



## Managing environmental risks in the Danube Region



## INTRODUCTION

The Danube Region represents one fifth of the European Union's total area and is home to more than 100 million inhabitants. The region is comprised of 9 EU (Austria, Bulgaria, Croatia, Czech Republic, Germany, Hungary, Romania, Slovakia and Slovenia) and 3 accession countries (Bosnia and Herzegovina, Montenegro, Serbia) and also involves 2 Non-EU countries (Moldova and Ukraine). The states show significant regional disparities in economic and social development. In order to increase growth and strengthen cooperation at a macro-regional level, the European Union adopted the EU Strategy for the Danube Region (EUSDR) in 2011 with eleven priority areas – to harmonise development policies connecting these 14 countries – among them one focusing on environmental risks.

Hungary committed itself to coordinate three from the eleven priority areas of the Danube Region Strategy: one with the Czech Republic (*To encourage more sustainable energy*) one with Slovakia (*To restore and maintain the quality of waters*) and one with Romania (*To manage environmental risks*).

### The countries of the Danube Region Strategy (EUSDR)



Source: <http://www.danube-region.eu/>

The first years were focusing on the mapping of the main challenges and tasks, where joint cooperation and actions were needed. The tasks are already clear and the main goal is to implement the measures as outlined in the action plans utilizing the financial possibilities offered in the frame of the 2014-2020 financial period.

## OVERVIEW – ENVIRONMENTAL RISKS IN THE DANUBE REGION

The Danube is the second longest river of Europe and has the most international river basin in the world. The Danube River stretches over 2,800 km across Europe and flows into the Black Sea, after crossing 10 countries and settling into the delta, which forms the richest biodiversity area in Europe. The Danube Basin covers an area of over 800,000 km<sup>2</sup>, stretches



Floods can cause significant environmental deterioration through waste and accidental leaking, spilling of chemicals and through organic pollution

over 19 countries, 14 of which are contracting parties to the Danube River Protection Convention (DRPC) signed in Sofia in 1994. The drainage area of the Danube is also influenced by two major mountain chains: the Alps and the Carpathians. Water management is therefore a central issue to the Danube Region, as water and environmental disasters do not recognise borders and their management requires strong coordination and cooperation between the countries.

Throughout the past centuries the countries of the Danube Region have always been exposed to environmental risks and most significantly to flood risks. Several of the settlements along the river have been devastated by flood sometime in the past.

Even in recent times intense and heavy floods have occurred, posing demanding challenges to the experts of the region. Besides the flood of the Danube and its main tributaries, another threat comes from the smaller and mountain water courses as flash floods or torrents.

Added to the obvious damages – casualties, property damages – floods also have a significant possibility to cause environmental deterioration through waste and accidental leaking, spilling of chemicals, hazardous substances and through organic pollution.

To successfully tackle all the occurring tasks and challenges, the countries of the region have to make joint efforts to harmonize the plans, measures and activities. The Danube Region Strategy serves this purpose as well with the establishment of the priority area entitled “To manage environmental risks” (PA5).

## **PRIORITY AREA 5 OF THE DANUBE REGION STRATEGY – TO MANAGE ENVIRONMENTAL RISKS**

Out of the 11 priority areas of the Strategy, Priority Area 5 handles issues regarding the management of environmental risks and jointly coordinated by Hungary and Romania. To do so, 3 main targets have been set, and the priority area together with the International Commission for the Protection of the Danube River (ICPDR) shares the responsibility for the realization of these objectives. The activities are focusing on the following:

1. To address the challenges of water scarcity and droughts in line with the Danube River Basin Management Plan – Update 2015, the report on the impacts of droughts in the Danube Basin in 2015 (due in 2016) and the ongoing work in the field of climate adaptation.
2. Provide and enhance continuous support to the implementation of the Danube Flood Risk Management Plan – adopted in 2015 in line with the EU Floods Directive – to achieve significant reductions of flood risk events by 2021, also taking into account potential impacts of climate change and adaptation strategies.
3. To continuously update the existing database of accident risk spots (ARS Inventory), contaminated sites and sites used for the storage of dangerous substances.



Historic flood at Budapest in 2013

## PRIORITY AREA 5 COORDINATION

To achieve the aforementioned targets, the dual (Hungarian – Romanian) coordination of the Environmental risks priority area have held several events and have had numerous initiations.

The main decision making body is the Steering Group, comprised of respective representatives from all Danube Region countries. The most important decisions of the priority area are made with the participation of all member countries through the Steering Group, a body that has biannual meeting. The 9th Steering Group Meeting was held in Budapest in April 2015. At the meeting, after nearly 2 years of preparatory work and discussions, the Steering Group adopted the Danube Region Operative Flood Management and Cooperation Programme with its measures to improve the flood safety of the Danube Region. The measures of the document were previously adopted by the ICPDR Flood Protection Expert Group too and are part of the 1st Flood Risk Management Plan for the Danube River Basin prepared by the end of 2015.



Preparedness for water scarcity and droughts has high importance in relation with climate change adaptation in the Danube watershed

Besides the Steering Group meetings, the Annual Forum of the Strategy is also an important platform for networking and discussion, where the Environmental risks priority area regularly presents its achievements and organizes workshops together with international organizations such as the Flood Protection Expert Group of the ICPDR. The joint cooperation with international organizations related to flood and disaster management and civil protection has crucial relevance in the working process of the EUSDR. At the 4th Annual Forum in Ulm 2015 Priority Area 5 organized a joint panel with the ICPDR on the common efforts of the recent years to improve the flood safety of the Danube Region. One of the main success of the cooperation between the EUSDR and the ICPDR is the '*Joint Paper on Cooperation and Synergy for the EUSDR Implementation*' that outlines the main fields of joint activities between the International Commission for the Protection of the Danube River (ICPDR) and the water related areas of the EUSDR.



9th Steering Group Meeting of Priority Area 5 in Budapest

Priority Area 5 also organized Stakeholder conferences during the years to disseminate knowledge related to available funds and financial possibilities or provide platform for potential project partners as networking. The last Stakeholder conference on European funding opportunities in the water sector was held in November 2015 in Budapest with nearly 150 participants to facilitate networking and available financial possibilities for project generation and implementation related to water in the Danube Basin.



Joint panel of Priority Area 5 and the ICPCR at the 4th Annual Forum of the Danube Region Strategy in Ulm



# SUPPORTING THE IMPLEMENTATION OF THE BASIN-WIDE FLOOD PROTECTION FOR A SAFER DANUBE BASIN

## Danube Region Operative Flood Management and Cooperation Programme

After the extreme floods of 2013, following the high level political initiatives, Priority Area 5 has launched a “Flood Survey” (from May 2013 to September 2014) in all the 14 Danube Region countries to gain experiences and needs from authorities and experts responsible for flood management, flood forecasting and civil protection. During the visits of the expert meetings more than 70 institutions were questioned about their needs to improve the basin-wide flood management capabilities, and “lessons learnt” and “best practice” information was collected. The results of these consultations were compiled into a document: the Danube Region Operative Flood Management and Cooperation Programme (DR Oper&Cooper) which draws up concrete project proposals based on the experiences of the visited countries.

The professional aspects of the survey were to collect the experiences gained during the floods of the last decade, draw conclusions and formulate solution proposals; to develop and harmonize Danube Region level development programs, in line with the ICPDR activities; to make suggestions for the improvement of basin-wide flood protection and cooperation.

The document

- summarizes the findings and the visited countries’ common proposals of the survey in the form of a list of Measures,
- seeks to address the challenges the Danube-basin countries are facing,
- draws up initial steps of enhanced cooperation and implementation measures on macro regional scale.

The document includes 7 Measures (project ideas) laying out concrete international project proposals to be implemented for improving the flood safety of the Region:

- *Improvement of flood forecasting*
- *Information exchange on the operation of hydraulic structures*
- *Coordination of operative flood management plans*
- *Development of elements of flood risk management plans for trans-boundary sub-units of common interest*
- *Exchange of flood protection techniques, technologies and experiences*
- *Develop an education/training network*
- *Enhance coordination of operative flood protection methods and equipment*



Information on hydro power plant operation is essential for flood forecasting

The Measures of the Danube Region Operative Flood Management and Cooperation Programme – adopted by the PA5 Steering Group –has been included into the first Danube Flood Risk Management Plan for the Danube River Basin (FRMP) prepared by the ICPDR at the end of 2015. These Measures are also welcomed and supported by the Danube Declaration, signed in February 2016 by Ministers responsible for the fulfillment of the Danube River Protection Convention.

The implementation of the Measures have been started with the improvement of an international project proposal (DAREFFORT) prepared to increase harmonization of flood forecasting systems in the Danube Region and submitted to the Danube Transnational Programme.



The harmonisation of flood forecasting systems is probably the most important measure of operative flood management and cooperation in the Danube basin

## SUPPORTING TRAINING NETWORK IN THE FIELD OF FLOOD PROTECTION

### Flood protection training programme in Bosnia and Herzegovina

The Hungarian Ministry of Foreign Affairs and Trade and the Priority Area 5, with the support of the Ministry of Foreign Trade and Economic Relations of Bosnia and Herzegovina organized a 4-days flood protection training program near Sarajevo helping to develop the flood protection capacity of Bosnia and Herzegovina. Almost 70 flood protection professionals and municipality experts attended the successful educational training from Bosnia and Herzegovina between the 9th and 12th of June 2015.

The 4-days thematic program was compiled after the severe flood hitting Bosnia and Herzegovina's territory in May 2014 causing serious damages and losses to the country.

The modules were held by Hungarian chief water management experts relying on their practical knowledge with the involvement of the experts (chairman) of the ICPDR Flood Protection Expert Group, and international



Floods in Bosnia and Herzegovina in 2014

and local representatives of the European Investment Bank (EIB) and the World Bank as among the lecturers of the program.

The initiative of the training program introduced lacking knowledge in the field of flood protection and aimed to share these knowledge in the frame of a vocational training with municipality experts who have essential role to direct the protection in the event of floods.

The project is a good practice of the initiative of the EU Strategy for the Danube Region, in which Priority Area 5 also supports the integrative efforts and cooperation between non-EU member and EU member countries of the Strategy to increase their preparedness for floods.

The training project is also part of the Danube Region Operative Flood Management and Cooperation Programme's (DR Oper&Cooper) implementation, which has been developed by the Priority Area 5 of the Strategy after the extreme floods on the Danube in 2013 and 2014 and in the Western Balkans.



Flood protection training in Bosnia and Herzegovina in June 2015

## FOSTERING AND SUPPORTING PROJECTS OF ENVIRONMENTAL RISKS STRATEGIC ISSUES

Over twenty PA5 related projects and ideas were introduced in the frame of the working group of the Environmental risks priority area (Steering Group meetings) – and received Letter of Recommendations from the Steering Group or were announced as EUSDR relevant projects with basin wide relevance – between the years of 2011-2015 (e.g. projects HYDROFOR, Danube Floodplain, Sava FRMP, SOFTWARE, WACOSS, DANUBECLIM, DREAM, Hungarian-Ukrainian flood protection development programme on the Upper Tisza, DRiDanube, SEERISK, Transboundary Risk Management in the Danube Delta, Danube Floodrisk, MoRe, MONITORII etc.).

PA5 was also active in selecting the projects for Seed Money Facility under the EUSDR and voted the best projects to be funded in 2014 and 2015, which were selected for START support: DELOG-FLOOD (*Decision support tool for logistic operations of flood management*), HTU – HelpTeamUkraine (*capacity building and improved cooperation of volunteer rescue teams for better flood and emergency protection*), E-FLOOD platform (*Establishment of Flood Forecasting platform for Drava and Mura River*), MORCHFLOOD (*Quantification of morphological changes in river channels and its impact on flood risk*).

In coordination of the Secretariat for the Danube Region Strategy Ministerial Commissioner of Hungary, the disaster management services of Ukraine and Hungary have requested the support of the European Commission in January 2016, in order to comprehensively map out of the cross border environmental emergency situation at Solotvino. The abandoned salt mines continuously contaminate the Tisza River with unknown quantities of salt, while the residential buildings of the area are also under constant threat. As an immediate result of an on-site scoping mission, a Terms of Reference has been created by the independent experts in July. This outlines the need for immediate action in the area and serves as the basis for the activities of an Advisory Mission investigating the site in September 2016. The Hungarian EUSDR Secretariat – being the co-coordinator of PA4 and PA5 – will continue playing a significant role in finding a sustainable solution with joint efforts to manage this crisis through further projects.

With the support of the above mentioned projects PA5 helps to embed the Danube Strategy into the Danube Transnational Programme, cross-border cooperations and other EU programmes (ie. LIFE, Horizon2020 etc.) and also to implement projects to reduce flood risks, effects of climate change and other environmental risks in the Danube basin for a better way of living.



The abandoned Solotvino salt mine, with one of the craters in the foreground as a result of implosion and intrusion process of water.

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