

Natural Water Retention Measures



Water management and climate change in Hungary

Natural Water Retention Measures (NWRMs) are specific types of Nature-based Solutions (NbS) that **rely on the natural cycling of water and on functioning of healthy aquatic ecosystems**. They improve the water storage capacity of habitats, soils, and of belowground strata, while improving water quality and the naturalness of freshwater ecosystems. **NWRMs can also be seen as innovative settlement-development tools**, as they answer complex challenges posed by climate change by contributing to sustainable development goals.

LIFE20 CCA/HU/001604

Over the past 250 years, water management in Hungary focused on draining wetlands, regulating rivers for navigation, building dykes and large-scale grey infrastructure for flood defence, protecting agricultural land from excess inland water, and developing irrigation systems.

As a result, **the water balance of Hungary is negative**: on average 7 km³ of surface and subsurface water is lost each year. At the same time, **the major part of the country is prone to droughts**, the potential evapotranspiration is higher than the annual precipitation, and some parts of the country face long-term sinking of the groundwater table.

It is increasingly urgent to shift the water management paradigm from a drainage-based to a retention based one, as this will help buffer against hydrological extremes such as longer droughts and heavier rain events that are becoming more frequent with the onset of climate change. The LIFE LOGOS 4 WATERS project aims to contribute towards that goal.

During the 4-year-long project **we will implement complex natural water retention measures under the cooperation of local municipalities** on two catchments: one lowland and one highland catchment. Integrated implementation of NWRMs on a catchment level boosts local and regional resilience to impacts of climate change and improves the natural environment.

Main characteristics:



“Little streams make great rivers!”

Often are based on many interlinked small interventions, the effects of which are adding up.



Cost-effective

Has lower investment costs compared to traditional grey-infrastructure solutions.



Close-to-nature

Supports biodiversity and the persistence of native flora and fauna. The green surfaces help cool the local microclimate.



Protects settlements

Contributes to reducing water risks threatening settlements, for instance by slowing flows.



Green spaces

Creates green spaces for sports and recreation, which helps shaping a better community on the settlement.



Attractive townscape

Can put previously unused or degraded parts of the settlement to new use.



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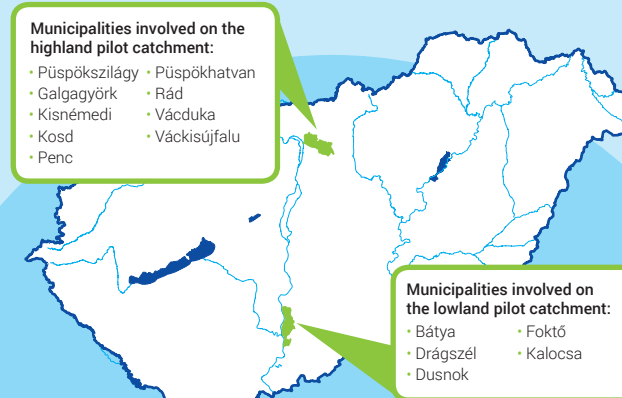
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In cooperation for a climate-conscious river basin management

Integrated application of innovative water management methods at river basin by coordination of local governments

Project duration: 1st October 2021 – 30th September 2025



Goals

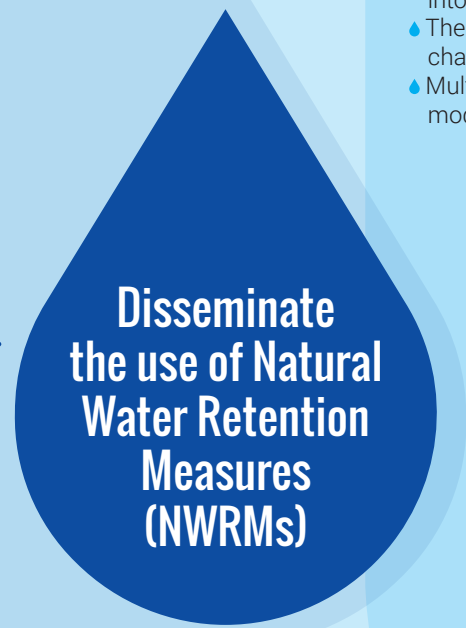


Activities

- ◆ Climate adaptation funds for local municipalities
- ◆ Implementing complex NWRMs on two catchments
- ◆ Gathering and publication of best practice examples
- ◆ Creating local knowledge centres on the two demonstration catchments
- ◆ Compiling government report

Results

- ◆ ~20 small scale NWRMs created
- ◆ ~39 000 m³ water retention capacity created
- ◆ Funding 15 small-scale municipal adaptation projects
- ◆ Conceptual NWRM plans for 5 selected catchments



Activities

- ◆ Gathering decision-support tools, systems and knowledge for municipalities
- ◆ Increase ability to tap into funding opportunities
- ◆ Thematical climate change workshops
- ◆ Multi-level governance model

Results

- ◆ Integrated Municipal Decision-support Platform
- ◆ Preparation of guidelines and methodologies
- ◆ Decreased local vulnerability to climate change



Activities

- ◆ Participatory decision making under the auspice of Multi-stakeholder Catchment Forums
- ◆ Sharing experiences from catchment level cooperation
- ◆ Preparation of catchment-level Integrated Municipal Water Management Plans and SECAPs (Sustainable Energy and Climate Action Plans)
- ◆ Volunteer program on the two pilot-catchments

Results

- ◆ Cooperation of 15 municipalities on two catchments
- ◆ ~36 000 affected local inhabitants
- ◆ New Covenant of Mayors signatories



Activities

- ◆ Supporting cross-sectoral dialogue between key stakeholders
- ◆ Summer schools and international closing conference
- ◆ Developing new academic courses
- ◆ International study trips and networking
- ◆ Key sectoral experts support the project under the auspice of the Integrated Support Board (ISB)

Results

- ◆ Methodology guide for the preparation of Integrated Municipal Water Management Plans
- ◆ Training materials on retention-based water management



Activities

- ◆ Environmental education program
- ◆ Nationwide knowledge and experience sharing event series
- ◆ Short movies, animations
- ◆ Social media campaign and prize game

Results

- ◆ 40+ project events
- ◆ Informative website

