


FACTSHEET RISK REDUCTION MEASURES

Optimise rain water storage at Kakat Pond

Where was it implemented?	
Hungary, Kunhegyes	
Fields of action	
<ul style="list-style-type: none"> Farmland Settlement area 	
Related to measure from the catalogue of measures	
<ul style="list-style-type: none"> Small retention reservoirs (no 31) 	
Area characterisation	
<ul style="list-style-type: none"> Area type: lowland Landscape type: rural 	
Problem	
<p>Before the optimisation, the capacity of the rain water storage next to the city of Kunhegyes was often insufficient. The stormwater system within the town has been developed, that caused much higher discharge coming from the territory of the municipality. Due to this process, the risk of flooding as a result of heavy rain events increased.</p>	

Drone photo of the executed storage area (source: MTDWD)

Description and aim

The retention basin was created to mitigate the negative effects of heavy rain in the catchment area. This type of water management facility is a side storage, i. e. the storage area is parallel to the main canal. The main purpose of this storage is to cover the whole discharge coming from the territory of Kunhegyes.

The capacity of the storage area is almost 12.000 m³, its length is 550 meters The depth of the water in the storage area can reach 2 meters. The storage has two structures with which the water level is controlled.

So with the optimisation of the water storagey, the effects of heavy rains (pluvial floods) can be reduced and controlled more accurately and safely.

Effect of measure

With the implementation of the pilot investment, pluvial hazards and risks are practically reduced. Now, there is a watermanagement facility that ensures the storage and drainage of the whole volume of a heavy rain event (design precipitaion).

Description of implementation

Effect horizon: medium-/long-term	Involved stakeholders: Municipality of Kunhegyes
Implementation: 06/2019	Initiator / responsible Middle Tisza District Water Directorate

Lessons-learned	
<p>Main success factor: Personal contact with the stakeholder group (citizens of Kuhegyes, farmers, etc) Optimisation of the water storage contributes to a more safe and sustainable pluvial flood situation in the catchment.</p>	<p>Main challenge: Preparation of the plans for getting the water management and environmental permission; Organization and inspection of the execution</p>
<p>Synergies / beneficial aspects: The impacts and benefits of the investment are</p> <ul style="list-style-type: none"> • mitigation of the peak of flood, • faster gathering of excess water faster from the catchment, • decrease of hours of operation at pumping stations, sustainable system, • mitigation the effects of heavy rains in the urban areas (inundations), • the outflow from Kunhegyes Town drainage system is not influenced by the main chanel. 	<p>Conflicts / Constraints: Since the storage capacity in the sub-catchment was not sufficient, there used to be inundations, which caused problems for citizens and farmers.</p>
Key message to others starting with a similar task	
<p>The retention basin is created to mitigate the negative effects of heavy rain in the catchment area. Such an investment has to be based on a hazard and risk assessment.</p>	
Contact	
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