![INCLUSIVE groundwater logo]

Methodological handbook

How can social learning be evaluated for better groundwater management?

Project partners

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INTRODUCTION

Context: In a context of growing pressure on the water resources, especially groundwater, numerous participatory processes are being held to co-define sustainable resource management rules. To establish accepted rules and ensure sustainability, these participatory processes bring together a variety of stakeholders who use or are involved in managing the resource, including local representatives, local administrations, water resource management organizations, representatives of various economic sectors (agriculture, industry, …) and environmental association. One of the objectives of these participatory processes regarding groundwater management is to encourage learning among the participants: learning how the groundwater basin works, how the availability of the resource evolves, learning about the uses of the resource, learning about others' perceptions of the resource, learning how to reach a consensus on resource management, among others. Although learning is encouraged, it is never apprehended nor evaluated[1].

This handbook is addressing the following question: **how learning happens during a participatory process and how can it be evaluated?** with an application to groundwater management.

Target: This handbook provides a framework for evaluating (collective, social) learning. It targets water management organization **technical staff** and **participatory process facilitators.**

Objectives of the handbook:

- **To provide water resources managers with step-by-step guidance in assessing social learning at the watershed and aquifer reserve level.**
- To propose a replicable methodology for implementation at a river or aquifer basin level.
- To promote social learning evaluation in (ground)water management participatory processes.

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[1] Rouch, L., Loudin, S., Seguin, L., 2025. Social learning evaluation frameworks for better groundwater management. INCLUSIVE Working paper n° 5 (**Social learning evaluation frameworks for better groundwater management**)

1. KEY DEFINITIONS

Social learning: In the INCLUSIVE project[2], we elected to use the definition by Reed: **A change in understanding that goes beyond the individual to become situated within wider social units or communities of practice through social interactions between actors within social networks**[3].

Evaluation: Identify and characterize the value of a process, the changes occurring through a process (here a learning process), to provide relevant lessons for the upcoming and future processes[4]. It is often punctual, organized at a certain point in the participatory process (ex-ante, in itinere, ex post).

Participation: Involvement of stakeholders in decision-making or implementation processes from which they are usually absent, with various intensity from simple dialogue to co-management[5]. The intensity of participation translates into different levels of stakeholders' engagement, from ignoring stakeholders to democratic co-decision making[6].

Stakeholders: All people, organizations or institutions affecting or making decisions regarding the groundwater resource (local authorities, associations, companies, farmers or irrigators, etc.).

Watershed manager: Any organisation that are editing and implementing rules on water resources uses and/or taking action directly impacting the resource, groundwater resources included.

2. A GLOBAL VISION ON SOCIAL LEARNING EVALUATION PROCESS

According to the scientific literature on social learning assessment[7] and regarding the INCLUSIVE Project experiences from the field[8], we propose **6 main steps** to evaluate social learning in a participatory process. These steps are chronological but form an iterative loop.

> In the **INCLUSIVE project**, participatory processes were applied to groundwater uses and management, to cope with a risk of discouragement and conflict due to unclear ownership, responsibility and monitoring regarding groundwater resource[1].

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[2] https://www.inclusive-groundwater.org/
[3] A definition from Reed et al. (2010)
[4] A definition of Hassenforder & Ferrand (2024).
[5] A definition from Hassenforder & Ferrand, (2024).
[6] See the ladder of engagement from Basco-Carrera et al. (2017)
[7] https://www.inclusive-groundwater.org/wp-content/uploads/2025/09/ROUCH-et-al.-WP05-INCLUSIVE.pdf
[8] https://www.inclusive-groundwater.org/wp-content/uploads/2025/09/INCLUSIVE-WP04-California-v2.pdf

Social learning evaluation process

Establish the method

(Co) defining the evaluation method

Collect the data

Gathering the data following the methodology previously defined

Set up an iterative process

Social learning evaluation is an iterative loop

Define the posture and the scope

The posture of the evaluator, the scope of what is being evaluated

Analyse data and interpret results

Once data collected, analyse to characterise social learning

Transfer the results

Give insights back to the participative arenas for a reflexive approach on how learning happened
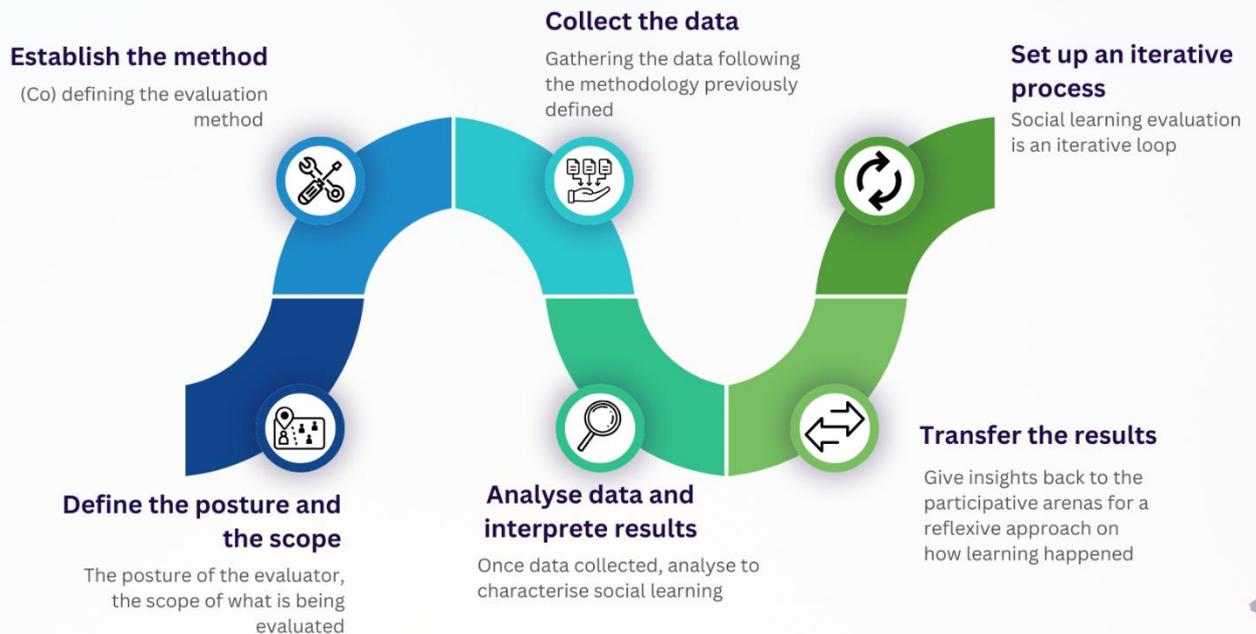
Figure 1. INCLUSIVE 6 steps evaluation process of social learning (designed by ACTeon)

The six steps are chronological. Social learning evaluation is more than a linear process; it is an iterative loop, which allows to:

- Collect information on the level and types of social learning observed during a participatory process,
- Build the social learning monitoring framework, which can evolve along the way,
- Give insight on the participatory process itself to help reshape it along the way.

Social learning occurs during participatory processes[9], thus its evaluation is only possible and relevant if the process has already been established or is under construction. The evaluation runs parallel to the participatory process and can be implemented by the participants during dedicated workshops, interviews, etc. The evaluation timeline depends then on the participatory process planning, spanning over several months to 2-3 years, depending on the context and project.

Social learning evaluation is clearly described by Seguin et al. (2024), and the steps 1 and 2 are based on its work.

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[9] Seguin, L., Garin, P., Girard, S., Loudin, S., & Hassenforder, E. (2024). Participating is also learning!. Transformative Participation for Socio-Ecological Sustainability-Around the CoOPLAGE pathways, 136-149

3. HOW TO EVALUATE SOCIAL LEARNING STEP BY STEP?

3.1. Step 1: Define the posture and the scope

Objective

The objective of this first step is to define the posture of the evaluator while setting up the scope of the evaluation. Practically, it means to define the objectives of the evaluation, to draw the line of what is going to be assessed to study social learning and to give the evaluator the tools to control their personal biases.

Method

Both posture and scope can be defined jointly.

Define who evaluates

In natural resources management context, social learning is often evaluated by an external evaluation team. This team is usually made up of scientists or experts who have the knowledge and skills to conduct external evaluations from an outsider's perspective and use inquiry tools (interviews, surveys). However, the stakeholders engaged in the participatory process can also act as evaluators, through self-evaluation or participatory evaluation. At the early stage of the evaluation process, it must be clarified:

-   *Who is involved in the evaluation: one external / internal evaluator? a group?*
-   *If a group, how do members work together?*
-   *What mandate does the evaluator / evaluation group have?*
-   *Is the evaluation part of the participatory process?*

As the social learning evaluation is linked to a participatory process – in our case, one focusing on groundwater management issues – it can either be completely external to the participatory process, with specific evaluation times before, during and after the process during which participants are asked about what they have learnt. Alternatively, it can be incorporated into the participatory process itself, for example by giving participants a role in the evaluation or designing a participatory ex-post evaluation role-play.

Define the posture of the evaluation team

Four main social learning and participatory process evaluation approaches have been observed: positivist, interpretative, critical and post-normal[10].

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[10] According to Rodela, R., Cundill, G., & Wals, A. E. (2012). An analysis of the methodological underpinnings of social learning research in natural resource management. *Ecological economics*, *77*, 16-26.

	Positivist	Interpretative	Critical	Post-normal
Basic goal	In search of truth	In search of actor's interpretations of the world	In search of a transformation	In search of a negotiated agreement
The nature of knowledge	Universal	Contextual	Power	Multifaceted
Most used made of inquiry	Scientific method	Phenomenological inquiry	Reflective inquiry	Action research
Reasons for undertaking the investigation	Finding evidence	Understanding	Empowering	Problem solving
Type of evidence discussed	Mainly quantitative	Mainly qualitative	Mainly qualitative	Qualitative and quantitative
Evaluator's role	Neutral outsider	Participant	Learning agent, participant	Advocate, participant

Table 1 - Summary of knowledge production practices on social learning and participatory processes (Adapted from Rodela et al., 2012)

Clarifying the evaluation posture helps to prevent a "*mismatch between what analysts expect to see in the literature on this topic, and what is actually produced in practice*"[11]. The posture chosen has to be consistent with the participatory process objectives. To be aware of their own posture, the evaluator / evaluation team must ask themselves the following questions:

- *What is the goal of assessing social learning? What issues need to be addressed by assessing learning processes?*

- *What are the reasons motivating the investigation? What are the purposes of the evaluation?*

The evaluation of social learning can either seek to produce knowledge on social learning in an output-evaluation logic, or it can seek to evaluate the effective transformation of groundwater use in a process-evaluation logic.

- *Which nature of knowledge is considered?*

- *What type of inquiry is used?*

- *What is the role of the researcher/evaluator in the social learning process?*

- *Is the evaluation and participatory process open to interactions with other research fields? To what degree?*

- *Who is the audience targeted by the results of the research?*

The posture influences all the evaluation process, from the content of an *ex-ante* diagnosis to the type of results that are going to be transmitted, going through the way data is going to be collected.

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[11] According to Rodela, R., Cundill, G., & Wals, A. E. (2012). An analysis of the methodological underpinnings of social learning research in natural resource management. *Ecological economics*, *77*, 16-26.

Define the scope of the evaluation

Defining the posture is not enough to set the entire scope of the social learning evaluation process. To do so, it is recommended drawing the frame of what is going to be assessed. Then, three additional questions must be asked:

- *Who learns?*

The first question aims to clarify who should learn from the participatory process and who will be "evaluated". The evaluation can focus on the individual learning of a type of actor engaged in the participatory process on groundwater management (e.g. farmers, industrials, technicians from the local administration, etc.) and/or collective learning at the level of a group of actors from the same or different socio-professional group.

At this point, stakeholders can be **mapped**. Depending on the social learning evaluation objectives, the stakeholders to be targeted for data collection can be specified. Those at the top of networks are often good places to start when collecting data. Mapping also enables the spatial range within which social learning is to be evaluated to be defined.

> In the **INCLUSIVE project**, the chosen spatial perimeter was the aquifer basin.

- *What is learned?*

In a participatory process that aims to transform the management of natural resources (including groundwater management), different types of learning may be involved. Social learning and social interactions reveal different **nature** of learning such as:

- Cognitive learning: understand and assimilate new information or practices.
- Relational learning: understand the point of view of other actors and how to work together.
- Deliberative learning: improve skills and know-how on speaking up, arguing, navigating a constructive discussion in a collective arena.
- Political learning: understand and assimilate how to reach an agreement on rules to discuss and make decisions.

These different types of learning combined can lead to normative effects and effective changes in behaviour and practices toward a resource.

In addition, assessing the **direction** and **degree** to which the stakeholders are learning can also enter the scope. This involves assessing whether the process of learning results in a shared vision and understanding of the resource and the issues surrounding its management, and whether the stakeholders' reference framework regarding resource management has changed, and whether individual practices are changing. Most of social learning evaluation processes are focusing on qualifying the nature and degree of learning.

> In the **INCLUSIVE project**, the nature, direction and degree of learning were translated into social learning **indicators**.

- *How is it learned*?

The main assumption in literature on participatory processes in natural resource management is that social learning comes from participation. It goes through viewpoint confrontation, knowledge transmission moments, collective experiments during workshops, visits, sharing experiences, etc. It is important to consider the steps and tools involved in the participatory process for framing the social learning evaluation methodology, and to understand how learning will occur. In this way, the bias from the participatory process methodology can be known and controlled.

Tools & outputs

The questions related to posture and scope are typically examined by the evaluator or within a dedicated working group—either external or participatory—before the evaluation methodology is defined. In a situation of a single evaluator, a reflexive session with a peer or superior could be recommended when no evaluation team is established.

The answers to the previous questions can be gathered in a **shared document**, establishing the hypothesis of the **evaluation framework,** which can be shared with the participants.

Advice

➔ The evaluator does not have to radically fit into one of the four main postures. The evaluation process can mix several aspects of these postures, and navigate, for example, between mainly qualitative data – which is used in interpretative and critical approaches – and the evaluator's role as an impartial observer outside the social learning process – as in a positivist approach.

➔ To ensure transparency toward all participants and consistency in evaluators' viewpoints throughout the process, particular attention should be given to potential gender, racial, social, and cultural biases that may affect learning curves.

➔ Considering the social learning evaluation process to be iterative, the initial framework and the components that comprise social learning can evolve across evaluation loops.

➔ At this stage, it may be helpful to review the issues addressed in the participatory process to ensure that the scope of the social learning evaluation targets the required changes in use or practice.

3.2. Step 2: Establish the social learning evaluation methodology

Objective

In this step, the timeline of the evaluation is described, as well as the data to be collected and the data collection tools. It gives an evaluation protocol to follow.

Method

As above, the evaluation team/evaluator can answer several questions to establish the evaluation methodology.

- *When does evaluation should take place*?

Depending on the posture and the scope, the evaluation can be carried out before, during or after the participatory process:

- *Ex-ante*: to have some reference point on which to base the evaluation,
- *In itinere*: to observe learning on the way and notice specific turning points or barriers,
- *Ex-post*: to assess the type of learning acquired, the extent to which learning has occurred during the participatory process, identify the sources of learning new skills, new know-how and new practices.

In addition to ex-ante evaluation, a preliminary diagnosis of the context, resource, and territory is essential to inform both the evaluation methodology and the interpretation of results. This diagnosis gives a reference point, a baseline, to which the evaluator can refer to see the evolution in learning.

- *Which evaluation indicators should be used?*

Linked to the posture, scope and timing of the evaluation, the social learning evaluation is robust if it looks to inform evaluation **indicators**.

Indicators in social learning evaluation are designed to qualify different types and levels of learning and to inform potential transformative outcomes. Indicators must be SMART, meaning:

- Specific on what it intends to qualify/quantify,
- Measurable, if it aims to give insights on a quantitative objective to reach
- Additional, in the sense it gives additional information on the social learning process
- Realistic, in the sense that it is doable to collect data to inform the indicator
- Temporally framed, it refers to a specific time in the social learning process.

In the **Inclusive project**, social learning evaluation indicators / criteria were framed to provide insights on the different types of learning (i.e cognitive, relational, political, deliberative learning and normative effects). For instance, to assess cognitive learning in the Seudre basin participatory process, the indicator was the following: "*Shared understanding of the functioning of the Seudre basin and the different uses (sharing and appropriation of scientific, technical and local knowledge).*".

Indicators are then translated into questions and/or questionnaires, which can be informed by different types of sources. Choosing the right tool to inform the indicators depends on the posture, the scope of the evaluation but also on the skills of the evaluators.

- *What kind of data should be collected? With which tools?*

This question is linked to the step 1, and some elements may have been defined in the evaluation framework.

Depending on the objectives of social learning evaluation and on the indicators to inform:

- the type of data can either be qualitative and/or quantitative
- the tools to collect these types of data can be multiple and complementary.

Objectives	Type of data	Tools
Explore meaning and provide a comprehensive overview of the choices, obstacles, inspirations and stages that individuals or groups experience during the learning process.	Qualitative	- Survey - Semi-directive interviews - Observation - Documentation analysis
(*Not treated in this handbook*) Investigate how social networks evolve during participatory processes	Quantitative	- Quantitative social network analysis[12] - Survey

The inquiry tools that were used within the Inclusive Project are the following:

- ○ *Survey*

  Surveys consist of open and/or closed questions and are used to collect qualitative and quantitative data from a large number of participants. They are particularly useful for assessing knowledge of the aquifer and groundwater uses, or for conducting a territorial diagnosis prior to the participatory process. Surveys may be administered in paper or online formats, with online questionnaires now being the most common, using platforms such as Sphinx[13], Google Forms[14], or Microsoft Forms[15]. Questionnaires are generally self-administered and distributed by the evaluation team or local authority, with respondents given several weeks to reply. Depending on the objectives of the evaluation, surveys may be anonymous or identifiable.

  More information on how and why qualitative surveys are used can be found in methodological guidelines for social sciences[16].

- ○ *Semi-structured interviews*

  Semi-structured interviews are used to collect in-depth qualitative data by capturing participants' discourse as empirical material. They allow a detailed exploration of behaviours, perceptions, representations, relationships, and changes in practices during participatory processes.

  Interviews are conducted as structured, yet flexible discussions based on key themes, encouraging interviewees to freely express their experiences, prioritise what they consider most important, and make connections across topics. They rely mainly on open-ended questions, complemented by follow-up techniques, and avoid rigid question–answer dynamics.

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[12] Tabassum, S., Pereira, F. S., Fernandes, S., & Gama, J. (2018). Social network analysis: An overview. *Wiley Interdisciplinary Reviews: Data Mining and Knowledge Discovery*, *8*(5), e1256 https://www.researchgate.net/publication/324575362_Social_network_analysis_An_overview
[13] https://www.lesphinx-developpement.fr/
[14] https://workspace.google.com/intl/fr/products/forms/
[15] https://www.microsoft.com/fr-fr/microsoft-365/online-surveys-polls-quizzes
[16] Gideon, L. (Ed.). (2012). *Handbook of survey methodology for the social sciences* (Vol. 513). New York: Springer.

Interviewee selection is a critical step, as this method involves a limited number of participants; stakeholder mapping can therefore support the identification of relevant interviewees.

The choice of interviewer is equally important and requires skills in social science inquiry, neutrality, and contextual understanding. Interviews may be conducted face to face or remotely and typically last one to two hours.

o *Observation*

Observation is conducted during participatory activities and consists of systematically recording participants' behaviours, interactions, discourse, and postures within collective arenas. An observer—either external or involved in the process—attends selected workshops or meetings and documents relevant elements without making value judgements. Observation protocols define which arenas are observed and which indicators are informed, and the observer may be known or not to participants depending on evaluation objectives. This method relies on immersion, regular note-taking, reflexive distance, and ethical considerations. To ensure methodological robustness, observation protocols should be validated by a researcher experienced in qualitative inquiry.

Tools & outputs

The definition of the methodology can be done by the evaluation team, during a working group session or by working on shared documents. By answering the previous questions above, the team can work and agree on **an evaluation matrix** describing the overall objectives, the indicators, grouped into sub-themes, the targets and associating data collection tools and timing. This step can also be incorporated into the participatory process for evaluating social learning. Participants can then decide when the evaluation should take place, and whether a participatory ex-post evaluation would be relevant to them.

At the end of this step the aim is to have two types of deliverables shared with the evaluation team:

- A table with a list of evaluation criteria with matching evaluation tools, following the example:

Evaluation indicator	Observation	Ex-ante questionnaire	Ex-post questionnaires	xxx
Better understanding of the X basin aquifer dynamics	x	x	x	

An example of an evaluation matrix from the Inclusive project, from the Seudre case study is described in Annex 1.

- The questionnaires, semi-structured interviews guidelines, observation protocol or other data collection methods that are going to be used at the different timing of the evaluation process to collect data. An example of an ex-post semi-directive interview grid is presented in Annex 2.

Advice

→ The best evaluation practice involves ex ante, in-itinere and ex post evaluation. While ex-post evaluation can be sufficient to identify changes in practices, it is not sufficient to encourage experimentation and learning.

→ The evaluation team should be careful in defining the timing for data collection to be sure to capture social learning in the making. In the Inclusive project evaluation, data collection took place one to three months after a workshop or at the end of the participatory process. This gave participants time to reflect on the content and consider potential changes to their practices.

→ The evaluation indicators must be validated by the evaluation team and be relevant to the scope and purpose of the evaluation before the questionnaires, semi-structured interviews guideline or other protocols to gather data is written. It is better to take the time needed to set the criteria properly.

3.3. Step 3: Collect data along the participatory process

Objective

Once the methodology has been set, the objective is to collect the data at specific times.

Method

As for the previous steps, the evaluation team can prepare for data collection by answering a series of questions.

- *When to collect data?*

Once the evaluation matrix and the questionnaires, interview guidelines and protocols are validated it is mandatory to plan their timing within the participatory process to ensure efficient data collection. While planning to collect the data, it is mandatory to be more precise than just planning for ex-ante, in itinere or ex-post evaluation. The evaluation team should specify when, in the participatory process, the data collection will take place, after which workshop or presentation and how long after these participative instances. For ex-ante evaluation it can be several months or weeks before the participatory arena. For in itinere evaluation it can be during a participative workshop, or right after it. For ex-post evaluation it can be a matter of days, weeks or month after a workshop or after the completion of the entire participatory process. The overall planning of the evaluation is refined, as the participatory process unfolds, to take the opportunities that arise.

- *Who collects data?*

Depending on the purpose of the social learning evaluation and the skills required, any stakeholder involved in the participatory process, as well as an external evaluator, can collect the data, on the condition that everyone is provided with the right tools and explanations. In most natural resource management, it is better that technicians include questionnaires and collecting data moments in their routine.

> In the **Inclusive project**, as social learning evaluation mainly aimed on transferring the results to the research community and aquifer basin technicians, the data has been collected by social sciences researchers involved in the project.

- *What should be done with the data once it has been collected?*

Data collected from semi-structured interviews, qualitative, quantitative surveys or observations have to be treated, stored and verified according to a robust protocol. The evaluation team should establish a shared workspace to stock raw empirical material and agree on how to treat data collected from different sources, to cross-check the information on certain facts and to deal with personal information. The evaluation matrix previously settled serves as a structure for a **database**, transforming raw material into empirical material helping the analysis.

Types of inquiry	Data management
Semi-structured interviews	From raw material, which is often a one to two hours recording, the interview is fully or partially transcribed. Transcription is then stored in a shared workspace. Verbatims can then be classified in order to inform evaluation indicators.
Questionnaires	- Paper questionnaires: Data collected from paper questionnaires have to be integrated in a database (in Excel format or others). It can be done by hand or by image recognition. - Online questionnaires: Online platforms directly organize the answers to the questions in Excel or other format databases.
Observations	The recording made by the observer can be fully or partially transcribed. The observer can also translate its observation into a shared document.

Tools & outputs

These questions have to be answered in the step 2 evaluation working group. **The answers complete the evaluation framework** and precise the role repartition in data collection and treatment. The answers can be written in a shared document, attached to the document established in step 1.

Depending on the social learning evaluation process, data collection can last from some weeks to several years. In this context, regular meetings with the evaluation team or during the participatory process can provide updates on the progress of data collection. Transcriptions, recordings and databases are not necessarily shared with the participatory process stakeholders, unless social learning evaluation is one of the participatory process objectives.

At the end of this step, the evaluation team should have a series of raw materials (transcriptions, databases) which is organized to help answer and inform all evaluation indicators.

Advice

- ➔ To collect the data efficiently, the evaluation team can establish a database structure which follow the evaluation matrix and indicators. The database can be completed along the collection.
- ➔ The evaluation team should be careful in handling personal data. Data collection protocols must be transparent about personal data treatment, regarding the interviewees and the jurisdiction.

3.4. Step 4: Analyse the data and interpret the results

Objective

With the data gathered, the aim of the step is to produce and interpret the evaluation results.

Method

To continue the evaluation process, the evaluation team can answer the following questions to set the analysis of the data and the interpretation of the results.

- *What does the data show? (Analyse data)*

Once data from different sources organized in databases and verbatims classified, analysis consist in refining the themes and **summarise patterns on social learning** which respond to evaluation indicators. There is a diversity of ways to analyse data and conclude to evaluation results: comparing target groups, comparing before/after the participatory process, comparing with/without the participatory process, causal relationships, etc. The choice on the analysis framework is directly linked to the posture and purpose of the evaluation.

> In the **Inclusive project**, the analysis of the data was mainly qualitative and descriptive. The analysis frameworks chosen by the researchers of the project combined a comparison before/after the participatory process and a comparison between several case studies.

Analysing data conclude in a description of the main patterns the data shows regarding the nature, types and level of learning. In other words, it describes the number of respondents who expressed that they had acquired new skills, the skills they acquired, and how their perceptions were evolving. It also explained how changes in their practices could be attributed to what they thought they had learnt. For straightforward understanding, the description can also be accompanied by visualisations of the results on evaluation indicators.

- *What do the results mean? (interpret results)*

Interpretation aims to give insights, conclusions on the types and level of social learning. To interpret the results, the evaluation team or the evaluation participatory working group can connect the description of patterns to evaluation questions and implications for a more sustainable groundwater management.

At this point, the limitations of the evaluation process arise and have to be clearly presented to ensure transparency. Alternative explanations can be found before drawing social learning evaluation conclusions and recommendations.

Tools & outputs

Analysis and interpretation of the results can occur multiple times during the participatory process. Results on how learning is occurring can help the participatory process adjust in an iterative way.

Analysis is mainly in charge of an evaluation team or one person with evaluation skills. It has to be exhaustive in the description of the data to then identify patterns. It often materialises in an illustrated **evaluation report** which describe patterns for every evaluation indicator. Interpretation can be included in the participatory process, trough sense-making workshops,

reflective discussion and triangulation for example. Interpretation leads to a **communicating evaluation report** with main conclusions and recommendations.

Advice

➔ The evaluation team should be **systematic and transparent** in how data is analysed, while remaining open to unexpected outcomes and learning.

➔ **Triangulate** multiple data sources, involve stakeholders in sense-making and reflection, and anchor interpretations in the theory of change and context.

➔ Acknowledge **limitations** and uncertainty, and translate findings into clear, actionable learning rather than only judgement.

3.5. Step 5: Present and transfer results

Objective

Once the main conclusions and recommendations on the type and level of social learning and its implications for sustainable groundwater management are written and formatted, they are transferred to the target of the evaluation trough different media. Transferring the results ensure a "return to the big world" and is mandatory to answer the evaluation purposes and objectives. The main objective is to turns findings into usable knowledge.

Method

The main question to answer at this point is the following:

- *How results should be transferred according to the target?*

With conclusions and recommendations formulated, the evaluation team can then select the most appropriate method for transferring the results of the social learning evaluation, depending on the needs, obligations and demands of the participants in the participatory process.

The media used to transfer the results depends on the target. The target of the evaluation results is determined in the evaluation posture (step 1) and can either be a research community, the participants of the participatory process, the community of water basin managers, etc. Depending on the community targeted by the production of the results, the description and analysis will not focus on the same specificity of social learning. For example, if the results are intended for a community of water basin managers, the focus will be on understanding the current practices of all water users and how they can encourage a change in practices from their position.

Depending on the evaluation posture and purposes, the results can be transferred using different types of communication tools and media (scientific article, management guidelines, recommendations, videos, ...).

In the **Inclusive project**, the transfer of social learning evaluation results was ensured by two means, for two different targets. First, transfer occurred during ex-post workshops. These workshops aimed to present the results to the participants of the participatory process in a collective arena. In this way the participants, considered as learners, can have a reflexive time on their learning process while placing it within a collective learning process. Second, as a research project, the deliverables were scientific articles and methodological working paper targeting the research community on social learning and groundwater modelling.

Tools & output

From the evaluation reports, the evaluation team can count on communication and capacity building skills to transfer the results. It can go through the design of infographic, webinars, videos, targeting a large audience. For more specific transfer, research articles can be appropriate. The strategy to transfer the results can be defined by the team of external evaluators or either be part of the participatory process, where stakeholders decide which key messages have to be communicated to help transform the results into practices changes and future learning.

The main outputs take then two forms:

- A strategy of capitalisation.
- All communicating deliverables presenting the conclusions and recommendations.

Advice

➔ Know your audiences and tailor messages, formats, and language to their needs and decision-making roles.
➔ As linked to participatory processes, it is important to create interactive spaces for dialogue and reflection so stakeholders can interpret results together, and link recommendations to concrete decisions, responsibilities, and next steps to ensure use of the evaluation.

3.6. Step 6: Set up an iterative process

Objective

To complete social learning process and to encourage its continuity through time, the last step of the evaluation process aims to feed a more global dynamic in practices changes and sustainability.

Method

To end the social learning evaluation process, the evaluation team can ask itself:

- *How to encourage learning through time?*

Social learning can continue after the participatory process. To do so, producing and transferring social learning evaluation results should feed into two iterative processes:

o Improving the participatory process that supports the current evaluation in order to make it more relevant for participants and more successful (i.e. contributing to changes in practices for sustainable groundwater management).

o Identifying the limits of the current evaluation to start plan and correct the next social learning evaluation plan. The first round of evaluation is setting up some evaluation criteria and indicators which allows to monitor social learning through time.

Ideally, these two processes should last beyond the scope of a single research project. Focusing on evaluation provides the tools needed to monitor participatory processes over time and learn from the assessment of social learning.

Tools & outputs

Reflexive workshops, feedback sessions beyond the participatory process or training sessions can help continue the learning dynamic. Putting into practice **long-term monitoring tools** to capitalise on the results over time can also be useful. It must then be prepared with key stakeholders, who will monitor changes in groundwater use over time.

Advice

➔ Social learning evaluation should be designed as an ongoing process, beyond the participatory process timeframe.

➔ To do so, it is important to involve participants by reflecting on the results.

➔ Evaluation frameworks should be flexible.

4. EXAMPLES FROM THE FIELD

The French case study of the Seudre basin in the Inclusive Project is an example from the field to illustrate the different steps of social learning evaluation.

Steps	Examples from the Seudre Basin[17]
1 – Define the posture and the scope of the evaluation	*Who is involved in the evaluation: one external / internal evaluator? a group?* The researchers, through external evaluation, and the participants themselves, with self-evaluation inquiry. *Is the evaluation part of the participatory process?* The evaluation is a piece of the participatory process, integrated into the workshops *Who learns?* Local elected representatives, local water managers, water user representatives, local government representatives, regional water agency, individual farmers, environmental associations *What is learned?* Cognitive, relational, deliberative knowledge and normative effect (or change in practices and behaviour) *How is it learned?* Through workshops aiming at transferring technical knowledge from scientists to participants, and between participants themselves. Through deliberating to agree on a collective decision (i.e. which Nature based solutions to implement on the watershed territory, which annual water withdrawal volumes to define for users. Supplementary questions to be answered in the case where an evaluation team is set: - *If a group, how do members work together?* - *What mandate does the evaluator / evaluation group have?*
2 – Setting up the social learning evaluation methodology	*When is social learning evaluated?* Ex-ante, in itinere (with observations) and ex post. *Which evaluation indicators should be used?* One indicator or evaluative question is defined for each type of learning (cognitive, relational, deliberative, political and normative effects). *How is it evaluated? What tools are used?* Qualitative data (based on participatory observation, questionnaires and interviews) to understand the social learning process and then empower groundwater resources managers (understanding, empowering)..
3 - Collecting the data	*Who collects data? When does the data is collected?* The data was collected by the research team itself (two people) and through self-administered questionnaires at specific timing: a month before the start of the participatory process, during the participatory process workshops with observation, right after the last workshop and 3 months after the last workshop. *What should be done with the data once it has been collected?* Partial transcription of the interviews, online questionnaires platform reports.

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[17] Sarah Loudin (ACTeon), Laura Rouch (ACTeon), Léna Abasq (BRGM), Maité Fournier (ACTeon), Jean-Daniel Rinaudo (BRGM) – 2025. Participatory modelling for quantitative water management: learning from an experiment on the Seudre watershed (France). INCLUSIVE working Paper No. 7 (https://www.inclusive-groundwater.org/wp-content/uploads/2025/12/LOUDIN-et-al-2025_WP08-INCLUSIVE.pdf)

4 – Analysing the data interpreting the results	*What does the data show?* Analysis focused on a comparison before/during/after the participatory process identifying patterns on how cognitive, relational, deliberative and political learning did evolve and if differences were to be notified between the different types of stakeholders.
	What do the results means? The evaluation results show few cognitive and relational learning. Deliberative learning did improve for local administrations' technicians, as well as political learning. Social learning depends from the quality of the facilitating team during the participatory process.
5 - Transferring	*How results should be transferred according to the target?* Once the data collected it was then analysed by the research team and the results are being published in a series of Working Papers, representing deliverables for the Inclusive Project. The results of the social learning evaluation on the Seudre basin are transferred to the Inclusive project community of practice.

Further information and examples on the social learning evaluation can be found in the Inclusive working paper n°5 (**Social learning evaluation frameworks for better groundwater management**) and the working paper n°7 (**Participatory modelling for quantitative water management: learning from an experiment on the Seudre watershed (France)**)

ANNEXES

Annex 1: Description of the evaluation criterion and corresponding evaluation tools for the Seudre study case in France

Social learning evaluation criterion	Evaluation tools			
	Observation	Ex ante questionnaire	Ex post questionnaire	Ex post interview
Shared understanding of the functioning of the Seudre basin and the different uses (sharing and appropriation of scientific, technical and local knowledge) *Cognitive learning*	x	x	x	x
Evolution of perceptions of others: identification and understanding of actors and how to work together *Relational learning*	x			x
Acquisition of new skills and aptitudes necessary for collaborative governance, including speaking out, arguing, debating, and establishing rules for discussion and decision-making *Deliberative, political and decision-making know-how*	x			x
Evolution of the perceptions of the stakes/issues, of the strategic thinking of the various actors, even of their opinions *Normative effects*	x	x	x	x
Ability to consider changes in practices and innovations *Normative effects*	x			x

Annex 2 : Ex post interview guidance for the interviewer for the Seudre Basin interviews

The parts in italics below allow for follow-up with the interviewees, if necessary. They will not be included in the interview guide sent to interviewees in advance.

Estimated duration of the interview: between 30 and 45 minutes.

Introduction :

The Territory Project for Water Management (PTGE) project on the Seudre basin was launched in 2018. It is co-designed by the Syndicat mixte du bassin de la Seudre (SMBS) and SYRES 17 (the Syndicat mixte des réserves de substitution de la Charente-Maritime). The PTGE Seudre aims at achieving a balance between the needs and the water resources available on the territory, while respecting the proper functioning of aquatic ecosystems, anticipating and adapting to climate change.

In this context, a working group was set up to work on the following question: "*how to define volumes compatible with the needs of the environment and water uses in the Seudre river basin?* ". The aim of the working group was to define, for the three management units of the basin (upstream, middle and downstream basins):

- o   A volume that can be withdrawn in summer for irrigation;
- o   A volume potentially mobilizable in winter;

8 meetings were held between June 2020 and September 2021. The conclusions of the group were presented to the CLE of the SAGE Seudre[18] in October 2021.

Within the framework of the research project on groundwater management INCLUSIVE (co-financed by the Agence Nationale de la Recherche), the ACTeon research&consultancy company offered to the co-leaders of the PTGE to carry out an "a posteriori" evaluation of this collective work. The objective is to analyze the perceptions of the actors mobilized by the "withdrawable volume" working group.

Through this interview, we seek to understand the different perceptions of the stakeholders with regard to the management of the Seudre river and aquifers and the work of the "withdrawable volume" group in 2020-2021.

We will not mention your name in the analyses/articles that could result from this survey, but you could be identified through your profession: do you agree with this? If you wish, we can anonymize your answers.

You have a right of withdrawal, and you can ask us to delete your answer at any time. For any additional information or need for retraction, you can contact us by e-mail (s.loudin@acteon-environment.eu).

Do you agree to be recorded during this interview?

The results of this survey will be sent to you as soon as they are available.

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[18] SAGE: local water development and management plan; CLE: local water commission, in charge of the SAGE implementation.

Do you have any questions before we start?

Interview questions:

1. Can you briefly introduce yourself (position and seniority, organization, role/involvement in the PTGE)

General feedback on the work of the group

2. Can you tell me how you were involved and how the activities of the "withdrawable volume" working group went between 2020 and 2021?
   - *Have you followed the whole process, participated in all meetings?*
   - *What was your role?*

3. According to you, what were the highlights of the group's work, and why?
   - *Collective highlights (for the group)?*
   - *Individual highlights (for you in particular)?*

Results

4. In your opinion, has the group agreed on a collective diagnosis, shared by all, regarding the hydrogeological functioning of the water resource on the Seudre catchment area?
   - *What is this diagnosis?*
   - *How did you reach this shared diagnosis? Were there any particular steps or milestones that led you to it?*
   - *On the contrary, were there any elements missing from the discussions/collective thinking?*

5. Did your participation in the "withdrawable volume" working group contribute to modify your opinion concerning the long-term management strategy of the Seudre river and its aquifers? If so, how?
   - *Values*
   - *Visions*

Learnings

6. What did you learn from this process ?

7. To go more in details, could you please indicate what you personally remember about this process in terms of:
   - **Understanding of the functioning of the Seudre basin** and its different uses (scientific, technical and local knowledge);

- o **Understanding of the various issues on the basin, the positioning and opinions of other stakeholders in the basin;**
- o **Evolution of the perceptions, the roles and positions of the other stakeholders, and the possibilities or possible difficulties to work together** (relational knowledge);
- o **Skills or know-how that support discussion and collective decision-making** (deliberative and decision-making skills)
  - *speaking up*
  - *arguing*
  - *generalizing one's thinking (seeing the global picture)*
  - *facilitating discussions*
  - *managing a conflictual discussion*
  - *setting up rules for discussion, exchanges and decision-making...*

8. Today, in what state of mind do you approach the continuation of this work for the implementation of a PTGE on the Seudre basin (in particular the organization in 2022 of workshops on saving water and levers to support current water uses)? *(confidence, reservations, anticipated obstacles, facilitating elements)*

9. Do you have any other information to share regarding the work of the "withdrawable volume" group? Is there anything we have not talked about that you think is important?