

Proposed methodology for the participatory activity (Validation ES)

Step 1

Introduction & Framing The session begins with a brief introduction to the concept of Ecosystem Services (ES), using examples that are directly relevant to the focal area. Facilitators explain how ES contribute to human well-being and their connection to the Water-Energy-Food-ecosystem (WEFe) Nexus. The goal is to ensure that all participants, regardless of their background, have a common understanding of ES and their role in the socio-ecological system. Following this, the preliminary results from the ES assessment (based on surveys and initial stakeholder input) are presented, highlighting key ES and their perceived importance.

Step 2

Stakeholder input using CLD: Participants review the initial structure of the Causal Loop Diagram (CLD) to ensure it accurately represents key interactions within the system. At this stage, they are encouraged to refine or add missing elements based on their knowledge and experience. To facilitate engagement, a sticker-based ES integration is introduced. Each participant receives color-coded stickers representing different ES categories: Provisioning (e.g., food, water, raw materials), regulating (e.g., climate regulation, water purification), and cultural (e.g., tourism, cultural heritage, recreation). Participants place stickers on the CLD components where they perceive relevant ecosystem benefits, effectively linking ES to specific system elements. A discussion follows, allowing participants to reflect on trade-offs, synergies, and overlooked ES in the system.

Step 3

Discussion & Co-Creation of the Narrative A guided discussion follows the sticker activity to help interpret the emerging patterns. Facilitators ask questions to encourage reflection: Which ES are most important in this system? How do they interact with key social, economic, and political factors? Are there ES that have been overlooked? What trade-offs and synergies exist? Participants debate and refine the causal relationships within the system, identifying how ES influence and are influenced by social-ecological dynamics.