
Executive summary

The European Commission Joint Research Centre joins National, Regional and Global efforts **to acquire better risk governance levels through evidences, science and knowledge management**. This report is the second in the series of reports “*Recommendations for National Risk Assessment for Disaster Risk Management*”. The aim of this series of reports is to build-up a network of experts involved in the different aspects of the National Risk Assessment process. They are invited to co-develop, with a sequential approach imposed by the complexity of the task, a reference document that will contribute to filling the gap between scientific knowledge and their practical usability.

Version 0 of this series was focused mainly on how to do National Risk Assessment from the scientific perspective to provide enough evidences to Risk Managers for better understanding and, hence, managing risk. In Version 1, the National Risk Assessment is positioned at the heart of the policy cycle for the implementation of integrated disaster risk management. This perspective highlights the imperative need for policy-makers, practitioners and scientists to work hand-in-hand towards a more resilient, and hence sustainable, future.

Policy context

Member States are, since 2013 (**UCPM Decision No 1313/2013/EU**), required to report to the Commission on their disaster risk management activities to support formulating an EU risk management policy that would complement and enhance the national ones.

The amendment of the Union Civil Protection Mechanism (UCPM) of March 2019 (Decision (EU) 2019/420) introduced new requirements for reporting under Article 6, combining elements of (1) **national risk assessment (NRA)**, (2) **risk management capability assessment (RMCA)** and (3) **information on the priority prevention and preparedness measures** with a focus on (a) key risks with cross-border impacts, and, where appropriate, (b) low probability risks with a high impact.

The purpose of the Version 1 of the *Recommendations for National Risk Assessment for Disaster Risk Management in EU*, prepared by 50 scientists, is to support the use of the new “**Reporting Guidelines on Disaster Risk Management**”, Art. 6(1) of Decision No.1313/2013/EU2019/C 428/07” by relevant authorities of the Participating States to the EUCPM.

The final scope of this collective effort is to **contribute to establishing an appropriate risk governance** that is flexible and adaptable to new evidences, knowledge and situations. A risk governance that facilitates risk assessment processes as proper evidence to drive disaster risk management planning and the implementation of **adequate measures all along the risk management cycle**, from adaptation and mitigation to response and recovery phases.

Key conclusions

Better national risk governance with a legal framework and integrated disaster risk management approach is a must. The implementation of integrated DRM is seen as evidence-based policy cycle compound of NRA, DRM planning and the implementation of prevention and preparedness measures.

- **NRA produces the evidence to reach a common understanding** and the relative importance of the risks due to the different drivers faced in a country **and** presents a core of evidence-based policy-making which adds to successful implementation of effective and efficient integrated disaster risk management.



- **Risk management capability assessment** strives to set up an efficient, flexible and systematic risk governance structure covering the whole policy cycle that places NRA as an essential part of disaster risk reduction strategy and facilitates from the beginning to the end the implementation of the measures in different phases of disaster risk management for different hazard.

Reporting outcomes to be submitted to the European Commission are **a summary of the national activities related to NRA and RMCA** that are also relevant to the EU context. NRA and RMCA processes must be comprehensive and tailored to the national context to serve the specific national goals. Furthermore, their overall aim is very much the same, i.e., **to support the identification and definition of disaster risk reduction strategies**, which will result in less disasters and/or disasters with less impacts and increase of overall EU resilience.

It can be considered that these processes are national enablers of (a) the development of **a common understanding** on risk, its drivers, interlinks and options for reducing it while (b) they promote and facilitate the exchange of **good practices and lessons learned** to speed up the risk reduction processes. By submitting the summaries to the Commission and, thanks to the “*Overview of Natural and Man-Made Disaster Risks that the EU May Face*” series of publications prepared by Commission, the fulfilment of these two objectives is eased **at the European level**.

Regular RMCA is a driver of sustainable development of capabilities for the implementation of the integrated DRM and also an opportunity to continuously adapt to changing risk landscape (i.e., climate change as well as new and emergent risks) as well as development strategies with relevant capabilities.

The policy cycle for the implementation of integrated disaster risk management should have capacity to **integrate climate change adaptation strategies** and efficiently consider adaptation measures during DRM planning.

The policy cycle for the implementation of integrated disaster risk management is a mechanism that fill the gaps revealed in NRA process with the DRM actions in place. Therefore it is important to **prioritize the development of national risk assessment capability to improve the country's resilience** against the disaster risk.

Main findings

The report evidences that the implementation of integrated disaster risk management is a challenging process in terms of expertise and data, resources, time and diversity of stakeholders involved. It requires a support of national authorities at all levels.

The report highlights the importance of the **evidences produced by NRA** to facilitate DRM planning and implementation of adequate measure that results in efficient integrated DRM. Based on the results of NRA national authorities (1) decide which risks can sufficiently harm well-being and security of citizens in a short or long term to be put on agenda of DRM planning, (2) understand which disaster risk drivers to be addressed to identify adequate measure to reduce risk all along the RM cycle.

The scientific approaches in NRA can be of tremendous support in this challenging task. Risk landscape is not only dynamic, but it is also expanding with increasing awareness and better understanding of different risks. Risk identification is partially based on evidence and partially on our perception regarding what we should be afraid of.

Furthermore, **different risks of different origins require very different methods** of risk assessment, not only due to diversity of phenomena, but also due to different availability of data and knowledge. Realistically, harmonisation of the risk assessment process shall remain at the level of terminology, data, risk concept, standardized steps of risk assessment process and presentation of the results. The main goal is to understand the risk and drivers behind as well as to assess the risk in terms of the level and probability in a way **to make risks comparable**.



Finally, **EU policies related to different risks are essential for fostering comparability** in approaches to risk assessment and data collection to achieve a more comprehensive picture of risks across Europe as well as for encouraging knowledge sharing and other NRA capabilities building. DRM policies are working on the exploitation of synergies across the whole DRM cycle for the implementation of an integrated risk governance.

Related and future JRC work

This version of the “Recommendations” is part of a series of reports that collects the scientific contributions from the wider JRC scientific disaster risk community and beyond. It is a key activity of the **EC Disaster Risk Management Centre (DRMKC)**, which supports international, national and local authorities involved in DRM processes.

EC DRMKC has been recognized as a potential nucleus of scientific pillar of Union Civil Protection Knowledge Network¹. The EC DRMKC proposes **opportunities for co-developing collective scientific knowledge** through a number of activities, such as a platform for news, publications, calendar of events and tools (DRMKC website²), the database of DRM related research projects and results (Projects Explorer³ and Gaps Explorer⁴), the periodic publication of Science reports (Science for DRM⁵), the holistic repository of disaster risk and impacts data (Risk Data Hub⁶), the hub for the global assessment of the risk of having humanitarian crisis and the assessment of crisis severity (INFORM suite⁷) and the early warnings systems for Public health related issues (EIOS⁸) and conflicts (CAAS-CEWS), both based on Artificial Intelligence tools and on building-up communities of practice.

Quick guide

The report explains the purpose and objective of each step of the reporting to give meaning and motivation to demanding risk governance processes. It collects also the contributions of **fourteen expert teams that** prepared short step by step description of disaster risk assessment approaches specific for the chosen hazard/asset usable in the context of a national risk assessment exercise and addressed national risk assessment capability to be further developed.

A special focus is dedicated to capability needed to **tackle climate change** with presenting possibilities how to ensure closer synergies between the disaster risk reduction and climate change adaptation agendas.

The risks covered in this document are of natural, anthropogenic and socio-natural origin: floods, droughts, wildfires, biodiversity loss, earthquakes, volcano eruptions, biological disasters, Natech accidents, chemical accidents, nuclear accidents, terrorist attacks, critical infrastructure disruptions, cybersecurity and hybrid threats.

¹UCPM Decision No 1313/2013/EU acknowledges the pivotal role of scientific knowledge in Article 3(e), which calls for an increase in “the availability and use of scientific knowledge on disasters”, and in Article 13 for establishing the Union Civil Protection Knowledge Network

² <https://drmkc.jrc.ec.europa.eu/>

³ <https://drmkc.jrc.ec.europa.eu/Knowledge/Project-Explorer>

⁴ <https://drmkc.jrc.ec.europa.eu/Knowledge/Gaps-Explorer>

⁵ <https://drmkc.jrc.ec.europa.eu/knowledge/Challenges-Sharing>

⁶ <https://drmkc.jrc.ec.europa.eu/risk-data-hub/#/>

⁷ <https://drmkc.jrc.ec.europa.eu/inform-index>

⁸<https://drmkc.jrc.ec.europa.eu/Innovation/Epidemic-Intelligence-from-Open-Sources-EIOS#documents/1033/list>