

OUTPUT FACT SHEET

Pilot actions (including investment, if applicable)

Version 2

Project index number and acronym	FramWat, CE983
Lead partner	Warsaw University of Life Sciences
Output number and title	ACTION PLAN FOR TISZA NAGYKUNSÁGI RIVER BASIN (D.T3.5.6.)
Investment number and title (if applicable)	
Responsible partner (PP name and number)	5. Middle Tisza District Water Directorate
Project website	https://www.interreg-central.eu/Content.Node/FramWat.html
Delivery date	

Summary description of the pilot action (including investment, if applicable) explaining its experimental nature and demonstration character

The action plan of the project summarizes the work carried out in the pilot area during the project development, the results obtained and formulates a proposal for the range of possible developments in the area that are considerable in terms of drought, flood and water quality and contribute to the objectives of the Water Framework Directive. Due to the natural conditions of Nagykunsági river basin, it cannot be characterized as a typical catchment morphology, thus the test methods differ from the methods we use in the mountain-hill area, the planned N(S)WRM's are also adapted to the local conditions.

Within the framework of the project, the range of measures to be examined was selected in the Concept Plan (D.T2.3.1), which was completed for each pilot river basin. The most important task of the concept plan is to provide a proposal for the small water retention measures (N(S)WRM) that can be applied in the river basins, as well as present a method how to identify the location of each measure in the river basin.

The selectable measures examined within the project:

1. Agriculture:
 - Meadows and pastures
 - Buffer strips and hedges
 - No-till agriculture
 - Low till agriculture
 - Green cover
 - Deep plowing (removing the plow's sole)
2. Hydromorphology:
 - Wetland restoration and management
 - Reconnection of oxbow lakes and similar features
3. Forestry: Forest riparian buffers
4. Drainage areas:
 - Active water management on a drainage system (river valleys)
 - Construction of micro reservoirs on ditches
 - Construction of reservoirs on outflows from drainage systems

The action plan contains the principle of the location and scales of the planned measures in the river basin, and also with the detailed simplified investment costs.

NUTS region(s) concerned by the pilot action (relevant NUTS level)

NUTS1: Great Plain and North. (code: HU3)
 NUTS2: Northern Great Plain. (code: HU32)
 NUTS3: Jász-Nagykun-Szolnok (code: HU322)

Investment costs (EUR), if applicable

Estimated costs according to the cost analysis report:

Group of measures	Name of specific measure	Sizing	TOTAL (EUR)
Agriculture measure	Meadows and pastures	18 517 ha	3 703 496
	Buffer strips and hedges	90 ha	45 000
	No till agriculture	1 100 ha	148 913
	Low till agriculture	1 100 ha	149 875
	Green cover	15 000 ha	1 143 750
	Deep plowing	14 000 ha	1 750 000
Forestry measure	Forest riparian buffers	300 ha	937 500 EUR
Hydromorphology	Excavation of former stream, off-site disposal	500 000 m3	31 250 000
	Structure development < 5 m3/s	15 pcs	37500
Drainage	Improving water retention in Nagykunsági main canal (1,2,3,4,section), Nk III-2, Nk East branch. (4 project)		
	Dam development	59 500 m	44 625 000
	Broken shrubs (workspace preparation)	120 000 m2	450 000
	Chanel bed development	119 000 m	5 950 000
	Structure development > 5 m3/s	11 pcs	825 000
	Structure development < 5 m3/s	25 pcs	62 500
	Developing of Nagykunság, Nk X-2, Nk XII-1 irrigation system (3 project)		
	Broken shrubs (workspace preparation)	23 000 m2	86 250
	Chanel bed development	56 000 m	1 400 000
	Structure development < 5 m3/s	5 pcs	12 500
	Extending impact area of existing irrigation system by using drainage canal system		
	Broken shrubs (workspace preparation)	250 000 m2	937 500
	Chanel bed development	135 000 m	6 750 000
	Structure development < 5 m3/s	20 pcs	50 000
	Water supply for water shortage area (Tilalmas, NK VI, Álomzug)		0
	Broken shrubs (workspace preparation)	150 000 m2	562 500
	Chanel bed development	17 000 m	425 000
	Subsurface ditches	56 000 m	42 000 000
	Weir (concrete)/ Overflow structure 2-5 m3/S	91 pcs	20 475 000
	Harangzugi l. new reservoir		
	Structure development < 5 m3/s	1 pcs	2 500
	Water supply increase of Hortobágy-Berettyó region		
	Weir (concrete)/ Overflow structure 2-5 m3/S	2 pcs	250 000
	Weir (concrete)/ Overflow structure 50 m3/s	1 pcs	375 000
	Dam from 3-5m	13 700 m	31 167 500
	Subsurface ditches	3 300 m	2 475 000
TOTAL estimated cost			158 881 250

Expected impact and benefits of the pilot action for the concerned territory and target groups and leverage of additional funds (if applicable)

Increasing landscape buffer and water retention capacity by using small water retention measures:

- Achieve a better ecological status of surface water bodies, support the updating process of the River Basin Management Plans.
- In addition to reducing ecological pressures, more appropriate water management conditions in river basins will help to improve flood safety in the pilot area and mitigate drought damage.
- Draw attention using more applicable agricultural cultivation techniques, and land use,
- Establishing long-term sustainable water balance in the river basins.
- Nature conservation benefits.
- Economic benefits.

Sustainability of the pilot action results and transferability to other territories and stakeholders.

Sustainability of the pilot action needs maintenance of planned technical measures, in case of agriculture, this means continuous cultivation work, in water management sector maintenance of built facilities is a regular activity.

The land use change, introduction appropriate land use creates more favorable conditions in the river basin for long term.

The action plans are agreed with the regional water boards (Croatian Waters (Croatia), Middle-Tisza District Water Directorate (Hungary), National Water Management Authority (Poland), The Water Directorate of the Ministry of Environment of the Slovak republic and Slovak Water Management Enterprise (Slovakia), The Slovenian Water Agency (Slovenia)), which are in charge of the area of the pilot catchments. It means that after project, the work out proposal of measures will be sustain in the form of actions proposed to the third planning cycle of the Water Framework Directive.

Lessons learned and added value of transnational cooperation of the pilot action implementation (including investment, if applicable)

Examination of lowland river basins requires a different approach than mountain or hilly catchments. Water retention options in lowland areas are limited due to the morphology and runoff conditions of the area. Mathematical modelling of the processes has not been developed for lowlands, and their operation is limited. Due to the morphological features of lowland catchments, the soil profile is the most effective reservoir space, especially if the area mainly cultivated.

Contribution to/ compliance with:

- relevant regulatory requirements
 - sustainable development - environmental effects. In case of risk of negative effects, mitigation measures introduced
 - horizontal principles such as equal opportunities and non-discrimination
- The planned measures comply with the relevant national legal requirements,
 - Developments contribute the sustainable water balance, mitigate the effects of climate change, flood and drought problems, improve water quality of the recipients.

References to relevant deliverables (e.g. pilot action report, studies), investment factsheet and web-links

If applicable, additional documentation, pictures or images to be provided as annex

The Action Plan for Hungarian river basin (Nagykunsági) available:

[https://www.interreg-central.eu/Content.Node/OT3.5---Action-plans-for-implementing-N\(S\)WRM-into-the-RB.html](https://www.interreg-central.eu/Content.Node/OT3.5---Action-plans-for-implementing-N(S)WRM-into-the-RB.html)