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## **Acknowledgements**

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## **Abstract**

The Decision No 1313/2013/EU on a Union Civil Protection Mechanism (UCPM) aims to promote a culture of prevention and preparedness, emphasising the development of capacities to deal with risk. To that end, Member States should share with the European Commission the results of their national risk assessments and of the assessment of their Risk Management Capability every three years. In order to support countries in the latter, the Risk Management Capability Assessment Guidelines (Commission Notice 2015/C 261/03) propose a flexible methodology to evaluate the administrative, technical and financial capacities of countries to carry out risk assessments and plan and implement risk prevention and preparedness measures. The workshop held in Ispra (Italy) on the 14<sup>th</sup> and 15<sup>th</sup> December was a space for Member States to share and discuss their experiences in the evaluation of capabilities, through the analysis of three case studies: flood events, epidemic events and climate change adaptation (as part of the initiative "Covenant of Mayors").

# 1 Introduction

The Decision No 1313/2013/EU on a Union Civil Protection Mechanism (UCPM) aims to promote a culture of prevention and preparedness, emphasising the development of capacities to deal with risk. To that end, Member States should share with the European Commission the results of their national risk assessments and of the assessment of their Risk Management Capability every three years. In order to support countries in the latter, the Risk Management Capability Assessment Guidelines (Commission Notice 2015/C 261/03) propose a flexible methodology to evaluate the administrative, technical and financial capacities of countries to carry out risk assessments and plan and implement risk prevention and preparedness measures.

Risk Management Capability is defined in these guidelines as "the ability of a Member State or its regions to reduce, adapt to or mitigate risks identified in its risk assessments to levels that are acceptable in that Member State". The broad scope of the guidelines facilitates a generic evaluation of the capability of the country to face risk as a first approach to understand which capabilities are in place and which are lacking. However, the methodology proposed does not go into detail how the results of the risk assessments are actually used in the evaluation of capabilities, limiting the use of it for the proposal of measure to face the potential events identified. Likewise, if the goal is to promote systems that are resilient, it is necessary to cover all the phases of the Disaster Risk Management (DRM) cycle, including response and recovery (Mitchell and Harris, 2012).

The use of capability assessment to link the results of the risk assessment with the definition of risk management actions is systematic for some countries such as the Netherlands <sup>(1)</sup>, UK <sup>(2)</sup> or Sweden <sup>(3)</sup>, but not evident for other Member States (EC, 2017). The guidelines have been tested several times already: the DG ECHO co-funded project "From Gaps to Caps"<sup>4</sup> used them as a reference point to develop a common understanding of capability assessment methods for the Baltic Sea Region based on the use of scenarios, exercises and real experience; and the 2016 EU peer review of Estonia <sup>(5)</sup> focused on risk management capability.

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<sup>1</sup> Following the National Safety and Security Strategy (*Programma Nationale Veiligheid 2007*).

<sup>2</sup> Based on the National Resilience Capabilities Programme (2013).

<sup>3</sup> <https://www.msb.se/en/Prevention/National-risk-and-capability-assessment/>

<sup>4</sup> <http://www.gapstocaps.eu/>

<sup>5</sup> [http://ec.europa.eu/echo/sites/echo-site/files/estonia\\_peer\\_review\\_report\\_-\\_en.pdf](http://ec.europa.eu/echo/sites/echo-site/files/estonia_peer_review_report_-_en.pdf)

## 2 Objectives and Outcomes

The workshop aimed to boost the link between risk assessment exercises and DRM planning through the intermediate step between both: the risk management capability assessment (RMCA). In particular the objectives were:

- Facilitate the preparation of the risk management capabilities assessment that needs to be shared with the European Commission, as stated in the Decision on a Union Civil Protection Mechanism.
- Exchange information and lessons learned on methodologies and resources that could be used in order to plan and implement measures to deal with disaster risk.
- Stimulate and clarify linkages between risk assessment and other activities to manage risk, in particular with the definition and implementation of policies.

The expected outcomes were:

- Increased understanding of the concept of "capabilities" and the process of "capability assessment" as a tool for linking risk assessments and disaster risk management plans.
- Reached a common understanding on the information of the RMCA to provide to the European Commission.
- Complemented the existing Guidelines with new insight and lessons learned.
- Identified practices that could be tested in new contexts, such as exploiting the synergies between Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA) communities, and activities that could be developed to support Member States in evaluating their national capacities.

### 3 Line taken

The workshop was a space for Member States to share and discuss experiences in carrying out capability assessments and to plan measures to manage risk. The workshop was divided in three sessions: two cases were hazard specific (floods and epidemic events) and the third session tackled cases of multi-hazard and the link with climate change adaptation, such as the Actions plans formulated in the initiative Covenant of Mayor for Climate & Energy<sup>(6)</sup>. Considering that both DRR and CCA require a basis in risk analysis for preparing effective actions, inviting the community of climate change is an opportunity to learn from their experiences when planning and implementing measures to deal with risk.

Having in mind the Risk Management Capability Assessment Guidelines, the case studies analysed the technical, financial and administrative capacities that should be in place to reduce the probability and consequences of flood and epidemic events. It was encouraged the analysis of all four stages of DRM: prevention/mitigation/adaptation, preparedness, response, recovery and reconstruction.

The workshop was addressed to:

- Policy makers related to Disaster Risk Reduction, in particular to the ones engaged in implementing disaster risk management plans.
- Technical and scientific personnel from the Civil Protection or any other agency in charge of assessing risk and/or performing RMCA.
- Staff from the Finance Ministry, involved in the formulation and implementation of policies to reduce disaster risk.

The list of participants is included in Annex 1.

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<sup>6</sup> [http://www.covenantofmayors.eu/index\\_en.html](http://www.covenantofmayors.eu/index_en.html)

## 4 Presentations

Following the Programme of the Workshop (Annex 2), the different presentations given by the speakers are summarized in the current chapter.

### 4.1 Session 1: Flood events

The opening was made by Joannis Kavvadas (DG ENV) who stressed the importance of elaborating Risk Management Plans based on evidence-based (data and information collected at local level) to effectively reduce the risk. Ioannis highlighted the benefits and the need to capitalise on existing synergies across different policies and institutions because of the multi-disciplinarily nature of the topic.

After the motivating opening with a successful example of how policy implementation can improve resilience, we had two detailed explanations regarding how the Flood Directive (<sup>7</sup>) has been implemented in Austria and in Spain.

#### 4.1.1 Administrative, financial and technical capacities to deal with flood risk in Austria

*Clemens Neuhold - Austrian Federal Ministry of Forestry, Environment and Water*

The presentation of the administrative and financial capacities in Austria focused on the natural hazard "flood". First, it outlined the topographical and administrative boundary conditions in Austria. There is a broad variety of topographical characteristics which requires different sets of measures in the frame of flood risk management. From an administrative perspective, Austria is a federal state, dividing responsibilities amongst the Federal state, the provinces, the districts, the municipalities and the citizens. It has to be highlighted that most of the work done in the frame of emergency management is done on voluntary basis.

The Water law as well as the flood protection funding law fall under the competence of the Federal State. Legislation accounting for more regional characteristics within flood risk management (e.g. spatial planning, building codes, and emergency management) fall under the jurisdiction of federal provinces, partially coordinated with the federal state regarding emergency management.

All relevant sectors are bundled in an advisory board where it is discussed relevant steps in the frame of implementing the EU Floods Directive. The implementation in Austria is set up as a strategic planning tool accounting for existing and well-functioning regional and local planning and implementation instruments.

Flood protection is one of these instruments. The overall investments by the federal state, the provinces and municipalities (usually co-financing flood protection measures) are 400 Million €/year approximately to maintain and extend the existing schemes, which ensure a flood protection level against a 100-years flood event. Complementary measures in the frame of awareness raising, spatial planning, building codes and emergency management are especially foreseen to reduce the residual risk. These are mostly implemented as a bundle of measures together with green and grey infrastructure.

#### 4.1.2 Administrative, financial and technical capacities to deal with flood risk in Spain

*Jose Garcia Rodriguez - Segura River Basin Confederation*

The presentation aimed to show Risk Management Capability in Spain from the point of view of the process of implementation of the Floods Directive.

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<sup>7</sup> [http://ec.europa.eu/environment/water/flood\\_risk/implem.htm](http://ec.europa.eu/environment/water/flood_risk/implem.htm)

To this purpose, the main administrative, financial and technical elements arranged, along with the processes, are presented. The components presented were: the legal and procedure framework, the responsibilities of different agencies, coordination, information and communication processes, and finally, the methodologies and tools regarding financial resources.

It was highlighted how the legal framework helped to comply with the mandate of the Floods Directive, through one recent regulation- the amendment of the Hydraulic Public Domain Regulation- as a key measure to enhance flood risk in spatial planning and urban development.

Regarding responsibilities and procedures, it was exposed its distribution among the different authorities and other agents involved in risk management: the River Basin Authority, in close collaboration with Civil Protection Authorities, who is responsible of the Preliminary Flood Risk Assessment and Hazard and Risk Mapping; the responsibility on Flood Risk Management Planning (FRMP) and its implementation is shared with the regional and local Administrations as well as the CP Authorities and some central governmental institutions.

It was also mentioned the existing Coordination among the different levels, from the national authorities to the ones of the river basin district, and the information and communication tools arranged such as public consultation, conferences, brochures. Finally, a reference was made to the financial resources used and those planned to use, giving some figures on the investment done and the short-term provisions until the end of the current cycle (2016-2021).

Also, some details about the technical capacities were presented by explaining the information collected and its sources and the methodology used for doing the preliminary flood risk assessment and later producing the flood hazard and risk maps (historical, cartographic, hydrographic and geomorphologic data, as well as hydrological and hydraulic studies).

The second part of the presentation was a sample of the main measures from the FRMPs implemented: prevention measures, such as the regulations related to land-use limitations on flood prone areas, guidance documents for the adaptation of economic activities and land-uses to floods located in those areas; preparedness measures, as holding conferences and providing brochures to increase flood risk awareness and improving flood warning and communications protocols; and as protections measures, a fluvial restoration and green infrastructure project on the Arga river (Ebro River Basin District).

Finally, a brief comment was done regarding the follow-up of the implementation of measures and the accomplishment of objectives.

## **4.2 Session 2: Epidemic events**

The Risk Management Plan, and hence the Risk Management Capability Assessment, are multi-hazard processes by nature. After having learned from the implementation of the Flood Directive which were the different steps to follow in order to prepare flood risk management plans (i.e. preliminary flood risk assessment, flood risk maps and finally, flood risk management plans), we moved to epidemic events to understand if a similar methodology could be easily transferable to other hazard.

For the session, we counted on the presence of Margherita Fanos (DG SANTE), who provided a nice overview of the policy frame and the related activities in the domain of public health <sup>(8)</sup>.

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<sup>8</sup> [https://ec.europa.eu/health/preparedness\\_response/policy/decision\\_en](https://ec.europa.eu/health/preparedness_response/policy/decision_en)

#### **4.2.1 Epidemic risk – Opening**

*Margherita Fanos – DG SANTE*

Infectious disease threats know no borders and can severely affect human health, with severe cross-border public health implications. At EU level, Decision 1082/2013/EU on serious cross-border threats to health provides the framework to improve preparedness and strengthen surveillance, monitoring, and the capacity to coordinate response to health emergencies across the EU. Decision 1082/2013/EU extended the scope of cross-border health threats, including threats of biological, chemical, environmental and unknown origin. Under this framework, the Commission closely cooperates with Member States, EU agencies, in particular the European Centre for Disease Prevention and Control (ECDC), and international partners.

In the area of preparedness, Member States and the Commission consult for coordinating efforts to develop, strengthen and maintain capacities for monitoring, early warning and assessment of and response to serious cross-border health threats.

In the area of response, the Early Warning and Response System provides the platform for Member States to be in permanent communication to alert, assess public health risks and determine the measures that may be required to protect public health. National response and risk communication is coordinated through the Health Security Committee, which is the crisis management body composed of health authorities of EU Member States.

#### **4.2.2 Technical capacities to deal with epidemic risk in Spain**

*Fernando Simon Soria - Centre for Coordination of Alerts and Emergencies (CCAES), Ministry of Health (Spain)*

Usually, the health sector is part of the multisectoral “civil protection” response to disasters by assuring healthcare to affected population and establishing ad-hoc epidemic surveillance and prevention programmes. However, when infectious diseases are a primary threat, response is rarely integrated within the “civil protection framework”, and because of its specific singularities, response responsibility in such situations lays on Health Authorities.

The presentation highlighted the varying origins and characteristics of infectious disease threats and detailed the key elements for public health risk assessment (severity of the event, vulnerability of the population, probability of introduction, exposure and transmission and the availability of control measures) and the importance of risk detection capacity. Lessons learnt from last major health alerts and crisis in Spain related to Ebola outbreak in West Africa, Zika epidemic in South America and first diagnosis of Crimea-Congo Haemorrhagic Fever in Spain, included constant need for response protocol update, integration and coordination of Public Health and Healthcare systems, the importance of timely and quality rapid risk assessments and the need for improving the risk communication capacities among health professional and their coordination with communication experts. Developing infectious disease threats generic preparedness plans compatible with other EU those in other Member States would contribute to improve national and international response capacities.

#### **4.2.3 Administrative and financial capacities to deal with epidemic risk in Sweden**

*Jim Kronhamn – Swedish Civil Contingencies Agency*

The presentation started by giving a context to the approach followed by showing the history of methodology development and assessment work that has been carried out over the last few years in Sweden. The presentation focuses on the Swedish governance model and the chosen approach to capability assessment in the risk management process. It raised some challenges and uncertainties with regards to how to approach the

task and how we'd like to see it develop in order to be useful in a broader union perspective.

The Swedish approach to capability assessment includes other inputs than the scenario assessments and has an all hazards approach; the presentation explains the process to carry an evaluation of capacities but also what is lacking. Throughout the presentation, some examples relating to the assessment of pandemic risk were given.

#### **4.2.4 Administrative and financial capacities to deal with epidemic risk in UK**

##### ***Jonathan Stone - Cabinet Office (UK)***

The starting point for assessing the capacity of UK to prepare to disaster risk is the National Risk Assessment. This yearly exercise is scenario-based (reasonable but worst case scenario) and serves to identify the potential major threats and hazards at national level.

The capability assessment study more in detail the consequences of these potential events in order to detect which areas need to be strengthened when responding and preparing to these. The analysis considers the (in)existence of generic resources for responding to the events and the cost of recovery, among others, to point out which are the gaps. For each of the areas analysed, the different Ministries with competences on them are listed.

The final results of the capability assessment are tailored for policy makers, the main users, using charts and graphs. Moreover, the possible lines of action for developing capacities are contextualized in time for efficiency matters giving a prediction of what can be done in the next years considering what has already been done before.

### **4.3 Session 3: Building capacities for CCA and DRR**

Looking for capitalising on existing initiatives, the third session of the workshop was dedicated to establish a link with the work done under Climate Change Adaptation by DG CLIMA <sup>9</sup>.

The 2013 EU Strategy on Adaptation to climate change contributes to a more climate-resilient Europe. The strategy has 3 objectives:

- 1) Promoting action by Member States.
- 2) Better informed decision making. This entails addressing knowledge-gaps in adaptation. To this end, the online climate adaptation platform Climate-ADAPT is further developed.
- 3) Promoting adaptation in vulnerable sectors. This includes that a climate change vulnerability and risk assessment is a requirement for receiving funding for the major infrastructure projects (of €50 – 300 million Euro) that are funded by the European Regional Development Fund and the Cohesion Fund.

Under the first priority "promoting action by Member States", the first action is "encourage all Member States to adopt comprehensive adaptation strategies." Following the adoption in 2013 of the EU Strategy on Adaptation to Climate Change, there has been an increase from 15 to 25 EU Member States with a national adaptation strategy, with the other 3 working hard to finish theirs.

The new integrated Covenant of Mayors for Climate & Energy was launched by the European Commission on 15 October 2015 during a Ceremony in the European Parliament in Brussels. The three pillars of the strengthened Covenant are: mitigation, adaptation, and secure, sustainable and affordable energy.

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<sup>9</sup> <http://climate-adapt.eea.europa.eu/>

We invited participants of the Covenant of Mayors to share their experience in developing local multi-hazard Risk Management Plans including climate change mitigation and adaptation aspects.

#### **4.3.1 Covenant of Mayors initiative – Opening**

Cities are one of the main contributors to climate change but, as most of the population live in urban areas, they represent also an opportunity to solve the problem. Actually, the accountability of local authorities facilitates that cities take the lead in fighting against climate change. Nowadays, almost 8000 cities are part of the initiative, representing 226 million citizens. As the DRR community, this bottom-up initiative faces challenges when implementing adaptation actions as it requires a good identification of current and future hazards, an active stakeholder participation and cost estimation and is clearly depending on the context. The JRC provides scientific and technical support to the development, implantation and monitoring of the COM. The progress of the measures approved by each city is continuous and qualitative.

#### **4.3.2 Covenant of Mayors initiative – case of the Municipality of Cascais**

##### *João Dinis – Cascais City Council*

Cascais, Portugal, started working on climate change in late 2009. The local strategy was one of the very first in Portugal and even Europe. It provided a deep assessment on climate change impacts on different sectors of the local environment and society.

With short to long term scenarios, the local council started an active work on climate action, fulfilling gaps with EU based projects and national reach initiatives on environmental sector.

Despite its relevant impact, the assessment of actions was relatively unknown, which collided with the intentions to further adaptive capacity and stakeholder engagement.

Hence, based on the acquired knowledge from all implemented projects, Cascais developed in 2017 the first Portuguese Adaptation Action plan to Climate Change. The action plan updated climate scenarios and provided guidance in 80 individual actions to increase local resilience until 2030. This was a step forward in climate scenarios, stakeholder engagement, citizen awareness and strategy assessment (monitoring).

#### **4.3.3 Covenant of Mayors initiative – case of the Municipality of Lisbon**

##### *Paulo Pais – Lisbon City Council*

Lisbon geographic location, combined with a rugged terrain, makes the city particularly vulnerable in future climate scenarios to events such as floods or urban heatwaves. Climate scenarios, combined with demographic scenarios, particularly emphasises the need of a holistic strategy for adapting to climate change

In 2008 the “Energy-environmental Strategy for Lisbon” was approved, focused on climate change mitigating effects, which influenced the Master Plan revision strategy (2012), mainly the environmental efficiency and mobility policies. But the Master Plan went further, incorporating adaptation measures to climate change.

The Municipality approved the “Lisbon Drainage Master Plan, 2016-2030”, an investment of 178 M€, which combines heavy hydraulic solutions and natural base solutions to mitigate the floods effects.

The Municipal Strategy for Adapting to Climate Change, approved in 2017, was developed by the municipal services, integrated in a network of 26 Portuguese municipalities, the ClimAdaPT.Local, coordinated by the University of Lisbon.

In 2017, we developed scenarios of sea level rise effects for 2050 and 2010, under the coordination of the Faculty of Sciences of the University of Lisbon, to integrate in the future Master and Action Plans.

In Lisbon we have chosen to take a holistic approach in the formulation of strategies and actions on climate change.

#### **4.3.4 All hazard approach to evaluate capacities in the Netherlands**

*Leendert Gooijer – National Institute for Public Health and the Environment*

The National Risk Assessment (NRA) and the Capability assessment are parts of the Safety and security strategy of the Netherlands. In 2016 the National Risk Profile has been compiled by the National Network of Safety and Security Analysts. The profile provides an overview of the risks of various disasters, crises and threats with a possible destabilizing effect on the society and also describes the relevant autonomous developments (e.g. climate change and the possible effects on flooding and extreme weather).

The National Risk Profile constitutes a basis for the capability assessment. The aim of the capability assessment is to get an overview the potential space to improve relevant existing capabilities or to develop new capabilities. The Dutch capability assessment method is under development (work in progress). The idea is to execute the assessment in a structural approach with a general list of capabilities as starting point to examine the relevance of the different capabilities for each risk category. That will result in an overview of the space to reinforce. Finally, the results of the capability assessment are input for the decision making process.

## 5 Key findings and discussion

From the intervention of Member States and the discussions held, the key findings are presented below.

### 1. Assessing capabilities for managing risk

The added value of evaluating capabilities, detecting gaps/needs and to share the results with the European Commission seems to be appreciated by Member States, but some points might require further work:

- a. the definition of capability gap versus capability required and the processes to complete the evaluation of them;
- b. linking capability assessment to the concept of recovery and prevention;
- c. confidentiality of results;
- d. the knowledge base in place regarding risk;
- e. the possibilities to carry out multi-hazard capability assessments in practice;
- f. the advantages and disadvantages of aggregating and prioritizing capacities;
- g. the link of capability assessment with risk assessment; etc.

Participants highlighted that the final goal of evaluating capabilities should be useful for carrying out an EU analysis but convenient for the national authorities.

### 2. Local solutions to global problems

The local level is crucial in the implementation of agreements and policies drafted at higher levels. The Sendai Framework for Disaster Risk Reduction <sup>(10)</sup>, for example, highlights the need to tackle underlying disaster risk drivers, which are mainly defined by the context. This has been proved in the projects developed as part of the Covenant of Mayors in the municipalities of Portugal: they are based on national and international strategies, but the implementation is done at the lowest level.

At the same time, the evidences that will support DRR actions are mainly coming from the local level. The first step followed by Member States for drafting the flood management plans, following the EU flood directive, was actually the collection of local data for producing flood risk maps.

An increasing number of Commission Services are collaborating to reinforce the links between the different DRR and DRM related policies to ensure an optimized use of the resources and to maximize the impact of a more coherent implementation of DRR and DRM policies.

The common factor of these policies resides on the need of disaster damage and loss data for a sounder evidence-base development, implementation and monitoring of adequate Risk Management Plans (there is a clear link here with Sendai FWDRR, Paris Agreement <sup>(11)</sup> and the Sustainable Development Goals indicators <sup>(12)</sup>).

The need for data comes together with the need for models to be able to forecast future losses and to timely develop and implement suitable plans for prevention, mitigation and/or adaptation with the final scope of improving resilience. Data actually hinders most of the processes for analysing and planning to deal with disaster risk. Equally important is to accurately plan for the preparedness, response, recovery and reconstruction phases. Involving the scientific community is essential for the development of sound DRM actions.

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<sup>10</sup> <http://www.unisdr.org/we/coordinate/sendai-framework>

<sup>11</sup> <http://unfccc.int/2860.php>

<sup>12</sup> <https://sustainabledevelopment.un.org/?menu=1300>

### **3. Strong governance framework to enhance capacities**

The points highlighted previously show that there should be a good link between the local, the national and international levels. It was illustrated through the experiences of the participant countries that the different levels should be well aligned in order to exploit the synergies. All these can be addressed with a governance framework that provides the basis for coordinated action, by establishing stakeholders and sectors to be engaged and stating responsibilities of each of them. As some attendees pointed out, the governance framework should be tackled from the beginning in order to facilitate the promotion of financial and technical capacities.

It was emphasized that the frameworks in place must be multi-disciplinary and inter-institutional but above all, tailor-made. Lessons learned should be shared and tested/adapted for exploitation but there are no "one-size fits all" solutions for everybody and for all sectors. In the case studies presented, coordination among agencies and levels was identified as pivotal when dealing with risk.

### **4. Innovation**

Tackling the dynamism of risks, particularly at local level, requires focusing in innovation. To enhance the different capacities, it is necessary to be creative and to learn from the many communities and sectors dealing with risk. Research and Development resources are often not stable from year to year, which hinders the possibility not only to carry out research but also to test it in practice. Here, it is noteworthy mentioning the opportunities coming from the "re-use" of existing research by testing and adapting it to new contexts.

Linking research to EU projects and establishing networks that facilitate the sharing of information while efficiently optimizing our capabilities to develop Risk Management Plans is crucial on the light of the changing landscape of hazards that EU might face.

### **5. Monitoring for learning**

Both success and failures are the main sources for learning. This requires that there are monitoring systems in place evaluating the impact and the outcomes of projects and policies but also of other exercises, such as research projects, trainings and awareness activities. Member States usually collect this knowledge in guidelines which are public. It is especially visible the effect of monitoring in response protocols, although this should be enlarged to other phases of DRM.

At the same time, lessons learned should feed trainings and capacity building activities, particularly in the most local levels, where qualified teams and individuals are scarce.

The systematic collection of data both pre- and post-event regarding potential and real losses would provide a quantitative method for evaluating the progress made to reduce risk (Marin Ferrer et al, 2016; Antofie et al, 2017).

### **6. The cost of (in)action vs early-action**

Financial capacities need to be considered throughout time, and not just in the short-term. It was suggested that the leverage for funding DRR and CCA in the short term is presenting the cost of action versus the cost of inaction. Risks are expected to increase in the future so early investments are advantageous in the long-term if the costs of preparedness/response/recovery and rehabilitation are confronted to the ones of prevention/mitigation/adaptation. Furthermore, it was recommended to determine the opportunities of dealing with risk and not only focusing on avoiding the costs of it.

The case studies analysed showed that when planning disaster risk measures, institutions should enlarge their possibilities for funding to EU mechanisms <sup>(13)</sup> such as Structural Funds – REGIO <sup>(14)</sup>, H2020<sup>(15)</sup>, Preparedness and Prevention – ECHO <sup>(16)</sup>, CCA Strategies – CLIMA, Copernicus <sup>(17)</sup>, etc.

## **7. Communication and risk awareness**

The role of decision-makers, practitioners, scientists/technicians, the private sector and citizens may be different but all groups are required for reaching the goals of reducing risk and adapting to and mitigating climate change.

A well informed society will contribute to a more resilient future. The establishment of the priorities is also influenced by political or public perception of where the higher risks are. A more objective analysis of the situation, with data demonstrating where the real weaknesses and priorities should be, could facilitate the political decisions taken at National, EU and Global level. It was indicated that messages should be adapted to each of the potential users in order to mobilize them. In that sense, different examples were given through the presentations to provide evidence to not-technical groups.

It is decisive to engage citizens and to keep them informed. For that reason, risk awareness should be included as part of the Risk Management Plans. Well informed citizens will have a more rational risk perception.

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<sup>13</sup> <https://www.welcomeurope.com/list-european-funds.html>

<sup>14</sup> [http://ec.europa.eu/regional\\_policy/en/information/legislation/regulations/](http://ec.europa.eu/regional_policy/en/information/legislation/regulations/)

<sup>15</sup> <https://ec.europa.eu/programmes/horizon2020/en/h2020-sections>

<sup>16</sup> [http://ec.europa.eu/echo/files/aid/countries/factsheets/thematic/prevention-preparedness\\_en.pdf](http://ec.europa.eu/echo/files/aid/countries/factsheets/thematic/prevention-preparedness_en.pdf)

<sup>17</sup> <http://www.copernicus.eu/main/services>

## 6 Conclusions

Building resilience is the final purpose of all the processes and measures exposed and discussed in the workshop. Focusing on strengthening capacities to assess and manage risk is the approach used by Member States in order to deal with the high dynamism of disaster risk.

At national level, the assessment of capabilities can assist authorities in effectively drafting strategies and allocating funds for research and for collaborations with initiatives implemented at lower governance levels.

In the political arena, where resources are limited and the priorities change quickly, the capability assessment emerges as tool to promote a more efficient and evidence-based development of capacities even if in practice, national authorities might face a set of challenges that should be addressed. These are mainly related to the process and methods to carry out the exercise and with the use of the results in policy-making.

At EU level, additional issues require further analysis, such as confidentiality of results.

The urgency of acting as soon as possible due to the increasing trend in disaster losses, demands that we detect gaps in knowledge while we learn from experience. The workshop was a good opportunity to discover challenges but also practices and mechanism that could be transferred and tested. Thus, there should be room for innovation to happen, where the different stakeholders (from research organizations, to institutions and citizens) have a role to play but also enough spaces in place for discussion and reasoning as still much needs to be done regarding the DRR governance to balance bottom-up and top-down approaches and exploit interdisciplinary teams and inter-sectorial linkages.

The New Civil Protection legislation, which stresses the need to prevent risk and the use of science, can support in developing the aspects mentioned.

Under this reinforced frame for mitigation/prevention and adaptation, the DRMKC is already working hard to provide a first set of good practices in risk assessment to support UCPM's participant countries to elaborate National Risk Assessments according the most advanced standards.

The DRMKC is also developing a platform to facilitate the structured collection of Disasters damage and loss data at local level to be then aggregated at National level. This platform, the Risk Data Hub, will allow as well the exchange of good practices, tools and methods among National authorities. "National corners" under National authorities' full responsibility will be created to deal with the confidentiality of the data. Data, systems, models and information in general available at EU level will be provided as basement but will be easily replaced by more accurate national and/or local data, models, and tools. Pre-event assessments of potential losses will be possible in this multi-hazard platform.

## 7 References

Antofie, T., Casajus Valles, A., Doherty, B. and Marin Ferrer, M., *Identifying challenges in Disaster Risk Reduction: Risk Data Hub for Disaster Risk Management*, Publications Office of the European Union, Luxembourg, 2017, doi:10.2760/665370 (print),10.2760/789859 (online).

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Marin Ferrer, M., Antofie, T., Spagnolo, L., Doherty, B., *DRMKC Risk Data Hub: Improving the access and share of curated EU-wide risk data for fostering DRM*. European Commission, 2016.

Mitchell, T. and Harris, K., *Resilience: A risk management approach*. ODI Background Note. Overseas Development Institute, London, 2012.

## **List of abbreviations and definitions**

CCA	Climate Change Adaptation
DRR	Disaster Risk Reduction
DRM	Disaster Risk Management
FRMP	Flood Risk Management Plan

## Annexes

### Annex 1. Participants of the workshop

<b>Name</b>	<b>Institution</b>
John Agius	Malta Critical Infrastructure Protection (Malta)
Akif Alkan	Prime Ministry Disaster & Emergency Management Authority- AFAD
Alessandro Annunziato	Joint Research Centre, European Commission
Ainara Casajus	GFT (Italy)
Jitka Collisova	Population Protection Institute (Czech Republic)
Thomas Craven	Department of Defence (Ireland)
Tom de Groeve	Joint Research Centre, European Commission
Ciaran Desmond	Office of Emergency Planning, Department of Defence (Ireland)
João Dinis	Municipality of Cascais (Portugal)
Alexander Esser	Federal Office of Civil Protection and Disaster Assistance (Germany)
Margherita Fanos	DG Sante, European Commission
Jose Garcia Rodriguez	Segura River Basin Organization (Spain)
Iliya Georgiev	DG Fire Safety and Civil Protection (Bulgaria)
Leendert Gooijer	National Institute for Public Health and the Environment (RIVM) (Netherlands)
Freddy Jegleim Hansen	Norwegian Directorate for Civil Protection (Norway)
Jaanus Heinsar	Ministry of Interior (Estonia)
Natasa Holcinger	National Protection and Rescue Directorate (Croatia)
Siegfried Jachs	Ministry of the Interior (Austria)
Beata Janowczyk	Government Centre for Security (Poland)
Ioannis Kavvadas	DG ENV, European Commission
Epameinondas Kleitsikas	General Secretariat for Civil Protection (Greece)
Magda Koutkova	Directorate General of Fire and Rescue Service, Ministry of Interior (Czech Republic)

Jim Kronhamn	Swedish Civil Contingencies Agency (Sweden)
Nina Köksalan	Federal Office of Civil Protection and Disaster Assistance (Germany)
Montserrat Marin Ferrer	Joint Research Centre, European Commission
Daniel Martin Anta	Tragsatec (Technical Assistance Mapama) (Spain)
Carlos Mendes Lucio	Portuguese National Authority for Civil Protection (ANPC) (Portugal)
Clemens Neuhold	Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management (Austria)
Jacob Nordfors	Swedish Civil Contingencies Agency (Sweden)
Paulo Pais	Municipality of Lisboa (Portugal)
Nicholas Paris	Cyprus Civil Defence Department (Cyprus)
Angela Potenciano	General Directorate on Civil Protection (Spain)
Peter Salomon	Joint Research Centre, European Commission
Muriel Schimmer	High Commission for National Protection (Luxembourg)
Laura Schmidt	DG ECHO, European Commission
Valeria Silvestri	Department of Civil Protection (Italy)
Fernando Simon Soria	Centre for Coordination of Alerts and Emergencies (CCAES), Ministry of Health (Spain)
Jonathan Stone	Cabinet Office (UK)
Taito Vainio	Ministry of the Interior (Finland)
Catharina van der Hooft	Ministry of Justice and Security (Netherlands)

## Annex 2. Programme of the workshop

### Day 1, Thursday 14 December 2017 – Building 101, Room 1302

9.00 – 9.20	Opening of the Workshop	Tom de Groeve – JRC
9.20 – 9.30	Introduction and objectives of the Workshop	Montserrat Marin Ferrer – JRC

#### Session 1: Flood events

9.30 – 9.45	Opening of the session	Ioannis Kavvadas – DG ENV
9.45 – 10.45	Administrative, financial and technical capacities	Clemens Neuhold – Austrian Federal Ministry of Forestry, Environment and Water (Austria)
10.45 – 11.00	<i>Coffee break</i>	
11.00 – 11.40	Administrative, financial and technical capacities	Jose Garcia Rodriguez – Segura River Basin Confederation (Spain)
11.40 – 12.15	Joint Discussion	
12.15 – 13.30	<i>Lunch</i>	

#### Session 2: Epidemic events

13.30 – 13.45	Opening of the session	Margherita Fanos – DG Sante
13.45 – 14.15	Technical capacities	Fernando Simon Soria – Centre for Coordination of Alerts and Emergencies (CCAES) (Spain)
14.15 – 14.45	Administrative and financial capacities	Jim Kronhamn – Swedish Civil Contingencies Agency (Sweden)
14.45 – 15.15	<i>Coffee break</i>	
15.15 – 15.45	Administrative and financial capacities	Jonathan Stone – Cabinet Office (UK)
15.45 – 16.20	Joint Discussion	
16.35	<i>Departure to hotels</i>	

### Day 2, Friday 15 December 2017 – Building 101, Room 1302

#### Session 3: Building capacities for CCA and DRR

9.00 – 9.15	Opening of the session	Paulo Barbosa – JRC
9.15 – 10.15	Covenant of Mayors	Joao Dinis – Cascais City Council (Portugal) Paulo Pais – Lisbon City Council (Portugal)
10.15 – 10.40	<i>Coffee break</i>	
10.40 – 11.10	Multi-hazard approach	Leendert Gooijer – National Institute for Public Health and the Environment (Netherlands)
11.10 – 12.10	Round table of discussion	
12.10 – 12.25	Conclusions of the workshop	
12.30	<i>End of the workshop</i>	

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