

EFDRR 2015-2020 ROADMAP Review

Coordinated by United Nations Office for Disaster Risk Reduction Regional Office for Europe on behalf of the EFDRR Secretariat (European Commission DG ECHO and Council of Europe EUROPA Major Hazards Agreement)

Table of Contents

Introduction	2
Research & methodology	3
Status or EFDRR roadmap implementation	4
The state of play - achievements and practices	8
Focus Area 1: Governance – National Level	8
National DRR strategies	8
National Platforms	12
Focus Area 1: Risk Assessment	15
Focus Area 1: Disaster Loss Database	16
Focus Area 1: Governance – National Level	20
Disability Inclusion in DRR:	22
Gender Inclusion in DRR	23
Focus Area 1: Governance – Local Level	24
Resilience at the local level - Resilient Cities	24
City Level Resilience and the Ten essentials for Making Cities	
Resilient:	25
Focus Area 1: Peer Review	32
Focus Area 2: Climate change adaptation and mitigation	34
Focus Area 2: Economic management of risks	37
Focus Area 2: Critical and Social Infrastructure	38
Conclusion and priorities until 2020	40
References	42

Introduction

The Sendai Framework for Disaster Risk Reduction 2015-2030 (hereafter referred to the Sendai Framework) was adopted at the 3rd UN World Conference for Disaster Risk Reduction in March 2015 in Sendai, Japan and endorsed by the UN General Assembly in June 2015. It highlights the role and relevance of regional platforms for disaster risk reduction, and of regional support for national and local efforts.

To guide Europe's implementation of the Sendai Framework, the European Forum for Disaster Risk Reduction (EFDRR) agreed on a Roadmap for the period 2015-2020. This roadmap also aims to provide an overview for the 15-year span of the whole Framework.

The Sendai Framework recognises that the global and regional platforms for disaster risk reduction, such as the EFDRR, have a key role in its implementation and will periodically monitor and assessment of progress. The first EFDRR meeting following adoption of the Sendai Framework took place in Paris in October 2015. It recognised the Sendai Framework's call for shifting Disaster Risk Reduction (DRR) towards building a sustainable future and from disaster management, towards the management of risks for a development path that prevent new risks being introduced, minimising risk accumulation, reducing existing risks and promoting resilience.

Accordingly, the Roadmap for the Implementation of the Sendai Framework in Europe a set of priorities for actions namely: development of national and local DRR strategies (disaster data collection and risk assessments) and inclusion of DRR/Sendai Framework considerations into: climate change, environment, private sector, health and persons with disabilities at national and local levels. These priorities for action were endorsed at the Ministerial Conference of the Council of Europe's European and Mediterranean Major Hazards Agreement (EUR-OPA) in Lisbon (October 2016). This report aims to outline what progress has been made in these areas. A tool for monitoring and evaluation was developed for this purpose, and although it is not the only source of information, it forms the backbone of this process.

The implementation of the Sendai Framework is evaluated at the global level through the Sendai Framework Monitoring System and supported by the online monitor and its technical guidance. Full-scale monitoring of progress made towards the goal and targets of the Sendai Framework to reduce disaster risk and losses will get

underway in 2020, by which time Member States will have retrofitted or established the baselines required for monitoring these targets.

This report aims to provide the first baseline, undertaken via a desk review of progress towards the Roadmap agreed upon at the 2017 EFDRR covering the 2015-2020 period. This report intends to show where progress has been made and where gaps still exist through analysis of known data and the highlighting of good practice where it occurs in order to assist all members find the best ways to navigate the Roadmap.

Research & methodology

The desk-based review informing the basis for the outputs in this report examined a number of data sources including those from the online Sendai Framework Online Monitoring Tool (https://sendaimonitor.unisdr.org/), UNISDR's PreventionWeb (http://preventionweb.net) website and from general internet searches. This was coupled with interviews and e-mail requests to discover further data sources with the European Commission Directorate-General for European Civil Protection and Humanitarian Operations (ECHO), UNISDR (Regional Office for Europe), various NGO's, experts from academia and key members of E-STAG (European Scientific and Technical Advisory Group. In particular, publicly available data came from the following sources:

- UNISDR website: National Platform profiles (Countries & National Platforms).
- OECD: Assessing the real cost of disasters Report.
- UNISDR: Implementing the Hyogo Framework for Action in Europe: Advances and challenges 2005-2015.
- UNISDR: EFDRR Survey on Sendai Framework Implementation in Europe.
- The European Commission web portal.
- Project websites for the various regional, national or city-based initiatives regarding DRR.
- Council of Europe's European and Mediterranean Major Hazards Agreement (EUR-OPA),

Taken together, this cross section of desk-based research uncovered a number of complementary data sources that allowed for the creation of a matrix that tracked these inputs, helping to form a Baseline of where members of the EFDRR have made progress with monitoring, reporting and validation of progress towards Target E of the Sendai Framework. The data collection has been based on what has been publicly available, and so will not include data and information held by countries, but not yet shared or publicly available.

Because the Sendai Framework provides an explicit link to the Sustainable Development Goals and the Paris Agreement, evidence of progress in these areas has also been tracked and recorded onto a matrix, which informed the data included in this report, starting with the *Status of the EFDRR Roadmap* on the following pages (figure 1, below). Following this, the *current achievements and practices* are reported and discussed before *conclusions and priorities for 2020* are outlined.

Status or EFDRR roadmap implementation

Focus Area/Theme	Activities and Measurable Indicators	2015 Baseline	2018 Status
Focus Area 1 Governance – National Level	Number of existing national strategies of disaster risk reduction linked with the 2030 agenda	N/A	14 ¹ (linkage with 2030 agenda could not be verified)
	Number of reviews conducted of legislation reflecting disaster reduction	N/A	34 ²
	Policy guidance documents on coherence, consistency and coordination on the outcomes of the Sendai Framework, Addis Ababa, Agenda 2030, COP 21, World Humanitarian Summit and Habitat III	N/A	N/A

¹ Source: Implementation of the Sendai Framework for Disaster Risk Reduction 2015–2030 Report of the Secretary-General.

² UCPM Risk Management Capability Assessments, undertaken as part of the Union Civil Protection Mechanism legislation, have been submitted to the Commission in autumn 2018 by all UCPM Participating States.

Focus Area/Theme	Activities and Measurable Indicators	2015 Baseline	2018 Status
	Number of European Region countries that are represented by government at the Global Platform meeting in 2017 and 2019	38 ³	55 (2017)
	Numbers of countries participating in EFDRR meeting	38	55 ⁴
	Number of National Platforms / national disaster risk reduction coordinating bodies that have gender sensitive representation	N/A	N/A
	Number of National Platform/ national disaster risk reduction coordination bodies that include persons with disabilities	N/A	N/A
	Numbers of countries with formal national DRR science- policy platforms or focal points for Science & Technology for Disaster Risk Reduction and Disaster Risk Management	N/A	15 ⁵
Focus Area 1 Governance – Local Level	Number of countries / cities with developed local strategies on disaster risk reduction	N/A	276
	Number of local level DRR strategies that include aspects relevant for persons with disabilities	N/A	47

³ Source: EFDRR Secretariat.

 ⁴ Source: EFDRR Secretariat. – For both 2015 and 2018 figures.
 ⁵ PreventionWeb Pages on National Platforms: E.g. <u>https://www.preventionweb.net/english/hyogo/national/list/v.php?id=183</u>
 ⁶ Sources: Resilient Cities Campaign website, 100 Resilient cities website, U-SCORE website
 ⁷ European Disability Forum –<u>http://www.edf-feph.org/newsroom/news/towards-inclusive-</u> <u>disaster-risk-management</u>

Focus Area/Theme	Activities and Measurable Indicators	2015 Baseline	2018 Status
	Number of National Platforms that debate and address local level resilience	N/A	N/A
Focus Area 1 Peer Review	Number of National level peer review reports undertaken 2016-2018 and later on	3	4 ⁸
	Local level peer review guidelines established and disseminated	N/A	1 ⁹
Focus Area 1 Risk Assessment	Number of countries that have undertaken a national risk assessment	N/A	33 ¹⁰
	Number of countries that have taken climate change scenarios into account in their risk assessment	To be updated	37 ¹¹
	Number of countries contributing to the development of a regional disaster risk assessment	N/A	N/A
	Number of countries that have mainstreamed disaster risk assessments into land-use policy development and rural development planning and management	N/A	N/A

⁸ DG-ECHO: <u>https://ec.europa.eu/echo/what-we-do/civil-protection/peer-review_en</u> ⁹ Uscore2.eu

¹⁰ All summaries of national risk assessment received as part of the EU Civil Protection Mechanism, which currently includes all 28 EU Member States in addition to Iceland, Norway, Serbia, the former Yugoslav Republic of Macedonia and Turkey, for a total of 33 countries. Montenegro does not yet have a National Risk assessment but has initiated its preparation. ¹¹ *Ibid* as above, these countries included an assessment of climate change risk. Tri-state cooperation regarding data exchange for flood hazards, establishment of early warning systems between **Kyrgyzstan**, **Tajikistan** and **Uzbekistan**, since 2018. In the Russian Federation carried out through the *Climate Doctrine*.

Focus Area/Theme	Activities and Measurable Indicators	2015 Baseline	2018 Status
Focus Area 1 Disaster Loss Database	Number of countries with a disaster loss databases or systems aligned with the Sendai Framework or the European Commission Joint Research Centre guidelines	17 ¹²	17 ¹³
	Number of countries with a disaster loss databases or systems aligned with the European Commission Joint Research Centre guidelines	N/A	4 ¹⁴
Focus Area 2 Climate change adaptation	Focus Area 2 Climate adaptationNumber of local level / city disaster resilience actions plant focusing on climate adaptation and mitigation that include DR Activity of collecting examples		14 ¹⁵
and mitigation	Activity of collecting examples of implementation of integrated environmental and natural resource management approaches, green infrastructure solutions, forest management and good examples of land use planning and in urban planning that incorporate disaster risk reduction	6 ¹⁶	6 ¹⁷
Focus Area 2	Number of private sector participants to the EFDRR Open Forum	0	To be updated

 $^{^{\}rm 12}$ Source: OECD, 2018; De Groeve et al., 2014. No new data acquired since. $^{\rm 12}$ Ibid.

¹³ Ibid.

¹⁵ GFDRR: https://www.gfdrr.org/index.php/en/region/Europe%20and%20Central%20Asia

¹⁶ Sudmeier-Rieux, K., (2013).

¹⁷ Sudmeier-Rieux, K., (2013).

Focus Area/Theme	Activities and Measurable Indicators	2015 Baseline	2018 Status
Economic management of risks	Activity of developing general guidelines on public – private partnerships for DRR drawing on the results of experience with insurance and infrastructure.	N/A	5 ¹⁸
	Activity of study on risk informed investments and economic consequences for preventing disaster in Europe	N/A	2 ¹⁹
Focus Area 2 Critical/Social Infrastructure	Number of health sector representatives participating at the EFDRR Open Forum	0	6 ²⁰
	Number of countries reporting to the EFDRR Secretariat on linkages between critical infrastructure and disaster risk reduction strategies	N/A	N/A

Table1: Matrix showing the status of EFDRR Roadmapimplementation.

The state of play - achievements and practices

Focus Area 1: Governance – National Level

National DRR strategies

Aspects of progress towards implementation of the Sendai Framework can be reported by National Governments via the online Sendai Framework Online Monitoring Tool (<u>https://sendaimonitor.unisdr.org/</u>). There are five levels of implementation for each element, shown in table 2, below:

¹⁸ ARISE and HAZUR Initiatives

¹⁹ rescEU, (<u>http://europa.eu/rapid/press-release IP-17-4731 en.htm(</u> and ARISE Initiatives)

²⁰ EFDRR 2017 registration list

5 levels of implementation in each element:						
Level of implementation	Score					
Comprehensive implementation (full score):	1.0					
Substantial implementation, additional progress required:	0.75					
Moderate implementation, neither comprehensive nor substantial:	0.5					
Limited implementation:	0.25					
No implementation or no existence:	0					

Table 2: How alignment to the Sendai Framework is measured.

To illustrate how this is recorded, Figure 3, below shows the online interface through which reporting is made via the online Sendai Framework Online Monitoring Tool. A countries score is evaluated as being the average score of sub-indicators. This provides a snapshot of progress against several elements, known as core requirements,

	CORE REQUIREMENTS	YEAR		
1	Have objectives and measures aimed at reducing existing risk	2016	0 1.0	0.5
		2018		
2	Have objectives and measures aimed at preventing the creation of risk	2016	0 1.0	0.25
		2018		
3	Have objectives and measures aimed at strengthening economic, social, health and environmental resilience	2016	0	0.75
		2018		
4	Have time frames, targets and indicators	2016	0 (1.0
		2018		
5	Address Priority 1 recommendations and suddestions	2016	0 1.0	0.5
		2018		
6	Address Priority 2 recommendations and suggestions	2016	0	0
		2018		
7	Address Priority 3 recommendations and suggestions	2016	0	0.5
		2018		
8	Address Priority 4 recommendations and suggestions	2016	0	0.5
		2018		
9	Integrated at all levels with development and poverty eradication plans and policy, and notably with the SDGs.	2016	0 1.0	0.5
		2018		
10	Promote coherence, integration and compliance with CC adaptation and mitigation plans, with the Paris Agreement	2016	0	0.5
		2018		

Please rate your country's achievement in implementing a national disaster risk reduction strategy based on the 10 core requirements below, 0 being no achievement or existence, and 1.0 comprehensive achievement.

Figure 3: A screen-grab of the online interface for reporting of progress towards the Sendai Framework.

each of which are given a number from one to ten.

The following section focuses on data reported thus far from across the European and Central Asian South Caucasus (CASC) that make up the 55-member states of the EFDRR. This data gathering, and analysis formed an initial aspect of the desk review and will help to show current reporting of progress towards the Sendai Framework as well opportunities for improvement.





Figure 4: The number of countries that have started reporting, the number of Targets reported and against what targets, covering the 55 States that make up Europe.

The principal focus is on Target E: 'Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020'. The reporting of this data includes Europe and **Countries** in

the **Central Asian** and South Caucasus (**CASC**) region totalling 55 States and is shown in Figure 4.

The purpose of sharing these results, is to highlight where the membership of the EFDRR have made progress as well as the efforts required to bring all of these states into line with a baseline against which progress towards these and other goals can be recorded, monitored and validated.

In terms of global target reporting, the desk-based research and analysis is concerned with Target E: *Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020.* The reporting dealing with the detailed rating based on core requirements, inputted by the responsible individual from the country's agency/agencies that gathered the requisite data is completed under *E-1a.* The latest results from this (as of October 2018) are shown in figure 5 below and show the countries that scored 'high' in the quality of their DRR strategy.



Figure 5: Overview on Target E-1a - Which countries scored 'high' in the quality of their DRR strategy.

On first look the data appears to show slow progress since a 2015 baseline. However, context is important. The Sendai Monitor website has only been online since March 2018, while in the last month a further five countries have started reporting. This shows reasonable progress. Inclusion of the data here allows for countries to be aware of their own progress and move forward by adding data if missing, so that baselines against which progress can be measured are more widely known across the European and CASC regions.

However, as referred to in the introduction, this is not the only source of information from which this report is drawing on to inform a Baseline, although it is currently the principal source that is then *verified*. There has been much better progress elsewhere in terms of governance at the National and local level, National Risk Assessments and a burgeoning number of peer review reports. This is discussed further below and is used to analyse what this means in terms of progress of the Sendai Framework. The broad findings from the deskbased review are included the sections that follow.

National Platforms

Of the 55-member states of the EFDRR, **33 were found to have national Platforms**. This data was identified using PreventionWeb and UNISDR pages on National Platforms. This was supplemented with general internet research using information such as the Overviews of the National Platforms for DRR in Europe document available online²¹. The resulting matrix showing this, and other data gathered regarding Science and Technology Advisory Groups on National Platforms and SF Focal Points and can be viewed in matrix 1.

Although the currently known number of National Platforms represents less than half of EFDRR membership currently, this report may prompt countries to forward information regarding their National Platforms to UNISDR Europe, so the information matrix 1 can be updated. This is vital to the successful implementation of the Sendai Framework by the EFDRR: the continued development or review of national and local-level strategies for disaster risk reduction. As already highlighted, the first area of focus is target 18e of the Sendai Framework: *to substantially increase the number of countries with national and local disaster risk reduction strategies by 2020*. This is mostly likely to be achieved through the development of national and local strategies; risk assessments and disaster loss databases that have been identified as essential building blocks. Key to this are the National Platforms that can provide the requisite contact points in order to provide this data.

Other international mechanisms include the EU Civil Protection Mechanism, which currently includes all 28 **EU Member States** in addition to **Iceland**, **Montenegro**, **Norway**, **Serbia**, the **former Yugoslav Republic of Macedonia** and **Turkey**, for a total of 34 countries. UNISDR supports the development of new national platforms and coordination mechanisms. As stated above, relatively

²¹ See: <u>https://www.unisdr.org/files/19617_overviewnpeuropeefdrr20141211.pdf</u> Accessed Online: October 2018.

few have reported to their implementation status among national platform for DRR. Consequently, it is not possible to draw statistically valid conclusions for the whole Europe at this time.

There is clear progress in this area, with a much higher known number of Sendai Framework Focal Points or Agencies, totalling 47 of the 55 EFDRR member states (approximately 84%) having established focal points or agencies. Many of these are based within Interior Ministries, Civil Protection and Environmental Agencies, representing a high degree of country-based knowledge and information as well as the government institutions through which policies for DRR were enacted, monitored and reported upon.



UKADR understands science on disaster risk and its management to be interdisciplinary. There is an emphasis on integrated and applied dimensions of knowledge production rooted in fundamental science. This includes work from the natural sciences, engineering and technology, medical and health sciences, agricultural science, social sciences, and humanities and includes information technology, economics, and behavioural sciences. UK science on disaster risk is widely recognised as world leading. UKADR aims to support excellence in science and enhance opportunity for impact on policy and practice by acting as:

- An alliance of the research and academic disaster research community to facilitate collaboration and partnership across the UK;
- An advocate of UK science to UK Government;
- A contact point for UK Government seeking the best UK science input;
- A mechanism for UK Government to communicate emerging needs to the UK science community.

To help meet these aims UKADR will sit on the UK Disaster Research Group, a committee of research funders, government departments and charitable donors, which has been hosted by UKCDS since 2009. In 2015 UK Government's responsibilities under the UNISDR Sendai Framework for Disaster Risk Reduction 2015-2030 placed renewed emphasis on science and on evidence-based policy and practice. In 2016 many from the international science community attended the UNISDR Science and Technology Conference on the implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030 and a roadmap for supporting Sendai was shared under the leadership of the UNISDR Science and Technology Advisory Group.

The UK Alliance for Disaster Research will provide a national contact point for international efforts to coordinate science efforts to reduce the global impacts of disaster. It will also collaborate with other international agencies engaged in supporting Sendai. This includes the International Council for Science /International Social Science Council/UNISDR sponsored programme on Integrated Research on Disaster Risk (IRDR) and the Global Alliance of Disaster Research Institutes (GADRI).

Figure 6: Information Box highlighting how a Science and Technology Advisory Group (STAG) is embedded in the United Kingdom approach to DRR, in the context of the Sendai Framework. *Source*: UKADR website.

An exception is the UKADR, which advises and is included in the development of DRR policy and action in the **United Kingdom**. A good practice guide, based on the interactions the UKADR has with the UK government are included in the box on the previous page (Figure 6, above), which details how science (including social science) bring together the UK's rich and diverse disaster research community.

What may be of interest, to other countries in the EFDRR, is how the Alliance is independent and managed by voluntary contributions from the UK research community. This may provide one model for others to follow, although there is recognition that science funding and its relative influence on policy decisions may vary from country to country.

Examples below, outline how other nations have attempted to engage with the research community in order to better address disaster risk management knowledge and technology gaps and to encourage stronger science-policy interface in decision-making:

• **Austria** and **Poland** have a scientific institution as hosted entity for their NPFDRR.

- National scientific institutions are official members of the NP in Bulgaria, Czech Republic, France, Greece, Hungary, Italy, Romania, Serbia, Slovenia, and Turkey.
- In **United Kingdom**, the Natural Hazards Partnership (NHP) provide expertise and advice, coordinates its internal partners and delivers independent reviews regarding natural hazards for the UK's National Risk Assessment (NRA) and National Security Risk Assessment (NSRA). (E.g. De Groeve et al., 2015)
- **Sweden** adopted a different model, where is the NP coordinator, the Swedish Civil Contingencies Agency (MSB) is the Agency, providing research, coordination and operations, in support of local agencies. Thematic calls are prepared in cooperating with the National Platform for Disaster Risk Reduction. Several mechanisms exist within MSB to absorb new scientific knowledge (e.g. Scientific Council). For the National Risk Assessment, MSB sets up a wide consultation process involving government and scientific actors.
- As part of the NP aims, **Montenegro** encourage and connect academic institutions and all entities involved in the action concerning disaster risk reduction.
- In **the former Yugoslav Republic of Macedonia**, the scientific community plays an advisory role (the Academic-Expert Council). (*Source:* Ferrer, M.M. and Vernacinni, L. (2018, p.16)

Focus Area 1: Risk Assessment

Because of European Union (EU) legislation, all countries participating in the European Union Civil Protection Mechanism (UCPM), 34 Participating States, undertook National Risk Assessments (NRAs) as part of the Union Civil Protection Mechanism legislation²². These assessments were supported by European Commission Guidelines on Risk Assessment methodology²³, and compiled and reviewed in a European Commission working document titled: '*Overview of Natural and Man-made Disaster Risks the European Union may face*'²⁴. NRAs are instruments informing DRR and the broader disaster management cycle. Capacities to undertake risk assessments are to be assessed as part of national Risk Management Capability Assessments, a reporting requirement under the Union Civil

 ²² Decision No 1313/2013/EU of the European Parliament and of the Council of 17 December 2013 on a Union Civil Protection Mechanism, OJL347, 20.12.2013
 ²³ Commission Staff Working Paper, 'Risk Assessment and Mapping Guidelines for Disaster Management', SEC(2010)1626 final, 21.12.2010

²⁴ Commission Staff Working Document, 'Overview of Natural and Man-made Disaster Risks the European Union may face', SWD(2017)176 final, 23.5.2017

Protection Mechanism legislation²⁵. At the same time these very same assessments can play a role in developing CCA plans. This enhanced CCA/DRR coherence requires as a minimum a common understanding and use of relevant risk metrics but can be further enhanced by explicitly dealing with climate change in the risk assessment.

EU Member States and countries part of the civil protection mechanisms are required to carry out National Risk Assessments (NRAs). In order to be sound, national risk assessments must rely on a collection of data on risks, such as hazard, exposure, and vulnerability as well as loss data. National platforms are key in this context as they actively support the implementation of the Sendai framework, whilst national stakeholders play a crucial role in coordinating the engagement of relevant stakeholders both in the public and in the private sector.

Additionally, the EU Risk Overview can be considered as some form of a regional risk analysis. Whilst, INDEX for Risk Management (INFORM) is a further example based on risk concepts published in scientific literature that envisages three dimensions of risk: Hazards & Exposure, Vulnerability and Lack of Coping Capacity. In turn, it is used to support coordinated preparedness actions (see: http://www.inform-index.org/Subnational/Central-Asia-Caucasus).

There are also a number of other sub-regional risk assessment initiatives within the European continent (e.g. SEE IPA DRAM project, the Baltic States)

In terms of best practice at a national level, the **United Kingdom** and **Finland** were highlighted because of the comprehensive approach taken to NRAs that included global frameworks such as Climate Change Adaptation. The UCPM provides a useful policy framework for this to occur at the level of EU member countries.

Focus Area 1: Disaster Loss Database

This was not always well reported but information for known disaster loss databases came from an OECD report, *Assessing the Real Cost*

²⁵ The Commission provided Guidelines on Risk Management Capability Assessments in support to Participating States in the UCPM: European Commission Notice, 'Risk Management Capability Assessment Guidelines', 2015/C 261/03, 8.8.2015

of Disasters (OECD, 2018) and research carried out by the European Joint Research Centre (JRC), *Current status and Best Practices for Disaster Loss Data recording in EU Member States* (De-Groeve et al, 2014). Although methodologies for disaster loss data collection and recording in the EU are heterogeneous, available loss databases vary in their level of completeness and detail, and IT systems vary in their purpose, complexity and openness (De Groeve et al., 2014).

For instance, although the latest data coming from the EFDRR Survey on Sendai Framework Implementation in Europe Report (2017) suggests that there are seven nationally authorised disaster loss databases, only two of them were consistent with international standards promoted by the European Union and UNISDR (e.g. Ferrer and Vernaccini, 2018, *forthcoming*).

Table 7, below, gives an overview of the principal characteristics of national databases in UCPM countries. This information is sourced from combining information from the OECD report, *Assessing the Real Cost of Disasters* (OECD, 2018) and the JRC report, *Current status and Best Practices for Disaster Loss Data recording in EU Member States*, (De-Groeve et al, 2014).

Country	Host institutions	Time coverage	Hazards
Austria	No centralized national repository, but sectoral repositories at different ministries.		Natural.
Belgium (*)			Natural.
Bulgaria (*)	DG Fire Safety and Civil Protection	From 1995.	Natural and man-made.
Croatia (*)		From 2014.	
Finland	No centralized national repository, but sectoral	Varies by ministry (Ministry of the	Natural and man-made.

Country	Host institutions	Time coverage	Hazards
	repositories at different ministries	Interior started in 1996).	
France	Observatoire national des risques naturels.	"From 1982 for cumulative losses; From 1988 for annual insured losses".	Natural.
Germany (*)		From 1978.	Floods
Greece (*)	General Directorate for the Natural Disasters Rehabilitation General Directorate for Forests and Natural Environment General Secretariat for Industry Hellenic Agricultural Insurance Organization	From 1978.	Natural
Italy (*)	Department of Civil Protection.	From 1900.	Floods and landslides, earthquakes.
Norway	DSB. National database will be launched in 2019 collecting data from all sectorial repositories.	No fixed time limits. Depends on data holder's assessment of quality.	Natural
Poland	Ministry of the Interior and Administration.	From 2015.	Natural

Country	Host institutions	Time coverage	Hazards
Portugal (*)			Natural and man-made.
Romania (*)	General Inspectorate for Emergency Situations (IGSU).		Floods, snow/ice.
Slovakia	Ministry of Interior and Ministry of the Environment.		Natural.
Slovenia	Administration for Civil Protection and Disaster Relief, Ministry of Defence.	From 2003.	Natural.
Spain (*)	Civil Protection Units (provincial distribution) and several agencies.		Floods.
Sweden	Swedish Civil Contingencies.		Natural.
Turkey	Disaster and Emergency Management Authority.	From 1920.	Natural and man-made.

Table 7: Main characteristics of Disaster Loss Databases as reported under the UCPM. Sources: OECD, 2018; De Groeve et al., 2014 (*).

While this gives a broad overview of the known databases and where they are hosted, it also hints at the complexities introduced when there are multiple agencies or ministries involved. This does not have to be a barrier, however and the multi-hazard loss database currently being developed by **Austria** is considered as a good interdisciplinary practice. However, reporting to the Sendai framework overlaps with other global and European frameworks.

This calls for:

- Co-ordination between agencies responsible for reporting to the single framework for avoiding double reporting and conflicting figures;
- Centralised National disaster loss database.

This standardisation of reporting is important for the reasons given above as well as to note not all losses counted the same way, not all hazards included, while attribution to specific causal agents may be lacking. All of which contribute to an inability to compare losses across databases.

Consequently ad-hoc tools may be required to allow for the collection of such information.

Focus Area 1: Governance – National Level

Much of the information available came from the EFDRR survey and subsequent report (UNISDR, 2017). In seven of the responding countries, it is compulsory to have local level DRR strategies in place. The remaining five countries have no local strategies for DRR in place. Only the **Czech Republic** answered that most municipalities also have local level DRR strategies in place. Every municipality and region in **Greece** have DRR strategies and plans. The countries that responded and reported on compulsory legislation for local DRR strategies is included in table 9, below, sourced from the *EFDRR Survey on Sendai Framework Implementation in Europe* (UNISDR, 2017).

Is it by legislation compulsory to have local level DRR strategies in place?	GEO	SWE	MNE	NOR	SVN	CZE	BEL	GRC	SRB	RUS	LUX	TUR	NLD
Yes	х					х		×	x	×		×	х
No		х	х	х	х		х				х		

Table 9: Results of EFDRR Survey on the Sendai Framework Implementation in Europe showing the number of responding countries that have legislation that make it compulsory to have local level DRR strategies in place. (*Source*: EFDRR, 2017)

However, this needs to be supplemented that of the countries responding to this survey, ten of thirteen countries reported that DRR strategies, plans and management are coherent between local, national, regional, and international levels. Of the three remaining countries, **Georgia** reported that once it adopts its national risk reduction strategy and associated action plan, there will be coherence

on national and international levels, as the strategy and plan align with the Sendai Framework. This shows coherence in planning and response to the Sendai Framework, even though this is not always supported by legislation compelling countries and different levels of governance, (European, National and local) to do so.



Figure 10: Results of EFDRR Survey on the Sendai Framework Implementation in Europe showing the number of responding countries that show coherence in DRR strategies, plans and management between, local, county, national, European and International Levels. (*Source*: EFDRR, 2017)

This information is shown in figure 10, which reflects coherence in DRR strategies at a number of levels in the European region. This information is based off of the survey and report and since this was carried out last year, the picture may have changed since that point. This survey is an important tool for the baseline as well as for goal setting for the future. Of note, there are a number of strategies aimed at local level implementation and integration of DRR across the European area. These include examples given in box 11 with programmes and initiatives that cut across themes of DRR and CCA.

Disability Inclusion in DRR:

Despite aims and policy directions (e.g. European and Mediterranean Major Hazards Agreement (EUR-OPA), 2013) shifting towards disability inclusion in DRR, movement to act upon this has been slow. At the same time, the language in international agreements is getting stronger in recent years. Examples include the **Sendai Framework**, but also the **2030 Agenda for Sustainable Development**. On the other hand, these commitments are yet to be translated in to inclusive accessible practices at the level of programmes, services and actions.

The European Disability Forum held a workshop in May 2017, to address inclusive accessible Disaster Risk Reduction. Out of this workshop, a range of **good practice in the field of inclusive DRR in Europe** may be emerging:

- **Italy**: creating a disability office in the Department for Civilian Protection and adopting guidelines in a participatory manner;
- **Italy**: the fire brigade shows a leading approach in inclusivity, participation and accessibility;
- European level DRR (February 2015): <u>Council conclusions on</u> <u>disability inclusive disaster management are a very strong policy</u> <u>framework</u> for the EU;
- The <u>European Commission plan of action to implement Sendai</u> <u>framework;</u>
- The EUR-OPA disability inclusion project: <u>"Toolkit for good practice</u> on major hazards and people with disabilities
- A new European project funded by the European Commission on inclusive DRR in **Latvia**, **Poland**, **Sweden** and **Lithuania**, which includes DPOs partners and was based on a consultative development process. This project will start in 2018;
- **Denmark**: <u>Disabled Persons Organisations of Denmark building</u> is an accessible building with a unique approach to universal design and risk management, especially fire safety due to safe zones lift that can be used in emergency situations;
- European laws to ensure accessibility, such as the 'Web Accessibility Directive'- this will ensure public sector websites in the EU are accessible providing a basis for accessible information on disaster management;
- Working with the Council of Europe and internationally to promote inclusive DRR – <u>Disabled People International Europe</u>;
- <u>European Union of the Deaf (EUD)</u> in a collaborative project, innovating to create accessible, inclusive alert systems in the <u>NEXES project</u>.

What this suggests is that disability inclusion at the local level is occurring, while on regional (European Level) there is movement towards disability inclusion in DRR. This is supported by documents such as the *European Plan of Action to Implement the Sendai Framework from* 2015. What is important is that such words become now become action.

Gender Inclusion in DRR

The first EFDRR forum called for "the systematic collection of sex, age and disability disaggregated open data; performance of gender and diversity analysis; development of gender-responsive communication strategies; and inclusion in national monitoring frameworks of gender sensitive targets." (UNISDR, 2017, p.2) A regional disaster risk reduction platform is also active in Central Asia and South Caucasus (UNISDR, 2016).

To understand the varying vulnerabilities, needs and priorities of women and men, sex and age disaggregated data should be systematically collected and used when carrying out gender and diversity analyses. Global, regional and national monitoring frameworks are expected to include gender responsive targets, all of which require the meaningful participation of women, women's groups and national gender machineries at all levels of monitoring, as well as the allocation of funds for gender responsive monitoring and evaluation. Essential to meeting this, would be inclusion in National Platforms, so that gender sensitivity is translated into gender responsiveness throughout the DRR systems in countries.

Although the Sendai Framework for DRR and related SDG indicators do not explicitly measure progress towards gender equality, they have the potential to advance gender equality if those using the indicators pay attention to the differential impacts of disasters by collecting sex- and age-disaggregated data. Indicators adopted at national and local levels should be gender-responsive and track changes that affect the status of women and men.

In terms of focus area one of the EFDRR: *Governance at the National Level*, which includes 'the *number of National Platforms / national disaster risk reduction co-ordination bodies that have gender sensitive representation*', there has been little progress in this area. This is likely to be for several reasons, including the setup date of National Platforms for DRR (many of these are very recent and some countries don't have them set up yet), their structures, staffing and prioritisation with national policy agendas.

In many countries, platforms may be established pro-forma but are not really functioning. This may be because they lack members from different ministries and institutions, sometimes right people are not nominated because of the lack of prioritisation for this type of activities or a lack skills and capacities for establishing such a platform. When such platform exists and are functioning as they should, the members nominated to take care of these activities are mostly men. This is mostly due to following reasons:

- Gender segregation in labour market and function performed in the member institutions;
- Perceptions that disaster and security related issues should be managed by men;
- When women are present, they are often representing institutions where women are usually overrepresented – social affairs ministry, education or health ministry and related institutions;
- The composition of platform would also very much depend on the level of the staff to be involved in such platform, if this requires a head of unit or ministerial level – women are almost not represented in those positions – therefore not included in the platforms and other decision-making bodies.

Consequently, there are still barriers to gender sensitive representation on National Platforms, that require large cultural and institutional shifts if gender sensitive representation is to have priority. Furthermore, when such examples do exist it is important that this information is shared, good practice publicised and made available so that progress can be monitored.

Focus Area 1: Governance – Local Level

Resilience at the local level - Resilient Cities

In addition to the Mayors Adapt and Covenant of Mayors initiative, the Rockefeller 100 Resilient Cities Campaign and UNISDR's Making cities Resilient Campaign. The map²⁶ below shows the cities in Europe in various Resilient Cities Initiative at the end of 2015, alongside their self-identified concerns regarding a range of hazards (both natural and man-made) including climate change and climate change induced hazards such as extreme heat.

²⁶ https://www.eea.europa.eu/publications/urban-adaptation-2016

Building urban resilience requires looking at a city holistically: understanding the systems that make up the city and the interdependencies and risks they may face. By strengthening the underlying fabric of a city and better understanding the potential shocks and stresses it may face, a city can improve its development trajectory and the well-being of its citizens.





Self-identified problems include environmental degradation, financial crises, poverty, homelessness, social cohesion, lack of investment, corruption alongside natural hazards. This helps build a picture of strengths, weakness, opportunities and threats to progress. In particular, recognition that institutional weaknesses and conflicts of interest such as lack of political will (including withdrawal of finances) undermine holistic efforts to build resilience. The potential added value of the network is its membership that can provide advice and experience to other members and allow cities to make progress autonomously, irrespective of centralised political decision-making.

City Level Resilience and the Ten essentials for Making Cities Resilient:

The 10 essentials align with global DRR strategies and run concurrently with the Sendai Framework to strengthen accountability for DRR, safeguard ownership of action and to support DRR implementation. Additionally, the 10 essentials represent a voluntary pledge by local governments to improve resilience at a local level; therefore, ensuring their commitment and accountability. The ten essentials are a means to localise the Sendai Framework that can help cities become more resilient to disaster risk are explored blow.

Essential 1: Organise for disaster reliance.

Projects: U-SCORE/USCORE 2 – Strong links with E8 and E9 with coordination of DRR/CCA. The Scorecard is a good way to activate cities to work on all aspects of creating resilient and coordinating efforts for DRR, CCA and sustainable development.

Essential 2: Identify, understand and use current and future risk scenarios.

In the European Union Area, this is addressed via National Risk Assessments. However, the way that these risk assessments are used from local authority to local authority is likely to vary wildly. In **Sweden**, for instance, each city carries out their risk and vulnerability analysis (required by law of each municipality). The city of **Jönköping** used this as a structure for the Scorecard as part of the U-SCORE project inputs.

Essential 3: Strengthen Financial Capacity for Resilience

Of the 55 countries covered by the UNISDR Regional Office for Europe, four are considered lower middle income, nine are upper middle-income and 35 are high-income countries (according to the World Bank criteria). Therefore, resources are available for dedicated disaster risk reduction budget allocations. With the exception of Montenegro, all of the responding countries have national, local or sectorial budget allocations for DRR.

Much of the efforts around strengthening financial capacity are concentrated on climate change adaptation and in particular, the insurance industry. The insurance sector should not only improve its own resilience but should also contribute to the capacity of society to tackle the underlying problems of rising greenhouse gas emissions and increasing disaster risks. It could do so, for example, by fostering a better understanding of the underlying issues or by encouraging and incentivising behavioural change, and supporting new technologies and risk transfer needs, (Surminski, 2016). Essential 4: Pursue Resilient Urban Development and Design

There are a number of initiatives throughout the European Area that are outlined below. These are often cross-cutting and deal with resilience to a range of risks, including climate change. What is interesting is that these are not always centralised, top-down directives, but a series of initiatives towards resilient urban development and design, that are often voluntarily enacted by urban leaders, such as city mayors. The EU and the European Commission has then become involved with supporting such initiatives. Three examples are given below.

- The Covenant of Mayors The European Commission launched The <u>Covenant of Mayors</u> in 2008 to endorse and support the efforts of local authorities in the implementation of sustainable climate and energy policies.
- Mayors Adapt initiative While the Covenant of Mayors focuses on mitigating climate change, <u>Mayors Adapt</u> concentrates on taking action to anticipate the adverse effects of climate change and take action to prevent or minimise the damage.
- URBACT 2014-2020 network <u>URBACT</u> is a European exchange and learning programme promoting sustainable urban development. It enables cities to work together to develop solutions to major urban challenges, reaffirming their role they play in facing increasingly complex societal changes.

Essential 5: Safeguard natural buffers to enhance the protective functions offered by natural ecosystems

A recent project to countenance and adapt to such changes is the Life ADAPTAMED project that focuses on adaptive management measures addressing the socio-ecosystems identified as key for the provision of soil retention, pollination, pastureland, temperature regulation, water retention, and the prevention of forest fires and desertification, among others.

Other examples come from a publication produced by EUR-OPA (European and Mediterranean Major Hazards Agreement) called *`Ecosystem Approach to DRR - Basic concepts and recommendations to governments, with a special focus on Europe'* (Sudmeier-Rieux, 2013). Case studies from across the report included: floodplain restoration in the Danube Delta for flood reduction; fire management in the South Caucasus; protection of forests in Switzerland to minimise landslide, debris flow and mudslides and a shore

realignment scheme to protect from storms, flooding and sea level rise in England which all impact on coastal erosion.

Some key recommendations from the report included:

- Recognise and promote the multiple functions and services provided by ecosystems at multiple spatial scales;
- Combine investments in ecosystems with other effective DRR strategies as part of a diversified "DRR portfolio";
- Address both long-term and short-term climate risks with ecosystem management;
- Enhance governance capacities for ecosystem-based DRR through multi-sector, multi-disciplinary platforms;
- Create financial and legal incentives for ecosystem-based DRR and CCA.
- Foster more science policy practitioner dialogues.

(Sudmeier-Rieux, 2013)

These are highlighted because they have much in common with the 10 essentials for building resilience, showing that they and the essentials outlined above, don't exist in silos but can and should be tackled in a holistic manner, involving stakeholders from across communities of practice. This might also bring such ecosystem-based adaptations into the cities, because currently they appear to exist almost exclusively as projects in rural environments. Consequently peri-urban landscapes where nature and human settlements meet, might present progress in this area.

Essential 6: Strengthen institutional capacity for resilience

Strengthening institutional capacities is an issue addressed by the European Structural and Investment Funds as well as the Instrument for Pre-Accession Assistance (IPA) and the European Neighbourhood Instrument (ENI). Stable and capable public administrations are a pre-condition for sustainable regional development inside and outside of the European Union.

Projects: SEE URBAN Project in South East European Area (<u>http://www.seeurban.eu/o-nama/</u>) aimed at strengthening institutional capacity to flood and other meteorological risks.

Essential 7: Understand and strengthen societal capacity for resilience

The U-SCORE 2 Literature Review expounded on the need to include, "a variety of stakeholders in the resilience process, from businesses, household level, and those most at risk within a society. As a result, resilience and response at local level can be better equipped at dealing with hazards and risk. Incorporating varying sectors of society also helps to improve the reach of education and awareness programmes designed to reduce the risks associated with disasters." (U-SCORE2, 2017. P. 38)

Essential 8: Increase Infrastructural Resilience

Projects: The Open Data Infrastructure for City Resilience (ODIR) – Projects reported across Portugal, Spain and the United Kingdom:

Using a mix of open hazard data from government agencies, open city data made available by the city authorities of Bristol, Barcelona and Lisbon and closed proprietary data from infrastructure operators, the "HAZUR system combines assessment information with real-time data, enabling both the simulation of risk scenarios at city systems level as well as equipping city managers, resilience officers and infrastructure operators with tools for service network monitoring on an on-going basis that capture data across city systems at a glance" (ODIR, 2018).

Essential Nine: Ensure Effective Disaster Response

Initiatives such as the Rockefeller 100 Cities Campaign and the wider Resilient Cities initiative are places to examine these facets. This can and should be supported by open data and infrastructural resilience (essential 8). Effective disaster response is therefore allied to essential 8. Examples can also be built on the work and findings from the U-SCORE and now U-SCORE2 projects (see essential 1, above). Of course, these are abstract and theoretical until tested by a largescale hazard event or disaster. In order to prepare for such events there needs to be synergies with other parts of the ten essentials, which includes financial resilience.

Essential Ten: Expedite Recovery and Build Back Better

Progress in essential ten has been slow. The 2017 EFDRR survey revealed that countries have made more tangible progress with emergency response plans than with planning for post-disaster recovery plans. Ten countries out of the thirteen respondents to the survey (Czech Republic, Greece, Luxembourg, Montenegro, Norway, Russian Federation, Serbia, Slovenia, Sweden and Turkey) reported that they had plans to 'build back better', but there is still a gap between values and actions currently. Specifically, countries need to place as much importance on 'building back better' post disaster as they do on responding. Examples below, show where there has been progress:

• Luxembourg:

Plans to build back better for flood risk management.

• Montenegro:

Two national rescue and protection plans in case of fires and earthquakes which will be adopted by the Government of Montenegro by the end of the current year

• Netherlands:

Preventive measures, spatial planning and building codes are in place to ensure safety.

• Russian Federation:

National Action Plan for Disaster Prevention and Recovery and building codes require "building back better".

• Sweden:

The municipal fire and rescue departments are responsible for completing emergency response plans. The Planning and Building Act requires municipalities to avoid construction in risk-prone areas even if disasters have not occurred recently in such areas. The Swedish National Board of Housing, Building, and Planning provides information about safe building practices, taking risks into consideration.

To this end there are many city-based climate change and resilience strategies across the EU as represented in the box below:

- The Covenant of Mayors for Climate and Energy <u>http://www.covenantofmayors.eu/</u> — brings together local and regional authorities voluntarily committing to implementing the EU's mitigation, adaptation and sustainable energy objectives on their territory. It was formed at the end of 2015 by merging Mayors Adapt and the former Covenant of Mayors. Mayors Adapt was set up by the European Commission when the EU Climate Adaptation Strategy was launched in 2013, aiming to engage cities in taking action to adapt to climate change. Mayors Adapt facilitated these activities by providing technical support, by providing a platform for greater engagement and networking between cities, and by raising public awareness about adaptation and the measures needed for it (EC, 2013). In 2016 a mid-term review was published for the period 2012–2014 (O'Brien et al., 2016).
- The Compact of Mayors <u>https://www.compactofmayors.org/</u> was launched under the UN with the leadership of global city networks (C40 Cities Climate Leadership Group, ICLEI, and United Cities and Local Governments), along with the support of UN-Habitat.

This is a common platform for cities around the world to highlight the impact of their collective climate actions.

- The Global Covenant of Mayors for Climate and Energy <u>http://www.globalcovenantofmayors.org/</u> — was launched in 2016 as a merged initiative of the Compact of Mayors and the Covenant of Mayors, and aims to become the broadest global coalition committed to climate leadership in cities. This global initiative can allow comparisons between cities and regions all around the world, to combat climate change by moving to a low-carbon society and fostering local climate resilience.
- The European Urban Agenda <u>https://ec.europa.eu/futurium/en/node/1829</u> — is a joint effort between the European Commission, EU Member States and cities to strengthen recognition of the urban dimension by EU and national policy actors. It represents a new working method to stimulate growth, liveability and innovation in the cities of Europe.
- C40 <u>http://www.c40.org/</u> is a group of now over 80 cities worldwide, committed to reducing greenhouse gas emissions and climate risks. It helps cities identify, develop, and implement local policies and programmes that have collective global impact. It provides direct technical assistance, facilitation of peer-to-peer exchange, and research and communications.
- UNISDR's Making Cities Resilient Campaign <u>https://www.unisdr.org/we/campaign/cities</u> — works towards sustainable urbanisation by taking meaningful action. The campaign, launched in May 2010, addresses issues of local governance and urban risk. The campaign is led by the UNISDR but is self-motivating and partnership and city driven, with an aim to raise the profile of resilience and DRR among local governments and urban communities worldwide.
- 100 Resilient Cities <u>http://www.100resilientcities.org</u> has been pioneered by the Rockefeller Foundation and is dedicated to helping cities around the world to become more resilient to the physical, social and economic challenges that are a growing part of the 21st century.
- ICLEI Resilient Cities <u>http://resilient-cities.iclei.org/</u> is an annual global forum on urban resilience and adaptation, also including an Open European Day on adaptation (<u>http://resilientcities2017.iclei.org/open-european-day/</u>).
- Under the EU Climate Policy lead, a study was completed on Insurance of weather and climate-related disaster risk: inventory and analysis of mechanisms to support damage prevention in the EU

Box 12: Some illustrative examples of international city networks addressing climate change and resilience.

Focus Area 1: Peer Review

EU Member States and neighbourhood countries need a tool to facilitate the exchange of good practice, improve disaster risk management policy and planning, and enable mutual learning. The peer review process can help foster policy dialogue, improve consistency and steer progress in key areas of EU civil protection and disaster risk management cooperation.

Under the EU disaster risk management peer review programme, experts from other countries examine the set-up and operation of the reviewed country in an area related to risk management. The focus of the reviews can vary from the general – disaster risk management – to the specific – e.g. risk assessments, risk management capability or early warning.

The reviews are based on guidelines and frameworks agreed at EUlevel and prepared by the European Commission. Participation in the peer reviews is on a voluntary basis for both the reviewed and the reviewing countries. The overall result is peer-to-peer learning rather than a top-down review. The resulting reports include recommendations for improvements and highlight areas of good practice.

Country	Date	Review	Link to Report
United Kingdom	2013	Building resilience to disasters: assessing the implementation of the Hyogo Framework for Action	<u>en</u>
Finland	2014	Building resilience to disasters: assessing the implementation of the Hyogo Framework for Action	<u>en</u>

Peer-reviewed countries:

Country	Date	Review	Link to Report
Bulgaria	2015	General Disaster risk management	<u>en</u> -bg
Georgia	2015	Risk assessment and early warning	<u>en</u> -ge
Turkey	2015	General Disaster risk management	<u>en</u> - <u>tk</u>
Estonia	2016	Risk management capabilities	<u>en</u>
Malta	2016	Risk assessment	<u>en</u>
Poland	2016	Risk assessment	N/A

Table 11: A selection of peer reviews carried out to date (where known). Corresponding links to the report in English and/or local language (where available), in date order. Source: DG ECHO.

In addition to the National Risk Assessments carried out under EU legislation in the European Area (and voluntarily by some states, there are other examples of city initiatives (outside of the 'Making Cities Resilient' Campaign) in which it is useful to highlight. For example, projects such as U-SCORE and U-SCORE 2 help with the development of a score-card that enables cities to score their level of resilience based on a number of indicators. Cities in Italy, Portugal, Sweden and the UK took part in using the scorecard to examine their levels of resilience.

The Scorecard is a good way to activate cities to work on all aspects of creating resilient and coordinating efforts for DRR, CCA and sustainable development. As part of U-SCORE, E8 and E9 cover several levels of disaster resilience, with a high degree of detail. These pilot projects allowed for strengths and weaknesses to be highlighted, discussed and acknowledged. Although useful, some regions have risks that are not in the Sendai Framework, such as conflicts, overpopulation and migration. Cities affected by these challenges, will have to address these risks when discussing resilience.

The idea is for the scorecard to change over time to reflect on-going efforts to develop better resilience, with the scorecard's added value coming from the process and analysis of needs that requires a score so that the reason for assigning a score is as important as the score itself. The process therefore allows stakeholders to critically reflect on each score, able to justify why this score was assigned to an indicator.

Following the conclusion of the original U-SCORE project, the following recommendation to other cities conducting UNISDR Disaster Resilience Score-card were made:

- Needs to be clearly linked with the legal planning instruments in force and national strategies.
- Building a user-friendly application/platform to centralize all the relevant information/data and share with all the stakeholders to improve awareness.
- Define a baseline and select a set of appropriate indicators for a specific goal to be achieved.
- Aim to integrate the resilience action plan into the municipal master and emergency civil protection plans.
- Maintain the multi-stakeholder dialogue even after finalizing the self-assessment.

(Source: European Union, 2016)

Focus Area 2: Climate change adaptation and mitigation

In common with legislation on National Risk Assessments (NRAs), driven by the Union Civil Protection Mechanism (UCPM), climate change is addressed as part of this framework. Potential key benefits of enhancing coherence between CCA and DRR are, at both EU and national level:

- Enhanced knowledge base, benefiting both policy areas;
- More effective and efficient policies and practises in both areas, due to exploitation of synergies;
- Stronger collaboration between scientific and policy communities and networks;
- More efficient use of human and financial resources;
- Better preparedness and response to disasters.

This goes beyond member states of the European Union to all members of the EFDRR. Consequently, a Working Group on CCA and Disaster Risk Reduction (DRR) under the EFDRR was established in 2011 following the first session of the EFDRR in Sweden in October 2010. Its objective was to contribute to the EFDRR agenda with the production of knowledge and information sharing on the topic of CCA and DRR linkages and which are the institutional and legal mechanisms that in the European context support the integration of those two areas of operation.

In 2012, the Working Group on CCA and DRR carried out a survey among European countries on disaster risk reduction (DRR) and climate change adaptation (CCA). The aim was to get an overview to which extent, and how, member countries of the EFDRR link these two issues. An EFDRR working paper reported on outputs from a survey carried out across the EFDRR member states (EFDRR, 2013) of which 19 countries reported that their National Platforms for DRR/Focal Points to the (then) Hyogo Framework for Action (HFA), while 13 countries had national strategies or policy documents which facilitate DRR to be part of national work on CCA.

These are highlighted here to illustrate that baselines for progress had already been made within the EFDRR. At the time there were a number of drivers and obstacles reported in linking CCA and DRR, such as legislation and institutional frameworks. Furthermore, the results of the survey highlighted that CCA and DRR were often managed by different agencies despite the known benefits such as: `coordinating efforts in these two issues; avoiding duplication in advocacy and education; increasing efficiency and improving understanding of the interdependence of natural processes and their consequences for society' (EFDRR, 2013, p. 12).

This has much in common with what was identified in the previous section on National Databases and the importance of a monitoring and reporting framework that is standardised and allows for DRR and CCA technical solutions and knowledge to foster further actions.

The findings of this baseline report combine summaries of national risk assessment received as part of the UCPM legislation, all 28 EU member states plus **Iceland** and **Norwa**y included an assessment of climate change risk. In addition, **Turkey** produced a National Climate Change Strategy for 2010-2020, while **Russia** approaches this through their *Climate Doctrine* giving a current total of 32 identified states within the EFDRR that have taken climate change scenarios

into account in their risk assessments for DRR. On this current information, this accounts for 57% of EFDRR Countries.

Of the countries currently part of the EFDRR, there are seven from the **CASC** region. Unfortunately, in terms if this desk-based review and analysis, there is little information available publicly and in English currently that gives examples of CCA in risk assessments for DRR. However, information from a UNISDR report covering Climate Change Adaptation and Disaster Risk Reduction in Asia and the Pacific (UNISDR, 2011) reported that the three Central Asian States of **Kyrgyzstan**, **Tajikistan** and **Uzbekistan** met in Osh in Kyrgyzstan in March 2008 and again in June 2009 to reach common understanding and cooperation on the following:

- Establishment of early warning systems.
- Elaboration and/or revision of inter- state agreements between the Customs Office, Ministries of Internal Affairs, and bordersecurity forces;
- Training of professional search and rescue teams;
- Exchange of information, including hydro-meteorological data;
- Establishment of a working group for disaster risk management for Ferghana Valley.

Examples of such co-operation acknowledge the trans-boundary nature of the risks from climate change that are drivers for frequency and severity of natural hazards, a principal reason for their inclusion is to highlight progress, while also recognising the need for further progress and reporting. Further examples of co-operation is found in some of the work of the Council of Europe's European Mediterranean Major hazards Agreement (EUR-OPA) who have produced publications and recommendations regarding climate change and cultural heritage:

- Publication Cultural heritage facing climate change: experiences and ideas for resilience and adaptation - 2018
- Recommendation CM/Rec (2018)3 of the Committee of Ministers to member States on cultural heritage facing climate change: increasing resilience and promoting adaptation²⁷_(Adopted by the Committee of Ministers on 7 March 2018 at the 1309th_meeting of the Ministers' Deputies)

²⁷ <u>https://search.coe.int/cm/Pages/result_details.aspx?ObjectId=0900001680791160</u> (Accessed online, November 2018)

Focus Area 2: Economic management of risks

The European Commission has also proposed the setting up of an EU civil protection response reserve of civil protection assets established to assist Member States in responding to disasters, when national capacities are overwhelmed. To be known as **`rescEU'** its aim is to include assets, such as fire-fighting, aircraft and water pumping equipment, which will complement national capacities. All costs and capacities of rescEU would be fully covered by EU financing, with the Commission retaining the operational control of these assets and deciding on their deployment.

In parallel, the Commission will assist Member States to boost their national capacities, by financing the adaptation, repair, transport and operation costs of their existing resources – whereas today only transportation costs are covered. The assets would become part of a shared pool of emergency response resources under the European Civil Protection Pool and would be made available for deployment when disaster strikes.

Trillions of dollars of new private investment across all sectors are expected to pour into hazard-prone areas by 2030, dramatically increasing the value of assets at risk. How disaster risk is factored into, and managed in, capital investments, supply chains and operations in general will have a decisive influence on whether risk can be reduced, and the targets of the Sendai Framework achieved.

UNISDR Private Sector Alliance for Disaster Resilient Societies or ARISE was set up in 2015 to start to tackle issues related to engaging the private sector in DRR. ARISE aims to facilitate exchange of experience and knowledge on how to implement projects in seven areas: disaster risk management strategies, investment metrics, benchmarking and standards, education and training, legal and regulatory, urban risk reduction and resilience, and insurance.

Sustainable finance (SDG 8, 9, 13, 14 and 15) is high on the agenda of the G20 and in Europe, finance ministers, regulators and industry is all actively looking at what can be achieved. In light of the SDGs, the Paris Agreement and the transition to a low-carbon, climate resilient, more circular and resource-efficient economy, the EU wants the current financial system to be better aligned with its policies in support of sustainable growth and investments. In this context, the Capital Markets Union sets out concrete initiatives for example on green bonds, promotion of long-term investments or the prudential aspects linked to the regulation of banks. There are important caveats to how insurance can and should be used when adapting to climate change as part of urban resilience strategies, as Surminski et al (2016) suggests "The limited experience available suggests that climate insurance can enhance resilience, but only if it is part of a wider adaptation strategy, rather than being considered in isolation or ,worse, as an alternative to adaptation".

Focus Area 2: Critical and Social Infrastructure

Critical and social infrastructure is required for the orderly and effective management of societal needs. This might include organisation of such infrastructure at National, Regional, City and local levels. Critical infrastructure includes physical assets such as facilities for electricity generation, accessing water and food, public health, telecommunication, education and transport, while also requiring rules and regulations that govern and support the effective running and management of such assets. Throughout Europe there are Directives in place such as Directive 2008/114/EC on the identification and designation of European critical infrastructures and the assessment of the need to improve their protection. This is supported by wider EU projects such as the Critical Infrastructure Warning Network (CIWIN) that has been in place since 2013 and allows designated members the chance to share information, good practice and learning in Critical Infrastructure Protection (CIP) across Europe. This is not publicly available for security reasons, so further information gathering was not possible.

However, there is little evidence that this has had an impact on National Policies and procedures. This may be because this has not been reported or because action has not occurred. It may also be folded into wider security projects dealing with terrorism threats, rather than exclusively focussed on DRR, which is likely to place responsibility with the national agencies that deal with such matters, but this is no guarantee that links are made between critical infrastructure resilience that includes threats to include disasters and terrorism. Nevertheless, there are examples of initiatives in critical infrastructure resilience at city level in the EFDRR region.

Improving the ability of a city's infrastructure system to resist, absorb and recover from the effects of a hazard in a timely manner is a significant challenge. The the preservation and restoration of essential basic structures needs to be considered alongside possible damage to parallel infrastructure such as blocked roads impacting on evacuation and rescue routes following a disaster. This requires an understanding of cascading events so modelling and testing is required to fully understand and develop systems that are adaptable at times of extreme stress, such as a disaster scenario.

Consequently, open data focussed approaches can assist with information sharing regarding critical infrastructure systems whilst assessing the quality and capacity of infrastructure to withstand shocks. Furthermore, key interdependencies that may trigger failure chains can be identified, whilst data analysis of city infrastructure systems can provide guidance for city officials to make contingency plans based on risk informed decisions for emergency response and post disaster damage assessment.

The Open Data Infrastructure for City Resilience (ODIR) report on a number of cities making use of new software tools to inform and assess risk in their locales. City authorities and resilience officers of Lisbon, **Portugal** Bristol, **United Kingdom** and Barcelona, **Spain** are deploying a software tool, HAZUR, developed by the Spanish company Opticits, to help them improve the resilience of their city infrastructure and services in the face of climate change impacts. These impacts range from urban flooding and sewer overflow during heavy storm events to coastal erosion, river flooding, drought, heat waves and sea level rise.

While an enabling, guiding and coordinating role of national governments in reducing disaster risk remains fundamental, this needs to be supported by local authorities and local communities are increasing their resilience to such events. A crucial part of building such resilience is strengthened or limited by capacity to learn. This includes the depth of such learning and whether it impacts on changing habits or strategies that may have weakened resilience prior to a disaster event.

This potentially means a reframing of some parts of the top-down structure of the current mechanisms for dealing with risk and responding to them, which are often carried out very well at the local level. This more flexible approach may also allow for faster progress, as well as offering local and city level decision making and practices to protect their citizens independent of political tribalism and populism that may undermine efforts for climate change adaptation in instances when the scientific community are undermined, making it harder for the broader public to accept and make changes to accommodate such threats. Consequently, an important contribution to reducing disaster risk can be played by the local platforms for the exchange of information on best practices including the lessons learned, policies, plans and measures for disaster risk reduction. What is important is that they don't exist in isolation, but that National Governments view such initiatives as pilots that might be used to inform progress to the national level.

One example of good practice came from the South East European Area. The Regional SEE URBAN project is being implemented in seven countries of South East Europe – Albania, Bosnia and Herzegovina, Croatia, Montenegro, Kosovo, FYR Macedonia and Serbia. The project aims were to strengthen institutional capacity, by supporting further decentralization of the disaster governance mechanisms making them more transparent and accessible at local level. This is an essential precursor to the Essential 7 that follows, regarding how to understand and strengthen societal capacity for resilience: by talking to and building relationships with those most likely to be affected by disasters, the communities that live in high risk areas. This particular project runs until December 2018, so overall results and reporting are not yet available.

Conclusion and priorities until 2020

This report has been able to highlight the progress made towards the EFDRR 2015-2020 roadmap. The status of the EFDRR roadmap implementation shown in table one is a clear indication of the progress made thus far as well as highlighting where there are gaps and room for improvement. It should be noted that, although the desk-based research managed to find many instances of collaboration and initiatives across the EFDRR area, there may be instances that have not been reported or shared, meaning that is not been possible to include them here.

There has been good progress on National Platforms, with roughly half the EFDRR member states have *reported* on this. At the same time there is a much higher known number of Sendai Framework Focal Points appointed, totalling 47 of the 55 EFDRR members (approximately 84%).

Focus Area 1, dealing with **National- Level Governance**, has a number of activities and measurable indicators with which to track progress. While some of these are relatively easy to report on, due to their inclusion in EU wide frameworks set up to address disaster risk and climate change adaptation, such as the European Civil Protection Mechanism (UCPM), others are not, and so reporting is less rigorous and information harder to come by. A case in point, is the Science and Technology Advisory Groups/ formal science-policy platforms or focal points on National Platforms. While there were 35 countries in the UCPM that had undertaken National Risk Assessments (NRAs), there were fewer platforms (28) and even fewer (15) STAG type bodies within the National Platforms.

It might be surmised that global frameworks hold members to account in terms of priorities. Although this might hold true at the National Level, at the Local Level there has been excellent progress, without legal obligations being a driving force. This is partially due to the growth in the number of city level and local strategies on DRR and CCA related to initiatives and projects (such as the Making Cities Resilient Campaign) and at smaller scales, such as taken up by decision makers and local authorities in different countries. Examples came from cities acting as pilots for undertaking a stock check of resilience through testing their systems and readiness towards disaster threats, such as U-SCORE, as well as being supported through open data collection initiatives that strengthen infrastructural resilience, such as the HAZUR project (ODIR, 2018). Such projects also strengthen private-public partnerships, building trust as well as creating entrepreneurial opportunities that helping cities thrive, strengthening financial resilience by creating new employment opportunities.

However, there are still areas that lack progress such as policy guidance documents on coherence, consistency and coordination on the outcomes of the Sendai Framework, Addis Ababa, Agenda 2030, COP 21, World Humanitarian Summit and New Urban Agenda, which has not seen a great deal of movement, with no data currently available.

Global, regional and national monitoring frameworks include gender responsive targets, all of which require the meaningful participation of women, women's groups and national gender machineries at all levels of monitoring, as well as the allocation of funds for gender responsive monitoring and evaluation. Currently there is little evidence that this is occurring. This may be because activities and actions are not being reported. But it may also be due to barriers to gender sensitive representation on National Platforms that are due to cultural and institutionally embedded attitudes that require transformation if progress is to be made (see the section on Gender Inclusion in DRR for some of the current blockages). This is a key priority therefore towards 2020.

Climate change impacts, earthquakes, technological and man-made hazards are part of the spectrum of vulnerability of our society where disasters influence different sectors and geographical scope well beyond national boundaries. This is a challenging context and a trend that heavily undermines our economic development, peace and security. Moreover, the interlinked nature of our society and cascading effects of hazards prove that practices and analysis of risks in silos are no longer an option. Europe is going through several reforms that target financial reforms. Many of them are related to infrastructure both critical and essential. Ensuring that the decision taken will be risk- informed represents a solid step for their sustainability. Thus, in addressing these challenges the short and sharp response capacities need to give way to a long-term approach with a strategic perspective, making it possible to build resilience within and outside Europe.

Successfully managing societal risks requires a system-wide approach. At the national level, strategies for disaster risk reduction offer an opportunity to engage all societal and economic actors to take greater ownership and responsibility. Under the Sendai Framework for Disaster Risk Reduction 2015-2030, governments have committed to national and local disaster risk reduction strategies by 2020, a fast approaching deadline. Their effectiveness depends on the political leadership to articulate how they will better protect citizens.

In the landscape of risk prevention, the implementation of the Sendai Framework contributes to the positive narrative in Europe making it possible to address underlying causes of fragility and crises, allowing our society to engage in their resilient and sustainable future in a changing climate. The next few years, until 2020, is crucial to set the stage and invest in:

- Developing and enabling the National and Local DRR strategies through a system wide approach promoting inclusiveness and resilient investments;
- Ensuring disaster risk assessments as a prerequisite for infrastructure investments, with time horizons commensurate to their life cycles;
- Promoting the needs of a financial enquiry for all investments (public and private) to unlock risk informed investments and capital flows while ensuring that the private sector is engaged in contributing to building resilience to disasters;

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