

## Project Update

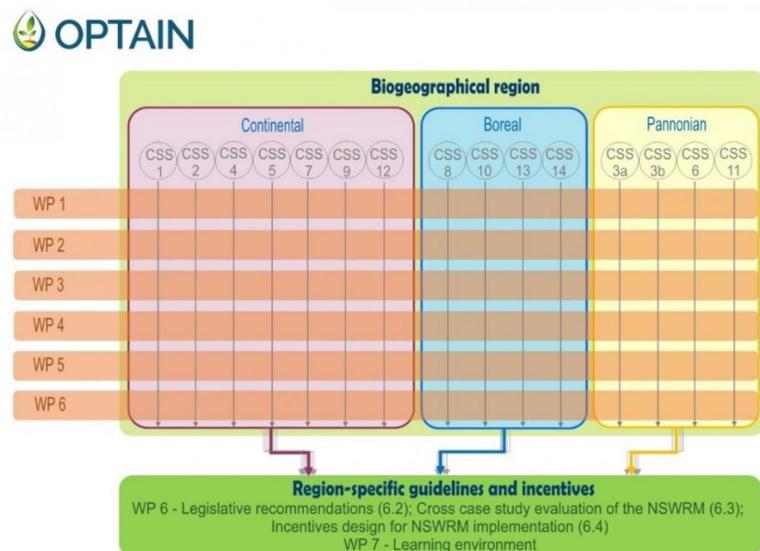
# What Happened so far - The Journey of the OPTAIN Project

April 2022

Time is always flying, also in our OPTAIN project life. We started in September 2020 with our kick-off meeting at the UFZ in Leipzig, which was held in a hybrid format. This is already one and half year ago and a lot has happened since that event. No one would have thought about such a format caused by a pandemic with such drastic influences at the time we wrote and submitted the proposal! The cancellation of most of the personal meetings, and the change to virtual ones had also an impact on our time schedules and our extensive stakeholder work. Despite the huge impact of COVID-19, we were able to manage a tremendous amount of work and meet impressive scientific objectives, not only in the form of milestones and deliverables, but also with regard to the development of reference groups, datasets, methods and tools as well as strategies to communicate and disseminate the project’s core procedures, contents and products. Moreover, in September 2021, we had our first general assembly in Warsaw, which was also held in a hybrid format. Nevertheless, a lot of people were able to participate in person and also took part at an excursion to the Polish case study site.

### OPTAINs harmonised approach across 14 case studies

A central and innovative element of OPTAIN is its harmonized approach across all 14 case studies (CS), which requires collaboration of all CS and work packages (WP) throughout the project. The harmonised approach ensures consistency and comparability amongst CS and will enable a sound synthesis of OPTAINs findings and thereby increase the overall knowledge on the effectiveness of NSWRM irrespective of case study specificities. We are successfully tackling this challenge for instance with the development of common protocols for actor involvement, data retrieval, NSWRM parametrisation and cataloguing as well as modelling and optimisation. Moreover, meetings of all CS leads (“CS InterVision meetings”) are held every 6 weeks to promote the exchange of experiences between CS.



## Establishment of stakeholder reference groups

OPTAIN’s WPI is responsible for the case studies and the harmonised multi-actor approach. In the period from the start of the project to now, the WP managed successfully a considerable amount of work, which was essential for the progress of the entire project. The WP identified for instance relevant stakeholders, developed guidelines on the establishment of MARG and conducted a MARG kick-off meeting in each CS.

MARG are the primary mechanism at the national, sub-national and down to the very local level to ensure that the NSWRM considered in OPTAIN are filtered through the critical eyes of real-world actors whether farmers or national level environment or agricultural officers in agencies. Multi-disciplinarity of the involved stakeholders adds value in all tasks related to assessment, prioritisation and comparison of measures. MARG are the main non-scientific partners “having significant scientific value” in terms of participatory and multidisciplinary approaches.

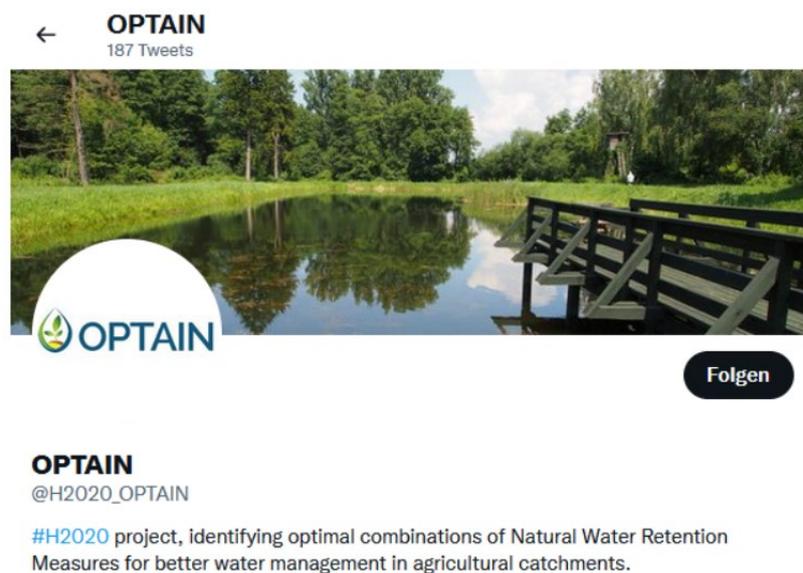
Benefits for stakeholders in MARGs	Benefits for OPTAIN partners
<p>Influence and co-design OPTAIN research by providing local knowledge and vision for the area.</p> <p>Learn about novel strategies for improving the management of water and nutrients in agricultural catchment.</p> <p>Influence agricultural policy frameworks through engaging in dialogue with other farmers, agricultural advisors, and policymakers.</p> <p>Exchange experiences and discuss approaches with other stakeholders around Europe to better adapt to extreme events.</p>	<p>Better understand the conflicts between agricultural water uses and other water demands at local scale.</p> <p>Better incorporate the expectations of local stakeholders and experts by including their opinions on which measures are possible and desirable in each case study.</p> <p>Improve research on assessment, prioritization, and comparison of measures evaluated by stakeholders.</p> <p>Get feedback on a combination of measures investigated in the project and their expected environmental, economic, social benefits, and constraints.</p>

## COVID-19 implications - a big loss for direct and trustful interactions

As mentioned at the beginning of this article, during the proposal writing and actually also during the final preparations of the project in early 2020, there was no global pandemic with its far-reaching implications. Suddenly, we had to get used to the fact that physical meetings were reduced to a minimum and virtual meetings became the „new normal“ form of communication. The vast number of virtual meetings that we were and still are involved in lead to delays and unequal time lines and sometimes also to stakeholder fatigue – not to speak about technical problems that occurred in many meetings. Moreover, we all experienced that not all communication done by virtual meetings is effective or feasible. But the mentioned harmonized approach of the project needs intensive collaboration that also involves physical meetings to build up trust and engagement, which was sometimes difficult in these times. Nevertheless, we were pleased to see that the capabilities and reliability of virtual communication platforms clearly improved during the pandemic. In addition, we all learned that we can reduce the number of our business travels, which saves time and has a positive effect on the environment.

## OPTAINs communication strategy, platforms and materials

Important progress has also been made in WP7 that developed OPTAINs communication/dissemination strategy and trained all partners in knowledge transfer and dissemination. The OPTAIN website ([www.optain.eu](http://www.optain.eu)), which is also available in Hungarian (<https://optain.hu/>) and social media such as Facebook (<https://www.facebook.com/H2020OPTAIN>) or Twitter ([https://twitter.com/H2020\\_OPTAIN](https://twitter.com/H2020_OPTAIN)) launched successfully and an initial strategy for OPTAINs Learning Environment has been developed. To support the use of a variety of communication formats a set of communication materials has been compiled and is available to all partners as assistance in their communication activities.



## NSWRM pre-selection from MARG and science/modelling perspective

To develop OPTAINs catalogue of Natural and Small Water Retention Measures (NSWRM) an initial description of NSWRM existing in the CS has been elaborated under the responsibility of WP2. Each of the 14 CS discussed existing and further potentially relevant NSWRM at the MARG kick-off meetings and collected experiences of local stakeholders regarding measure impacts and effectiveness, implementation potential and limiting factors. Together with the MARG a pre-selection of the most promising NSWRM has been done in each case study, which makes sure that OPTAIN's research is relevant for the stakeholders and "the practice". For the documentation and dissemination of OPTAINs NSWRM, the project has the ambition to update and further develop the already existing database 'World Overview of Conservation Approaches and Technologies' (WOCAT; <https://qcat.wocat.net>) and the platform of 'Natural Water Retention Measures' (NWRM; [www.nwrn.eu](http://www.nwrn.eu)). OPTAINs Learning Environment will link/integrate this knowledge for the presentation of OPTAINs NSWRM catalogue and thus reduce redundancy of existing tools and databases.



## Climate scenarios and other modelling data

The retrieval of modelling data and solutions to overcome data scarcity, which is under the responsibility of WP3, is another important part of OPTAIN. The WP compiled an inventory of available input datasets for integrated modelling from all CS. OPTAIN developed and published bias-corrected regional climate model simulation data for all case studies (ZENODO link). Approaches to derive missing data are currently under development for a variety of datasets. Examples for such activities are the derivation of field-specific crop cultivation data from satellite images, spatially distributed concentrations of soil labile phosphorus, soil hydrological properties, and various time series datasets for model calibration.

## Farm- and catchment-scale modelling

Setting up, enhancing and applying models to evaluate the environmental and economic sustainability of NSWRM on the farm and catchment level is another core element of OPTAIN. Therefore, we are using a comprehensive set of relevant indicators and a standardised, protocol-based modelling approach across all case studies. Since the start of the project, WP4 ('Integrated assessment of NSWRM') initiated the setup of catchment and field scale models to evaluate the environmental and economic effectiveness of NSWRM. Specifically, the "Soil & Water Assessment Tool" (SWAT, and here the new and re-structured version SWAT+) and the "Soil-Water-Atmosphere-Plant model" (SWAP) are in a phase of continuous setup and revision. The modelling teams are involved in all processes of WP2, 3 and 5 and model setup is highly standardized to ensure quality and comparability of the results across all CS. The OPTAIN modellers' community conducts regular meetings and project internal workshops/trainings on specific topics, invites external experts and develops a modelling protocol. A collaboration with the SWAT developers' team (USDA Agricultural Research Service, Grassland, Soil & Water Research Laboratory) has been established and the main developer (Dr. Jeff Arnold) joined OPTAINs Science Advisory Board. WP5 ('Optimisation of NSWRM plans') supported WP 2-4 to ensure that models, data and scenario design are compatible to OPTAINs optimisation approach.

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## Project Consortium



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