

Outcomes of the 3rd DRMKC Annual Seminar

Sofia, 26th and 27th April 2018

Setting the scene:

Since 1990, over 1.6 million people have died in reported disasters around the world. Despite important improvements in the management of disasters, economic losses remain at an annual average of EUR 235 billion (USD 250 billion) to EUR 280 billion (USD 300 billion) (UNISDR, 2015). The European Union is not spared, as disasters have caused over 90 000 deaths and EUR 100 billion in economic loss since 2000 (CRED, 2017).

The impacts of disasters have significantly increased in recent years, partly as a result of climate change, rapid and unplanned urbanisation, population growth and environmental degradation. No country alone can be fully prepared for all kinds of disasters. **We need to act together** and benefit from a **coordinated common response** and to be stronger and more efficient.

Policymakers and risk managers in disaster risk management (DRM) and across EU policies **increasingly rely on the wealth of existing knowledge and evidence at all levels** — local, national, European and global — **and at all stages of the DRM cycle** — adaptation, prevention and mitigation, preparedness, response and recovery. **Innovative** ways to carry out **DRM** policies and operations are necessary. In this respect, the European Commission itself recognises that ‘the challenges faced by the EU today require fast and effective solutions from the Commission, which often involve multiple policy areas’ (Poljansek, K., Marin Ferrer, M., De Groeve, T, Clark, I. (Eds.) 2017. Science for disaster risk management 2017: knowing better and losing less. EUR 28034 EN).

The **Disaster Risk Management Knowledge Centre** (DRMKC) provides a networked approach to the science-policy interface in DRM, across Commission, EU Member States and the DRM community within and beyond the EU. This initiative builds on three main pillars: partnership, knowledge and innovation. Knowledge Centres and other collaborative tools provide important contribution to the process of building a resilient Europe.

Resilience is a people-centric issue: **social and human capital + skills** and unemployment are the common denominator in addressing resilience. **Systemic, holistic policy approach** fit for the 21st century is needed. Investment in **education** of the 21st century is crucial. Visualisation, modelling, **data and its computation** are needed to achieve a holistic/complex approach to resilience.

The 3rd DRMKC Annual Seminar has gathered around 100 experts that have actively discussed about the way forward **to move from the scientific knowledge to its implementation** and to improve resilience in Europe and Worldwide. The DRMKC is a **multi-disciplinary platform** where the different DRM stakeholders have been represented in the 4 parallel sessions that were organized. Below is a short summary of the main outcomes.

Education for DRM

The integration of disaster risk management in the education sector is crucial in order to increase awareness of the effects and causes of disasters. Knowledge of local risks and knowledge of what to do in case of emergency improves local preparedness and recovery.

This session highlighted good practices, from Masters in DRM to dissemination of information to engage citizens, and explored the role of science-policy networks in supporting disaster risk education. A group of very varied subjects, each addressing specific demands - engineering, buildings, nuclear, university students, local authorities – were presented to illustrate the what has been already achieved and to try to find a more holistic and integrated manner to support the development of DRM related education and awareness.

There is maybe an opportunity in the EU to develop an integrated approach with the new draft Civil Protection legislation (a training academy that could go beyond Civil protection and cover students from different disciplines (natural and social sciences, political science, etc). EU and UN could work together to develop a concept for a global approach.

The learning and training process in the field of disaster risk management could be based on two main principles/rules – “Accent on prevention” and “From research to enhanced operational capability”.

Policy/Partnership for Resilience

Enhancing resilience to disasters and climate change is the key aim of recent global agreements (the Sendai Framework, the Paris Agreement, the Agenda 2030 for Sustainable Development or the Urban Agenda) as well as EU policies and strategies. Fostering resilience requires cooperative action through partnerships between individuals, communities, regions and countries as well as with business, infrastructure operators, civil society and government authorities supported by a greater use of knowledge from scientific research. Establishing and sustaining alliances for resilience is a major challenge. The session discussed progress towards effective partnerships based on good practices and recent research.

Which are the **main benefits that you would highlight from strengthen partnership** among scientists and also across policies?

- The generation of **more knowledge** at all stages of DRM – adaptation; prevention; mitigation; preparedness; response and recovery and will allow us to stress on the pre-event while reinforcing intervention following the disasters.
- **Increased use of new research results and innovations**, the services and respective technical systems at all stages could be improved significantly; the capacity for reliable monitoring and respectively the people’s feeling that they are safely protected are significantly enhanced. The scientific approach (processing data and modelling) and results allow us to create more reliable multi-hazard early warning systems.
- **Regulations and standards** built on reliable research results are resilient, well accepted by the broad public and more easily applied in the practice.
- Enhancing cooperation between science and policy will increase the level of **integration within European societies**.

- The scientific knowledge should be transformed into **sound administrative procedures** and regulations to be applied on European, national and local level.

What should be done in order to facilitate the **flow of information across DRR** related partnerships to better capitalize on their **synergies**?

- Along with the usual means and instruments - the organization of exercises, benchmarking tests, trainings, seminars, WS, collecting and disseminating data bases, models, feedbacks and recommendations from end-users and practitioners we have to promote and support **involvement and participation of practitioners, end-users and policy-makers in the research teams** working on different projects related to DRM/DRR. This will allow identifying knowledge gaps that have to be addressed.
- **Exchange of experts** between scientific and policy organizations for better mutual understanding of their activities and needs.
- The efforts should be focused on improving the **interoperability** between various systems (related with the **standards!**). In this way we can achieve effective response to practitioner's needs and support more efficient operational capabilities.
- The DRM requirements could be part of the requirements for public procurements for investment projects.
- Introducing reliable **indicators for measuring the resilience**.
- Dissemination, outreach, **exploitation and sustainability of the research results** should be enhanced.
- Creation of Internet based platforms for exchange of information, results, solutions, good practices and experiences is a valuable tool for such efforts. As a result an active DRM/DRR community will emerge.

What should be done to ensure timely and continuous **uptake of science by policies**? How can the science-policy interface be reinforced towards more evidence-based policies? Is monitoring of the impact of the implementation of policies sufficiently exploited as learning tool? What should be done in order to reinforce this option?

- Research programs funded by EU should continue possibly with increased budget.
- Research projects should provide a **fact-sheet** with key messages to the different stakeholders (scientists, policy-makers, practitioners, citizens) regarding the **added value** of the project.
- Research projects should include the **validation/demonstration/presentation of the results** to the DRM community that should be organized at least once per year.
- Organization of **conferences, seminars, WS on specific narrow topics** in order to get concrete results focused on specific needs.
- The creation **of Internet based platforms for exchange of information**, results, solutions, good practices and experiences is a valuable tool for such efforts. This will allow the policy-makers to get much more and most importantly, reliable evidence that will be used in their activities.
- The coordination between the **public and private** sector as well as between **national and local** authorities should be improved.
- The involvement of **citizens** in the resilience policies has to be reinforced.

- To identify appropriate **indicators** in order to measure the required resources for **implementation and to assess its impact**. Corrective measures should be proposed in case the impact is not as expected.

Advancing Innovation for 1st Responders

First responders would be better prepared for their tasks if they would have a mechanism through which they could share experiences and knowledge on a national, and international level, and by participating in research. It is important to involve first responders in the research and development cycle to: (i) stimulate innovations; (ii) capitalise on existing technologies and innovations; (iii) promote and support technology transfer; (iv) improve interoperability; (v) test and benchmark innovations. This session discussed achievements and current challenges.

How to **improve exchange of information** about policy developments, research outputs, capacity-building (and training) activities, in order to build up a "critical mass" of knowledge easily and efficiently accessible by policy-makers and practitioners?

- The DRMKC could play a very crucial role **by connecting the knowledge and** experience of all stakeholders: from local first responders to civil protection experts and researchers to convince them delivering the most integrated, efficient and effective approach in future civil safety development.
- Dealing with extra-ordinary public health challenges (Coca Cola 1999) – need of **multidisciplinary analysis** of causes and of the way to respond in case of scientific uncertainty
- Investigate/take into account the needs of practitioners before producing tools (e.g. way of mapping) – community of practice – **Partnership is the only way to make progress**.

How to ensure that **tools and technologies** related to disaster management effectively respond to practitioner's needs, supporting **more efficient operational capabilities**?

- **GIS technologies** can provide focused applications that allow stakeholders to see the right information, the right way, at the right time and allow for better digital cooperation and coordination. This improves the ability to rapidly **coordinate efforts and communicate** when disaster strikes.
- Developing **near real-time approaches** to simulate probabilistic exposure (case of wildfires)
- Developing a **pan-European Test-bed** in which innovative solutions can be tested in a systematic way during Trials, and implementing a **Portfolio of Solutions** to store all results and user experiences
- Development of innovative and cost-effective approaches to improve the activity dispatching and the management of Control Room based response teams, e.g. the Field Reporting Tool (FRT) and **to improve interoperability**.
- Creating "**Community of Users**", which brings together stakeholders and the results of research closer to those who guarantee our daily security.
- Involvement of relevant external users in the projects (e.g. industry), **promoting the results of the projects**

- Relate the tools and technologies to the social dimension.

How to create **incentives for practitioners to get involved in research** projects, taking into account the long term dimension of research?

- Complementing academic research and lab testing with “field” investigation (**PRACADEMIC approach**) – synergy between pre- and post-event tactics and the safety of first responders.
- **FP research calls** for projects focussed on developing novel solutions for emergency management and response to disaster-related threats with strongly recommended **participation of First Responder organizations**
- Involvement of practitioners in a relevant stage of the project and provide incentives after the project to **test solutions in field**.
- **Open scientific days** for practitioners (dissemination, awareness,...)

How the first responders can contribute to **disaster prevention and preparedness campaigns**, e.g. can they provide recommendations on domestic fire safety and wildfire prevention?

- Establishing of **Community of Practice** in which practitioners, policy-makers, researchers, industry and citizens can engage in disaster prevention and preparedness campaign
- **System/collaborative tool** to stimulate first responders to **collect harmonized data** to serve multiple stakeholders and policies

Data for resilience

The effectiveness of disaster risk management depends greatly on the **efficiency of managing relevant information**. Over the past decades, technology has been developed in order to help decision-makers apply DRM data and information in their policy formulation and implementation. Disaster risk web-platforms in general and geospatial data technologies such as WebGIS in particular, have acquired an important role in DRM through sharing information and data required for decision-making. Their importance is evident when there is a need to **bridge the gap between data and decision support systems (DSS)**. The risk-web platforms become, in this sense, platforms of exchange and sharing of geospatial data, tools and methodologies with great importance for DRM.

The need to connect and support the implementation of international actions for Disaster Risk Reduction **from global to regional and local level** promoted the development of WebGIS platforms. The Sendai Framework for Disaster Reduction 2015–2030, recognized the critical role of geospatial technologies in disaster risk related actions in support of its Priorities 1 and 4. This recognition resulted in initiatives to use spatial information at all the stages of DRM covering all geographical scales (local, sub-national, national, regional). This session explored common challenges, and ways science can be used to address them.

Countries have many legal and voluntary commitments relating to data collection, but are existing **data used and shared effectively**? Are already in place the adequate **governance** and sufficient financial and scientific/technical support?

- Improved governance for data collection is a key element to strengthen resilience. This governance should be based on strong partnership funded on common trust and objectives.
- Better coordination and sharing of information from different actors will be the result of a reinforced governance – cross sectorial and multi-dimensional – Community of Practice
- Better link between needs and identification of adequate data to answer the need will result from sharing of information in multi-stakeholders platforms.
- Access to data and information is essential and will be promoted
- Links to be reinforced with private sector, military, ...

Are the right **procedures** in place to start (new) **data collections**?

- No, the development of a **harmonized approach and agreed/shared methodologies** for both, data collection and data analysis, should be the starting point in order to be able to compare results and to establish priorities for action.
- Similar actions are going in parallel after the detection of a need – we need to find the system **to plan before reacting** to improve coordination and to optimize efficiency - reinforced **Partnership at all levels**.

What should be done to reinforce **science-policy partnership** to facilitate the proper collection, analysis and use of data?

- To find balance between **simplicity vs utility**
- To use data as **common denominator** to serve different policies: increased coherence and efficiency of policy implementation
- Need and willing to **link CCA and DRR** through data
- To better exploit **transfer of technology and knowledge** to improve interoperability (data, systems, governance, ...)
- To better promote the relation between the **effort** done to collect and analyse data with the **benefits** at national and local level
- The importance of promoting as well the **research by research** to be able to anticipate future needs – anticipation to future challenges
- **Limitation of global vs its advantages:** It is well known the limitation a Global approach may have, but compare with the extraordinary possibility offered by these instruments/models/tools to extract conclusions about **Global trends and future needs**, the conclusion is that they are of **paramount relevance to anticipate future challenges**. In some cases, in front of the lack of more detailed and accurate data acquired at subnational or local level, Global models are a very good proxy.

Are policymakers equipped to **use data for effective decision-making**?

- **Simplification** of the huge amount of data and information to effectively pass the clear messages is fundamental
- Data needs to be collected at the **suitable disaggregated level** to meet the need
- More involvement of Policy makers, scientists and practitioners to define **common objectives** and to understand each other

- Data is collected at local level following National priorities – Key role of National authorities to trigger this action
- To consider the regular incorporation of **new innovative technologies** systematically
- To facilitate and promote the access to **space data** to be used in the different phases of the DRM cycle.

Thanks for your contribution!

DRMKC Team