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DAREnet

D4.3 – 2nd Workshop of Topic Working Groups

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Abstract: This deliverable contains a brief, concise summarization of the 2nd Topic Working Group Workshop and its main results. This second cycle of the DAREnet road mapping process followed a scenario based approach focussing on training aspects of diverse domains of flood management during the entire disaster management cycle.

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Glossary

<u>Abbreviation / acronym</u>	<u>Description</u>
CM	Crisis Management
COP	Common Operational Picture
DM	Disaster Management
DNC	DAREnet National Contact
DRR	Disaster Risk Reduction
EUCPM	European Civil Protection Mechanism
KB	Knowledge Base
PPP	Public-Private Partnership
PR	Public Relationship
RDI	Research, Development, Innovation
SM	Social Media
SOP	Standard Operating Procedure
ToT	Training of Trainers
TWG	Topic Working Group

1 Executive Summary

This deliverable presents the results from the second Workshop of the Topic Working Groups (TWG) on 24 – 25 Sept. 2019 at “ÖRK Lagezentrum” in Vienna/ Austria. In contrast to the broader scope of the first DAREnet roadmapping cycle, this cycle concentrated on the identification of innovation opportunities for training aspects.

In preparation of this workshop, a webinar about a realistic flooding scenario was held on 3 July 2019. The scenario featured different levels of escalation in the crisis management cycle and clearly defines underlying challenges and tasks. For further analysis, a questionnaire was compiled for gathering data and practitioners view towards innovation potentials towards training with respect to the challenges and tasks described in the scenario. The preliminary analysis of this questionnaire formed the basis for World Café discussions during the workshop, where groups of practitioners from different domains, organisations and countries shared and reflected their own experiences and findings.

In general, it was found out from the discussions during the workshop that training is not seen equally relevant in all sub-domains of crisis management. However, all these analysis suffer from weak statistics due to the limited number of participants, although all countries of the Danube River basin, all command levels and a broad spectrum of experience is included in the evaluation.

In the follow-up of the second DAREnet TWG Workshop our next steps will include the finalisation of the analysis of the questionnaire and the contributing the findings to the DAREnet Knowledge Base. The provision of the innovation opportunities relates to the next step in the DAREnet roadmapping cycle, where the identified results will be taken up by the Innovation Assessment done in WP5.

2 Introduction

The DAREnet project aims at strengthening flood resilience in the entire Danube river region. To this end, practitioner's needs and knowledge are collected and analysed in so called Topic Working Groups (TWG) to form the basis for a Research, Development and Innovation (RDI) Roadmap and a portfolio of RDI Initiatives. The RDI Roadmap aims at shaping future research and innovation policies for the Danube region as well as accompanying research programmes implementing them. Specifically, the RDI Roadmap will foster innovation opportunities that:

- Match practitioner needs and gaps experienced in the daily practice of flood management,
- Significantly improve nowadays flood management and/ or enable practitioners to cope with upcoming flood events (e.g. due to climate change),
- Comply with regional strategies for flood prevention and risk management,
- Create synergies with modules and facilities of the European Civil Protection Mechanism (EUCPM),
- Strengthen exchange and collaboration between practitioners beyond borders and different disciplines,
- Have a promising perspective for industrial exploitation and market entry.

The RDI Roadmap itself is the outcome of the identification, assessment and prioritisation of potential innovations as well as requirements and gaps in an iterative process. This process starts with formulating the most critical challenges in certain domains of flood management in the Danube region. From these challenges specific RDI Topics are derived, each covering a relevant field or source of innovation (cf. D1.1 DAREnet Challenges & RDI Topics).

This work will be continuously updated over a course of four cycles within the DAREnet project. During each cycle, practitioners and other stakeholders bring forward and discuss in the Topic Working Groups potential solutions for innovating flood management with respect to the specific RDI Topic. The discussions are fed with information about innovative solutions from the industry, research and best practices. In the next step, the identified innovation opportunities are taken up by the Innovation Assessment (cf. WP5) to benchmark the relevance of each innovation for practitioners from a holistic perspective.

In the first cycle, the Topic Working Groups were consisting of consortium members and practitioners of different command levels. They addressed diverse but more general problem domains of crisis management to uncover relevant needs and gaps, and to identify barriers as well as enablers for innovations with respect to flood response and flood management. However, the outcomes of this first cycle showed a rather higher variance. Moreover, due to the general orientation and the broad scope, the first cycle impeded the overall analysis of the resulting informational content and the derivation of comparable key findings for the subsequent work packages in the DAREnet Roadmapping process.

For this reason, the current cycle followed a different approach: To narrow down broad discussion in diverse fields of crisis management beforehand the framework of the second cycle was formed by a realistic flooding scenario. This scenario features different levels of escalation in the crisis management cycle and clearly defines underlying challenges and tasks. Furthermore, as a second condition for this DAREnet Roadmapping cycle, it was agreed to focus exclusively on aspects of the training. As a last condition, it was agreed that the majority of the participants in the Topic Working Groups were practitioners from outside the project at a lower, operational command level.

The scenario was introduced to practitioners and stakeholders from different countries in the Danube region during a webinar held on 3 July 2019. In close connection to the scenar-

io, a questionnaire was designed for gathering data and practitioners view towards innovation potentials towards training in specific sub-domains of crisis management.

The preliminary analysis of the questionnaire formed the basis for intensified discussions during a two day workshop on 24 – 25 Sept. 2019 at “ÖRK Lagezentrum” in Vienna/ Austria. In this workshop, groups of practitioners from different domains, organisations and countries discussed the main findings towards gaps, requirements and potentials for training in different sub-domains of crisis management in a collaborative manner. The present deliverable summarizes the results of these collaborative discussions.

3 Results from 2nd DAREnet RDI Workshop

3.1 Agenda

Tuesday, 24 September 2019		
Time	Item	Moderator(s)
From 11:00	Registration and arrival of participants	
12:00-13:00	Get together and Welcome Lunch	
13:00-14:00	Welcome note from the coordinator, Scenario Introduction	THW, DLR
14:00-15:30	1 st Topic Discussion: Coordination, Command and Control	THW
15:30-16:00	Coffee Break	
16:00-16:30	2 nd Topic Discussion: Alerting + Communication	APELL
16:30-17:00	3 rd Topic Discussion: Rescue Operations + Emergency measures	ISEMI
17:00-17:30	4 th Topic Discussion: Logistics + Assistance	ARC
17:30-19:00	Parallel Group Discussions (Topic 2 - 3)	All
19:00	End of day 1	
20:00-22:30	Dinner at "Zur Herknerin", Wiedner Hauptstrasse 36, Wien 1040	

Wednesday, 25 September 2019		
Time	Item	Moderator (s)
08:30-09:00	Welcome Coffee	
09:00-09:30	Welcome, Recap day 1, Introduction to day 2	THW, DLR
09:30-11:30	World Coffee (Topic 2 - 3)	Each group
11:30-12:15	Lunch Break	
12:15-13:45	Wrap-up of group results (30 min per Group)	THW
13:45-14:30	Upcoming Actions	DLR
14:30-15:00	Wrap-up and closure of the meeting	THW
15:00	End of day 2	

In order to comply with GDPR, a participant list will not be provided.

3.2 Report on the Topic Discussion: Coordination, Command and Control

3.2.1 What are the most relevant tasks and why?

Since Coordination, Command and Control was seen as a relevant topic for all participants, this aspect was jointly discussed within the whole group of participants. However, relevant tasks seem to differ from country to country according to their individual national conditions (organizational, legal, political etc.). Thus, the results from the discussion are given separated for each country represented at the workshop. Please note, that the sequence of these tasks does not reflect any kind of ranking.

The following list contains the biggest challenges – not necessarily with regard to the training aspect - in terms of flood management for each country:

Croatia (Mountain Rescue representatives) and Slovakia

- Lack of knowledge by general public: not willing to understand decisions that were made → Education/ Teaching (Information) needed
- Lack of or retarded (slow) political decisions
- Inter-organisational cooperation and interfaces of systems

Romania

- Low level of cooperation
- No culture of volunteering
- People reside in flood prone area
- Flood insurance
- Monitoring: not fast/ wide enough; plans are not monitored

Belgium

- Including of (classical) media and usage of all available media
- Innovation management: Lack of knowledge about existing innovations
- Interoperability (technical and organizational)

Austria

- No overview which data are collected by whom
- Lack of knowledge how to aggregate data and how to present the results to decision makers (data security, interfaces → decision on government level needed)
- Preparation and implementation with PPP in disaster management plans
- Interactivity between CM and population: data collection via social media, warning with geo-fenced calls → technical and organizational barriers

Hungary/ Austria

- Interagency communication, no training together, approx. 80% un-educated decision makers
- communication/ information of the public → no technical issue, but content/speech-related challenge
- Missing evaluations on interagency level, international level and EU-level, no political will for establishing knowledge/experience data base
- Different systems for professional and volunteers

- Lacking current information about “troops”/ capacities and their competencies/ knowledge/ skills/ training
- Supply for responders

Bulgaria

- Communication: All services communicate with themselves; thus, specialists needed for inter-organizational communication
- Communication cross-border
- Command protocols and their integration in CM
- Spontaneous volunteers → no training, no knowledge about skills, competencies; extra effort for volunteer needed
- Decision processes → lot of negotiations needed
- Equipment: limitations in equipment, e.g. drones are not allowed to fly everywhere (→ ban zones)

Germany

- Lack of interoperability, standards, open interfaces
- Coordinating spontaneous, un-educated persons
- Social media, rumors, fake news and information

3.2.2 How to improve capabilities with respect to training aspects?

The following aspects were mainly named by the Hungarian participants. However, the other participants agreed on them. Thus, no separation per country is required:

- Lack of realistic tasks in exercises for professional DM: More efficient training by realistic unknown scenarios, “professional” role player (at any stage, victims, stakeholders, political actors).
- Lot of information loss in large exercises: Discussion-based exercises to limit information loss.
- Table-top exercises are not sufficient in terms of realistic training situation: Training must be improved in terms of realistic situations.
- VR exercises: Real 3D image of the area could improve capabilities in training.
- Training for NGOs should be improved in terms of encouragement to coordinate amongst them targeting the operational level.

3.2.3 What would you do first and what would you recommend to decision makers?

With regard to the lack of realistic tasks in exercises for professional DM, the participants recommended the following points:

- Limit exercises to common situations (still unpredictable),
- More efficient training by realistic unknown scenarios,
- Preparation of key personal,
- Involvement of “professional” role players (at any stage, victims, stakeholders, political actors).

3.2.4 Are there any technical / conceptual needs beyond training aspects?

No technical or conceptual needs beyond training aspects were identified.

3.3 Report on the Topic Discussion: Alerting and Communication

3.3.1 What are the most relevant tasks and why?

- Alert Concept
 - Better inclusion of the volunteer units in the alert concept (e.g. in Hungary volunteer units do not receive automatic messages in case of an emergency situation. They are contacted through the units contact person via phone).
- Early Warning
 - Training the public in order to better interpret the warning messages, in order to persuade the public to follow instructions correctly;
 - Tailoring warning messages taking into consideration socio-demographic variables of the public in order to maximize message effectiveness and to avoid creating panic.
- Social Media (SM) Handling
 - Prepare a code of conduct and a SM strategy plan regarding SM use so that it is clear for the organization how SM can be used and what the primary objectives of SM use are (some participants argued that in many places there is no common picture on how SM is used and who should do what);
 - Set up a team of different specialist to handle SM;
 - Use SM channels for knowledge sharing and public awareness raising as well as an alternative channel for alarming;
 - Prepare the “right” multimedia content, that is appropriate for different SM platforms, in order to promote disaster preparedness;
 - Create a network of practitioners in the field to share content through in order to widen your message reach on SM;
 - Gather and filter in real time user generated data about an emergency situation during its unfolding, to improve situational awareness and also check information reliability of user generated data regarding an ongoing emergency situation considering also information bias (there may be really much data from a specific region, while from another even more effected area volume of data is scarce);
 - Overcome possible obstacles in SM use by different organizations (depending on each organizations code of conduct for SM use, some messages may need approval before they can be posted; also one participant mentioned that in HU some governmental agencies need clearance to use SM because usually all SM channels are blocked in the agencies);
 - Considering data protection.
- Integration of Spontaneous Volunteers
 - Finding ‘gatekeepers’ (i.e. leaders, even if self-appointed, within a group of spontaneous volunteer group) who can organize the group and outsource some of the tasks regarding the management of the group to them (e.g. in HU during the floods from 2013, a group of spontaneous volun-

- teers from an ethnical minority were reluctant at the beginning to take part in the disaster response activities; once their leader was identified he managed to mobilize the group according to specific instructions);
- Include the integration of spontaneous volunteers in the existing guidelines to have a clear picture on what and how the institution should handle these volunteers (digital volunteers were also mentioned during the discussion and the V-IOLA project¹ was mentioned as an initiative that promotes on line volunteering as integral part of national DRR strategies and should also produce a guideline and a Training of Trainers material for future use regarding digital volunteers in disaster risk management);
- Offering accommodation for the volunteers if needed (the opinions were divided on this task: some expressed their worry that not even the volunteers associated to responding authorities or organizations may not be accounted for when it comes to accommodation, others felt that it is not their institutions responsibility and there are other actors more suited to handle such problems or that if the spontaneous volunteers are not self-sufficient in this regard they will be sent away);
- Monitoring of emerging volunteer groups in order to ensure that they not interfere with the activities of the institutions (e.g. during the migrant crisis the emerging volunteer group from Austria, Train of Hope, succeeded at one point to get access to some buses, that should have been in the control of the Austrian Red Cross leaving them for a short while without the resources).
- Preparation of the Public
 - Make use of public events to promote DRR education;
 - Strengthen or create formal education programs (school curricula) to educate citizens from a young age;
 - Include the marginalized communities in the prevention phase (e.g. minority groups, people with low income, people from remote areas etc.) to reduce their vulnerability to flood risk (or other type of risk);
 - Strengthen or create informal educational programs based strongly on interactive concepts;
 - Make tourists, who visit flood prone areas, aware of the flood risk and the measures they should take in case of an emergency situation.

3.3.2 How to improve capabilities with respect to training aspects?

- Alert Concept
 - Possible solutions were linked mainly to the use of different information technologies, not necessarily to training.
 - Some participants expressed an interest for sharing/implementing some technologies referred to by others (e.g. the mobile application of TEAM Österreich).
- Early Warning
 - Improve the formal and non-formal DRR education of the population from a very young age;
 - Better promotion of already available educational content (e.g. websites, mobile apps etc.) – training activities could cover seminars on PR and advertising for the personal within an institution responsible for such activities in order to understand how to use different information technol-

¹ <http://violaproject.eu/>

- ogies and communication channels in order to maximize the outcome of the material promotion and to extend promotional campaign reach;
- How to design message content and form was an issue that was mentioned several times during the discussions; however no clear solutions to improve capabilities were identified.
 - Social Media (SM) Handling
 - While there is a wide body of scientific literature on how to integrate SM in disaster management in many European countries, SM platforms are yet mainly used as another one-way communication channel, but not considering the platforms social characteristics. Participants also agreed that in many countries SM is used mainly for Public Relationship (PR) and not for risk or crisis communication. That is why, if an institution wants to include disaster risk communication into their social media strategy, it is important to have a clear code of conduct and a social media strategy in place. Once these documents are in place, people involved in social media management can be trained according to the tasks.
 - Specially trained personnel were seen as a key issue when it comes to social media handling. All people involved in SM handling should be trained to follow a well formulated mandate. Also there was a proposition on how a SM team involved in disaster risk communication should look like: it should be a team composed by different specialist coordinated by situational officers who are in constant connection with COP (especially if they use the SM channels also for early warnings, information in this case should be verified following clear protocols). However, many of the participants felt that they do not have such teams in their countries. In Romania, for example, social media handling within the emergency management institutions on county level is a responsibility of the public relationship officer (usually a single person) who is also in charge of handling traditional media and issuing press releases, so there is a lack of human resources. Also these officers hardly ever have training in social media management and content creation (they usually were trained in public relations and working with mass-media). So a way to improve existing capacities is the training of public relationship officers in social media management, online marketing and multimedia content management.
 - Disseminating messages regarding DRR through SM was seen as an additional channel to further public education and preparedness. Participants argued that responding authorities and organizations can set up a SM presence prior to an emergency situation, and they can promote their channel as a source of reliable information. Setting up an online presence prior to an emergency situation is seen by the scientific community important, because people are expected to rely on information sources they already know during such situations. However, captivating end-user attention of a channel with constant information overflow from many sources (not related to disaster management) can be hard, that is why persons in charge should be either trained in online marketing and SM management or work together with advertising agencies or volunteers who have specific skills in this regard.
 - As mentioned before, if the responding authorities or organizations mandate dictates using SM for alarming there should be clear protocols in place and the personal in charge with this task should be trained accordingly.

- Publishing content on social media to reach maximum effectiveness: depending on specific SM platforms (e.g. Facebook, Twitter), information has to be presented in a certain way to resonate with its users and to have a greater reach. That is why researchers and practitioners advise to publish mainly multimedia content (e.g. pictures, videos, infographics, interactive maps etc.) in favour to long text messages. Developing/designing/capturing such content can call for specific skills. And while there is no need for emergency personal to be trained to edit videos, it is important to making them understand how SM work through training activities already proposed before, so that they can design communication strategies and campaigns. Materials related to this design can be delivered by advertising agencies or as some of the participants mentioned, digital volunteers.
- Identify other responding authorities or organizations that are present on SM and that have good content in order to share each other's content occasionally. No specific training requirements were identified for these activities.
- Using user generated data during an emergency situation to raise situational awareness was mentioned by many participants. User generated data was seen as secondary data, that can confirm or in case of unspecific situations can be used for data triangulation. It was considered absolutely necessary to filter and check this information. But there were different approaches on how to tackle this task and who should monitor SM during an emergency situation and consecutively how to improve capacities:
 - Request information from the public through public announcement: this approach does not require filtering through a large data set. However, it may omit user input from persons who are not linked to specific SM channels of the responding authorities;
 - Filter and proof social media data with the help of pre-registered digital volunteers. They should be trained in how to extract SM data easily and how to work with this data (what are the common requirement for data proofing etc.);
 - Use input from 'gatekeepers' on site (cf. Integration of spontaneous volunteers) to proof information gathered through user generated data (e.g. in Austria, Red Cross volunteers are all around the country and can be easily contacted to confirm if information gathered from user generated data is true or not);
 - Outsource SM monitoring during an emergency situation to institutions who are familiar with social media (e.g. in Austria, the Red Cross has an agreement with a kind of surveillance agency, who, in case of a disaster, will present relevant data from mass-media and social media to the red Cross.; the data presented is already filtered and rumour-checked).
- Each responding authority and organization should consider establishing a code of conduct and a SM strategy plan regarding SM use;
- If SM managers do not know exactly how some SM channels work and what are the biggest data security issues they could face, it can come to some unfortunate situation if data about the users gets out. That is why training of SM managers in basic data protection law may be important.
- Integration of Spontaneous Volunteers
 - Identifying 'gatekeepers' in different regions/communities prior to an emergency situation (during the preventions phase) and train them periodically in how to handle volunteers (e.g. in Croatia the SOP's of the

- mountain rescue units contain contact details of already identified key persons from different communities, who are not volunteers, but can be counted on during an emergency situation; they are also periodically trained);
- An approach was presented by the Austrian Red Cross: they are using their mobile app TEAM Österreich to coordinate their volunteers and spontaneous volunteers who may appear on-site (they are referred to the app in order to sign up to their system and be accounted for and managed by);
 - Once clear guidelines are in place, training activities should cover how the guidelines should be implemented;
 - Depending on the guidelines: do they foresee that the organization should provide shelter for spontaneous volunteers – if so, training regarding sheltering for the persons in charge would be necessary, if not already in place;
 - Establishing networks with emerging volunteers in time (some of the participants pointed out that a few spontaneous volunteers, that appear on-site, may be willing to associate with the responding organizations; however, if they already formed a bigger group and started to establish an image for themselves, they may want to remain a separate organization).
- Preparation of the Public
 - Organization of contests and presence on events important for the communities (e.g. city days etc.). For this, trained personnel who can run such activities are needed (e.g. organize Training of Trainers sessions, where teachers are trained to use DRR educational materials that are developed together with partners during international projects). However, even if we had trained them, the educational approach relies on print-out of the training material. So the question remains how sustainable is this approach considering the cost that it may imply once the printed materials are all consumed);
 - In many countries the Ministry of education has competencies in curricula design; thus, lobbying for a better DRR curriculum may be an appropriate approach;
 - Another approach mentioned to improve capabilities was to include academia respectively more specific young researches, who can do their research work together with the community. They could act like a key person within the marginalized community and could be in charge of creating and implementing a community preparedness plan tailored to the specific needs of individual communities (the idea is based on the US practice where PhD students are accountable for their actions and research: once they finish their research work, the network they created will be integrated into FEMA);
 - Using games as educational tools was mentioned several times (one of the participants used Japan as an example, where VR gaming tools are used to prepare citizen);
 - A further idea was to send a sort of push notification via mobile phone promoting available preparedness information to mobile phones that activate the rooming system (e.g. in Romania, tourists who are in the area where the broadcast cell system is activated receive also automatic messages from the responsible authorities; however, the messages are in the local language, so it is not helpful for them).

3.3.3 What would you do first and what would you recommend to decision makers?

- Alert Concept
 - No recommendations were identified.
- Early Warning
 - With regard to formal education, some of the participants felt that their country does not have a strong DRR curriculum. However, in many countries the Ministry of education has competencies in curricula design. Thus, lobbying for a better DRR curriculum may be the appropriate approach. As for non-formal education several ideas came up (cf. Preparation of the public (citizens)).
 - Moreover, no recommendations were identified.
- Social Media (SM) Handling
 - The issue was not addressed in depth during the discussion, because the experiences within the group regarding SM handling were very different. However, most participants agreed that preparing a code of conduct and a SM strategy plan regarding SM use seems to be an important requirement also for future activities and recommendations.
- Integration of Spontaneous Volunteers
 - The issue was not addressed in depth during the discussion, because the experiences within the group regarding spontaneous volunteers were very different. However, the participants agreed on establishing clear guidelines as important requirement for future activities and recommendations.
- Preparation of the Public
 - The issue was not addressed in depth during the discussion.

3.3.4 Are there any technical / conceptual needs beyond training aspects?

- Alert Concept
 - According to the discussions capability improvements regarding alert concepts are highly reliant of technical/conceptual solutions.
- Early Warning
 - According to the discussions there are many early warning systems in place in different countries, from some with proven effectivity (e.g. in Hungary. dedicated mobile applications design to deliver information about everyday emergency preparedness), to ones that are not functioning very well (e.g. in Hungary, automatic mobile messages were used years ago during a snowstorm) respectively to ones that are still in trial run (e.g. in Romania, cell broadcast messages).
 - Altogether it is important to have a functioning technical/conceptual model in place before even speaking about training aspects regarding early warning. However, once the system is in place it is important to:
 - Test out the systems functionality. For example, in Romania the Department for Emergency Situations is currently testing their cell broadcast messaging service, implemented earlier this year. However, among the public there are skeptics, who are expressing their concerns on social media regarding the functionality of the system in a real emergency situation, saying that all the testing is in vain and inconvenient for the end user. Their skepticism

- usually ruts in the mistrust in governmental organizations. Thus, in such situations it is worth considering also how to handle online criticism, while preparing functionality tests.
- Organize periodical exercises to test the system (e.g. monthly testing of the siren system in Hungary and Romania).
 - Training the citizens on how to act during early warning (see also Early Warning).
- Social Media (SM) Handling
 - It may apply for automatic content monitoring using AI, but was not discussed during the workshop in depth.
 - Integration of Spontaneous Volunteers
 - No technical / conceptual needs were specifically identified.
 - Preparation of the Public
 - Developing games for public preparedness (apps, online games, VR) requires a lot of technical/conceptual aspects to be taken into account. The same goes for including tourist in the early warning system.

3.4 Report on the Topic Discussion: Rescue Operations and Emergency Measures

3.4.1 What are the most relevant tasks and why?

As most important tasks, *pre-flood* activities were identified. These are:

- Flood Protection Measures
- Levee Control
- Levee Defense

The second most relevant tasks are activities that occur *during and post flood*, like:

- Evacuation
- Pumping operations
- Hygienic Measures

On the third place of the relevance ranking, the actual *rescue operations* were seen. These are:

- Air rescue
- Water Rescue
- Boat operations

During the discussion, we came up with the conclusion that if you can train the pre-flood tasks and build up expertise, less investment is needed for during and post flood tasks as well as the rescue operations. With regards to during and post flood tasks, there is no denying that training is important but trained leadership and good SOP's are equally important. When it comes to the actual rescue operations, more and innovative training seems less relevant. These tasks are mostly institutionalised. Without a proper training, you won't be flying a helicopter or steering a boat. Thus, this can be regarded as a constant training activity.

3.4.2 How to improve capabilities with respect to training aspects?

From the discussions, the following ways for improving capabilities were identified:

- Institutionalise risk assessment, early warning, personal capabilities at all levels and SOP's.
- Invest in PPP with regards to materials, logistics and man power.
- Spend more money on risk reduction and evaluation.
- Establish pre-trained communication teams with a clear mandate.

3.4.3 What would you do first and what would you recommend to decision makers?

With regards to the ways of capability improvement, one should start with the institutionalisation of the aforementioned items in combination with investing specifically in PPP to improve materials, logistics and man power.

Although this was off-topic, it should be stressed that the most part of the training efforts should be made to establish pre-trained crisis communication teams, with a clear mandate. This must be combined with community training to raise awareness and improve resilience. It should be remarked that money spent on risk reduction and evaluation is worth more than investing in any other.

The biggest gaps we've identified in the training of all the above mentioned tasks are coordination and interoperability.

In conclusion, one should be aware that a crucial side effect of training is network building.

3.4.4 Are there any technical / conceptual needs beyond training aspects?

Within the discussion, we agreed that a clear and open best practices knowledge data base, which is not owned by a project but by a European body, would be a real innovation improving the way of working in crisis management.

That's why, we see a data base that doesn't come from a single project but is managed by a central and pan-European body and thus, being responsible for its actualisation and implementation as a technical need beyond the training aspect in order to identify if effective training does already exist. This comes from a clear feeling that a lot of the solutions are already out there but no one has an overview of what is available and attainable.

3.5 Report on the Topic Discussion: Logistics and Assistance

3.5.1 What are the most relevant tasks and why?

From the discussions, the following tasks were identified as most relevant tasks with regards to the training aspect in combination with the topics alerting and communication:

- *Psychological support*: This task is relevant in the entire CM cycle and critical for functioning of responses and prevention of long-term problems (suicides, illness, etc.).
- *Sheltering*: This task regards effects of long-term operations (complex legal, ethical, security issues, waste management and hygienic measures needed).

3.5.2 How to improve capabilities with respect to training aspects?

The following table summarizes the results from the discussion regarding the ways to improve capabilities (cf. column "Training Measures"). The ranking highlights the relevance of

each task from the perspective of the participants. However, due the limited number of participants this ranking is not robust.

Domain	Challenges/ Remark	Training Measures	Ranking
Supplying	Important: “last 100 m” → special transport (boat, air, off-road vehicle) required, ref. rescue operations; everything before → basic warehousing	Combining supplying with: training on effective giving and gaining information in the field from SV, affected population etc.	B
		Empathic communication → ref. psychological support	C
Sheltering	Challenge: Running and deconstruction of shelter areas (esp. long term);	Training for instructors/ multiplications for tent/ field bed setup	A
	Running shelter areas: legal, ethic, security issues, hygienic measures, waste management, etc. → trained managers	n/a	-
	Own process and long-term planning for deconstruction because of lack of resources (SV) in that phase	n/a	-
Stocking/ Warehousing	Authorities flooded by (useless) in kind donations	Training on communication strategies to politely reject in kind donations, address (current) real needs and motivate for monetary donation	A
	Warehousing aspects for general population	Training for general public with gamified approach/ smartphone app to raise resilience level, preparation aspects (warehousing at home)	B
Supply/ restoring infrastructure	No issue from training point of view	n/a	-
Psychological support	Most relevant sub domain; need more awareness for ethical, religious, cultural issues	Training on dealing with stress situations (for responders)	A
		Training for effected debriefing and sharing experience → evaluation!	A
		Training on coping with disturbed affected population	B
		Combine psychological aspect with first aid training for general public	B

Social care	No issue from training point of view	n/a	-
Securing evacuated areas	No issue from training point of view; raise awareness for security related issues (information gathering)	n/a	-

3.5.3 What would you do first and what would you recommend to decision makers?

The participants agreed on the following tasks:

- Raising awareness for essential effects of psychological training.
- Establishing training capabilities.
- Documenting and evaluating operations.

3.5.4 Are there any technical / conceptual needs beyond training aspects?

No technical or conceptual needs beyond training aspects were identified.

3.6 Upcoming actions

According to the DAREnet Roadmapping process, the RDI Roadmap will be the result of an iterative process of identifying, assessing and prioritising potential innovations as well as mapping important RDI requirements and gaps. The DAREnet Roadmap is the main tool for the dialogue in the DAREnet Community and Network.

In order to derive the roadmap for the 2nd DAREnet RDI Cycle, the following upcoming actions were identified:

The main objectives for the upcoming actions are:

1. How to improve the roadmapping process for the second cycle
2. Leading to a timely publication of the 2nd roadmap until mid of January

Recap:

The 1st cycle was seen as a pilot, resulting in a lot of last minute work. This must be avoided for future cycles. Opportunity sheets (as used in the 1st cycle) seem to be not appropriate. Here is a thorough review necessary.

Upcoming actions:

- DLR will provide a document resulting from this year's workshop in Vienna and the results from the questionnaire until Oct. 24th (can be also the draft of deliverable D4.4).
- DLR will kick-off the tasks T4.2-T4.4 and instruct responsible partners what information is needed dedicated to specific aspects (based on the results from the workshop + questionnaire) → Providing WP5 the necessary foundation (results must be provided until Nov. 20th).
- DLR will ask Task leader (T4.2-T4.4) to provide a presentation on their results for the consortium meeting in Belgrade.
- Consortium Meeting in Belgrade (Nov. 21 – 22)

- The consortium meeting will be a working meeting. The Task leader (T4.2-T4.4) will held presentations.
- One half day will be dedicated to WP5 and should be a workshop moderated by ISEMI (WP lead) where the results from T4.2-T4.4 and T5.2-T5.5 will be matched and where the assessment process for the upcoming 2 months (Dec. – Jan. 2019) will be cleared and set-up.
- From Dec. 2019 to Jan. 2020 the assessment will be done supported by the DNCs in order to collect information not only from one national network but from all. In the end, the information collected shall enable the consortium to prioritize and to set up the 2nd RDI Roadmap at the end of January.

Next steps for WP4 (must be finished before the Consortium Meeting in Belgrade on Nov. 21-22):

- Literature reviews regarding existing solutions for all the identified promising innovation opportunities.

Next steps for WP5 (must be finished before the Consortium Meeting in Belgrade on Nov. 21-22):

- Review of the provided document of DLR.
- Rethink the information gathering/assessment in tasks 5.2-5.5 and ask the Task Leaders to start their work based on the provided document of DLR in order to collect this information until the Belgrade Meeting → ensure the progress!
- Therefore, design an approach to coordinate and control the work of the task leaders 5.2-5.5
 - How to distribute the tasks?
 - What to ask for?
 - How control and steer the partners?
- Prepare the working session for the Belgrade Meeting.

4 Conclusions

The focus of the second Topic Working Group Workshop in the DAREnet project was on identifying innovation opportunities for training aspects in different, pre-defined sub-domains of crisis management. For this purpose, a scenario based approach was chosen that narrowed down beforehand the broader discussion in diverse fields of crisis management experienced in the first cycle. This scenario features different levels of escalation in the crisis management cycle and clearly defines underlying challenges and tasks in different sub-domains.

The scenario was introduced to practitioners and stakeholders from different countries in the Danube region during a webinar held on 3 July 2019. In close connection to the scenario, a questionnaire was designed for gathering data and practitioners view towards innovation potentials towards training in specific sub-domains of crisis management.

A two day workshop for the Topic Working Groups was set up on 24 – 25 Sept. 2019 at “ÖRK Lagezentrum” in Vienna/ Austria. In this workshop, preliminary results of the analysis of the webinar and the coupled questionnaire were discussed in detail. Therefore, groups of practitioners from different domains, organisations and countries shared and reflected their own experiences and findings from the questionnaire during World Café sessions. In this way, there was an exchange about training aspects for all pre-defined sub-domains that were part of the scenario. The present deliverable summarizes the results of these collaborative discussions.

As a key finding from the sub-domain “Coordination, Command & Control” it was stated that CCC is the most important task. However, current trainings to improve capabilities in “Coordination, Command & Control” often lack of realistic scenarios and tasks. More efficient training should be achieved by realistic but unknown (and unpredictable) scenarios and the involvement of “professional” role players.

The second sub-domain focussing on “Communication” emphasized the importance of Social Media for information sharing and information “harvesting” in emergency situations. Therefore, general training on Social Media not only for PR managers but for practitioners was seen as a potential improvement.

For the sub-domain of “Rescue Operations and Emergency Measures” it was discussed that mostly “pre-flood” tasks and “Levee Control” or “Levee Defence” were of importance. Generally, the institutionalisation of risk assessment and early warning capabilities was seen as a potential to improve training for practitioners.

Finally, in the sub-domain of “Logistics and Assistance” a greater potential was seen in improving training on “Psychological support”. Here, more awareness for ethical, religious, cultural issues was emphasized. In general, training on dealing with stress situations for responders should be improved in future. This includes also evaluation in terms of more and better de-briefing and the sharing of experiences of practitioners.

In general, it was found out from the discussions during the workshop that training is not seen equally relevant in all sub-domains and for all pre-defined sub-tasks of crisis management. However, all these analysis suffer from weak statistics due to the limited number of participants. So far, 46 answers to the questionnaire are available. The number of participants of the workshop sums up to 17. Nevertheless, it can be emphasised that all countries of the Danube River basin, all command levels and all level of experience reaching from 2 to more than 20 years were included in the evaluation.

In the follow-up of the second DAREnet TWG Workshop our next steps will include:

- Collecting more practitioner’s feedback and compiling additional the national and international input,
- Final analysis of the questionnaire,
- Contributing the findings to the DAREnet Knowledge Base,

- Providing identified innovation opportunities.

The provision of the innovation opportunities relates to the next step in the DAREnet roadmapping cycle, where the identified results will be taken up by the Innovation Assessment done in WP5.

Annex I: Explanation of the tasks and activities

Brief explanations for the identified tasks and activities of the DAREnet flood scenario

Coordination, Command and Control

Coordination, Command and Control

This sums up general CCC questions once it is known that the respective area will or might be hit by a disaster. In this scenario a significant flood is expected, which will impact an extend area and will challenge the exchange of information, situational awareness and co-operation of different CCC structures.

Alerting + Communication

Alert Concept

Are there sufficient concepts to alert responders and related other actors in a timely manner?

Early Warning

Are there systems installed to provide timely and accurate warnings to the public and authorities? Who has access to this kind of data?

Social Media handling

During the last couple of years the importance of self-organized activity of the public as well as the relevance of possible false information becomes obvious. Another aspect of social media would also be crowd sourced information gathering and the effective integration in situational awareness management. Both aspects might be challenging for the responders.

Integration of spontaneous volunteers

Flood events in the last decades demonstrated the willingness of people not associated to responding authorities or organizations to become active and support response measures. For those in charge of the operations, this is a challenging situation, since there are organizational questions which need to be solved as well as the lack of training and equipment. However, in uncritical environments and labor intensive tasks, these could support the response efficiently.

Preparation of the public (citizens)

Is the public aware of the flood risk? Are there programs to prepare the public? Do evacuation routes exist? Does the public know?

Rescue Operations + Emergency measures

Air rescue

In some cases, air rescue might be needed. Therefore, specifically equipped helicopters need to be deployed, as well as specialized personnel.

Water rescue

Evacuations from flooded areas via wading with rafts. Rescuing of trapped people, for example in cars or pressed against fences. This task requires special trained and equipped teams.

Boat operations

Besides supplying trapped peoples, or evacuating them or simply rescuing them, also securing of driftwood, or tanks, etc. might be necessary. Additionally driving a boat through flooded areas also bears high risks that are not comparable with ordinary water rescue operations, standing waves, siphons, or wires could pose multiple threats for boats and there crews.

Flood Protection Measures (Preinstalled protective measures)

These measures have become quite common in larger cities to ensure a nice riverbank without much visual disturbances, but also provide efficient flood protection. Are there temporary/removable systems? Is there a clear plan / distinct responsibility behind these measures?

Levee Control

Levee and embankments are usually the main protective measures to protect lives and material goods. Compared to dams, dykes are not meant for a continuous and long lasting impounding. Therefore, the control of such structures is needed to identify weakening or possible damages as early as possible.

Levee Defense

If a levee (or dam) is damaged or its structure weakened, it needs to be reinforced. Although building emergency dams could be summarized under this task. These activities involve often sand bags, however big packs and dedicated substitutes have been used more and more over the last years.

Evacuation

Due to failed levees or water levels too high to defend, there might be necessities to evacuate civilians from their properties. This could also mean that livestock needs to be moved to safer grounds.

Pumping operations

Pumping operations might be necessary to empty flooded buildings and structures. But even more important in the aftermath of flooding to support or substitute damaged / malfunctioning sewage systems.

Removal of flotsam/log jams

Floods usually cause a lot of flotsam, which ranges from litter left in the flood plain, to entire trees, or even cars or houses. Besides obvious destructive effect of cars and houses although smaller flotsam can be a threat to infrastructure located at the stream. Particularly, log jams at bridges could cause problems and require fast actions. If not removed, these log

jams could lead to further flooding due to the raise of the water level at the jam, or even lead to a failure of the affected bridge. For this scenario log jams and their removal should be in the focus.

Hygienic measures

An important aspect is hygiene in these situations. Primarily for the responders, but ultimately for everyone who might get in touch with the water or when the water sinks the remaining mud. The water during a flood contains often chemicals, such as diesel, or gasoline, and often the sewage systems are also affected leading to spillages of untreated waste water.

Given the fact that flooding bears high hygienic risks, it is important to provide sufficient information to those affected, but especially the inhabitants which have to clear their homes from any debris and might get exposed to any contaminated material. Further, a fast recovery of the sewage and drinking water systems is critical to reduce hygienic risks.

Logistics + Assistance

Supplying

Due to the isolation of certain areas a basic supply with medical assistance, food and other goods might become necessary. This could also include shuttling of those enclosed to get to work, etc. This is a logistic challenge, which could be done using large (off-road) vehicles, or boats.

Sheltering

The evacuation requires also sheltering of the evacuees. And given the fact that most of the belongings had to be abandoned, there is also a large need to supply them with clothing and convenience goods.

Stocking/Warehousing

How and where are materials stored? Who is responsible? How will they be made available? Are additional materials available do plans exist to organize sandbags, sand or other materials?

Supply/restoring infrastructure

Potable Water Waste, sewage, energy, but also medical supply or food

Psychological support

For the people affected by the flood, this often resembles a stressful situation, especially the high degree of uncertainty can be traumatic. A fast provision of psychological support can help to reduce later traumas.

Social care

Those who suffered massive losses to their property might require fast (financial) support, to get back into a normal and self-determined routines.

Securing evacuated areas

The evacuated perimeter needs to be secured against plunderers.