A component of UNDP/GEF Tisza MSP Integrating multiple benefits of wetlands and floodplains into improved transboundary management for the Tisza River Basin

Making Space for Water in the Bodrog River Basin.

Final report

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Abbreviations / acronyms

DRPC	Danube River Protection Convention
EKOVIZIG	North-Hungarian Environmental and Water Directorate
EU	European Union
GEF	Global Environmental Facility
GWP	Global Water Partnership
HU	Hungary
ICPDR	International Committee on Protection of Danube River
IEM	Integrated Ecosystem Management
MoA	Ministry of Agriculture
MoE	Ministry of Environment
MoU	Memorandum of Understanding
MSP	Medium-Size Project
NGOs	Non Governmental Organisations
PM	Project Manager
PSC	Project Steering Committee
RBEC-CST	UNDP Regional Bureau for European Countries - Country Support
SAPARD	Special Accession Programme for Agriculture and Rural Development
SBAA	Standard Basic Agreement
SK	Slovakia
SNC	State Nature Conservancy
SVP	Slovak Water Management Enterprise
UA	Ukraine
UNEP	United Nations Environmental Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNDP	United Nations Development Programme
USD	United States Dollar
VITUKI	Environmental Protection and Water Management Research Institute
WFD	Water Framework Directive

1 Summary

The International Commission for the Protection of the Danube River (ICPDR) has commissioned the Global Water Partnership Slovakia led consortium a project task called "Making Space For Water In the Bodrog River Basin (HU-SK-UA)", which is a component of the UNDP/GEF financed project called "Integrating multiple benefits of wetlands and floodplains into improved transboundary management for the Tisza River Basin" (hereafter referred to as "*UNDP/GEF Tisza MSP*"). Since April 2009 Global Water Partnership Slovakia in cooperation with project partners from Hungary and Ukraine started implementation of the project *"Making Space for Water in Bodrog River Basin".*

The main project objective was to mitigate consequences of floods through achieving consistent and holistic management of flood risk in Bodrog river basin countries, Ukraine, Slovakia and Hungary by creating partnerships between national and local levels through the development of corporate "Strategy for mitigation of floods for Bodrog River Basin countries" (hereafter referred to as "*Strategy"*) and implementation of practical and sustainable solutions for flood prevention. Project activities considered where possible the maintenance and/or restoration of floodplains by creating "space" for water during flood events, as well as measures to prevent and reduce damage to human health, the environment, cultural heritage and economic activity. The involvement of municipalities, river basin organizations, NGOs, farmers, spatial and urban planning authorities was crucial. Therefore project activities focused on establishment of the close cooperation with these stakeholders.

Three main activities were carried out in the project by the consortium partners from HU, SK and UA.

***First*,** a report was prepared to discuss the **Strategy for mitigation of floods for the Bodrog River Basin.** This Strategy reviews the current situation in flood protection and sets the targets and the respective measures aiming among others to reduction of damage risks and flood levels, increasing the awareness of flooding and to improvement of flood forecasting. The targets and measures are based on the regulation of land use and spatial planning, increase of retention and detention capacities, technical flood defences, preventive actions, capacity building, awareness & preparedness raising and prevention and mitigation of water pollution due to floods.

As planned, the Programme of measures was agreed on expert level in June 2010 and presented at Tisza Group Meeting in September 2010. It is foreseen that this planning document will be further refined as appropriate and necessary by the bilateral river commissions. Implementation of the proposed technical measures is depending on available financial resources at the national levels. Therefore it is recommended to focus further activities on the capacity building, regular exchange of information among professionals and building of the pipeline of alternative approaches for cross boarder implementation of the Strategy.

Second activity was focused on improvement of conditions of original floodplains and wetlands activities a concept was formulated by the project partners to accomplish the pilot investments in each country of the Bodrog River Basin.

As a pilot area for implementation of this project ***in Ukraine, Baranivtsi community*** (uniting 4 villages - Baranintsi, Barvinok, Pidgorb, Dovge Pole) was selected. It is located south of Uzhgorod in 12 km from the border with Slovak Republic in the Bodrog River Basin. Therefore the management of water resources in such close vicinity with Slovak Republic has clear transboundary impact. The total area of the community is 50 km^2.

Part of the community area belongs to Latorica melioration system, which is the first polder system in Ukraine. There is a polder at community area where the Latorica River flows within the dikes with interdike space 2-5 km, which allow slow down flood waves from Ukraine to Slovak Republic. There is a pumping station operating for this polder, it is one of the four pumping stations, pumping water from system of channels into Latorica. Small River Slatina causes local flooding of the area. In order to avoid this Slatina water are being pumped into Latorica.

Channels system cannot operate properly due to sedimentation and over-growing by plants. In case of large precipitation, the melioration system is over-filled and cannot accumulate all surface flow, which leads to under flooding of households in Dovge Pole. It, in its turn, causes damage to the households property and worsen epidemiological situation in Dovge Pole. The flooding of canalization systems in Dovge Pole lead to pollution of surface waters by biogenic substances. The polluted waters go into Latorica which can cause transboundary pollution.

Prior the cleaning of the Tova riverbed within the Dovge Pole village the feasibility study "*Flood protection of Tova River at the territory of Baranintsi village council, Uzhgorod rayon" was done.* This feasibility study itself was funded by Baranintsi community in sum of 3,500 $ - co-funding to the UNDP-GEF project. This feasibility study envisages Tova riverbed cleaning from the plants and its deepening. In order to comply with existing legislation, Environmental Impact assessment was done, including compatibility with WFD requirements, the EIA decision was positive stating that no damage is done by these works. A number of permits are obtained from different environmental authorities: permits for tree cutting, permits for cleaning near the gas pipelines etc.

Under the project activities an investigation for the further possibility for establishment of polders at former agricultural lands for accumulation of flood waters in the Bodrog basin was carried out.

In Slovakian part of the Bodrog River Basin the pilot project site is located in Senné depression bisected by the Čierna Voda River a tributary of the Laborec River (entering close to the confluence with the Uzh River).

Restoration of the original floodplains affected by capital-intensive drainage systems and in the same time establishment of measures focusing on retention of water during flood events in the territory. In the past, several measures were taken to protect this area from floods and draining inland waters which have had critically impaired the original floodplain ecosystem functions (e.g. flood attenuation, nutrient reduction, pollution control, groundwater recharge, and fish spawning areas). Only remains of the original ecosystems and refugee for migrating birds now occur along the fishponds at Iňačovce and Senné located in the middle of Senné depression (National Nature Reserve Sennianske ponds). The area of the National Nature Reserve (NNR) is 213,31 ha with buffer zone of 211,28 ha. The total fish pond area is about 700 ha. Within the NNR three bird islands are important breeding sites.

Intervention represented the reconstruction of existing floodgate in confluence of drying bypass channel with Žiarovnický stream and is ensuring to supply wetlands by water during the dry period and in case of flood events to facilitate the elimination of flood impact on this territory Thus will improve the National Nature Reserve Sennianske ponds conditions.

In Hungarian part of the Bodrog River Basin, close to Viss village, to improve the water supply to Tokaj-Bodrog corner Landscape-protection District with improved living conditions of the protected plants and birds in the region. That site in HU is in the main floodplain area of the river with national protected area in its close vicinity. At the outskirts of Olaszliszka, Viss and Sárazsadány settlements there is a horse-shoe shaped oxbow called Viss-Oxbow on the left-hand side flood plain of the river. This oxbow was created by the river regulation works during the 1860s between 24+300 and 25+600 river kms of the Bodrog River.

The oxbow used to be filled up with fresh river water during flood events, when flood was higher than the edge of main river bed. The downstream mouth of the oxbow was not regulated and the flow was blocked. The living conditions of plant groups and other living species of Viss-Oxbow and Tokaj-Bodrogcorner Landscape-protection District significantly deteriorated during rainless summer and Bodrog River low flow periods because of lack of available water for the Viss-Oxbow area.

To ensure better quality of biotopes, there was a need to bring water during the floods into the oxbow and to retain the water there afterwards. This could be arranged by using the corner trunk main (Bodrog corner trunk) located at the upper end of the Bodrog, which was connected with the oxbow through an engineering structure in the secondary flood protection levee. This trunk main was not operational and was in bad condition. To allow water into the oxbow, the trunk main needed renovation. For this purpose a regulatory structure was built at the mouth of the oxbow and the existing, but the out-of-operation sluice was renovated at the Bodrog corner trunk conjunction.

Under the third activity, the project partners actively participated in the dissemination of project results providing information for possible replication actions on national levels and to other basins. These activities included: (i) meetings with local and international stakeholders at workshops or seminars, when the objectives of the project were presented; (ii) preparation of information materials used for informing the media; (iii) interviews given for the media; (iv) preparation of articles for local newspapers; (v) preparation and delivering of presentations about the results of the project at the local and international meetings. See details of such activities under Chapters Reports prepared; Meeting attended and Summary of PR activities.

The main lesson learnt from the project is that success of such project relies on long-term and complex work with local stakeholders focused on showing practical examples and advantages of alternative solutions to local stakeholders. The project was focusing on engagement of stakeholders identified based on the Stakeholder Analysis. Even though the same methodology was applied in the Bodrog River Basin countries the experiences are different depending on specific conditions and circumstances in those countries.

The project element on “Improvement of conditions of original floodplains and wetlands” demonstrated that even using relatively small amount of resources, still significant improvement could be achieved by finding effective measures.

These results could be easily replicated at several other sites either in the Bodrog Basin or elsewhere in the Tisza River Basin. To ensure replication, Slovak and Ukrainian the project partners

had developed a joint project proposal, which was submitted and approved for financial support from ENPI CBC Programme Hungary-Slovakia-Romania-Ukraine. Project is focused on involvement of local stakeholders through support of voluntary work and implementation of small local actions.

Replication of the demonstration project in Slovakia is ensured by ongoing UNDP/GEF project in the Bodrog River Basin *"Integration of Ecosystem Management Principles and Practices into Land and Water Management of Laborec – Uh Region"* as well as preparation of a recovery plan for Bešiansky polder.

The experience from preparation of recovery plan for the Bešiansky polder shows great potential and opportunity to replicate the experience from the project Bodrog in other parts of Eastern Slovak Lowland. There are appropriate conditions for its successful revitalization through hydrological restoration measures and interventions (removal of raid) in the selected areas. In Ukraine, the examples from Slovakia and Hungary helped to develop own proposals for 3 polders.

2 Summary of work planned

Many of the environmental problems of the Tisza River Basin can be mitigated by the implementation of an internationally agreed management plan that addresses problems of water quality and flood/drought events. Specifically, the concerns of nutrient pollution and flooding can be improved by utilising the former floodplains and reconnection of wetlands to assist with the reduction of nutrients and the buffering of flood events. Improvements in the recharge of groundwater and enhancing the biodiversity in the region will also be achieved with these actions. Tackling the land and water management together will help alleviate these problems and by engaging the local community assist with the longer-term sustainability of the environmental protection of the Tisza River Basin.

The Tisza Group, in accordance with the ICPDR, requires that a River Basin Management Plan for the Tisza River Basin is prepared. The UNDP/GEF Tisza MSP will assist in integrating the management strategies of water quality and water quantity. This integration will ensure that the overall management of the Tisza River Basin will address both land and water management for the improved environmental protection of the basin.

The overall *UNDP/GEF Tisza MSP Project* will consist of two main components:

(1) To integrate water quality, water quantity, land use, and biodiversity objectives within integrated water resources/river basin management under the legal umbrella of the EU and ICPDR;

(2) To begin implementation of IWRM principles through the testing of new approaches on wetland and floodplain management through community-based demonstration projects.

The objective and expected outcome of component 1 of the *UNDP/GEF Tisza MSP Project* is the development and endorsement, leading to implementation, of an integrated management plan for the Tisza River Basin that addresses water quality and water quantity. The subsequent implementation of the plan will result in improved approaches to the management of wetlands and floodplains through changes in national policies and legislation leading to a wide range of environmental and socio-economic benefits including: flood and drought mitigation, improved biodiversity, nutrient retention, improved amenity benefits.

The objective of the *Making Space for the Bodrog River Basin project* is to mitigate consequences of floods through achieving consistent and holistic management of flood risk in the Bodrog River Basin countries (HU-SK-UA) by creating partnerships between national and local levels through the development of “Strategy for mitigation of floods for Bodrog River Basin countries” document and implementation of practical and sustainable solutions for flood prevention. Project activities considered, where possible, the maintenance and/or restoration of floodplains by creating “space” for water during flood events, as well as measures to prevent and reduce damage to human health, the environment, cultural heritage and economic activity. The involvement of municipalities, river basin organizations, NGOs, farmers, spatial and urban planning authorities was crucial. The project activities focused on establishment of the close cooperation with these stakeholders.

The main outputs of the Making Space for the Bodrog River Basin project were:

1. Formulation of the "Strategy for mitigation of floods for Bodrog River Basin countries".

Activity 1.1 Preparatory meeting with local stakeholders and national authorities to find common approaches in flood protection;

Activity 1.2 Brief reviews and comparison;

Activity 1.3 Formulation of the strategy;

Activity 1.4 Joint conferences to present and discuss the strategy with national authorities.

2. Improvement of conditions of original floodplains and wetlands affected by current land uses and environmentally in appropriate flood protection measures.

Activity 2.1 Technical preparation of interventions and agreements on new management approaches

Activity 2.2 Local Management boards established

Activity 2.3 Implementation of interventions

Activity 2.4 Official "opening" of the interventions

3. Dissemination of project results to achieve replication on national levels and to other basins.

Activity 3.1 Meeting to inform local stakeholders on the project activities

Activity 3.2 Writing articles into the national newspapers

Activity 3.3 Preparation of a joint booklet and its presentation to the stakeholders

Activity 3.4 Meetings with state authorities

The project implementation has been launched at the 12th Tisza Group Meeting held in Budapest, Hungary on April 9, 2009 by signed of the service contract between the ICPDR and Global Water Partnership (GWP) Slovakia. Additionally, based on this contract GWP Slovakia has developed the sub-contracts and the Term of Reference (TOR) for the project partners. The Global Water Partnership Slovakia led consortium consisted of partners from Hungary, Slovakia and Ukraine.

There were three Hungarian partners in the consortium, namely the North-Hungarian Environmental and Water Management Directorate (ÉKÖVIZIG), VITUKI Environmental and Water Management Research Institute Non-profit Ltd (VITUKI) and Global Water Partnership Hungary Foundation (GWP HU).

The Global Water Partnership Slovakia has commissioned the North-Hungarian Environmental and Water Management Directorate to coordinate all tasks that the Hungarian partners had to carry out in the project, while the North-Hungarian Environmental and Water sub-contracted the following tasks to VITUKI Non-profit Ltd:

1. Preparation of a report for the Hungarian part f the Bodrog River Basin to contribute to the „Strategy for mitigation the impact of the floods in the Bodrog River Basin countries" document.
2. Preparation of information materials for two forums – inception phase and project closing forum - to make popular the results of the project (namely information materials about the project contents for the population and stakeholders) as well as presentation materials for these events.

3. Report writing about the implementation of the Hungarian project tasks and results (English version of 1. Year Report and Final Report in 2-2 copies and CD versions as well).

GWP HU has participated in the commenting of the flood strategy report, and the dissemination of information and results of the Hungarian project activities.

In Ukraine the project partner was Zakarpattya Oblast branch of All-Ukrainian League. This organisation co-ordinated all works related to the project implementation. Other project partners:

- Association of Cities and Communities in Zakarpattya Oblast
- Village council of Baranintsi. This is self-management body, coordinating all activities in the pilot area, as the main beneficiary of the results of practical pilot activities (namely cleaning of the Tova riverbed).
- Uzhgorod city branch of All-Ukrainian Ecological League.

In case of Slovakia GWP Slovakia the main project partner was Slovak Water Management Enterprise (SVP), responsible for preparation of the Strategy and implementation of the investment.

The inception phase of the project lasted 3 months (April – June 2009). The purpose of the inception phase was to test the assumptions that went into developing the project proposal and to provide additional details and revisions to the project implementation arrangements including: refined work programme, project monitoring criteria, monitoring plan and structure and other issues as necessary. A special attention was paid to identify the demonstration site in Ukraine and to specify the relevant stakeholders in each the Bodrog River Basin country. The findings during the inception phase were documented in the Inception report (see Annex B.1.) presented at the Inception workshop held 10 June 2009 in Uzhgorod - village Barvinok, (Transacarpathian region, district of Uzhgorod), Ukraine.

Independent Mid-term Evaluation was made after 9 months of project implementation in order to review the project progress and make recommendations for any mid-term corrections needed to the work programme (see Annex B. 13.).

3 Changes (and reasons) to work planned

Based on discussion during the Inception Workshop following change in the project design has been considered as a pilot area for implementation of this project in Ukraine, Baranivtsi community (uniting 4 villages - Baranintsi, Barvinok, Pidgorb, Dovge Pole) was selected. The project will investigate the best available practices on riverbed cleaning to minimize the effect for environment and promote the best possible solutions and to make sure it does not contradict with EU Water Framework requirements.

The UA project team request has been considered by the project management to fund investigations of the possible location of the polder in Baranintsi community territory (mapping and levelling exercises).

Due to the flood evens in the first half of year 2010 the pilot sites were flooded by extreme floods, the work in terrain was impossible until the end of July 2010. Therefore the Global Water Partnership Slovakia asked the ICPDR for a project duration extension. In line with this request and the decision of the ICPDR, the Service Contract IC WD 386 – SK, has been extended until 30 April 2011 in the Addendum.

4 Description of work undertaken

4.1 Formulation of the "Strategy for mitigation of floods for Bodrog River Basin countries"

Activity 1.1 Preparatory meeting with local stakeholders and national authorities to find common approaches in flood protection

Special attention was paid to improve identification of the relevant stakeholders in the project area and provide them with information about the project objectives and activities and get them involved in the activities. In scope of this activity the stakeholders meetings were organised:

Hungary – meeting held on August 5, 2009 in Viss. The mayors were informed about the main objectives, and the main activities and the duration and financial conditions of the project and were asked to agree on a meeting with the Hungarian project partners where more detailed information could be given and the needs and suggestions of the relevant settlements could be collected.

Slovakia- meeting July 29, 2009 – with local stakeholders -farmers/land users/land owners of land adjacent to the canals preparation of issuing permit for field experiment – „in site" reconstruction of flood gate Cibavka - negotiation with farmers.

Ukraine - meetings held with Baranitsy village council and negotiation of their involvement and their perspective of demo project implementation. The field survey on Tova River to investigate the problem of over flooding was carried out. In order to avoid contradictions in the approaches the meeting with Zakarpattya Water Management board and developers of technical solutions for riverbed cleaning for the pilot area was held.

Part of this activity was aiming at communication with the representatives of the "Committees for transboundary waters" to inform them about the Bodrog Project objectives and preparation /formulation of the "Strategy for mitigation of floods for Bodrog River Basin countries". The "Committees for transboundary waters" were informed about the Bodrog Project objectives and preparation /formulation of the "Strategy for mitigation of floods for Bodrog River Basin countries. HU – SK „Committee"session held in September 2009 - information was included into protocol.

Activity 1.2 Brief reviews and comparison

Brief review of Strategies on flood protection for the Hungarian, Slovakian and Ukrainian part of the Bodrog River Basin has been prepared and was included into Inception Report.

Activity 1.3 Formulation of the strategy

The process of the strategy formulation consists of two steps. As the first step the national strategies has been prepared according to commonly agreed outline. First round of presentation and commenting by the project partners was held at the partners meeting in Sárospatak, Hungary on 21st October 2009. According to the project partners agreement on the national draft Strategies were also distributed to each project partner with request for written feedback and comments. The purpose of this process is to achieve common approach about formulation of the cross-border Strategy. Second round of discussions on the draft strategy continued at the International

Stakeholder Workshop held on June 29 – 30, 2010, Zemplinska Sirava, SK. Based on outcomes from this workshop the common strategy report was developed.

A report was prepared to discuss the "Strategy for mitigation of impacts of floods in the Bodrog River Basin countries". The report gave an overview of the current flood defence situation of the Hungarian part of the Bodrog Basin describing the natural conditions including the hydrological, geological climatic pedological, forest and land use conditions. These were followed with a discussion of the anthropogenic influences on the river basin, with prime attention to flood defences, excess water control and main development principles of flood protection levee system and corresponding hydraulic structures. In the third part of the report flood protection strategy targets were discussed. This chapter was followed by introduction of the sub-basin and sub-unit level flood protection programmes, plans and projects. Finally the report gave a short outlook on transboundary co-operations and effect of climate change. The strategy is attached to this report (Annex B 12). It is foreseen that this planning document will be further refined as appropriate and necessary by the bilateral river commissions.

Activity 1.4 Joint conferences to present and discuss the strategy with national authorities

November12-13, 2009 Stakeholders meeting in Košice - The purpose of the workshop was to discuss topics of importance to the Tisza River Basin with an emphasis on *identifying barriers to changes in management and behaviour* that will lead to quality and reduced flooding impacts in the basin. The stakeholders of the Tisza MSP demonstration projects *provided valuable ideas to the development of an Integrated River Basin Management Plan* that is currently the focus of the ICPDR Tisza Group.

The International Stakeholder Workshop held on June 29 – 30, 2010, Zemplinska Sirava, SK (22 participants from HU, SK, UA).

Objectives of the workshop were:

- strengthen understanding of linkages between the Bodrog project and the Tisza River Basin Management Plan,
- open communication channels and build partnerships among stakeholder groups representing different levels, sectors and areas of expertise,
- to improve information turnover and use in decision making among stakeholder groups representing different levels in this field, provide insights gained from the demonstration project to different groups of stakeholders, bring conclusions of the Tisza Regional Integration Workshop to the local level.

As a part of dissemination activities, the project has develop a ***joint booklet*** focused on presentation of alternative approaches in flood protection and development of common understanding for nature protection amongst the local stakeholders in each of three project countries. This booklet has been translated into 4 languages and distributed to the participants. Report from this workshop is attached to this report (Annex B.14).

Beside of the joint conference this activity included also other meetings with stakeholders and the national authorities in partner's countries. In the frame of this activity the stakeholder meetings in the project partner countries took place aiming at motivation of the local stakeholders e.g. the Stakeholder meeting on the "Strategy for mitigation of floods for Bodrog River Basin countries", Trebisov, April 15, 2010 (23 participants).

4.2 Improvement of conditions of original floodplains and wetlands affected by current land uses and environmentally in appropriate flood protection measures.

4.2.1 The pilot project in Hungary

The objective of the pilot investment in Hungary was to improve the water supply to Tokaj-Bodrog corner Landscape-protection District with improved living conditions of the protected plants and birds in the region. The site in HU was in the main floodplain area with national protected area in its close vicinity.

In the lower Hungarian section of the Bodrog River at the outskirts of Olaszliszka, Viss and Sárazsadány settlements there is a horse-shoe shaped oxbow called Viss-Oxbow on the left-hand side flood plain of the river. This oxbow was created by the river regulation works during the 1860s between 24+300 and 25+600 river kms of the Bodrog River.

The total length of the oxbow is 8,1 km and the area that it covers is 48,6 ha. The average width of the oxbow bed is 60 m and it has an average depth of 3,5 m. The average amount of stored water is about 1,5 million m^3.

The oxbow used to be filled up with fresh river water during flood events, when flood is higher than the edge of main river bed. Currently, the downstream mouth of the oxbow is not regulated and the flow is blocked. The living conditions of plant groups and other living species of Viss-Oxbow and Tokaj-Bodrogcorner Landscape-protection District significantly deteriorated during rainless summer and Bodrog River low flow periods because of lack of available water for the Viss-Oxbow area.

To ensure better quality of biotopes, there was a need to bring water during the floods into the oxbow and to retain the water there afterwards. This can be arranged by using the corner trunk main (Bodrogcorner trunk) located at the upper end of the Bodrog, which is connected with the oxbow through an engineering structure in the secondary flood protection levee. This trunk main is not operational and is in bad condition. To allow water into the oxbow, the trunk main needs renovation. To do this a new sluice has to be built at the mouth of the oxbow and renovate the sluice at the Bodrogcorner trunk conjunction. At the 6+000 rkm the Törökér inland excess water pumping station lifts water into the oxbow, as well.

The oxbow area was bordering on the Tokaj-Bodrogcorner Landscape-protection District. At the vicinity of the oxbow willow and poplar gallery of forests and pasture areas can be found. The oxbow and the surroundings remained in natural condition, protected plant groups (*Ceratopteris cornuta, Hydrochari-Stratiotetum, Nymphaeetum albo-luteae, Trapa natans*) and individually protected plants (*Chrysanthemum serotinum, Salvinia natans, Nymphaea alba*) grow and live there as well as protected birds (*Egretta alba, Egretta garzetta, Ardea cinerea, Ardea purpurea*).

It was planned to build a new water level regulating structure at the 0+300 rkm of the oxbow to retain flood water in the oxbow and thus preventing the full emptying of it after the flood passed (Figure 1 and Figure 2).

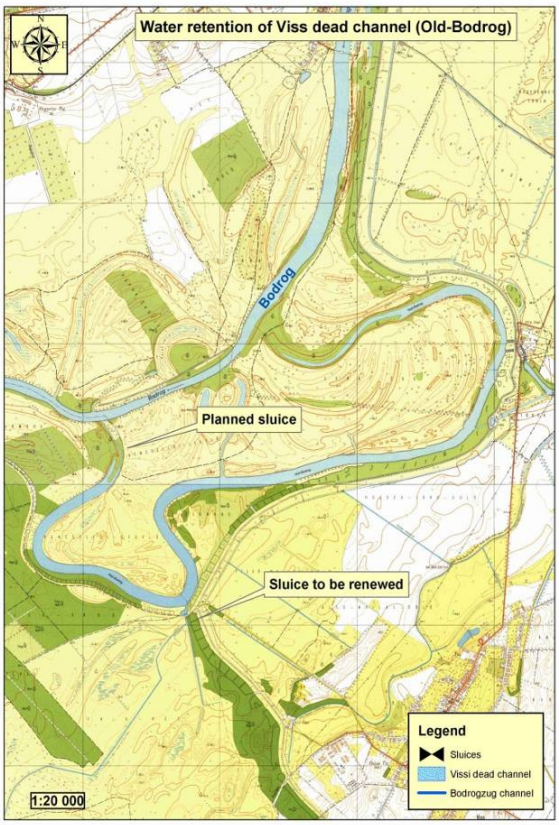

Figure 1: Location of new and renewed structures on the oxbow

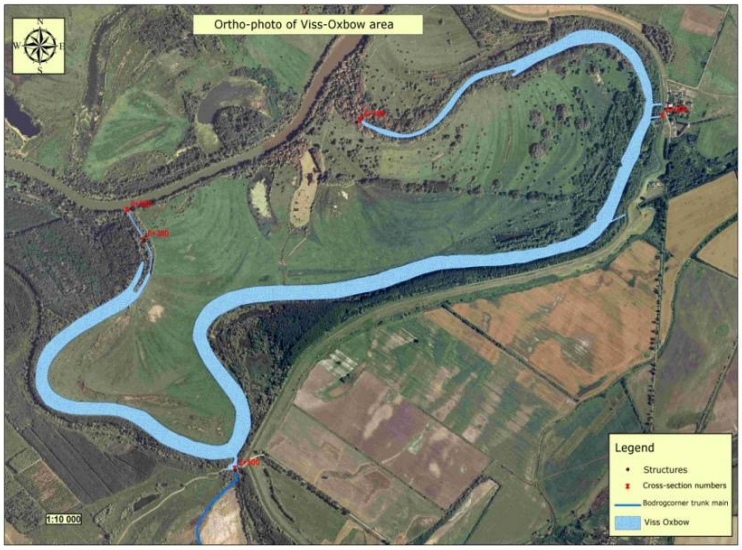

Figure 2: The Viss Oxbow on ortho-photo

Conducting water from the main river bed to the oxbow (while the flood is under second alert level) can ensure sufficient water level reduction of adjacent area during flood events. Thus, by the investment the flood risk will be reduced. The other role of this sluice would be to retain water in the oxbow after flood period increasing the oxbow water level by around

1 m and thus storing more water in it for the dry period to support the Tokaj-Bodrogcorner Landscape-protection area preserving the prestigious flora and fauna there.
At the 2+500 rkm of the oxbow there was an old sluice in the left side levee of Bodrog River. It was planned to renovate that old, out-of-order sluice and thus making possible to release water into the Bodrogcorner trunk and providing vital important water for Tokaj-Bodrogcorner Landscape-protection District during low precipitation period. The sluice before and after the renovation can be seen on Figure 3 and Figure 4.

Figure 3: The sluice before renovation

Figure 4: The renovated sluice on Viss Oxbow

4.2.2 The pilot project in Slovakia

Objective of this demonstration pilot investment was to restore the original floodplains affected by capital-intensive drainage systems and in the same time establishment of measures focusing on retention of water during flood events in the territory.
Demonstration site in Slovakia is located in Senné depression, more or less bisected by the Čierna Voda Channel, a tributary of the Laborec (entering close to the confluence with the Uh) whose catchment is largely within the pilot project area (Figure 5).

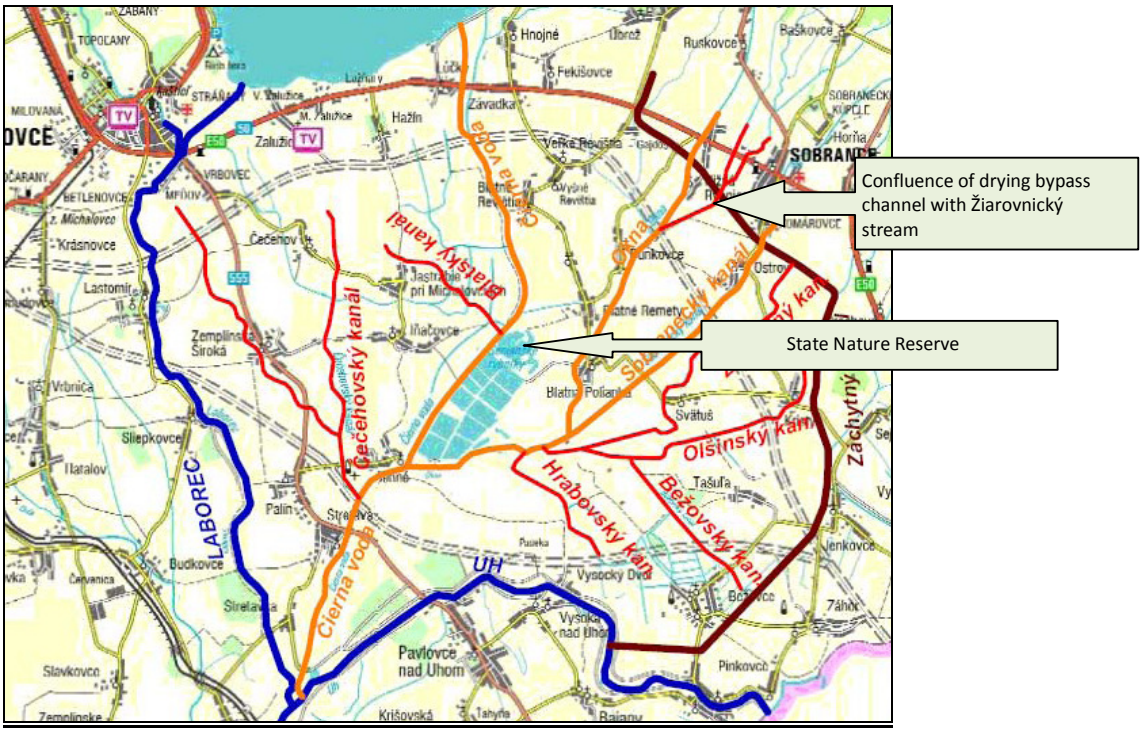

Figure 5: Location of pilot area

In the past, several measures were taken to protect Senné depression from incoming waters and draining inland waters. Those were especially construction of the Záchytny bypass channel which collects water from the Vihorlat Mountains and directs them in to the Uh and construction of the Stretávka pumping station with 16 m^3/s capacity designed to draw off water from 25,100 ha of agricultural land during a 21-day period. Others are river straightening and flood protection dams, construction of the Vihorlat flood protection reservoir to reduce the floods in the Laborec river and construction of channels between the Vihorlat reservoir and the Laborec and Čierna Voda rivers.

These water management practices have critically impaired floodplain ecosystem functions (e.g. flood attenuation, nutrient reduction, pollution control, groundwater recharge, fish spawning areas) that in turn have reduced the variability and dynamic processes inherent in natural floodplain habitats. Only remains of the original ecosystems and refuge for migrating birds now occur along the fishponds at Iňačovce and Senné located in the middle of Senné depression.

The Senné depression is the most important area for nesting and migrating birds in Slovakia. Within the area, the following protection status was designated: State Nature Reserve without buffer zone (213.51 ha), Special Protection Area (SPA, covering 1,490 ha) under the EU Bird Directive and two candidate Special Areas of Conservation (SAC) under the EU Habitats Directive.

The area supports 57 breeding species and a further 99 species have been recorded as visitors. For 25 of the breeding species, Senné is the only or the most important breeding place in Slovakia and 22 species using the site are subject to special protection under Annex I of the EU Birds Directive, including *Ardea purpurea, Egretta garzetta, Egretta alba, Platalea leucorodia, Nycticorax nycticorax, Botaurus stellaris, Circus aeruginosus, Chlidonias hybridus, Recurvirostra avosetta, Limosa limosa* and *Tringa totanus.* The protected habitat type is a natural eutrophic lake with *Magnopotamion* or *Hydrocharition* (EUNIS 3150), and three species listed in the EU Habitats Directive: invertebrates *Unio crassus*, *Anisus vorticulus* and amphibian *Bombina bombina*. More than 300 higher plant species have been recorded in the project site, of which some15 % are recognized as rare and endangered, including: *Fritillaria meleagris*, *Orchis palustris, Allium angulosum, Ceratophyllum submersum, Gratiola officinalis,* and *Veronica anagalloides*.

The surviving flood meadows serve as valuable seed banks for restoring further areas of wet grasslands. They represent four types of seminatural grasslands with a total area of 1,293 ha. The dominant type (1,082 ha) is a mosaic of two habitat types: continental (*Cnidion* – forming the second largest site in the region) and wet grassland (*Potentillion anserinae*).

Originally proposed intervention consisted of reconstruction of existing floodgate in confluence of drying bypass channel with Žiarovnický stream and reconstruction of existing floodgate (by 3 wooden boards) Cibavka channel located south of the Senne fish ponds. Technical preparation of the investment covered biotope mapping, hydrological mapping, elaboration of Digital Elevation Model, hydrological modelling and approval process by District Authorities. Landowner negotiations included overview of Rural Development plan (RDP), preparation of the questionnaire for farmers to discuss current problems with the low quality land, application for agroenvironmental subsidies through RDP, willingness and motivation to apply for restoration subsidies. These activities were carried out in cooperation with UNDP/GEF Laborec Uh project.

Since an approval on reconstruction of Cibavka flood gate was not achieved due to disagreement of some farmers, the activities continued by originally planned reconstruction - flood gate located in the upstream – main drainage channel & Žiarovnica canal. Reconstruction works were undertaken by SVP in December 2009. For this reconstruction, there was no need for issuing a permit. The operational manual for dealing with the gate has been developed in order to ensure proper flood protection function of this gate. This modification represents the improvement of the flood gate Blatna Polianka operation aiming at water supply to the National Nature Reserve Sennianske ponds. The intervention ensured the supply of wetlands by water during flood events /or the dry period and thus will improve the National Nature Reserve Sennianske ponds conditions. In same time this intervention reduces flood risks by decreasing of water discharge into Stretavka pumping station and simultaneously allows retention of water into NNR. The flood gate before and after the renovation can be seen on Figure 6 and Figure 7.

Figure 6: Flood gate before the renovation

Figure 7: Flood gate after the renovation

4.2.3 The pilot project in Ukraine

As a pilot area for implementation of this project in Ukraine, Baranivtsi community (uniting 4 villages - Baranintsi, Barvinok, Pidgorb, and Dovge Pole) was selected (see Figure 8 below). It is located south of Uzhgorod in 12 km from the border with Slovak Republic in the Bodrog basin. Therefore the management of water resources in such close vicinity with Slovak Republic has clear transboundary impact. The total area of the community is 50 km^2.

Part of the community area belongs to Latorica melioration system, which is the first polder system in Ukraine. There is a polder at community area; here Latorica flows within the dikes with interdike space 2-5 km, which allow slow down flood waves from Ukraine to Slovak Republic. There is a pumping station operating for this polder, it is one of the four pumping stations, pumping water from system of channels into Latorica. Small River Slatina causes local flooding of the area. In order to avoid this Slatina water are being pumped into Latorica.

Unfortunately channels system cannot operate properly due to sedimentation and over-growing by plants. In case of large precipitation, the melioration system is over-filled and cannot accumulate all surface flow, which leads to under flooding of households in Dovge Pole. It, in its turn, causes damage to the households property and worsen epidemiological situation in Dovge Pole. The flooding of canalization systems in Dovge Pole lead to pollution of surface waters by biogenic substances. The polluted waters go into Latorica which can cause transboundary pollution (as far as it is just 12 km from the border).

At present, Baranivtsi community is investing their own funds into cleaning Latorica polder system to avoid flooding in the future. *"Complex Flood Protection Program for Zakarpatia Oblast until 2015*" envisages for this area improvement of the pumping stations and increasing of their capacity.

In case of flood in Latorica, the community can allow to flood their territory in conditions that their households will be protected from flooding.

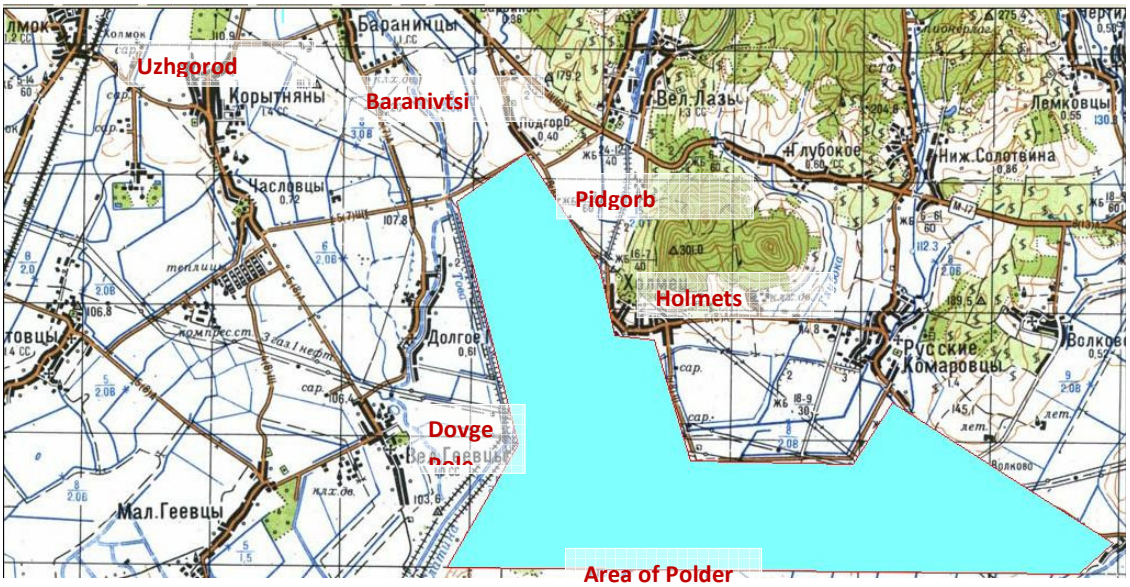

Figure 8: Selected pilot area

Prior the cleaning of the Tova riverbed within the Dovge Pole village the feasibility study "*Flood protection of Tova River at the territory of Baranintsi village council, Uzhgorod rayon" was done.* ***This feasibility study itself was funded by Baranintsi community in sum of 3,500 $ - co-funding to the UNDP-GEF project***. This feasibility study envisages Tova riverbed cleaning from the plants and its deepening. In order to comply with existing legislation, Environmental Impact assessment was done, including compatibility with WFD requirements, the EIA decision was positive stating that no damage is done by these works. A number of permits are obtained from different environmental authorities: permits for tree cutting, permits for cleaning near the gas pipelines etc.

In August public hearings in Baranintsi village council concerning the proposed actions were held. The theme of the hearings was not only approval of the works but also public involvement (citizens, youth of Dovge Pole) in the actions. The Local Management Boards has been established it includes 1 representative of Baranintsi community, representative of Zakarpattya Water Management Board, project manager and responsible person for the cleaning of the riverbed. The proposed activities were approved by Local Management Board.

The interventions on ***Tova riverbed cleaning*** started in September 2009. The works were done with close involvement of local population, which included on-site training. Besides, cleaning all trees and bushes in the riverbed and making it visible, another positive side effect of the riverbed cleaning was identification and ***cleaning of a number of illegal waste dumps*** and ***illegal untreated wastewaters outlets***. These all actions significantly improved of the state of environment. Cleaning area is shown on Figure 9.

Figure 9: Tova riverbed cleaning

The project investigated the further possibility ***for establishment of polders at former agricultural lands for accumulation of flood waters*** in the Bodrog basin.

The total volume of water, which can be regulated using proposed polders, is 530,000 m^3. These polders will operate only in case of floods of 10% probability. In other conditions, the total area of polders 40,3 ha can be used in agriculture.

As result of study of the area, three sites are defined for establishment of accumulative polders in the Tova river basin within Baranintsi community and near village Velyki Geevtsi namely:

1. Accumulative polder №1 – downstream the motorway Pidgorb-Chaslivtsi (between right bank dike of regulated riverbed of Tova till oxbow of Tova).
2. Accumulative polder №2 includes reconstruction (recultivation) of open cats for clay extraction for brickyard plant (not operating) near Velyky Geevtsi village.
3. Accumulative polder №3 – between right-side dike at Slatyna River and road near Velyky Geevtsi village.

Location of the proposed polders is shown on Figure 10.

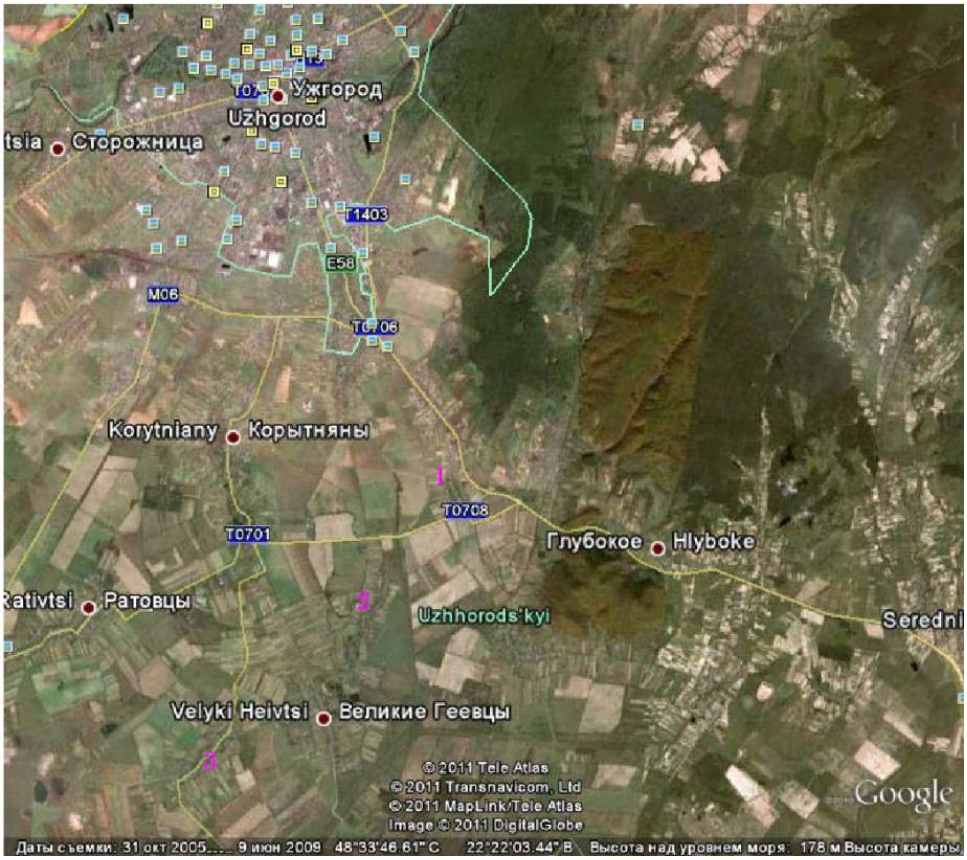

Figure 10: Location of the proposed polders

4.3 Dissemination of project results to achieve replication on national levels and to other basins.

Under these activities, the project team focussed on the dissemination of project results providing information for possible replication actions on national levels and to other basins. These activities included: (i) meetings with local and international stakeholders at workshops or seminars, when the objectives of the project were presented them; (ii) preparation of information materials used for informing the media; (iii) interview given for the media; (iv) preparation articles for local newspapers; (v) preparation and delivering presentations about the results of the project at local and international meetings. See details of such activities under Chapters Reports prepared; Meeting attended and Summary of PR activities.

5 Achievements of the project and how these benefit Tisza Countries

The project worked both on national and local level in order national policies are transposed into practical solutions and on the contrary, local experiences in ensuring flood protection and increasing value of habitats are mainstreamed into the national policies.

The project provided combined approach from flood management strategy to rehabilitation measures on demonstration sites to capacity and ownership building at local scale, completed with public information campaign. In addition, the project fits with WFD objectives, Habitats directive and has some flood risk reduction potential with higher positive impact on water balance.

As for the cross-border cooperation between HU- SK -UA, Project built on three pillars of joint cooperation between the countries and thus establishing the partnerships. Those were cooperation on the joint "Strategy", presentations and meetings with local stakeholders and dissemination of project outcomes, i.e. preparation of joint booklet. By this, project started up the coordination processes in the Bodrog catchment countries.

The Strategy reviews the current situation in flood protection and sets the targets and the respective measures aiming among others to reduction of damage risks and flood levels, increasing the awareness of flooding and to improvement of flood forecasting. The targets and measures are based on the regulation of land use and spatial planning, increase of retention and detention capacities, technical flood defences, preventive actions, capacity building, awareness & preparedness raising and prevention and mitigation of water pollution due to floods

The project approaches were based on the appropriate and effective functioning of the flood prevention strategy. This consisted of three steps: retaining, storing and draining.

Besides of those benefits, project tested whether mitigation of floods and flood protection based on environmental approaches would lead to less financial demand solutions by implementing the pilot demonstration projects.

Achievements of the pilot demonstration projects:

Pilot area – Hungary: The living condition of the protected plant groups, wetland plants, and bird population could be improved and increased significantly at about 42 km^2 area of the Landscape-protection District in the future. The effected, improved area is about 80% of the total territory Landscape-protection District, as water could be assured for the region during the rain less and low flow summer period

Pilot area – Slovakia: Intervention ensured to supply wetlands by water during the dry period and in case of flood events to facilitate the elimination of flood impact on this territory Thus will improve the National Nature Reserve Sennianske ponds conditions. In same time this intervention reduces flood risks by decreasing of water discharge into Stretavka pumping station and simultaneously allows retention of water into NNR.

Pilot area – Ukraine: Preparatory works were carried out to restore the Latorica river polder system focusing on the Tova River to improve the water flow capacity of the riverbed for flood protection purposes. Total length of the Tova riverbed cleaned is 3 km.

Potential places for flood retention polders at Baranintsi area have been defined, which can stop flood waters from coming to the territory of Slovakia and Hungary. Platform for new projects and further optimization of the use of the area for flood protection purposes was created.

The project initiated public attention and attention of the State administration of Zakarpatska oblast to the issues of the Tova River. In 2010, Uzhgorod regional authority invested ***1 mil.UAH (100,000 Euro***) into further cleaning of the Tova River.

Pilot demonstration projects, interventions carried out serve as a good example of floodplain restoration, increase conditions for flood control formulated, with view to create temporary “space” for water during flood events. In the same time these measures are leading to improved of habitats conditions (related to water regime and water quality, and agricultural use, nutrient retention and /or removal etc.) and are in line with Programme of measures proposed in the Tisza IRBMP.

Meetings organisation in order to inform local stakeholders and the state authorities about the project activities, flood risks contributed to increasing the public awareness in each country.

Series of articles in national newspapers have been published about the pilot project, investment process and expected results and benefits of such investments.

In order to achieve the common understanding amongst the local stakeholders in each of three project countries of alternative approaches in flood protection and development of the nature protection a join booklet has been published. This booklet also provides information to relevant stakeholders who live and act within the Bodrog River Basin countries about possibilities for floods prevention and for their mitigation as well as give the practical examples to support the long term of sustainable solutions for flood prevention.

The stakeholder workshops and meetings enabled to strengthen understanding of linkages between the Bodrog project and the Tisza River Basin Management Plan and broth information on the Integrated Tisza River Basin Management Plan to the local level.

6 Experiences and examples of Integration

The project dealt with preparation of a flood management strategy and construction activities to improve conditions of flood plains and wetlands at Viss Oxbow area and Tokaj-Bodrogcorner Landscape-protection District in HU and NNR Senne in SK. These actions were intended to improve quantitative aspects of water management and had just implicit effect on water quality management aspects. On the other hand these two pilot demonstration projects can serve as good example of integration of the flood protection measures with nature protection, improvement of habitat conditions and biodiversity. Implementation of both interventions was possible to achieve owing to the close cooperation between the water managers and nature protection experts.

In Ukraine during this project implementation the first experience of public hearings and public involvement into riverbed restoration were acquired. With respect to integration some positive side effects was recorded. Realisation of intervention contributed to liquidation of illegal dump places and illegal untreated wastewater releases. It shows the significance of the ownership for the community and international intervention, these all help people to feel responsible for their land and integration of water quantity and quality management.

7 Logframe Indicators and Results

Goal:	**Integrating multiple benefits of wetlands and floodplains into improved trans-boundary management for the Tisza River Basin**					
Project Objective	**Indicator (description)**	**Baseline (value at the start of the project)**	**Target (value to be achieved)**	**Achievements**	**Sources of verification**	**Risks and Assumptions**
To mitigate consequences of floods through achieving consistent and holistic management of flood risk in Bodrog river basin countries (SK-HU-UA) by creating partnerships between national and local levels.	"Strategy for mitigation of floods for Bodrog River Basin countries" included into the national flood protection systems	Tisza group is the platform for coordination of the RBMP development. Strategy to mitigate floods formulated on the Tisza River Basin, lack of implementation in riparian countries. Bilateral agreements between the countries are mainly focused on cooperation in case of crisis, not on preventive measures.	Agreement on Programme of measures	Programme of measures presented at Tisza Group Meeting and agreed on expert level	National legislation ICPDR reports	- National, regional and local authorities maintain good liaison and coordination to formulate the strategy - There is no commitment from national authorities in each country that the cross-border "Strategy" will be approved
	Change of land use, areas put under water during the floods	Current land use is mainly focused on draining the aquatic habitats	Improved aquatic habitats in oxbow by use of flooding	Conditions improved, however it is very short time to properly assess the improvement of ecosystem	Hydro-meteorological Institute (water quality reports) Project reports	Willingness of farmers to cooperate is not yet confirmed Unclear ownership situation (especially in Slovakia and Ukraine, where there is high no. of small owners). In Hungary, 90% of land in Hungary is in hands of few big owners, with limited number of small owners
	No. Of municipalities cooperating in formulation of flood prevention	0	10	At minimum 3 municipalities in each country involved in formulation	Project reports	Formulation but no real commitment because of lack of means

Goal:	**Integrating multiple benefits of wetlands and floodplains into improved trans-boundary management for the Tisza River Basin**					
Project Objective	**Indicator (description)**	**Baseline (value at the start of the project)**	**Target (value to be achieved)**	**Achievements**	**Sources of verification**	**Risks and Assumptions**
Project Outputs						
Output 1: Formulation of the "Strategy for mitigation of floods for Bodrog River Basin countries	Measures to increase conditions for flood control formulated, with view to create temporary "space" for water during flood events (using natural depressions)	No measures	Measures elaborated by end of 2009	Draft national measures elaborated by October 2009	Project reports ICPDR Reports	Stakeholder participation is not confirmed in order to achieve acceptance of the Strategy
	Measures elaborated to reduce possible adverse effects of floods on infrastructure necessary for sanitation and contaminated sites located in flood-prone areas, especially in case of contamination by hazardous substances.	No measures	Measures elaborated by end of 2009	Draft national measures elaborated by October 2009	Project reports ICPDR reports	- There are no sufficient data (contaminated sites, local landfills) to formulate the measures Stakeholder participation is not confirmed in order to achieve acceptance of the Strategy
	Monitoring needs elaborated to reflect the Bodrog river basin conditions	Monitoring criteria elaborated only on the national level criteria	Criteria elaborated by March 2010	Draft national measures elaborated by October 2009	Monitoring authorities reports Reports of Tisza flood forum	State authorities willing to accept the criteria and start using them
	Measures oriented on the public information and consultation elaborated for Sub basin scale (For Tisza basin scale measures are mandatory by WFD)	No measures for Bodrog sub basin	Measures elaborated by end of 2009	Draft national measures elaborated by October 2009	Project reports ICPDR reports	- Stakeholder participation is not confirmed in order to achieve acceptance of the Strategy

Goal:	**Integrating multiple benefits of wetlands and floodplains into improved trans-boundary management for the Tisza River Basin**					
Project Objective	**Indicator (description)**	**Baseline (value at the start of the project)**	**Target (value to be achieved)**	**Achievements**	**Sources of verification**	**Risks and Assumptions**
Output 2 Improvement of conditions of the original floodplains	No. of functional intervention in place in each country (Slovakia, Ukraine and Hungary)	0	1 in each country	1 in each country	State Water Management authorities annual reports Final Project Report Implementation reports from pilot projects	Farmers and local water companies are willing to undertake pilot projects
	Habitats conditions improved (related to water regime and water quality, and agricultural use, including pasture, forestry, fishing, etc.)	Low amount of area currently temporarily flooded	Increase by 20 % of area temporarily flooded	Hungary: Increase by 80% Slovakia: Conditions of whole national nature reserve Senné improved Ukraine: Measure was focused on flood prevention and decrease of pollution of surface waters which will have positive impact on habitats in long-term	Project reports Conservancy Administration annual reports	The estimated and /or proposed measures will bring in practice water to natural habitats. An agreement on management must be made.
	Local people are using implemented interventions	Local stakeholders, currently do not use gates to flood the meadows	Investments are operational	Investments are operational	Project reports Water management enterprises reports	-Willingness of farmers to use implemented interventions is not yet confirmed -Local management boards are not yet established

Goal:	**Integrating multiple benefits of wetlands and floodplains into improved trans-boundary management for the Tisza River Basin**					
Project Objective	**Indicator (description)**	**Baseline (value at the start of the project)**	**Target (value to be achieved)**	**Achievements**	**Sources of verification**	**Risks and Assumptions**
Output 3 Dissemination of project results	Agreement on restoration of other sites agreed on the national levels.	0	at least 2 in each country	Slovakia: Beša polder Ukraine: proposal for 3 polders developed	Project final reports ICPDR reports	State authorities support spreading information to other regions
	Active participation of municipalities and local stakeholders in flood protection	No participation	At least 10 municipalities start	At minimum 3 municipalities in each country, especially in Ukraine	Project reports	- Local stakeholders are willing to discuss and agree on common approaches in flood protection - Municipalities start preparing local water management plans on time
	Preparation of a joint booklet and its presentation	No such booklet	Booklet elaborated by March 2010	Booklet elaborated in 4 languages (Ukrainian, Hungarian, Slovak, English) printed, presented and distributed to the stakeholders	Project final reports Media reports	Stakeholders interested in using experiences from the booklet

8 Reports prepared

All reports have been prepared according to the project proposal and workplan. Final version of the project reports was developed based on the national reports provided by the project partners.

The following reports were prepared during the project implementation period:

Regular reports

Inception Report

1st Quaternary Progress reports and Financial Reports, period April - June 2009

2nd Quaternary Progress reports and Financial Reports, period July – September 2009

3th Quaternary Progress reports and Financial Reports, period October – December 2009

4th Quaternary Progress reports and Financial Reports, period January – March 2010

First year Report and Financial Report

5th Quaternary Progress reports and Financial Reports, period April - June 2010

6th Quaternary Progress reports and Financial Reports, period July –September 2010

Final Report

Other Reports and documents:

- Strategy for mitigation the impact of the floods in the Bodrog River Basin Countries (HU)
- Strategy for mitigation the impact of the floods in the Bodrog River Basin Countries (SK)
- Strategy for mitigation the impact of the floods in the Bodrog River Basin Countries (UA)
- Common Strategy for mitigation the impact of the floods in the Bodrog River Basin Countries
- Midterm Evaluation Report
- Summary report contribution to the Integrated Tisza River Basin Management Plan

All reports and documents are attached to this Final report in Annex B.

9 Meetings attended

The project considered the involvement of municipalities, river basin organizations, NGOs, farmers, and urban planning authorities as crucial. Therefore project activities were focused on establishment of the close cooperation with these subjects via organisation of the meetings or presentation of the projects achievements at relevant workshops or other events.

1. Attendance of the project experts on the events organised by the ICPDR or the UNDP/GEF Tisza MSP:

I. 2nd UNDP/GEF Tisza MSP Meeting, 9 April 2009, Budapest, Hungary
II. International Stakeholders Meeting, 13 November 2009, Kosice, Slovakia
III. Workshop on "Integrating land and water management to reduce impacts of floods and droughts on water status in the Tisza River Basin District" on 26 – 27 April 2010 in Szolnok, Hungary (the project posters presentation)
IV. 15th The Tisza Group meeting

2. Common meetings organised by the project:

I. Inception Workshop, 10 June 2009, Uzhgorod, Ukraine
II. Project Implementation Meeting, 21 October 2009, Sárospatak, Hungary
III. Project partner meeting, 4th February 2010, Kosice, Slovakia
IV. Stakeholder workshop, 29-30 June 2010, Zemplinska Sirava, Slovakia

3. Meetings organised by the project partners or participation of the project expert on the events at national level:

Hungary:

I. At the stakeholders meeting on the 5th of August 2009 in Viss, the future operation and maintenance of the structures was discussed. The municipalities have declared to handle the structures.
II. On the 25th November 2009 a meeting was held at ÉKÖVÍZIG, Miskolc, to where the representative of the Aggtelek National Park Directorate (regional authority responsible for nature protection) and the contractor were invited. The planned interventions were presented to the delegate of the national park by the contractor and the project staff of ÉKÖVÍZIG. An agreement was signed, in which the Aggtelek National Park Directorate declared that they approve planned development and it is connected to their long term development plans of the Bodrogzug region.
III. On 26th February 2010 a meeting was held on ÉKÖVÍZG's ship "Tarcal" on which the Hungarian partners, the constructor, the Aggtelek National Park executives and the mayor of Viss took part.

Slovakia:

I. In June 2009 the meeting with local stakeholders -farmers/land users/land owners of land adjacent to the canals. Some farmers were afraid of increasing of water levels in the canal system. The meeting was concluded with agreement to start the testing of the model by continuous increasing of water level.

II. Meeting August 13, 2009 – preparation of issuing permit for field experiment – „in site"- reconstruction of flood gate Cibavka - negotiation with farmers. Willingness of farmers to cooperate not confirmed.

III. Representative of Bodrog project informed about the project at the conference "Conservation of wetlands in the Carpathians" in High Tatras in November 2009.

IV. UNDP- GEF project Laborec – UH, Steering Committee meeting held in December 2009 – introduction of the Bodrog project objectives and current status of implementation.

V. The meeting of the Local Management Boards was held in July 2009, October 2009, February2010, April 2010.

VI. The Conference focused on the local water integrated management, April 2010, Agroecological institute in Michalovce - presentation of the project Bodrog objectives.

VII. Stakeholder meeting on the "Strategy for mitigation of floods for Bodrog River Basin countries", Trebisov, April 15, 2010 (23 participants).

Ukraine:

I. In August 2009 public hearings in Baranintsi village council concerning the proposed actions were held. The theme of the hearings was not only approval of the works but also public involvement (citizens, youth of Dovge Pole) in the actions. The action was approved by Local Management Board (it includes 1 representative of Baranintsi community, representative of Zakarpattya Water Management Board, project manager and responsible person for the cleaning of the riverbed). Public hearing in Baranintsi village council concerning the proposed actions took place.

II. The project activities are regularly highlighted in the local newspaper "Silske Zhyttya" (Village Life), printed by Baranintsi community

10 Summary of PR activities

Articles in the national newspapers and press releases

- During the Inception Workshop Slovak regional **TV – Zemplin and Slovak regional TV for Ukraine** attended the workshop. UNDP has published a Press Release, providing basic info on the Demo projects and the event - Inception workshop (*on 10th and 11th of June 2009).*
- A report with Mr. ***Gyula Fekete***, mayor of Viss, was broadcasted in local **Zemplén TV** in *August 2009*, in which the mayor spoke about the plans concerning the oxbow.
- On *28th September 2009* ***János Fehér*** of VITUKI gave a presentation about this project under the title "UNDP GEF Tisza MSP: Making space for water in the Bodrog River Basin" at an international workshop organised by the Budapest Corvinus University under the ENWAMA project financed by the EU Leonardo da Vinci programme.
- Information concerning the Bodrog project implementation published in **„Water Management News Letter"** in *October 2009*, SK, and in July 2010 introduction of the Strategy for mitigation of floods for Bodrog River Basin countries.
- The project activities are highlighted in the local newspaper "Silske Zhyttya" (Village Life), printed by Baranintsi community.
- Activities of the Bodrog project were published in the **newspapers produced by UNDP/GEF project Laborec Uh project.**
- Stakeholder meeting on the "Strategy for mitigation of floods for Bodrog River Basin countries", Trebisov, *April 15, 2010*, published a Press Release, providing basic info on the Strategy. **Slovak TV channel** 1, brief news – April 16, 2010 – a short interview (Klara Tothova, Nora Bartkova).
- The International Stakeholder Meeting - June 29 – 30, 2010, Zemplinska Sirava, SK - published a **Press Release and Slovak radio** - brief news June 30 (short interview -Nora Bartkova regarding the Strategy implantation and cooperation with the Bilateral Cross border Committees).
- The Bodrog project posters presented at the Tisza Regional Integration Workshop in Szolnok, April 2010.
- Ms ***Ildikó Dobainé Friedel*** delivered a presentation about the Development of Ronyvazug and Bodrogköz flood protection systems at the Flood protection seminar at Tokaj, Hungary on 22-24 June 2010.
- The technical delivery procedure was held on the ***7th of September 2010***. The minutes of the technical delivery has been signed by the technical supervisor, the contractor, the mayor of Viss, the representative of the Aggtelek National Park and the project management of ÉKÖVÍZIG.
- On ***5-7 October 2010*** during the "Excess Water and Water Damage Protection" Workshop at Sárospatak, Ms Eszter Simon of ÉKÖVIZIG delivered an English language presentation about the Hungarian activities carried out in the UNDP/GEF Tisza MSP "Making Space for Water in the Bodrog River Basin (HU-SK-UA) Project.

11 Lessons learnt

During formulation of the "Strategy" there was high interest from side of municipalities, especially due to recent experiences with floods and its negative monetary impact on citizens. Better understanding of work of municipalities and water management directorates was reached by allowing discussion on some measures and giving time to understand the proposed measures by local stakeholders.

Early involvement of local stakeholders in the design process of the sluices helped to find consensus among the partners and this helped the designer to submit the plan for license in time to be able to start the field construction after the flood leaves the construction area in Hungary. It is observed that local communities are interested to utilize these construction elements of the project and plan additional projects to increase the attractiveness of area for environmentally focused visitors.

In case of UA, some positive side effects have been recorded as a result of public involvement in Tova riverbed restoration. It is the liquidation of illegal dump places and illegal untreated wastewater releases. It shows the significance of the ownership for the community and international intervention. These all help people to feel responsible for their land.

On the other hand, experiences from Slovakia showed problems regarding willingness of farmers to cooperate due to unclear ownership situation and current agro-environment subsidies which are not motivating for farmers to change arable land to grass land or wetlands. Despite of this situation, the project objectives will be achieved. Intervention will allow supply wetlands by water during flood events /or the dry period and thus will improve the National Nature Reserve Sennianske ponds conditions and biodiversity. The lesson learned is that **success of such projects relies on long-term and complex work** with local stakeholders focused on showing practical examples and advantages of such solutions. Based on implemented example there was an agreement made with one farmer on change of usage of arable land into wet meadows (integrated approach in agriculture), which will improve the retention potential of the arable land.

Overall lesson learned is that there are available low-cost and effective solutions for flood prevention.

For Ukraine, the brochure which was elaborated was very helpful, since it provided easy explanation of flood management to local habitants.

12 Sustainability and Replication

There were two elements of the project work which could be judged by sustainability requirement. First, by development of the "Strategy for mitigation of floods for Bodrog River Basin countries", a framework for effective creation of new temporary "space" for water during flood events was set up for participating countries. Second, pilot demonstration activities served as examples for the implementation of the national plans. The pilot project activity carried out focused on small scale restoration measure - a simple technical solution, restoring an old sluice and constructing a new one, which will allow the local water management to better serve multiple purpose objectives, such as providing water for nature protected area during drought period and maintaining required water level in oxbow for recreational purposes.

The technical solution took into account the limited available financial source. The intervention utilized affordable conditions, which has not required big investments and complicated maintenance of water construction.

Slovak and Ukrainian partners had developed a joint project proposal, which was submitted and approved for financial support from ENPI CBC Programme Hungary-Slovakia-Romania-Ukraine. Project is focused on involvement of local stakeholders through support of voluntary work and implementation of small local actions.

Replication of the demonstration project in Slovakia is ensured by ongoing UNDP/GEF project in the Bodrog River Basin *"Integration of Ecosystem Management Principles and Practices into Land and Water Management of Laborec – Uh Region"* as well as preparation of a recovery plan for Bešiansky polder.

The experience from preparation of recovery plan for the Bešiansky polder shows great potential and opportunity to replicate the experience from the project Bodrog in other parts of Eastern Slovak Lowland. There are appropriate conditions for its successful revitalization through hydrological restoration measures and interventions (removal of raid) in the selected areas. In Ukraine, the examples from Slovakia and Hungary helped to develop own proposals for 3 polders.

The International Water Assessment Centre of the UNECE Water Convention was established in Slovakia (Slovak Hydrometeorological Institute is hosting IWAC, Boris Minarik – Director). The main role of the IWAC is to facilitate the implementation of the Water Convention in trans-border context and to use experiences of EU and especially Danube countries in other UNECE regions mainly in Balkan, Eastern Europe, Caucasus and Central Asia countries.

The Second Assessment of Transboundary Rivers, Lakes and Groundwaters in the UNECE region are being prepared under the Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Water Convention). It will be submitted to the Seventh Ministerial Conference "Environment for Europe" that will be held in 2011 in Astana, Kazakhstan.

The intention of the IWAC is to use experiences from Tisza project and from demonstration projects including Bodrog in other regions in existing trans-border UNECE projects and/or in projects currently in preparation.

13 Potential for replication in Tisza (and wider Danube) region

The project element on “Improvement of conditions of original floodplains and wetlands” demonstrated that even using relatively small amount of resources, still significant improvement could be achieved by finding effective measures. A careful planning, design and construction programme resulted in new management options and tool to improve water retention capability in an oxbow and improve water supply to landscape protection area from oxbow of at the lower part of the Bodrog River Basin. These results could be easily replicated at several other oxbows either in the Bodrog Basin or elsewhere in the Tisza River Basin.