



Disaster Management Network  
in the Danube Region



Funded by  
the European Union



MAGYAR VÖRÖSKERESZT  
HUNGARIAN RED CROSS

## 3RD INTERNATIONAL CONFERENCE ON EFFECTIVE RESPONSE

Abstracts and programme

5th November, 2021 Békéscsaba

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## Conference scope and aims

Hungarian Red Cross organizes the third International Conference on Effective Response in Békéscsaba, Hungary on 5<sup>th</sup> November 2021.

The Effective Response Conference is an opportunity for scientists, theoreticians, practitioners, and student researchers to present and exchange their research results, experience and views on topics related to Effective Humanitarian and Civil Protection response.

Joining the main topics of the DiMaND Project, 2021's International Conference on Effective Response encourages researchers and practitioners to present their findings and field experiences related to the role of volunteer organizations and municipalities in Disaster Management. In addition to this special focus, the organizing committee calls for papers touching up on the following topics:

- Coordination and cooperation in Civil Protection, Disaster Response and Humanitarian Operations;
- Assessment methodologies and practices;
- Innovative technologies assisting disaster response and humanitarian activities;
- Disaster Risk Reduction and Preparedness;
- Disaster Recovery Practices and Build Back Better;
- Early warning and Early Action;
- Psychosocial Support;
- Climate Change Adaptation and Civil Protection;
- Community-Based approaches;
- Resilience research and resilience-building practices;
- The implementation of EU Strategy for the Danube Region (EUSDR).

The Call for Abstracts mobilized 24 scholars working in institutions from 7 countries to submit their works. In total 24 works are to be presented by the participants in Békéscsaba and remotely through streaming services.

With the first conference in this series in 2019, Hungarian Red Cross Disaster Management Department aimed to create a tradition for stimulate the exchange between academics and practitioners, as well as to encourage scholars and students of different disciplines to implement researches in the field of disasters and humanitarian assistance.

This year's Effective Response Conference is organized within the framework of the European Union Civil Protection Knowledge Network Project DiMaND. The project is co-financed by the European Commission Directorate-General for European Civil Protection and Humanitarian Aid Operations under UCPM-2020-KN-AG-101017926.

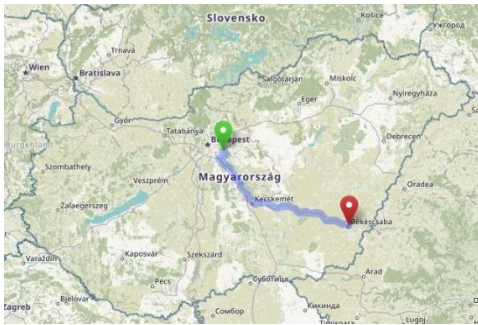
## Venue

The third International Conference on Effective Response is hosted in the Hotel Munkácsy in Békéscsaba.

Address: H-5600 Békéscsaba Kórház u. 4.



*The town of Békéscsaba is located in Békés county, in the south-east part of Hungary. It's famous for its gastronomical values, the "Csabai" sausage, a protected (Hungaricum) product and the festival named after it. However, Békéscsaba's population is around 60,000 people, the gastro-tourism boosted by a three-day festival attracts apx. 70,000 people annually. Békéscsaba hosts the first theater built on the Hungarian Great Plain, and accommodates rich cultural life rooting in its historical connection with the famous Hungarian painter, Mihály Munkácsy, who spent most of his childhood here. The town offers several places to eat out and enjoy drinks with friends in its up-and-coming pubs and bars. Proximity of Gyula, another historical town makes it a more popular destination. Hotel Munkácsy is located on the edge of the town's largest park, the Széchenyi Liget, offering relaxing environment for outdoor activities and exercises.*



*You can reach Békéscsaba by train with one transfer from Budapest Airport (Ferihegy train station – Szolnok ; Szolnok – Békéscsaba), or by car the most easily.*

For remote participants, online streaming will be provided in the following URLs. The conference will be broadcasted using 8x8 Video Conference solutions. Joining to the event is simple with a standard browser (like Chrome, Firefox or Edge). After giving the necessary access authorizations to the device's voice and video features, participants are able to enter the meeting, without the need to install any applications or clients. Presenters are able to share their screens easily with the built-in sharing feature.

Plenary session: [https://8x8.vc/hunrc/ICER\\_plenary](https://8x8.vc/hunrc/ICER_plenary)

Section 1,3,5: [http://8x8.cv/hunrc/ICER\\_section](http://8x8.cv/hunrc/ICER_section)

Section 2,4,6: [https://8x8.vc/hunrc/ICER\\_plenary](https://8x8.vc/hunrc/ICER_plenary)



Please be advised that the meetings will be recorded through the video conference system. Recordings will be stored by the Hungarian Red Cross for project administration purposes.

Organizers provide an opportunity to try out the system and test the equipment on 4<sup>th</sup> November, 11:00 for remote presenters.

## COVID regulations

Considering the current pandemic situation, organizers of the 3<sup>rd</sup> ICER ask the participants present on the venue to obey to the following regulations.

For official up-to-date information about COVID-19 related restrictions and regulations, please visit <https://koronavirus.gov.hu/> (in Hungarian) and <https://abouthungary.hu/news-in-brief/coronavirus-here-s-the-latest> (in English).

**Please wear a mask during the event.** Organizers provide medical face masks free of charge at the venue. Wash your hands or disinfect before and after touching your mask. Change them if needed. Please dispose your used masks in the trash cans available at the venue. Please refrain from touching your face, eyes, nose and mouth. Follow the instructions of the International Federation of Red Cross and Red Crescent Societies and World Health Organization below.

# How to put on, use, take off and dispose of a mask





1. Before putting on a mask wash hands with alcohol-based hand rub or soap and water



2. Cover mouth and nose with mask and make sure there are no gaps between your face and the mask



3. Avoid touching the mask while using it; if you do, clean your hands with alcohol-based hand rub or soap and water



4. Replace the mask with a new one as soon as it is damp and do not re-use single-use masks



5. To remove the mask: remove it from behind (do not touch the front of mask); discard immediately in a closed bin; wash hands with alcohol-based hand rub or soap and water

Source: WHO  
5 February 2020



## How to wash hands properly?

The duration of the entire procedure:  
at least 20 seconds or more

Source: WHO

**Please exercise elevated hand hygiene:** use the washrooms to wash hands regularly. Organizers provide individual hand sanitizers to the participants.

**Please maintain distance** from others. **Abstain from physical contact**, refrain from hand shaking, kissing the cheeks and hugging.

If you feel sick prior to your departure, please be kind and stay home. Organizers provide full online access to the discussion of the event.

## Keynote Speakers

### Zsolt Kelemen

Zsolt Kelemen is the president of the Budapest Firefighter's Association since 2012. With a background as teacher of English and Mathematics, he put an emphasis on training and capacity development. Chairing the Disaster Management Working Group of the Steering Group for the European Union Strategy for the Danube Region, Environmental risks priority area (PA5), and leading different transnational projects in the domain of fire safety and disaster resilience, he is actively involved in the development of knowledge networks and cross-border initiatives in the region.



### Tomislav Marevic

Mr Marevic's engagement in civil protection began a little over 20 years ago as an "ordinary" search and rescue dog volunteer. Over time, his hobby became a passion and the motivation for further training led to a professional career. Today he's employed in the Civil Protection Directorate of the Ministry of the Interior as the head of the operational readiness service. His professional interest is focused on the response phase, and he continuously work to ensure that operational forces and participants are more and more ready every day for a better response to major accidents and disasters.



### Sandra Martinič

Sandra Martinič is a Senior Adviser on International Operational Affairs at Administration of the Republic of Slovenia for Civil Protection and Disaster Relief, Ministry of Defence. After she did her Master's Degree focused on Security studies at the University of Ljubljana she started her career in the civil protection field with focus on the international cooperation with an expertise on the Union Civil Protection Mechanism. She in a national delegate within the Working Party on Civil Protection (PROCIV) and Civil Protection Committee.



### Maria Zuber

Maria ZUBER has worked in the European Commission since 2007 dealing with various portfolios concerning human rights, migration, security, civil protection and international trade. She led on the EU's conclusion of the UN Convention of the Rights of Persons with Disabilities, negotiated mobility chapters of the EU free trade agreements, coordinated relations of the Commission with the Council of the EU on home affairs and coordinated policies on minors falling under competence of the Commission's Directorate General for Migration and Home Affairs. Having led a policy and legal team dealing with civil protection in the





Directorate General for European Civil Protection and Humanitarian Aid Operations, where she was responsible for a legislative reform of the Union Civil Protection Mechanism, she is currently a deputy Head of Unit in the Emergency Response Coordination Centre (ERCC) overlooking operations under the EU response to disasters inside and outside the EU. She holds a Master degree in international relations from Warsaw University and a postgraduate diploma in laws issued by the University College London, where she did a specialisation in the EU law.

**Thalia Alexopoulos**

Thalia Alexopoulou is working as Disaster Management Officer at the Red Cross EU Office, focusing on Civil Protection issues. Previously, she has worked with several humanitarian organisations (Save the Children, Médecins du Monde, Handicap International) in Brussels as well as in Africa and the Middle East.

**Josef H. Riener**

Josef Riener is the project manager of INDIMA EUCP Knowledge Network project, a sister-initiative of DiMaND. He has over 20 years of experience in emergency response operations and disaster relief activities, including experience sharing and capacity development across Europe and around the globe.

## Agenda

09:00-09:20	<b>Welcome notes</b> Dr. Brigitta Sáfár, Hungarian Red Cross Zsolt Kelemen, Budapest Firefighters' Association Kinga Perge, Ministry of Foreign Affairs and Trade
9:20-09:40	Keynote by <b>Zsolt Kelemen</b>
09:40-10:00	Keynote by <b>Tomislav Marevic</b>
10:00-10:20	Keynote by <b>Sandra Martinič</b>
10:20-10:40	Keynote by <b>Maria Zuber</b>
10:40-11:00	Keynote by <b>Thalia Alexopoulos</b>
11:00-11:20	Keynote by <b>Josef Riener</b>
11:20-11:40	Coffee Break
11:40-13:00	<b>Sections – 1st Round</b>
13:00-14:00	Lunch at Hotel Munkácsy's restaurant
14:00-15:20	<b>Sections – 2nd round</b>
15:20-15:50	Coffee Break
15:50-17:30	<b>Sections – 3rd round</b>

### Section 1: Health, mental health and cross-sectoral partnerships

Section chair: Dr. Brigitta Sáfár

Venue: main hall

Streaming: [https://8x8.vc/hunrc/ICER\\_plenary](https://8x8.vc/hunrc/ICER_plenary)

11:40-12:00	Humanitarian response to psychosocial needs after flood events, Dr. SÁFÁR Brigitta
12:00-12:20	Anpas emergency psychologists cooperating with local services during emergencies, by IUS, Simona
12:20-12:40	Anpas's childcare experience in emergency, by CICCONI, Mariasilvia

### Section 2: Current challenges in coordination

Section chair: András Molnár

Venue: breakout room

Streaming: [http://8x8.vc/hunrc/ICER\\_section](http://8x8.vc/hunrc/ICER_section)

11:40-12:00	<i>Role of Hungarian Public Roads in disaster response coordination, by BORTEI-DOKU Shaun Borketey</i>
12:00-12:20	Challenges in coordination, by MOLNÁR András
12:20-12:40	Application and further development of INSARAG Coordination Management System, by BARTA-VÁMOS László
12:40-13:00 <i>online</i>	Evaluation of components of coordination in effective disaster response, by SARI, Bektaş

**Section 3: Empirical and field experiences.**

Section chair: Dr. Tamás Tímár

Venue: main hall

Streaming: [https://8x8.vc/hunrc/ICER\\_plenary](https://8x8.vc/hunrc/ICER_plenary)

14:00-14:20 <i>online</i>	A consolidated understanding of social media and crowdsourcing in disaster management processes, by RAJU, Emmanuel
14:20-14:40	<i>The fire of the István Mill in Békéscsaba, by Dr. TÍMÁR Tamás</i>
14:40-15:00 <i>online</i>	Search and Rescue with Dog, Camera and Drone, by POLYÁK András
15:00-15:20 <i>online</i>	Disaster Management Aspects of Global Climate Change, by TEKNŐS László

**Section 4: Role of volunteers in disaster management.**Hungarian presentations

Section chair: András Molnár

Venue: breakout room

Streaming: [http://8x8.vc/hunrc/ICER\\_section](http://8x8.vc/hunrc/ICER_section)

14:00-14:20	<i>The role of volunteering in the Hungarian disaster management system, the experiences of application of the voluntary rescue services in the Danube flood protection, by TÓTH Tibor</i>
14:20-14:40	Hungary: a systematic collaboration of professional and volunteer fire assets. by MOLNÁR András
14:40-15:00	Role of sports associations in the development of volunteer Civil Protection Assets, by MÉNESI Zoltán
15:00-15:20 <i>online</i>	Involvement of volunteers in healthcare response to COVID-19, by IPOLYI Dóra

**Section 5: Technology and resilience-based approaches**

Section chair: András Molnár

Venue: main hall

Streaming: [https://8x8.vc/hunrc/ICER\\_plenary](https://8x8.vc/hunrc/ICER_plenary)

16:00-16:20 <i>online</i>	<i>Development of flash flood hazard mapping in a chosen plot in North Hungary, by DOBAI András</i>
16:20-16:40 <i>online</i>	The role of civil protection of the Republic of Srpska in Water Contingency Management in the Sava River Basin – WACOM project, by ZDRALE, Danijela
16:40-17:00 <i>online</i>	RSOE EDIS, by HORVÁTH, Endre
17:00-17:20 <i>online</i>	The significance of resilience based approach regarding the tackling of human trafficking, by KÁLLAI Krisztina
17:20-17:40	Disaster resilience building at local level by DANIHELKA, Pavel

**Section 6: Empirical and field experiences.**Hungarian presentations.

Section chair: Dr. Tamás Tímár

Venue: breakout room

Streaming: [http://8x8.vc/hunrc/ICER\\_section](http://8x8.vc/hunrc/ICER_section)

15:50-16:10	<i>The Humanitarian Situation Of The 1989 GDR Refugees, by TAMPU Stelian</i>
16:10-16:30	Role of police emergency medical capacities, by MONDOK Lilian Amarill
16:30-16:50 <i>online</i>	Problems of extinguishing forest fires and opportunities to increase efficiency by REKENY Máté
16:50-17:10	Research Development And Innovation Opportunities In The Field Of Resilience Of Voluntary Intervention Organizations In The Hungarian Section Of The Danube River Basin District, by LESKÓ György

**During the conference, each section speaker has 15 minutes to present their theories, empiric findings, experiences or practical considerations. After the presentation, 5 minutes Questions and Answers session will follow. Please keep your time. Section chairs will pay attention to adhering to the time frame.**



We ask the online audience to use the built-in chat function to raise questions. Please keep your microphones muted during the presentations.

## Presentations and abstracts

### **Humanitarian response to psychosocial needs after flood events– Dr. Brigitta SÁFÁR**

Head of Disaster Management, Hungarian Red Cross

Section 1: Health, mental health and cross-sectoral partnerships. Main hall, 11:40-12:00.

#### **Abstract**

Over the past decades the frequency of disasters, their devastating effects and the number of fatalities have increased throughout the world. This growth is apparent despite the increasing efforts of governmental and humanitarian organizations to protect the population and the environment from the destruction of disasters. Governments and professional disaster management organizations face a growing challenge by the ever-increasing number of flood events, so there's a growing need for the involvement and support of humanitarian organizations all over the world. There are many specific areas where humanitarian organizations can contribute to reduce the impact of risk factors, and mitigate it's long-term effects.

Humanitarian effects of flood events requires not only the physical assistance but also the psychosocial support of the affected communities. Human emotions evoked by flood events are different in individuals, each person processes trauma and loss in a different way. In order to be able to help in the most effective way possible during such an event, it is crucial to integrate psychosocial assistance into all elements of the disaster cycle from preparedness to recovery. The author investigates the key actions of psychosocial support needed to be taken in different phases of the disaster cycle.

**Keywords:** psychosocial support, floods, loss, humanitarian assistance, disaster cycle, preparedness

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**Anpas emergency psychologists cooperating with local services during emergencies – Simona IUS<sup>1</sup>, Marialuisa ROSSI<sup>2</sup>**

<sup>1</sup>Head of Anpas emergency psychology team, Anpas

<sup>2</sup>Member of Anpas emergency psychology team, Anpas

Section 1: Health, mental health and cross-sectoral partnerships. Main hall, 12:00-12:20.

**Abstract**

In Italy, mental health care management is local: each person can be assisted by the National Health System for free, by units located close to them.

During the time of emergencies, it is foreseen by law (Directive of the President of the Council of Ministers of 6 April 2013) the setting up of P.A.S.S. (social health care structures). The P.A.S.S. are shelters set up by volunteer associations and the services that they host are managed by the local health agency (A.S.L.). The aim is to rebuild local autonomy as soon as possible.

Emergency psychologists collaborate with this structure and with colleagues from the local area during the crisis phase.

This paper describes the tools used by Anpas emergency psychologists in collaboration with the local services: the procedures for contact, the information shared, the specialists involved. It compares case studies in different emergencies from 2009 to the present day.

**Keywords:** Emergency psychology, Local services, Mental health, Cooperation, Tools

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**Anpas's childcare experience in emergency – Mariasilvia CICONI**

Volunteer with an assignment as national coordinator activity for vulnerable groups, Anpas

Section 1: Health, mental health and cross-sectoral partnerships. Main hall, 12:20-12:40.

**Abstract**

This article focuses on Anpas's research in the field of childcare in an Emergency temporary shelter after a disaster crisis.

We must consider children as "special" victims among the victims because, under the circumstances, they may have just lost all consistent and reassuring routine patterns in everyday life, such as affections, family environment and relationships.

More than anybody else, children seem to be the main victims of the emotional vulnerability implied in a catastrophic event. The most important goal of Anpas in developing a specific model for the care of children has been to respond to their needs appropriately and specifically.

In order to assess this kind of support to children, since 2016 we have been working both in giving specialized training to volunteers who took care of them and about building spaces suited to their needs: the Giocheria, a play space which will be explained in detail in the article.

To give the action of children care a scientific basis, we founded it also on specific sociological research: one of the approaches was Photovoice, a plan we tested during the earthquake in the center of Italy in 2016 in which children were encouraged to tell us which their specific needs were and share comments about the temporary shelters through photos.

In short, the report will give you a brief survey on the activities carried out by the trained volunteers of ANPAs in the different phases of emergencies and their actions addressed to children and disaster-affected communities.

**Keywords:** Children, sociological research, training, suited spaces, care

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**Key developments of EU funded project INDIMA – Josef RIENER<sup>1</sup>, Dr. Bogdan POP<sup>2</sup>**

<sup>1</sup>Project Manager, INDIMA Project, Publicomm GmbH

<sup>2</sup>Deputy General Director, Ministry of Internal Affairs, Department for Emergency Situations, General Directorate for Emergency Care

Section 1: Health, mental health and cross-sectoral partnerships. Main hall, 12:40-13:00.

**Abstract**

Project INDIMA will develop and enhance a network-concept for better and holistic civil protection and disaster risk management by integrating all relevant stakeholders in pre-planned joint preparedness and response activities, establishing a tangible network.

Objective is to develop a concept to optimise the cooperation and improve the coordination among a wide range of governmental and non-governmental, civil and military as well as public and private stakeholders. The main task of the first project phase was to create a solid and up-to-date database for the development of the INDIMA projects network concept. The results were used to design the specific thematic of the online workshops and get answers to questions, raised by the project management team and the participants.

In the second phase of the project, the process and checklists for the Integrated Management of Crises and Disasters will be developed. From the Middle of July on, the development of the network concept, the backbone of INDIMA started.

In 2022 the developed network concept will be tested in a SIMEX (simulation exercise). The scenario of this table-top exercise is supported by SMURD foundation, providing VR-supported scenarios of an energy breakdown. The SIMEX aims to test the implementation of the developed checklists, find improvements for the checklists, to gain knowledge for the practice. No 24/7 exercise setup and no testing or validating of Civil Protection staff and participants in any way.

**Keywords:** INDIMA, disaster management, EUCPM, disaster preparedness, climate change, infrastructure security

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**Challenges in coordination – András MOLNÁR<sup>1,2</sup>, Dr. Brigitta SÁFÁR<sup>3</sup>**

<sup>1</sup>Disaster preparedness focal point, Hungarian Red Cross

<sup>2</sup>PhD Student, University of Pécs

<sup>3</sup>Head of Disaster Management, Hungarian Red Cross

Section 2: Current challenges in coordination. Breakout room, 11:40-12:00.

**Abstract**

Trained and organizationally embedded disaster volunteers play a crucial role in response and recovery, acting not only just as an additional human asset but as a vital link between the informal resources of the community and the public organizations responding to the event. But how can a response system utilize the potential of volunteers?

To answer this question, we applied often used and well-exercised research methods around disaster management and humanitarian topics, as well as collaborative governance practices. As a first step, desk research has been done around the aforementioned topics. The collection and analysis of white and grey literature included the relevant policy documents and research results. This has been followed by focus group discussions and stakeholder mapping. The results of the desk research, focus groups and the stakeholder mapping are elaborated in this current report.

The main challenges in coordination with volunteer and humanitarian organizations are coming from a large number of actors, their diversity in background and culture, as well as their differences in capacities and competencies. In some cases, this causes inter-organizational mistrust. While roles and competencies remain unclear, actors fail to share information and coordinate their action, leading to mismatched responses and duplication of efforts.

To overcome these obstacles, we recommend including volunteer organizations in the planning and preparedness activities to establish pre-agreed procedures. As the number of volunteer organizations is often numerous, we recommend developing a sectoral coordination structure to mitigate the burden of the negotiations needed.

Trust suggested being built during the preparedness phase with regular meetings between volunteer and humanitarian organizations to establish a common understanding of each other's culture, competencies and capacities. This could be strengthened with joint training and exercise activities to gain first-hand experiences. Personal training for volunteers and staff involved in coordination tasks should entail skill development activities covering communication and negotiations as well as cultural awareness. Information management is another focus area to strengthen.

All of these recommendations above highlight the need for the development of regional (and macro-regional) networks, as well as experience and knowledge sharing networks within the disaster management sector.

**Keywords:** coordination, collaboration, disaster management, volunteer organizations, humanitarian organizations

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**Application and further development of INSARAG Coordination Management System – László BARTA-VÁMOS**

head of department, National Directorate General for Disaster Management, Department for Fire Protection

Section 2: Current challenges in coordination. Breakout room, 12:00-12:20.

**Abstract**

The INSARAG Coordination Management System (hereinafter: ICMS) is a data collecting, summarizing, organizing, and displaying system developed to support the operations, coordinations of urban search and rescue teams on an area hit by an earthquake, but - I think - there can be much more in the program. I would like to introduce the operation of ICMS, its' modules from the Reception Departure Centre through the Triage and Operations til the Logistics. I also would like to present the methodology, how the program works in practice, and what are the advantages.

After speaking about the present, I would like to flash some possible use of this kind of system in the future in a different types of disasters.

**Keywords:** INSARAG, ICMS, dashboard, coordination, assessment

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**Evaluation of components of coordination in effective disaster response – Bektaş SARI**

PhD Candidate, Ege University, İzmir, Turkey

Section 2: Current challenges in coordination. Breakout room, 12:40-13:00.

**Abstract**

Nowadays, a number of disasters occur that negatively affect the lives of people and communities. These disasters may be caused by the environment, nature, or by people or the products or services they produce. Regarding disasters literature context; First of all, the events that caused the deaths of people were treated as disasters. Later, events that cause physical or social losses, events that affect people and cause property damage, and eventually the concept of disaster; were associated with the concepts of environment, development, and sustainability.

The purpose of this study is to; evaluate the necessary components of coordination in effective disaster response. This study is a review article created using the qualitative method. In order to respond to disasters in a coordinated and effective way, it is delineated that Incident Command System, collaboration, communication, information management, teamwork, flexibility and authority, and use of social media are central to disaster management and these are the components of coordination in disaster management. Furthermore, in order for disaster and emergency situations to be managed in a coordinated way, qualified works should be carried out in the above headings.

As a result, in this study, it is conceptualized and theorized that coordinated and effective disaster response is based on the components of coordination in disaster management mentioned above.

**Keywords:** Disaster, Disaster Management, Coordination, Response, Collaboration

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**The fire of the István Mill in Békéscsaba – ff. maj. Dr. Tamás TÍMÁR**

Unit leader, Disaster Management Operational Service

Section 3: Empirical and field experiences. Main hall, 14:00-14:20.

**Abstract**

May 21, 2019, was the most significant fire of the last decades when the István Mill in Békéscsaba burned down. The fire destroyed the building, which has a history of more than 160 years, on a floor area of nearly 1,100 m<sup>2</sup> on six levels. Firefighting was carried out at the highest alert level, with 15 firefighting vehicles and 67 firefighters involved.

The size of the mill building affected by the fire, the division of the damaged area, the number of intervening personnel, associates and other contributors, and the number of firefighting and special vehicles used justified the broader and higher division of firefighting management.

The intervention of the firefighters was fundamentally determined by the fact that even the first units to arrive encountered a fire spread over several levels. The internal building structural elements of the traditional, old-built Mill were all made of wood, so the spread of the fire in both the horizontal and vertical directions was extremely fast. Due to the risk of accidents, firefighting could only be done from the outside. It was only after the collapse of the roof structure that it was possible to intervene effectively with the jets of water cannons mounted from heights. Due to the “flying fires”, the wider surroundings of the Mill also had to be constantly monitored. Special attention had to be paid to the buildings of the neighboring Hospital. The damaged building is located in the centre of Békéscsaba. As a result, increased attention had to be paid to the closure of the area, as thousands of interested citizens appeared on the scene.

Extinguishing the largest and most complex fire of recent decades proved to be a difficult task, but fortunately, no personal injury occurred during the fire. Following the intervention, and operations analysis and fire investigation procedure was initiated.

**Keywords:** fire, mill, industrial facility, alarm level, firefighting intervention

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**Search and Rescue with Dog, Camera and Drone – András POLYÁK**

Secretary and coordinator, RSOE-National Association of Radio Distress-Signalling and Infocommunications

Section 3: Empirical and field experiences. Main hall, 14:40-15:00.

**Abstract**

The topic of my study is Search and Rescue with Dog, Camera, and Drone because I feel that this operation is very close to me. I was lucky enough to have interviews with several people who are already working on the work in the title, and I have also taken part in such exercises, so I was able to use personal experiences as well. In my work, I examined the improvement of the efficiency of search work performed by professional and voluntary organizations in Hungary. My hypothesis was that a dog trained for this purpose and supported with types of equipment, as well as using these devices on their own, can be of great help in reducing the rescue time of people in trouble.

During the elaboration of the topic, I touched on several areas that are in many respects related to each other, as well as there have been attempts and attempts to use them in the past. These tools have now reached a level where many more know them and can be used in larger areas. With the development of digital technology, they have created applications that can trigger many physical devices due to their functions. Thus, communication, data management, event organization, and follow-up can be combined and managed more easily. People have also been using dogs for a long time to make their daily lives and work easier, and we can get a very efficient staff member with certain limits of usability, with proper training, keeping, and examinations. Providing them with tools such as cameras and drones can make the work of dogs deployed in search and rescue much more efficient. Using these systems on your own can also help with this work. As development progresses, there will be the greatest potential for exploiting the potential of drones. There are already functional tests of independent systems, which will provide a good basis for their spread and wide application in the future.

I believe that the content of my work is adequate to support the hypotheses I have set up and to provide a comprehensive picture to facilitate search and rescue operations. However, I need further research to prove this.

**Keywords:** USAR, K9, Drone

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**Disaster Management Aspects of Global Climate Change – László TEKNŐS<sup>1</sup>, Krisztina A. DEBRECENI<sup>2</sup>**

<sup>1</sup>Senior lecturer, University of Public Service (Hungary) / Faculty of Law Enforcement / Institute of Disaster Management

<sup>2</sup>Student, University of Debrecen (Hungary), Faculty of Arts, Social Sciences Translator

Section 3: Empirical and field experiences. Main hall, 15:00-15:20.

**Abstract**

In the fight against the negative effects of climate change, the tasks of disaster management are to identify risks, assess vulnerabilities, develop their classification system, realize a sense of security at a social level, develop self- and co-rescue, socialization of support activities, the implementation of which is always relevant. The results of these can help the risk-based approach of disaster management tasks, the process of forecasting, the modernization of prevention and protection procedures, decision-making, the development of assets, and the more efficient implementation of tasks arising in disaster management cycles.

The main threads of this study are the analysis between climate change and security, along the creation of disaster protection typology models of extreme weather events and climatic extremes, both their national and international effects (especially in terms of public service aspects), analyses and examines extreme meteorological anomalies, considering the statistics of the Hungarian firefighting marches.

**Keywords:** disaster management, climate change, extreme weather, security, natural disasters

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**The role of volunteering in the Hungarian disaster management system, the experiences of application of the voluntary rescue services in the Danube flood protection – ff. bgen. Tibor TÓTH**  
Deputy-director, Chief Councilor, Disaster Management Training Centre

Section 4: Role of volunteers in disaster management. Hungarian presentations. Breakout room, 14:00-14:20.

**Abstract**

The role, importance and significance of volunteering has grown significantly in recent decades and changed substantially in its content and form. Volunteering has become a priority in the management of large-scale, protracted disasters like also in flood management.

Voluntary rescue services, which have been established over the last 10 years at the national, county, district and now also municipal levels as a catalytic effect of disaster management, make a significant contribution to the ability to multiply quickly the number of people involved in disaster management. The preparedness, equipment and response capability of rescue teams are guaranteed by the national qualification system. Hungary's vulnerability is basically determined by water damage, therefore, in the framework of the European Union project, the disaster management organization procured the technical equipment and necessary facilities too for the protection against water damage for two hundred nationally certified voluntary rescue services. In flood protection, voluntary rescue services have gained significant knowledge and experience during both real deployments and qualification exercises. In Hungary, effective cooperation between voluntary and professional civil protection services is guaranteed by the national qualification system.

In my study, I briefly present some elements of the application of Hungary's first rescue team, the Körös Rescue Team of Békés County, during the flood protection on the Danube in 2013.

**Keywords:** volunteering, disaster management, flood, rescue services, national qualification system

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**Hungary: a systematic collaboration of professional and volunteer fire assets – András MOLNÁR<sup>1,2</sup>, Andrew CARTWRIGHT<sup>3</sup>**

junior research fellow, Democracy Institute, Central European University

disaster preparedness focal point, Hungarian Red Cross

research fellow, associate professor, Democracy Institute, Central European University

Section 4: Role of volunteers in disaster management. Hungarian presentations. Breakout room, 14:20-14:40

**Abstract**

Volunteer firefighter units provide fire protection and rescue in many countries, while efforts ensuring safety often falls under the competences of municipalities and local communities. Hungary, a Central-European country centralised large portion of its public services in the past decade, fire safety and rescue became the competence of a centralised professional governmental agency with national coverage. Despite the fact that policy builds on a central professional organisation, the volunteer firefighting movement gained importance and has grown significantly recently.

This paper investigates the collaboration between private volunteer firefighting brigades (local associations) and the central governmental disaster management agency of Hungary. We apply a case study approach to understand how volunteer units are integrated into the professional system. Our research is based on the analysis of policy documents, key informant interviews and Freedom of Information data requests.

Findings show that volunteer units contribute to the safety and resilience of local communities in Hungary, but their engagement is not sustainable due to demographic and societal challenges, as well as the policy contradictions identified.

The majority of the research around the role of volunteer firefighters are covering decentralized countries with subsidiary systems. This current case study provides an addition to the discourse around the involvement of volunteers in fire safety with the evaluation of a collaboration between a centralized professional authority and localized, individual volunteer fire associations.

**Keywords:** volunteer firefighters, collaboration, fire safety partnership, Emergency Management Policies, first responders

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**Role of sports associations in the development of volunteer Civil Protection Assets – ff. It.col.**  
**Zoltán MÉNESI**

civil protection inspector, Csongrád-Csanád County Disaster Management Directorate

Section 4: Role of volunteers in disaster management. Hungarian presentations. Breakout room,  
14:40-15:00

**Abstract**

Through my research in volunteer assets of civil protection, I got the opportunity to investigate the work of civil society organizations in their daily life and during emergencies. In my expert opinion, it's essential to understand and analyze the contemporary societal changes, and Civil Protection organizations should adapt to them with a necessary renewal of concepts and methods. Based on sociological and economic reasons, this research suggests that the inclusion of amateur sports associations is beneficial during this process, as they possibly pose workforce and equipment that can be integrated into disaster management activities.

Analyses of volunteer rescue organizations should be based on the strategic aims of the National Disaster Management system and its goals to extend the role of volunteers. To reach this strategic goal, the inclusion of amateur sports associations could be a step forward. With a more swift data analysis, force multiplication could be faster with the mobilization and possible redeployment of these associations and their locally available human resources, vehicles and other assets.

In my professional practice as civil protection inspector of a major city, I regularly interact with sports associations and amateur athletes, who were active participants of response operations to different incidents recently. Based on my observations and expert opinion, organized and conscious planning could utilize their potent logistic and human capacities, which could be further investigated in the future. Besides their physical capacities, another research interest covers their role in youth education and recruitment. Events organized by amateur sports associations provide opportunities to interact with the communities, disseminate awareness messages and strengthen a positive image of the volunteer and professional disaster management career.

**Keywords:** sports associations, civil protection, volunteer organizations

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**Involvement of volunteers in healthcare response to COVID-19 – Dóra IPOLYI<sup>1,2</sup>**

<sup>1</sup>Volunteer coordinator, Hungarian Red Cross National Headquarters

<sup>2</sup>PhD Student, University of Pécs

Section 4: Role of volunteers in disaster management. Hungarian presentations. Breakout room, 15:00-15:20

**Abstract**

The COVID-19 pandemic posed a significant challenge for public healthcare systems across the globe. Governments needed to urgently expand capacities with the involvement of non-sectoral public and law-enforcement organizations, and requested support from NGOs working in social and humanitarian sector. The Red Cross and Red Crescent Movement is involved world wide in frontline tasks of COVID response. The Hungarian Red Cross deployed its resources since the beginning of the first wave, mobilizing volunteers and donations to support the national health services in a large extent.

This current case study investigates the role of the Hungarian Red Cross volunteers in the COVID-19 response, with a practical focus on the coordination and recognition of volunteers. We introduce the elements of the volunteer management, highlighting the good practices and bottlenecks. Putting the case into international context, we argue for the mobilization of volunteer assets during similar disasters.

**Keywords:** volunteers, volunteer coordination, healthcare, COVID, pandemic

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**Development of flash flood hazard mapping in a chosen plot in North Hungary – András DOBAI<sup>1</sup>,  
Dr. habil Endre DOBOS<sup>2</sup>**

<sup>1</sup>PhD Student, University of Miskolc

<sup>2</sup>Associate professor, University of Miskolc

Section 5: Technology and resilience-based approaches. Main hall 16:00-16:20.

**Abstract**

As a result of global climate changes, the number of extreme weather events is on the rise. They have a significant impact on both natural and built environments. One of these phenomena in Hungary is flash floods, mainly caused by rapidly occurring convective precipitation zones.

Forecasting and examining this phenomenon is very complex. That is why it is hard to prepare for these types of floods, which burden those performing civil and water defense management. This study presents the practical applicability of theoretical flow accumulation rasters through an example of a plot in Northern Hungary. Using a 5 m resolution digital elevation model (DEM), flow accumulation and other raster files (e.g. watershed and basin) were created and compared to previous official flash floods reports. As a result of these maps and information, high-risk valleys and watersheds were located. Further refinement of this methodology will be examined during my doctoral research by applying terrain and environmental covariates to create a reliable flash flood management system to assist with climate change modelling.

**Keywords:** GIS, flash floods, intermittent streams, theoretical flow accumulation, Nyögő - Harica streams

**The role of civil protection of the Republic of Srpska in Water Contingency Management in the Sava River Basin – WACOM project – Danijela ZDRALE**

project coordinator, Civil protection administration of the Republic of Srpska

Section 5: Technology and resilience-based approaches. Main hall 16:20-16:40.

**Abstract**

Since July 2020, the Republic Administration of Civil Protection of the Republic of Srpska has been participating in the WACOM (Water Contingency Management in the Sava River Basin) project and together with other project partners from BA collecting certain data and analyzing and communicating with target groups creates a basis to upgrade existing protocols, as the ultimate and basic goal. The WACOM project is co-financed by the Interreg DTP and includes key partners from four countries in the Sava River Basin: Slovenia, Croatia, Bosnia and Herzegovina and Serbia. The lack of coordinated response to emergencies in case of accidental pollution and floods on transboundary watercourses in Sava River Basin is our key challenge. WACOM will enable development of response mechanisms, where some components were already implemented i.e. flood forecasting system for the Sava river basin, while the response component is still missing. This was proven during recent accidents: accidental pollution of the Spreca river in 2018 and extreme flood event on Sava river basin in 2014. The situation is a threat to people, environment and all water uses in the basin. It should be addressed by improved transboundary coping capacity. For that intent International Sava River Basin Commission (ISRBC) defined a strategic policy framework with several ratified protocols. The protocols are not disaster-specific and do not define specific procedures yet. In this way the platform will be set for improved cooperation, which will be harmonized with other agreements and EU procedures i.e. EU Civil protection mechanism as well. The project will be based upon already adopted protocols, upgrading them with innovative toolbox supporting the cooperation and joint situational awareness and thus improving preparedness and implementation of transboundary response measures. In order to achieve the predict result the protocols require also development of detailed agreements, plans, tools and implementation strategy all leading to improved, more efficient and effective response in the case of natural (floods) and man-induced (accidental pollution) disasters. Improved coping capacity is often neglected component in the overall risk reduction always addressing hazards and vulnerability.

Improved preparedness and management of the response (coping capacity) of all involved stakeholders during the pollution and flood incidents with improved definition of roles, and response assignments. Within the first stage of the work task, we participated in the preparation of the document Analysis of BA, in a way where we made a survey within the target group through the development of certain Tables-Annexes, and the final results were presented in the document. Furthermore, these data served as a basis for conducting national and regional workshops, in which we included a large number of stakeholders and important participants, and they were activated from the following groups of society: national public authority, local public authority, enterprises, infrastructure and (public) service provider, international organization under national law. So far, through research work through Tables - Annexes filled in by project partners and associated partners, by type of level (strategic, operational and tactical) and with certain questions, the results have been obtained, which are officially published in a document. Improved transnational procedures for

response to accidental pollution and floods – Analysis of existing national and sectorial procedures and their inefficient mapping will be addressed.

Filling the identified gap between the two pillars of floods/accidental pollution response institutions to the complexity of the transnational response on the same river basin an additional complexity cooperation between water management institutions and disaster management institutions (e.g. civil protection) is imposing another challenge, which will be addressed by the project.

**Keywords:** civil protection, WACOM, transboundary, floods, pollution

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**RSOE EDIS – Endre HORVÁTH<sup>1</sup>, Márk SZENTE<sup>2</sup>**

<sup>1</sup>EDIS project manager, RSOE - National Association of Radio Distress-Signalling and Infocommunications

<sup>2</sup>Developer, RSOE - National Association of Radio Distress-Signalling and Infocommunications

Section 5: Technology and resilience-based approaches. Main hall 16:40-17:00

**Abstract**

In the following presentation, we briefly describe the renewed EDIS service of the National Association of Radio Distress-Signaling and Infocommunications (RSOE). EDIS is the acronym of the English name Emergency and Disaster Information System. The system's basic functionality is to aggregate disaster and emergency events collected from various online sources, primarily using a map display. RSOE developers have been creating and developing this service for a long time. Despite limited development and operational resources, the idea proved successful and became widely known, attracting more prominent customers who were willing to support the development of features of increased value by paying an annual fee for their access.

Over the years, EDIS proved to be an essential part of RSOE's social services portfolio. When planning the year 2020, EDIS became a focus project and a complete, fundamental revision and rebuild of the old system had begun. This presentation will focus on the concise organizational description of RSOE, after which we will first briefly present the key features of the previous version of EDIS, highlighting the aspects that provided the cornerstones of the development of the new EDIS v2 system. In the second section, we outline the structure and functionality of the new system, also covering the related aspects of development and operation. In the third section, we discuss the conceptual foundations of EDIS, which provides a detailed picture of the types of events examined. In the fourth section, we present the geoinformatics layers and additional functions, and in the fifth, we discuss the relationship between user types and service scopes. In the sixth section, we outline the analytical possibilities of the new EDIS system, and in the last section, we present the dispatching tasks related to daily operation.

**Keywords:** Emergency Information, Disaster Information, Information System

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**The significance of resilience based approach regarding the tackling of human trafficking – Krisztina KÁLLAI**

Phd Student, Óbudai Egyetem

Section 5: Technology and resilience-based approaches. Main hall 17:00-17:20

**Abstract**

The challenge of human trafficking concerning children from the region of devastated areas caused by natural disasters is an increasingly significant fact. As the sudden natural disasters are more erratic, the number of exploited minor victims will be growing significantly. Having no parental authority most of these minors become victims of sexual exploitation. Applying an adequate resilience based approach included the psychosocial support could be a major tool of process of both prevention and rehabilitation among the sexually exploited children.

**Keywords:** human trafficking, sexual exploitation, resilience, climate change, psychosocial support

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**Disaster resilience building at local level – Pavel Danihelka<sup>1,2</sup>, Jan Kolonicny<sup>3</sup>, Lenka Schreiberova<sup>4</sup>**

<sup>1</sup>Head of the Dept. of Risk Research and Management, professor

<sup>2</sup>VUBP, Czech Republic + VSB - Technical University of Ostrava

<sup>3</sup>VSB - Technical University of Ostrava, Czechia

<sup>4</sup>VUBP, Czechia

Section 5: Technology and resilience-based approaches. Main hall 17:20-17:40

**Abstract**

The UN Sendai Framework (2015) has brought a clearer explanation of the purpose of managing disaster risks and on the role of coordination horizontal, vertical and with various stakeholders. This strategy also recommends strengthening disaster risk strategy building at local level, including the creation of local platforms of disaster risk reduction (DRR). Experiences from recent events, including COVID-19 epidemy or “black swan” tornado at southern Moravia, confirm the importance of effective response at local level, built on knowledge-based prevention and preparedness, and the need of all-society involvement. With the effort to support this strategy, the project of Czech Security Research Programme RESIMAS (Resilient Local Action Groups) has been launched with the goal to deliver the methodology of local platforms for DRR and local strategies of DRR.

**Keywords:** resilience, disaster risk reduction, municipality, local action groups

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**The humanitarian situation of the 1989 GDR refugees – Stelian TAMPU<sup>1,2</sup>**

1PhD Student, University of Óbuda

2Hungarian Charity Service of the Order of the Malta

Section 6: Empirical and field experiences. Hungarian presentations. Breakout room, 15:50-16:10

**Abstract**

The democratization of the Central Eastern European states of the Soviet sphere of interest created many unexpected situations in these countries and these situations were solved in different ways in each state. A peaceful regime change took place in Hungary because the political reform processes did not revolutionize the Hungarian society: the end of a long-running reform movement in 1989 meant the change of regime and the transition from a single-party to a multi-party system. In the states sharing the same fate this did not go so smoothly, the times changed in the GDR, too, but with a lot of conflict. This socialist state had serious social tensions, this led to the humanitarian crisis of the GDR refugees stuck in Hungary. The crisis was solved by the voluntary assistance of Hungary. However, this caused serious problems for the Hungarian government and civil society. How did Hungary solve it? How did the newly formed Hungarian Maltese Charity Service help refugees in Hungary?

**Keywords:** Refugees, Humanitarian Crisis, Volunteering, Inclusion, Border opening.

**Role of police medical emergency capacities – Lilian Amarill MONDOK**

Student, University of Public Service

Section 6: Empirical and field experiences. Hungarian presentations. Breakout room, 16:10-16:30

**Abstract**

The choice of topic for my thesis was self-evident, since as a public order patrol leader, I regularly encounter situations requiring first aid as a police officer, so my choice of topic was based on my experience.

In addition to practicing my profession, I have been volunteering in first aid for over 12 years.

The aim of my career is to highlight the importance of law enforcement emergency services.

I would like to draw the reader's attention to the fact that in many cases, a public police officer comes first to the scene of a dispatch, so it is important that if you need emergency care, you can really help with the professional care, not hurt the injured.

In my paper I describe the legal background of law enforcement emergency care, which legislation is required to assist a police officer. I summarized the most common police medications and their practical implementation, and supported them by interviews with one-on-one occurred case. In my thesis, I illustrate how to see about, and provide first aid to the victims of a casualty or resuscitation through police reports.

In my career, I introduce the training of Police Medic through an interview with Lt. Col. Dr. Attila Gáspár (one of the founding members of the course).

Finally, I summarized the problems arising in the hypothesis and the possibilities of their solution. I have found that good first aid training and psychological education, as well as appropriate psychological, mental care and nursing after each case, can be an appropriate basis for providing an excellent emergency on site.

**Keywords:** police, first aid, accidents, incident site, Police Medic

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**Problems of extinguishing forest fires and opportunities to increase efficiency – Máté REKENY**

student, firefighter, National University of Public Service

Section 6: Empirical and field experiences. Hungarian presentations. Breakout room, 16:30-16:50

**Abstract**

As a result of climate change, due to rising annual average temperatures and declining rainfall, we can expect large-scale forest and vegetation fires in Hungary in the near future, as has been becoming common in the Mediterranean regions for years. My theory is that ending these fires up will no longer be possible with those forces, tools, and tactics we have used to fight wildfire in recent decades.

The aim of the dissertation is to shed light on solutions that would allow forces at service to intervene more effectively in such fires. I am looking at developments that not only take into account the cost of ending fires up, and the saved values, but I also pay great attention to keeping the purchase price of these assets as low as possible, so that we can consider it as a realistic goal to put them into system.

In addition to the economic benefits, I pay more attention to the safety and health of the intervening personnel, as even the most modern means cannot replace the experienced personnel, their preparedness, physical, and mental capacity are the key to eliminate fires.

Keeping the cost of interventions low, and working efficiently and safely may seem like the opposite pairing, but my experience in extinguishing large-scale wildfire suggest that many times the simple solutions are the most effective. I examined these.

The result of my dissertation can be used in practice. My objectives have achieved their goal, I consider it an important step that, based on the examination of the current system of tools, and vehicles, I have established that these not necessarily be suitable for the elimination of the fires I have predestined. Thus, I have investigated new devices that, according to my research and professional experience, may be suitable for extinguishing large scale forest fires, are low- cost, and more effective than the current ones. To prove this, I conducted comparative studies and the result of these proves my hypotheses.

**Keywords:** wildfire, light fire truck, efficiency, climate change

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**Research development and innovation opportunities in the field of resilience of voluntary intervention organizations in the hungarian section of the Danube river basin district – György LESKÓ**

**Abstract**

The capabilities of voluntary organizations determine their applicability. This capacity building is a fundamental interest of society. In addition to the human resource development and recruitment activities of voluntary organizations, the development of tools and procedures based on research development and innovation, enables the achievement of a higher level of integrated applicability of organizations. One of the most important key risk factors in Hungary is the flood in the Danube catchment area, which covers the whole country.

Flood prevention, mitigation and resilience are integrated multi-level task system. Participation in this activity is also a growing challenge for voluntary organizations. This challenge can only be met through continuous development based on integrated networking activities. The professional issues and possibilities of the development are presented by the author, presenting the experience of a project aimed at creating and maintaining a flood resilience development practitioners' network.

**Keywords:** voluntary organizations, research development and innovation construction, tool and procedure development, flood resilience, Danube catchment area.

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