EU Strategy for the Danube Region Priority Area 5
- „to manage environmental risks" -

co-ordinated by Hungary and Romania

Danube Region Operative Flood Management and Cooperation Programme (DR Oper&Cooper)

Adopted by the 9th Steering Group on 28/04/2015 in Budapest

DANUBE REGION strategy
Environmental Risks

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Introduction

The 2013 and 2014 floods on the Danube River and its tributaries have proven that in spite of all the efforts the risk of flooding is still a real danger. With increasingly frequent recurrence of extreme floods (2002, 2006, 2008, 2010, 2013 and 2014) countries have to mobilise new methods and potentials in macro-regional cooperation in order to provide a high level of protection under changing and more and more challenging conditions. The problem cannot be solved locally. We have to think in functional regions like the Danube Basin to implement basin-wide measures to help countries of the Danube Region to overcome the difficulties caused by extreme floods. This is where the EU Strategy for the Danube Region (EUSDR) comes into picture. It provides an unprecedented chance to bring the experts and expertise together and act together. With the political support and the preparations for the 2014-2020 multiannual financial framework we have a unique opportunity.

The lessons learnt during the 2013 flood on the Danube River made the Scientific Committee of Central Flood Management Board (OMIT TT) of Hungary turn to the Priority Area 5 coordinator (PA5 PAC) to help the flood risk management by launching project and/or initiating international cooperation on improving data exchange for flood forecasting, exchanging information of flow control structures and new flood protection equipment and methods.

Political leaders from the region in 2013, including Austrian Vice Chancellor, Minister of Foreign Affairs, H.E. Michael Spindelegger, Hungarian Minister of Foreign Affairs H.E. János Martonyi and Romanian Minister of Foreign Affairs, H.E. Titus Corlatean called for further common efforts in the Danube Region for flood risk management and flood preparedness in the framework of the EU Strategy for the Danube Region based on the existing cooperation.

European Commissioner Johannes Hahn in his letter to high level officials of the Danube countries in 2013 highlighted the need for a coordinated response to the flood disaster, calling for mobilisation of all relevant actors through the EU Strategy for the Danube Region that is the most appropriate framework to tackle current and future challenges. He also stressed that the work already done in the Priority Area 5 provides a good framework to such coordinated actions. The Hungarian President HE János Áder raised his voice in 2013 to adjust Solidarity Fund to provide more timely and flexible support to protect citizens during floods.

Having in mind all these initiatives one has to mention that the implementation of the EU Floods Directive (DIRECTIVE 2007/60/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 23 October 2007 on the assessment and management of flood risks) was going on during the survey (See next Chapter). This

document and the proposed actions, projects do not intend to take over the role of the flood risk management plans prepared by the countries and compiled into a basin-wide report onf flood risk management by the International Commission for the Protection of the Danube River (ICPDR). The aim is to add to it and complement it with projects that help the implementation of its measures.

Background and methodology

Between 1998 and 2009, Europe suffered over 213 major damaging floods, including the catastrophic floods along the Danube and Elbe rivers in the summer of 2002. Severe floods in 2005 further reinforced the need for concerted action. Between 1998 and 2009, floods in Europe have caused some 1126 deaths, the displacement of about half a million people and at least €52 billion in insured economic losses. (Source: European Environment Agency) Catastrophic floods endangered lives and caused human tragedy as well as heavy economic losses.

As an answer for these risks and facts the Directive 2007/60/EC on the assessment and management of flood risks entered into force on 26 November 2007. This Directive requires Member States to assess if water courses are at risk from flooding, to map the flood extent and assets and humans at risk in these areas and to take adequate and coordinated measures to reduce this flood risk. Flood risk management plans shall address all aspects of flood risk management focusing on prevention, protection, preparedness, including flood forecasts and early warning systems and taking into account the characteristics of the particular river basin or sub-basin (Art. 7 of the Floods Directive). For river basin districts, or units of management referred to in Article 3(2)(b), which fall entirely within their territory, Member States shall ensure that one single flood risk management plan, or a set of flood risk management plans coordinated at the level of the river basin district, is produced (Art. 8 of the Floods Directive). The Contracting parties of ICPDR have committed themselves in the ministerial declaration 2010 to produce this flood risk management plan coordinated at the level of the international river basin district by ICPDR.

According to the schedule set by the Floods Directive the FP EG prepared the basin-wide

- preliminary flood risk assessment by the end of 2011,
- the area of potential flood risks assessment by the end of 2011,
- the flood hazard and risk maps by the end of 2013,
- the draft flood risk management plan by the end of 2014.

The flood risk management plan is subject to public consultation since end 2014, will be finalised by end 2015 and is foreseen for adoption by ministerial conference foreseen for 9th Feb 2016. The Danube Region Flood Management and Cooperation Program will support

projects and actions addressed in the flood risk management plans set up by member states and ICPDR by 2015 and supplement it with other project ideas identified during the flood survey.

The Danube River Protection Convention (DRPC) was signed in 1994 and entered into force in 1998. It stipulates the mandate and framework for cooperation between its Contracting Parties (CPs) in terms of water management, water protection, flood protection and overall sustainable use of the Danube River on the territory of the 14 main countries within the Danube River Basin (DRB). It is the overall legal instrument for cooperation and trans-boundary water management in the DRB. Its objectives among others include (only objectives directly linked to flood management are quoted):

- Controlling floods and ice hazards;
- Controlling hazards originating from accidents (warning and preventive measures);

Responding to the obligations of the Convention, the Danube countries established the ICPDR, which has the mandate to ensure that countries fulfil the actions committed to under the Convention. The Danube Ministers tasked the ICPDR to provide the platform for coordinating the implementation of the EU Water Framework Directive (WFD) in the Danube River Basin in order to cover legal obligations of member states derived from the directive to coordinate among others a program of measures for the whole of the river basin district. The ICPDR also coordinates activities of its contracting parties at the Danube Basin level and key products such as the DRB Management and Flood Risk Management Plans, flood risk maps, etc.

In response to the danger of flooding, the ICPDR adopted the Action Programme for Sustainable Flood Prevention in the Danube River Basin in 2004. The overall goal of this Action Programme is to achieve a long-term and sustainable approach for managing the risks of floods to protect human life and property, while encouraging conservation and improvement of water related ecosystems. In line with the Action Programme, the ICPDR adopted 17 flood action plans for the sub-basins of the Danube in 2009. At the ICPDR Ministerial Meeting in 2010, the Contracting Parties committed themselves to making all efforts required to implement the EU Floods Directive throughout the whole Danube River Basin and to develop an international Flood Risk Management Plan in order to cover legal obligations of member states stemming from the directive to establish flood risk management plans coordinated at the level of the river basin district.

The first milestone in the implementation of the Floods Directive under the ICPDR was to perform a preliminary flood risk assessment and identify those areas for which significant flood risks exist. A joint report was submitted to the European Commission in 2011. The next steps were to prepare flood risk and flood hazard maps in 2013, followed by the elaboration of flood risk management plans until 2015. The ICPDR also analyses the characteristics and consequences of major floods in the Danube River Basin and produces a joint statement on the lessons learned. So far,

reports on floods from 2006 and 2010 were published, a report on floods from 2013 is currently being finalized.

The cooperation between ICPDR and EUSDR is closely coordinated from the launch of the EUSDR providing some of the best practices of cooperation between macro-regional strategies and regional organizations, ensuring mutual participation in meetings and integrating the ICPDR in preparation and implementation of roadmaps (implementation plans) unfolding the relevant elements of the EUSDR Action Plan. Three Expert Groups of ICPDR are responsible for 5 out 8 actions of Priority Area 5 – to manage environmental risk. The representatives of ICPDR are invited to the meetings of the PA 5 Steering Groups in one hand. On the other hand PA 5 Priority Area Coordinators participate in ICPDR key meetings.

While reporting on what lessons have been learnt by Danubian countries and collecting together their proposals the Priority Area 5 fully respects the mandate and processes of the EUSDR on one hand, and the ICPDR mandate, tasks and activities on the implementation of the Danube River Protection Convention (DRPC), EU Water Framework Directive (WFD) and the EU Floods Directive (FD) on the other.

In addition, there is a strong need underlined by the report from the European Commission (EC) concerning the European Union Strategy for the Danube Region (EUSDR), issued in 2013: the need for further strengthening synergies with existing bodies and initiatives between EUSDR PA4, PA5 and ICPDR. (The Joint Paper on Cooperation and Synergy for the EUSDR Implementation has been adopted by the two bodies. See http://groupspaces.com/EnvironmentalRisks/files/)

The 2013 and 2014 floods provided further impetus on implementation of the Floods Directive and the EU Strategy of the Danube Region and reconfirmed the importance of EUSDR PA5 Actions and Roadmaps (For a short description of the Actions see ***Annex 1***; for more details See: http://groupspaces.com/EnvironmentalRisks/files/):

1. The large extent of the 2013 and 2014 floods confirmed the demand for a basin-wide flood risk management plan (Action 1).
2. The difficulties of defending buildings, settlements and industrial site built on the floodplain require revisiting of the floodplain restoration (Action 2).
3. Timely forecasts and warnings are crucial for efficient flood protection (Action 3).
4. The trans-boundary cooperation of the operative emergency response authorities is of prime importance for shared watersheds (Action 4).
5. Fortunately this time there was no need to call the intervening bodies against industrial accidental river pollution and to use the Accident Emergency Warning System of ICPDR, but imminent risks confirmed that Actions 5 and 6 are relevant.
6. Last but not least Actions 7 and 8 are also relevant if we think of the increasing number of extreme floods in the last 10-15 years.

Following all these initiatives and impetuses the PA5 Priority Area Coordinators launched systematic consultations with potentially all authorities, governments and other responsible institutions tasked with flood management, flood forecasting, flood rescue and civil protection, programming of EU funds and coordinating EUSDR at

national level. The subject of the consultations was the needs of the Danube Basin countries to improve their flood protection capacities especially by coordination and cooperation on a Danube Basin, sub-basin or transnational level.

Direct consultations were chosen to ensure that all affected institutions are involved in the process and no coordination bottlenecks occur. High level and expert meetings were organized so cross cutting measures were discussed in a policy and an inter-institutional context (i.e. flood rescue teams and programmers). The consultations were extremely useful also in establishing links between sectorial administration institutions of all Danube Region Countries and the PA5. The PA5 coordinators are grateful for the efforts of all National Contact Points and national coordination teams of the EUSDR, Steering Group members of PA5 and national delegates to the ICPDR Flood Protection Expert Group (FP EG) to make such unprecedented and broad consultations possible. As a basic principle it was agreed that these institutions will be also involved in the follow up activities of the consultations.

The general aims of the survey were

- to collect the experiences gained during the floods of the last decade,
- to draw conclusions of the experiences, and
- to make suggestions for the improvement of basin-wide flood protection and cooperation,
- to launch a multilateral evaluation of the experiences,
- to assess the needs of the countries in coping with floods at basin level,
- to develop and harmonize Danube Region level development programmes,
- to coordinate and harmonize the work of the emergency response authorities (including disaster management and civil protection as well),
- to supplement with projects the “Flood Risk Management Plan for the Danube River Basin District” prepared by the ICPDR FP EG to improve our capabilities in coping with extreme floods and,
- last but not least incorporate the elements of this programme into the financial framework of 2014-2020 period.

Altogether more than 70 institutions and authorities, including institutions of non-member states (*Environment Directorate-General, Directorate-General for Regional and Urban Policy, European Commission's Humanitarian aid and Civil Protection department, ministries, water management, flood operational authorities, operative bodies, civil protection and emergency response bodies, forecasting institutions, the ICPDR Expert Groups, the NCPs, SG members)* were involved in the procedure with whom PA5 completed an overview of flood management practices, planning methods in connection with flood risks on a river basin and sub-basin level, including tasks and practices of coordination, and the questions of financial tools.

In order to elaborate a complete overview on the topic, all the 14 countries and states/lands (Austria, Baden-Württemberg, Bavaria, Bosnia-Herzegovina, Bulgaria, Croatia, Czech Republic, Hungary, Moldova, Montenegro, Romania, Serbia, Slovakia, Slovenia and Ukraine) have been consulted (***Annex 2***).

Additionally the Danube Region Operative Flood Management and Cooperation Programme (DR Oper&Cooper) has been discussed at:

- The International Conference on "Trans-boundary water issues in a macro-regional context: the Danube Basin" on 11-12 September 2013 in Budapest (a policy and scientific conference with ministerial level leaders and high level representatives of the Directorate Generals of the European Commission as well as 300 professors, experts, researchers and partners of Pillar 2 from throughout the Danube Region);
- The 24th FP EG Meeting of ICPDR on 03-04.10.2013 in Bratislava,
- The 38th RBM EG Meeting of ICPDR on 17-18.10.2013 in Budapest,
- The 2nd Annual Forum of the EU SDR on 28-29.10.2013 in Bucharest,
- The 6th PA5 SG Meeting of the EU SDR on 09.12.2013 in Vienna,
- The 16th Ordinary Meeting of ICPDR on 10-11.12.2013 in Vienna,
- The 7th PA5 SG Meeting of the EU SDR on 27.03.2013 in Budapest,
- The 25th FP EG Meeting of ICPDR on 09-11.04.2014 in Brno,
- The 3rd Annual Forum on 26-27 June 2014 Vienna.

The leadership of the Priority Area have collected together the countries' best practices. The main topics were based on information exchange (exchange of data & methods, data exchange for flood forecasting, data exchange and coordination of the operation of hydraulic structures), interoperability and preparedness of operative flood protection methods and equipment, trainings of professionals and citizens, needs for solidarity, etc.

From these visits the PA5 delegation has understood, that in the Danube Basin:

- we have got good political and professional basis for cooperation,
- extensive cooperation and coordination as well as solidarity are essential,
- common preparedness, prevention are necessary, and
- all relevant sectors, as flood prevention and defence, civil protection must work together.

Some of the lessons learnt are:

- the population anticipate higher level of protection than the reality, there is a common perception of safety;
- flood characteristics changed and even where flood management operations were flawless and efficient luck played certain role at record peak periods,
- even with countries with well-established forecasting models have the ambition of improving their systems,
- in many areas there is a goal of improving the resolution and data for existing hydrological monitoring for forecasting (e.g. Bosnia and Herzegovina, in spite of the successful cooperation with ICPDR, claimed that inadequate information exchange, insufficient level of flood forecasting and lack of information on the systems and mechanisms used in the region create problems for them),
- the bilateral agreements between some countries are outdated and need overhaul in more than one relation for some countries,

- some countries develop new forecasting models but with inhomogeneous or missing data on sub-basins it won't work (basin/sub-basin wide coordination is either useful or a must),
- additional data needs to be checked for relevance and in the context of existing data sources,
- better coordinated and improved data exchange is essential,
- sometimes international technical assistance is needed in the Danube Basin,
- even some capital cities need substantial improvement in flood protection,
- in some regions financing of flood management services is really a challenging task to do,
- protocols to be set up to access or offer assistance (units, equipment) for flood and civil protection - including in some countries where regions are responsible for civil protection,
- planning of common structures might be equally challenging to finance as construction,
- there is a real need to build education networks in connection with water management,
- etc.

This document:

1. summarizes the findings and the visited countries' common proposals of the survey in the form of a so called DR Oper & Cooper document,
2. seeks to address the challenges the Danube Basin countries are facing,
3. draws up initial steps of enhanced coprogrammeoperation and implementation measures on macro regional scale.

Danube Region Operative Flood Management and Cooperation Programme (DR Oper&Cooper)

The Danube Region Flood Management and Cooperation Program will support projects and actions addressed in the flood risk management plans set up by member states and ICPDR by 2015 and supplement it with a list of measures and project ideas identified during the flood survey.

The following list of measures and project ideas has been identified during the flood survey and compiled based on the discussions with the flood and civil protection professionals of the 14 Danube Region countries. These measures should not be considered as fully fledged terms of references (ToR). They are rather project suggestions. If and when approved the concept should be converted into a complete project description (or ToR) by a consortium set from the relevant ministries, research institutes or other bodies of the EUSDR countries. The interested institutions should define what is needed for them for example to improve their flood protection capabilities and what can be realized of it. This ToR will then be discussed and approved by the ICPDR FP EG and the PA5 Steering Group. Once this is done the PA5 SG will seek out money. Finally the project will be executed by the above consortium with the supervision of ICPDR FP EG and the PA5 SG acting as an Advisory Board.

Measure n°1: Improvement of flood forecasting

All parties underlined that forecasting is an indispensable element of an effective flood protection, the best available model is ineffective without adequate data quality and quantity, the data supply is varying in different countries although everybody needs them.

It is to be ensured that the common efforts are:

- consolidated,
- based on the real and not excessive needs,
- built also on existing data sources (an inventory should be set up first) and address the gaps and bottlenecks (based on clearly articulated needs of the affected countries, and consent on the technical and financial framework),
- available for all the affected countries' forecasters by the same technical level in a macro-regional context.

All parties declared that an **agreement is needed on the necessity of improving flood forecasting**. Our common duty is to improve the accuracy and reliability of forecasting. **Higher quality and reliable data exchange is needed** for the Danube Basin even if some countries have good data exchange with neighbouring countries on a bilateral basis (e.g. There is a good cooperation between Slovenia and Hungary for the Mura and Drava rivers, but not for the Danube! Better data exchange is needed for Croatia for the Danube. Hungary has a good data exchange with Serbia, but not with Croatia. Croatia has no formal agreement with

Serbia, thus Croatia can benefit from the Danube Region Strategy: something that does not work on bilateral level, can work on multilateral level.).

Countries from upstream to downstream fully support the idea that all data needed for the operation of flood forecasting systems has to be available without any delay. Many countries share the opinion is that **direct online access to basin wide data** (one centralized or multiple, decentralized locations with the same basin wide consolidated content) is better than providing data via additional steps and indirect access. Such data must be based on real needs and on international standards for data sharing to facilitate data exchange, data graveyards are to be avoided.

Data exchange helps to make decisions in time, helps to respond in an adequate way.

Implementation step I: Inventory on the available data, information and exchange mechanism, designation of data needs by the national flood forecasting institutions and transnational instruments. Possible solutions is to create and operate national, bilateral, multilateral data exchange platforms for the national forecasting services of the Danube Region to provide them with the necessary data/information to improve their flood forecasting capabilities, taking into account the existing mechanisms and systems.

- *Output nº 1*: Set up a network / consortium from the national flood forecasting institutions and develop a detailed program / project proposal as necessary (2015);
- *Output nº 2*: Financing identified (project proposal submitted) (2015);
- *Output nº 3*: Launch of the project (2016);
- *Output nº 4*: Project executed (2017);
- *Output nº 5*: Platform operational (2017)

→ Responsible: SG and the project consortium. The Steering Group is responsible for regular review of the progress together with its partners and to provide policy support as necessary

→Deadline: end of 2017

Implementation step II: Launch a research programme to improve the flood forecasting models by

- *Comparing the efficiency, accuracy, lead time etc. of the existing national, regional and Danube basin wide models*
- *Exchanging information on the national and trans-national Danube Basin forecasting models for better understanding of their outputs*
- *Further developing the national models or developing international models (like the Dráva-Mura forecasting model or the European Flood Awareness System)*
- *sharing models and/or methods*

- *Output nº 1*: Project consortium set up and project proposal developed (2015);
- *Output nº 2*: Financing identified and project proposal submitted (2015);
- *Output nº 3*: Launch of the project (2016);

- *Output nº 4*: Project executed (2018);

→*Responsible*: SG and the project consortium
→*Deadline*: end 2018

Measure n°2: Information exchange on the operation of hydraulic structures

This has to be considered in all those cases where this may have significant impacts on the concrete run off of floods especially their peak discharges.

All visited countries underlined that **information exchange on the operation of hydraulic structures is a highly relevant issue**, with coordination between operators and flood protection authorities as well as upstream-downstream countries. This issue can help to avoid conflicts between several sectors as well.

Flood forecasting and flood management need real time information and data on the operation of flow control structures. Pre-emptying the reservoirs of holding back water to fill up the reservoirs influence the precision of the flood forecasting and can endanger the flood management of the downstream stretches.

Implementation steps: The goal of this Measure is to agree with the EUSDR countries and the operators of flow control structure to make their operational rules and real time data available for the national flood forecasting institutes and for the flood management organisations.
Elements of the cooperation have to:

- *Identify relevant structures (preferably trough Measure Nr.1),*
- *Make the real-time operational parameters available to forecasters (preferably through Measure Nr.1),*
- *Make the operational rules (operational manuals) of the flow control structures available for flood forecasters and flood managers,*
- *Establish procedures and ICT infrastructure to warn flood forecasters when the pre-emptying or filling up of the reservoirs start (e.g. changes in discharge),*
- *Develop cooperation among the operators and flood managers to ensure that flood protection has got priority in the operation of flow control structures in peak periods (e.g. flood managers shall have the possibility to ask the operators to change the operational state if flood situation requires it),*
- *Prepare a unilateral framework agreement based on previous steps for the Danube Basin.*

- *Output nº 1*: Danube Basin wide list of relevant structures (from Measure No.1; 2015)
- *Output nº 2-5 Necessary only if based on the initial efforts in Measure No.1 the need of a separate measure is identified*
- *Output nº 2*: (If necessary) set up a network and/or a project consortium from the relevant national authorities and institutions and develop a project proposal (2015);

- *Output nº 2*: Financing identified and project proposal submitted (2015);
- *Output nº 3*: Launch of the project (2016);
- *Output nº 4*: Project executed (2018);
  → Responsible: SG and the project consortium
  →Deadline: end 2018

Measure n°3: Coordination of operative flood management plans

Coordination in operative flood management is increasingly important with more floods affecting multiple countries and exceeding peak historical levels in the last years.

Implementation steps: Coordinate the operative flood management and civil protection plans (evacuation plans and procedures, safeguarding people, goods, emergency rescue plans, etc.) considering the benefits of the civil protection mechanisms for the shared flood basins or stretches of common interest to better use the available resources.

- *Output nº 1*: Set up a project consortium from the national flood management and emergency rescue institutions and develop a project proposal for (at least) four pilot regions (2015);
- *Output nº 2*: Financing identified and project proposal submitted (2015);
- *Output nº 3*: Launch of the project (2016);
- *Output nº 4*: Pilot projects executed (2018);
  → Responsible: SG and the project consortium
  →Deadline: end 2018

Measure n°4: Development of elements of flood risk management plans for trans-boundary sub-units of common interest

Visiting Danubian countries we learnt that **there is strong political and professional need to develop elements of flood risk management plans for trans-boundary sub-units of common interest.** This requires coordinated financing mechanisms from the involved countries.

Implementation steps: Provide sub-units that need further support to meet the EUFD deadline on FRMP with resources and pilot projects developed under this Measure. Support the monitoring of the implementation and the review of the plan with planning the next FRMP for the sub-basin

- *Output nº 1*: Select three to four shared flood basins (2015);
- *Output nº 2*: Develop harmonized tools for financing these international projects from national/EU budget (2016);
- *Output nº 3*: Set up a project consortium from the national flood management, emergency rescue and other relevant organisations to develop a project proposal for pilot regions (2016);
- *Output nº 4*: Financing identified and project proposal submitted (2016);
- *Output nº 5*: Launch of the project (2017);

- *Output nº 6*: Pilot projects executed (2019);
  → Responsible: SG and the project consortium
  →Deadline: end 2019, as relevant

Measure n°5: Exchange of flood protection techniques, technologies and experiences

For the last decade a proliferation of new flood protection techniques and technologies could be seen. Some countries use mobile dams, some use mobile walls, some others prefer inflatable dams etc. The floods of the recent decade provided the opportunity to learn about advantages and/or disadvantages of these structures. The Budapest Danube Contact Point of the European Investment Bank and the Hungarian Government can help in financing these new structures if identified for operational use and development.

Proposal: collect and exchange information of the new equipment both from design and operational point of view. This can be done through a networking project by organising workshops and or seminars.

- *Output nº 1*: Macroregional conference on new flood protection techniques and technologies (2015);
- *Output nº 2*: Dissemination workshops on best identified technologies (2015-2016)
- *Output nº 3*: Financial engineering and deployment program / projects for efficient utilization of new flood protection technologies (2016)
- → Responsible: SG, project consortium and BDCP
- →Deadline: end of 2016

Measure n°6: Develop an education/training network

During the "flood survey" it was recognized that some Danubian countries have no organized education, training facilities in connection with water and flood management, prevention.

Proposal: Develop an education/training network of universities/training centres to "train trainers" and develop curricula for training of flood managers.

- *Output nº 1*: Set up a project consortium from universities and training centres (2015);
- *Output nº 2*: Identify countries where training needed (2016);
- *Output nº3*: Develop curricula for training (2016);
- *Output nº 4: Operate the education networking program for an initial 2 years* (2018)

Measure n°7: Enhance coordination of operative flood protection methods and equipment

For risks that are common to a large number of countries in the region (i.e. floods) it is important to strengthen cross-border cooperation. To ensure that civil protection authorities have a good understanding of each other's systems. For instance available assets and potential gaps, working procedures, and that teams can also function smoothly in case of major emergencies involving bilateral, European, or international response. This measure will be developed also in close collaboration with the envisaged voluntary pool of European assets for disaster risk management as foreseen by the EU´s Civil Protection mechanism.

This activity is to be covered by the Roadmap of Action 4 of the EUSDR PA5. For reference, please, find below the main Tasks foreseen in PA5 Action 4:

Task 1: Coordination of the regional disaster risk assessment / damage data recording methods and measures, taking into account the specific effects of the climate change phenomena in the region, for better disaster prevention.
Task 2: Build advanced training and appropriate capacity of the flood rescue teams and civil protection operative units
Task 3: Establishment of the cooperation forum of the Danube basin municipalities and/or relevant institutions for better preparedness, awareness and data sharing during flood related interventions and other regional disasters.

Annex 1

Priority Area 5 – To manage environmental risks

Short description of Actions

Action 1 *- "To develop and adopt one single overarching floods management plan at basin level or a set of flood risk management plans coordinated at the level of the international river basin"*

Action 2 *- "To support wetland and floodplain restoration as an effective mean of enhancing flood protection, and more generally to analyse and identify the best response to flood risk (including "green infrastructure")"*

Action 3 *- "To extend the coverage of the European Floods Awareness System (EFAS) system to the whole Danube river basin, to step up preparedness efforts at regional level (including better knowledge of each other's national systems) and to further promote joint responses to natural disasters and to flood events in particular, including early warning system."*

Action 4 *– "To strengthen operational cooperation among emergency response authorities in the Danube countries and to improve the interoperability of the available assets"*

Action 5 *- "To continuously update the existing database of accident risk spots, contaminated sites and sites used for the storage of dangerous substances"*

Action 6 *- "To develop rapid response procedures and plans in case of industrial accidental river pollution"*

Action 7 *- "Anticipate regional and local impacts of climate change through research"*

Action 8 *– "To develop spatial planning and construction activities in the context of climate change and increased threats of floods"*

Annex 2

The meetings and visits of the PA5 Flood Survey

Hungary, Budapest	30/05/2013
	10/07/2013
Czech Republic, Prague	02/08/2013
Baden-Württemberg, Germany, Stuttgart	10/10/2013
Bavaria, Germany, München	11/10/2013
Austria, Vienna	27/11/2013
Croatia, Zagreb	06/02/2014
Slovenia, Ljubljana	06/02/2014
Slovakia, Bratislava	26/02/2014
Serbia, Belgrade	05/03/2014
Bulgaria, Sofia	17/03/2014
Ukraine, Nyíregyháza	29/04/2014
Romania, Budapest	04/06/2014
Bosnia and Herzegovina, Sarajevo	19/08/2014
Montenegro, Podgorica	03/09/2014
Moldova, Chisinau	24/09/2014