, 2015). The preparation of a participatory process can itself be participatory, i.e. involving the stakeholders who are concerned by the project. The advantages of this approach include a better appropriation of the objectives, greater adaptation of activities to the specificities of the field, and stronger commitment to the implementation of the approach. However, such co-engineering of participation itself requires preparation and dedicated resources, which should not be underestimated and thus risk creating disengagement.

In the course of our experiences, we have observed the importance of thinking about participatory ambitions in relation to the means available, and of being as explicit as possible with the actors concerned about the room for manoeuvre that will be allocated to them, as well as about the way in which the results of the participatory process will be integrated into the decision-making processes. In short, rather than multiplying participatory activities, it is better to focus on a few well-thought and prepared activities as a process to achieve a clearly formalised objective.

Box 9.2. Participation engineering in the Drôme

In preparation of the revision of the Drôme Water Development and Management Plan (SAGE), the Drôme River Joint Syndicate (SMRD*) decided to collect public opinions and proposals for action on the river and its management which were to be taken into consideration during revision of the SAGE. The originality of the approach was to involve the participants in the design, implementation and monitoring-evaluation of the participatory process itself (see insert 3 in chapter 17).

The co-engineering stage of participation took place from December 2016 to May 2017.

A group of 46 people, mostly citizens living in the Drôme catchment area, thus carried out the engineering of the participatory process through three successive one or two-day workshops over a period of six months in December 2016, February and March 2017. These workshops were led by a facilitator. They alternated between plenary sessions, group work and individual reflections, based on the steps presented in figure 9.8. A participation plan was thus co-constructed and implemented in 2017-2018.

Box 9.2. (next)
At the end of the participatory process, the group of participants submitted a citizen's diagnostic of the river to the Local Water Commission. It included 630 contributions, 189 proposals for action to improve management of the river, as well as a final report and five thematic summaries (Hassenforder *et al.*, 2020, 2021). These results were integrated into the subsequent revision of the SAGE.

Figure 9.8. Participatory workshops: plenary sessions, group work, and individual reflection (© S. Girard and E. Hassenforder)

* SMRD = syndicat mixte de la rivière Drôme

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