

Engaging Stakeholders for Effective Water and Nutrient Retention: Lessons from OPTAIN's Multi-Actor Approach

OPTAIN Project Overview

14 European case studies
 7 million Euro budget
 5.5 duration 2020-2026

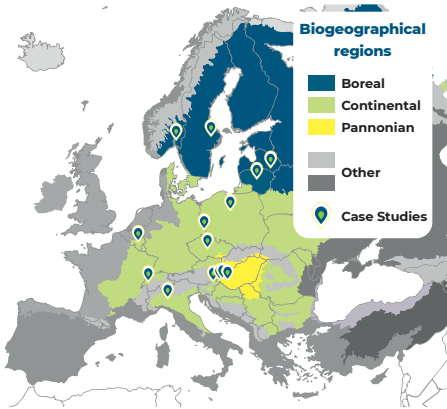


Figure 1. Map of OPTAIN case studies

OPTAIN (Optimal strategies to reTAIN and re-use water and nutrients in small agricultural catchments across different soil-climatic regions in Europe) is an EU-funded research and innovation project implemented between September 2020 and February 2026 with a budget of almost 7 mil €.

The project aimed to enhance the understanding of the potential practical implementation of Natural/Small Water Retention Measures (NSWRMs) in agricultural catchments across the Boreal, Continental, and Pannonian biogeographic regions, utilizing both scientific and stakeholder processes.

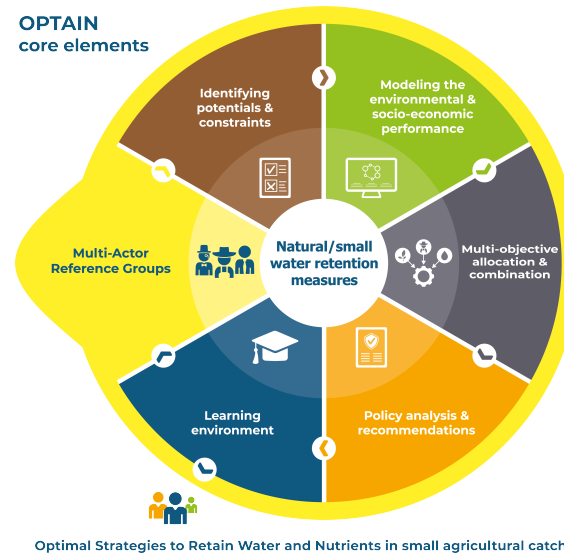
In collaboration with Multi-Actor Reference Groups (MARGs) across 14 European case studies, OPTAIN researchers developed and upgraded SWAT+ modelling workflows and optimisation tools to identify combinations of Natural/Small Water Retention Measures (NSWRMs) suitable for implementation in agricultural catchments. Through this approach, they assessed the potential of NSWRMs to retain water and nutrients while accounting for different climate projection scenarios.

The Multi-Actor Reference Groups (MARGs) were platforms for joint stakeholder collaboration

OPTAIN partners established Multi-Actor Reference Groups (MARGs) across 14 case studies involving decision makers at different governance levels, farmers, land-owners and agricultural advisors, water and land managers, NGOs and scientists. Jointly with them, OPTAIN researchers designed locally relevant modelling scenarios, interpreted and optimised results while assuring that they reflect local circumstances. The engagement process aimed to create shared understanding and ownership of results, while ensuring that the scientific outputs reflected perspectives and practical experiences on the local level.

MARGs were established in the beginning of the project and it was the platform for involving stakeholders during: (1) data collection, (2) defining measures, indicators and scenarios, (3) providing feedback on modelling assumptions and results, and (4) discussing policy recommendations.

OPTAIN core elements



Optimal Strategies to Retain Water and Nutrients in small agricultural catchments

Figure 2: Project cycle and core elements of OPTAIN

Every case study prepared for and organized a similar sequence of workshops using shared templates for the main agenda points, for documenting interactions, feedback, and learning outcomes.

Structured process within the Multi-Actor Reference Groups (MARGs)

On case study level a series of regular MARG workshops were implemented and complemented by bilateral activities, including surveys and interviews.

To ensure comparability across 14 cases, the project implemented a common structure for engagement and evaluation. Every six weeks an "InterVision" meeting was organized by the engagement WP facilitating information exchange and discussion between case study leaders, WP leads and task leads. Those online meeting opportunities were used to discuss upcoming tasks and experiences from implemented tasks. They were important for support, and for sharing knowledge and experiences on the MARGs across case studies.

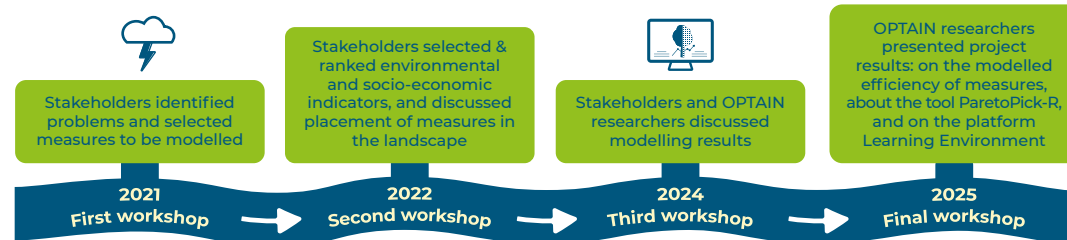


Figure 3: Timeline and focus of MARG workshops

Workshops at the beginning of the project focused on identifying local environmental challenges and potentially suitable Natural/Small Water Retention Measures (NSWRMs) that could support water and nutrient retention. The activities continued with workshops focused on selection of indicators and spatial placement of NSWRMs. It was further followed with workshops where NSWRM modelling results were discussed and feedback gathered. The final workshops held in 2025 presented overall modelling results, the ParetoPick-R tool, and the project's Learning Environment Platform where all projects' results were presented in a structured and visual way. You can find out more by clicking on the link (le.optain.eu).

Stakeholder engagement monitoring and evaluation

In OPTAIN, stakeholder engagement monitoring was implemented while using a set of practical tools. Case study leaders recorded MARG workshops and all other stakeholder interactions in simple logging templates, making it possible to follow how engagement evolved over time and across case studies.

Semi-structured interviews with case study leaders after implemented MARG workshops provided reflections on what worked, development of trust, and on the added value of engagement for the research.

Short questionnaires were used to collect feedback directly from MARG participants on relevance, added value of engagement, and barriers to engagement.

These inputs were complemented with direct observation during MARG workshops which provided insights and understanding the case study context.

TOTAL NUMBER OF MULTI-ACTOR REFERENCE GROUPS (MARGs) INTERACTIONS PER YEAR

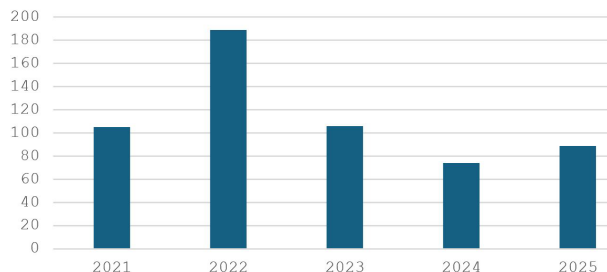


Figure 4: Graphical representation from D1.3: Report on actor involvement, MARG activities and experiences

NUMBERS OF DIFFERENT STAKEHOLDER GROUPS INVOLVED DURING THE PROJECT

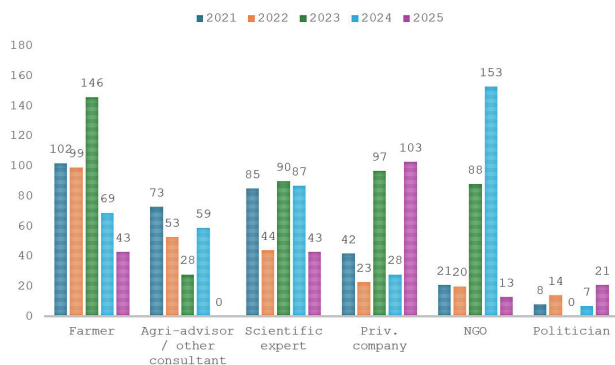


Figure 5: Graphical representation from D1.3: Report on actor involvement, MARG activities and experiences

Over the project's five and a half years, more than a thousand stakeholder interactions were recorded across the 14 case studies. The level and format of engagement varied depending on project phase and local context. Each of the project periods had its specificities and this was reflected in the monitoring results on stakeholder interactions.

2022 saw the highest number of activities as most MARGs were being established and data were collected after COVID-19 restrictions decreased.

2024-2025 focused more on feedback and co-interpretation of modelling results.



Photo: Ivana Korn Varga - La Wembe Case Study MARG meeting, Belgium

Around one-third of interactions were bilateral meetings, while MARG workshops and external dissemination events made up the rest.

The stakeholder mix was broad: farmers and advisors were involved in nearly all case studies, local and regional authorities in most, and NGOs, private companies, and scientists in several. Some MARGs also included river-basin agencies and policy representatives, reflecting the project's ambition to link science and policy.

How engagement contributed to knowledge creation, relationships, and uptake of Natural/Small Water Retention Measures (NSWRMs)

OPTAIN assessed "meaningful engagement" investigating perceptions of both stakeholders and researchers. Surveys, interviews, and workshop feedback highlighted three intertwined dimensions:

Relevance

Most participants agreed that OPTAIN addressed challenges of clear importance to their regions, particularly drought, erosion, and nutrient runoff. Many reported that through the project they gained new awareness of how NSWRMs could mitigate these problems.

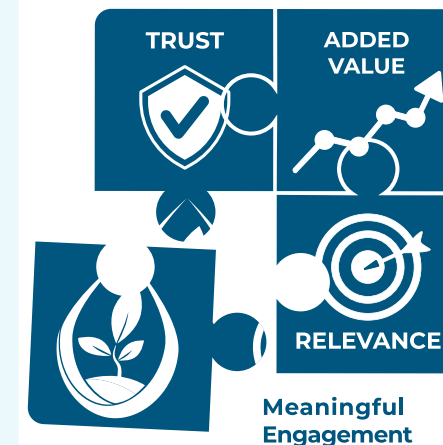
Trust

More than 90 % of stakeholders expressed trust that OPTAIN would deliver useful knowledge and take their views into account. Regular communication, transparent agendas, and respectful facilitation helped build confidence between researchers and participants.

Added Value

Stakeholders valued access to new information, opportunities to meet experts and other farmers, and practical examples of good practice. Researchers in turn reported that the engagement made their models more grounded, increased data availability, and enhanced the credibility of results.

Meaningful engagement requires an ongoing relationship, not a one-off event. Building trust takes time, but it also yields long-term gain in data quality, ownership, and acceptance of results.



Impact Beyond OPTAIN

The MARG model proved to be a flexible and transferable tool for participatory research. It helped integrate local knowledge into modelling process, align scientific results with stakeholder needs, and promote shared responsibility for implementing solutions.

Maintaining dialogue beyond project timelines, for instance through local partnerships or advisory boards, helps keep momentum alive.

Stakeholder engagement in OPTAIN created a consistent, evidence-based and human process for co-producing potential solutions to environmental challenges of water and nutrient retention.

You can learn more through Learning Environment (le.optain.eu) and project report on stakeholder engagement during the project ([link](#)).



Photo: Ingrid Nesheim - Peshnica River Case Study MARG meeting, Slovenia

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