



Science and Technical Advisory Group

**KNOW4DRR Decision making in  
disaster risk reduction across different  
levels**

Wednesday 10<sup>th</sup> December 2014 United  
Nations University

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# **Towards the Post-2015 Framework for Disaster Risk Reduction**

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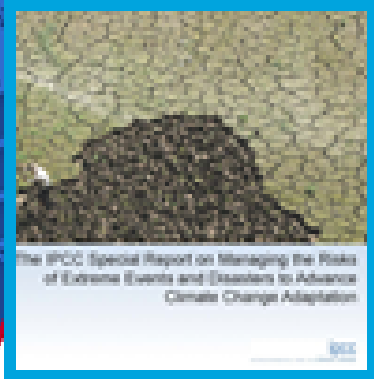
***Professor Virginia Murray.***

***Vice-chair UNISDR Science and Technical Advisory Group***

*Public Health Consultant in Global Disaster Risk Reduction, Public  
Health England*

# 2015 opportunities

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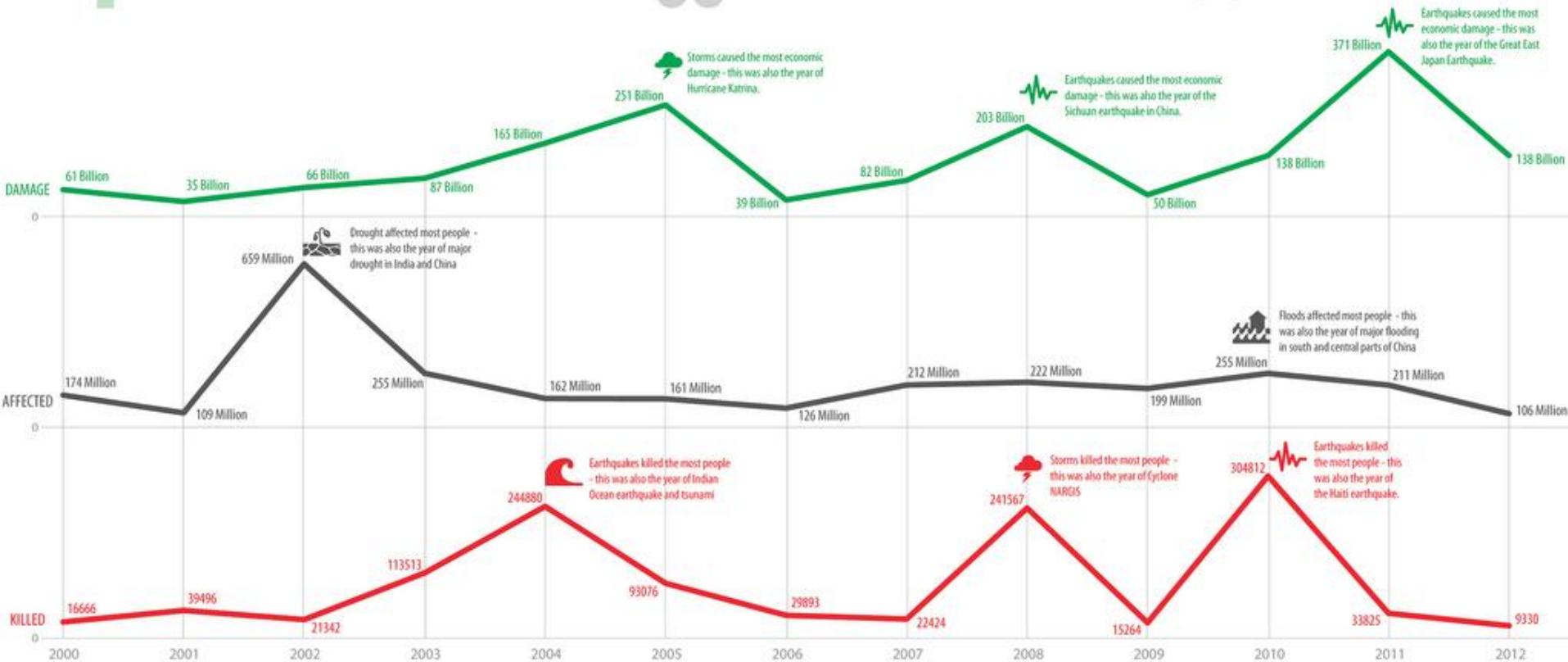


- Post 2015 Framework For Disaster Risk Reduction (March 2015)
  - Sustainable Development Goals (September 2015)
  - Climate change agreements through the UNFCCC (December 2015).
- 



# DISASTER IMPACTS / 2000-2012

\*Disasters refers to drought, earthquake (seismic activity), epidemic, extreme temperature, flood, insect infestation, mass movement (dry & wet), storm, volcano, and wildfire / Data source: EM-DAT: The OFDA/CRED International Disaster Database / Data version: 12 March 2013 - v12.07  
OCHA Humanitarian Symbol (2012): <http://reliefweb.int/map/world/world-humanitarian-and-country-icons-2012> / Find out more about UNISDR: <http://www.unisdr.org>





International Strategy for Disaster Reduction

HFA



# Hyogo Framework for Action 2005 - 2015: Building the Resilience of Nations and Communities to Disasters

<http://www.unisdr.org/eng/hfa/docs/HFA-brochure-English.pdf>

# Hyogo Framework for Action 2005-2015

Building the resilience of nations and Communities to Disasters

1. Governance: organizational, legal and policy frameworks - **Make Disaster Risk Reduction a Priority;**



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3. Knowledge management and education - **Build Understanding and Awareness;**
4. Reducing underlying risk factors - **Reduce Risk;**
5. Preparedness for effective response and recovery - **Be Prepared and Ready to Act**



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# Global Platform for disaster risk reduction

Fourth session  
Geneva, Switzerland  
19-23 May 2013

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▶ PLAYLIST | 1 / 14 Highlights - 2013 Global Platform



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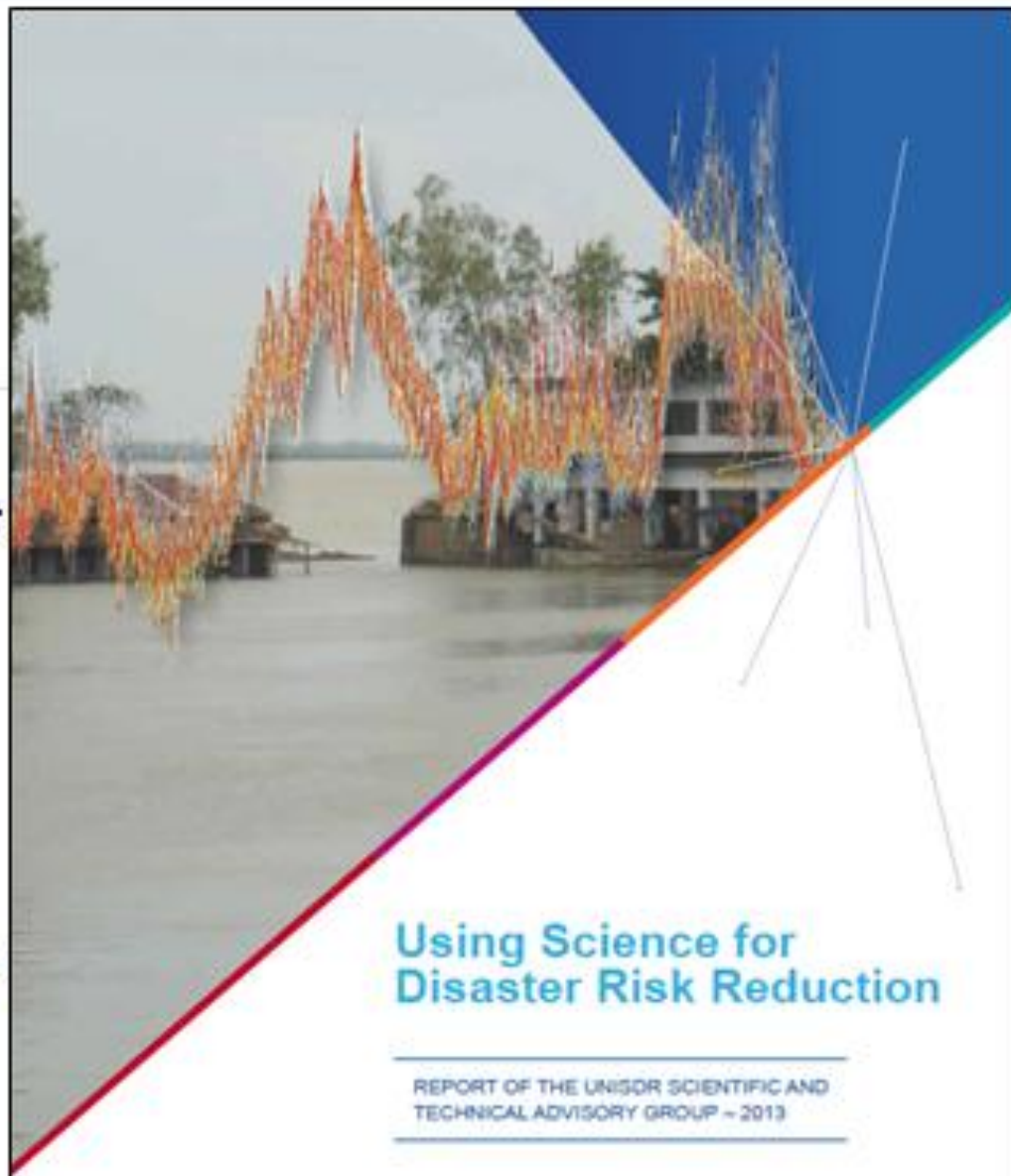
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**Report of the  
UNISDR Scientific  
and Technical  
Advisory Group  
2013**

**Using Science for  
Disaster Risk  
Reduction**

<http://www.unisdr.org/files/32609stagreport2013assemblybled.pdf>



**Using Science for  
Disaster Risk Reduction**

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REPORT OF THE UNISDR SCIENTIFIC AND  
TECHNICAL ADVISORY GROUP – 2013

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# Case studies

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The problem

The science

The impact on policy and practice

Did it make a difference?

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## CASE STUDY 6:

### Flood Risk Reduction in the Netherlands: The “Room for the River” project

#### The problem

Four major European rivers run into the North Sea through the Dutch delta making almost 60% of the country vulnerable to large-scale flooding<sup>1</sup>. Major flood defence work was undertaken throughout the previous centuries, including the construction of thousands of kilometres of dikes. However, as the Netherlands' population and assets have continued to grow, the land they inhabit beyond the protective dikes has subsided.

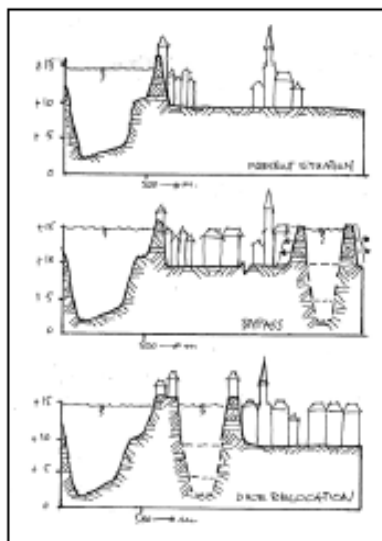


Figure 1: Options for increasing river flow at Nijmegen. The top drawing represents the current situation. The middle drawing shows a bypass channel with 8m-high dikes, excavated down or not, creating a “mini polder”. The bottom drawing shows a 200m backward dike relocation creating a side channel in the river around an island of former dike, this channel may be excavated or not. Source: van Alphen, 2003<sup>8</sup>.

*January 1995: Europe has been savaged by rainstorms for days. The water level in the Dutch rivers begins to rise rapidly. The risk of dike breaches becomes greater and greater and could result in flooding for miles across the flat Netherlands. A total of 260,000 people are evacuated.<sup>9</sup>*

Near floods such as the one in January 1995 highlighted the pressing need to re-think how the rivers could be contained now and in the future. In the Dutch city of Nijmegen, plans for a large riverside urban development, combined with expected river level rises, required a ‘now or never’ decision on flood prevention<sup>8</sup>.

#### The science

The Dutch Government used engineering science to undertake the ‘Resilience Study’, modelling the likely effect of flood risk reduction measures along the course of the Rhine and its branches<sup>8</sup>.

Experts considered extreme river discharges into the Rhine and how this might increase due to climate change. They factored in sedimentation rates on river beds and scientific understanding of how water flows through channels and around obstacles<sup>8</sup>. They could then create computer models to predict how different interventions might help protect against flooding, now and in the future. These included floodplain lowering, temporary storage of water, removal of obstacles like ferry ramps, channel deepening, backward dike relocations and creation of bypass channels at narrow points in the river<sup>8</sup>.

#### The application to policy and practice

The city of Nijmegen straddles the Waal River – the largest branch of the Rhine – at a point where the river makes a large bend and rapidly narrows, creating a bottleneck. The expected increase in extreme river discharge, due to climate change, could result in river levels rising by 80cm at Nijmegen in the coming decades. In addition, a proposal was recently made to build 12,000 new houses behind the protective dike on the north side of the river. If allowed, this development would reduce options for improving food defences now and in the future.

The knowledge and principles employed in the ‘Resilience Study’ were therefore used to evaluate the specific options available that would protect Nijmegen from the predicted river level rises and the likely flood risk. The options included deepening the river bed in the bend itself, lowering downstream floodplains, digging a new bypass channel to carry water in times of flooding, and inland relocation of the current dike to widen the river channel (Figure 1)<sup>8,9</sup>.

Local government officials and engineering experts assessed these options in consultation with communities, taking account of the social and economic needs of local communities and each option’s potential for improving the environmental quality of the area<sup>10</sup>.

The decision was taken to relocate a stretch of the dike at the river bend, moving it 350 metres inland. Detaching the old stretch of dike from the new dike layout and flooding the area in between the two will create a new side channel in the river, providing extra river flow capacity. The one kilometre stretch of former dike will become an island in the river, to be developed with new housing and nature reserves and connected by a new bridge (Figure 2). The channel will be developed for water recreation, with urban waterfront development at points along the new dike.

#### Did it make a difference?

At Nijmegen, the threat of river flooding has been turned into an opportunity to create a whole new waterfront and an urban island in the River Waal. This was a difficult decision to make as relocation of the dike will result in the demolition of fifty houses and a number of businesses<sup>11</sup>; however this was seen as the best, safest and most future-proof option to protect Nijmegen from floods now and in the future.

The plans have received international recognition for combining flood safety construction with close community involvement (International Waterfront Award, 2011) and for communication strategy (Red Dot Public Space Award, 2011)<sup>12</sup>.



Figure 2: The ‘Room for the River’ plan at Nijmegen. The green line indicates the current line of the protective dike. The red line shows the position of the proposed relocated portion of dike. In the bottom image, the new river channel is shown in blue and the new island in yellow/green. The white arrows represent the bridge connections planned for the island. Source: Nijssen and Schouten, 2012<sup>13</sup>.

<sup>1</sup> Dutch Ministry of Infrastructure and the Environment Delta Programme 2013.

Working on the Delta. The Hague: Arco, 2012.

<sup>2</sup> van Alphen J, Alberts J, Korts A. Dig or Dike? Resilience of the Dutch River Rhine System: in view of increased discharges. Strategy, measures and first examples. ICR 2003, Nijlaga, Japan, 17h-18th December 2003.

<sup>3</sup> Nijssen P, Schouten M. Dutch national Room for the River project: Integrated Approach for river safety and urban development. 1st IS Rivers conference, 26-28 June 2012, Lyon, France.

<sup>4</sup> van Alphen J, Alberts J, Korts A. Dig or Dike? Resilience of the Dutch River Rhine System: in view of increased discharges. Strategy, measures and first examples. ICR 2003, Nijlaga, Japan, 17h-18th December 2003.

<sup>5</sup> ICR

<sup>6</sup> ICR

<sup>7</sup> ICR

<sup>8</sup> ICR

<sup>9</sup> van Alphen JCR J. How to eliminate a hydraulic bottleneck: Nijmegen the first example in the Netherlands. Proceedings of the Second International Symposium on Flood Defence 2002, New York: Science Press, 2002, pp.157-160.

<sup>10</sup> van Alphen J, Alberts J, Korts A. Dig or Dike? Resilience of the Dutch River Rhine System: in view of increased discharges. Strategy, measures and first examples. ICR 2003, Nijlaga, Japan, 17h-18th December 2003.

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<sup>12</sup> ICR

<sup>13</sup> ICR



Image 2: A child receives a rubella vaccination. Source: Wellcome Images.

## CASE STUDY 7:

### Preventing Congenital Rubella Syndrome: Health disaster risk reduction through Rubella vaccination

#### The problem

When a woman contracts the disease rubella (or German measles) in early pregnancy, her unborn baby also becomes infected. While the woman may experience only a mild illness, the unborn baby will suffer major birth defects such as deafness, blindness, heart defects, and blood disorders. Severe learning disabilities can also occur; these may worsen throughout life and may also be associated with deformities of the skull (such as a small head size, as seen in Image 1). In some cases the unborn baby will die from the infection<sup>1,2</sup>.

Rubella is an infectious disease caused by a virus. It spreads from person to person through sneezing and coughing. Outbreaks of rubella are public health disasters: in the 1960s a rubella epidemic swept through the world in the United States alone, approximately

11,000 babies died and 20,000 babies were born with birth defects<sup>3,4</sup>.

#### The science

In the first half of the twentieth century, the link between rubella and birth defects was not known. At that time, the fact that intrauterine infections could cause fetal damage, birth defects and fetal loss was largely unrecognised. Rubella was a fairly common infectious disease, mostly occurring in children but also in adults, including pregnant women.

In 1941, an Australian eye doctor called Norman Gregg was treating babies born with eye problems. He noticed that there were many more such infants that year than in the preceding years. One day he overheard two mothers talking about how they had both suffered from rubella when pregnant<sup>5</sup>. This led him to review the medical records of many mothers and babies. He connected the increased numbers of such damaged infants he had observed to a large epidemic of rubella which had recently occurred<sup>6</sup>.

Gregg went on to show that rubella in early pregnancy could be linked to many serious birth defects in children<sup>7</sup>.

This was a new discovery and, at first, even the possibility that such an apparently trivial illness could be so destructive was dismissed by some influential medical voices. It took some time - and further proof from scientists in other parts of the world - before doctors and policy-makers were convinced Gregg's findings were correct. The birth defects seen in babies infected with rubella while in the womb were later named Congenital Rubella Syndrome (CRS).

#### The application to policy and practice

A vaccination to prevent rubella first became available in 1969. The world now had a way of preventing the harm caused by rubella infection.

Since that time, increasing numbers of countries around the world have introduced the vaccine into their national immunisation policies. This is mostly done by vaccinating all the children in a population when they are still young (Image 2).

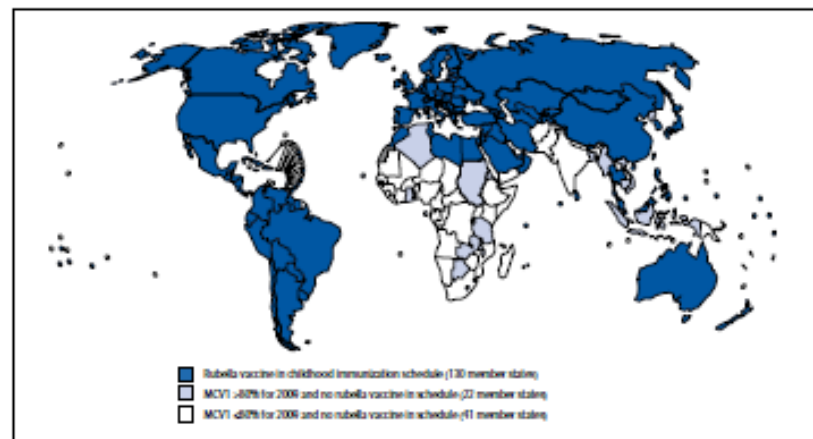


Figure 1: Countries using rubella vaccine and countries meeting WHO criteria for rubella vaccine introduction, 2009. Source: CDC, 2010<sup>8</sup>.

Following good progress in rubella immunisation in the 1990s, the Pan-American Health Organization (PAHO) resolved in 2003 to eliminate rubella and CRS from the region by 2010<sup>9</sup>.

#### Did it make a difference?

The number of World Health Organization (WHO) Member States using rubella-containing vaccine in their national immunisation programmes is continuing to grow, increasing from 83 of the 190 Member States (44%) in 1996 to 130 of 194 (67%) in 2009<sup>10</sup> (Figure 1).

Rubella has been eliminated in the WHO Region of the Americas<sup>11</sup>; this means less than 1 case of CRS per 100,000 births. Their experiences have been turned into guidance to support elimination in other regions of the world. Lessons identified include: high-level commitment and partnerships are essential; link political commitment with technical strategies; use proven surveillance tools; recognise outstanding performance by individual countries; provide on-going training for surveillance staff<sup>12</sup>.

The WHO Regional Office for Europe has now set a target for elimination of CRS in its Member States<sup>13,14</sup>.

Gregg's scientific work has saved countless lives and prevented much disability, family tragedy and economic loss around the world. However, CRS still affects an estimated 110,000 infants in developing countries each year<sup>15,16</sup>, meaning the full benefits of his work are yet to be realised.



Image 1: A newborn baby with 'microcephaly' or small head size. Source: [mestersonhealthcare.net](http://mestersonhealthcare.net).

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5. De Gaudiosi CA. *Preventing Disease and Protecting Health*. Geneva: World Health Organization, 2004, pp.53.

6. Gregg NM. Congenital Cataract following German Measles in the Mother. *Transactions of the Ophthalmological Society of Australia*, 1941; 3:35–46.

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15. CDC. Progress Toward Control of Rubella and Prevention of Congenital Rubella Syndrome – Worldwide, 2008. *Morbidity and Mortality Weekly Report*, 2010; 59(40): 1307–1310.

16. Catta PT, Vinyovsky E. Modeling the incidence of congenital rubella syndrome in developing countries. *International Journal of Epidemiology*, 2006; 35:1176–84.

## CASE STUDY 8:

### An Atlas of Hazards and Disaster Risks to Support Disaster Risk Reduction in China

If the country is to introduce and maintain effective and appropriate disaster risk reduction, it must first understand the temporal and spatial patterns of the hazards and disaster risks it faces.

#### The science

In response to the inauguration of the United Nations' International Decade for Natural Disaster Reduction in 1989<sup>1</sup>, the Chinese government launched a project to produce an Atlas that integrates the vast array of scientific data on natural hazards and disaster risks available in China.

Data for the Atlas was systematically identified from a national database of natural hazard related disasters, official government statistics, and from newspapers and other media sources. Collated data was validated by scientists then brought together for spatial and temporal analysis of hazards, exposure and vulnerability in a comprehensive risk assessment process. This allowed disaster risks to be quantified, prioritised and communicated in an accessible, meaningful manner using learning from risk communication science.

The first edition, *Atlas of Natural Disasters in China*<sup>2</sup>, was published in 1992. This was updated and improved in the 2003 *Atlas of Natural Disaster System of China*<sup>3</sup> and again in the *Atlas of Natural Disaster Risk of China*<sup>4</sup>, published in 2011 (Image 1).

#### The application to policy and practice

Since 1997, the Atlases have been used in the development of the Chinese Government's National Comprehensive Disaster Prevention and Reduction Plans<sup>5-8</sup>.

For instance, analyses in the 2003 *Atlas of Natural Disaster System of China*<sup>3</sup> highlighted the regional variation of natural hazards across China and the projected trends of these (Figure 1). As a result, the

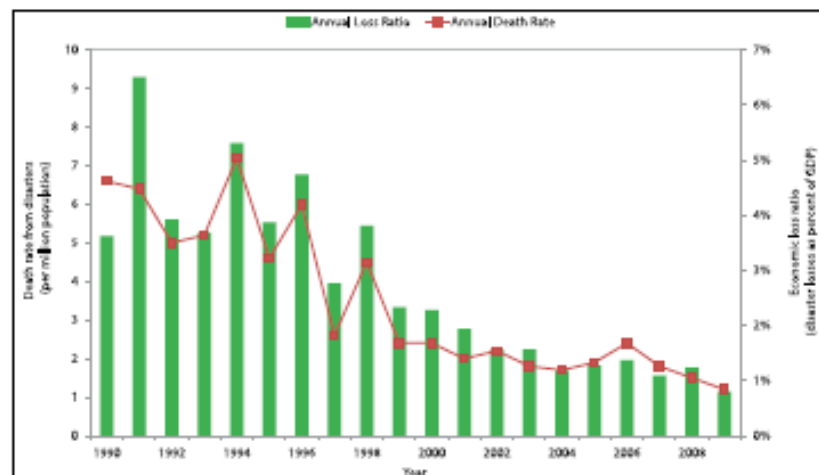


Figure 1: Loss ratio (economic losses from disasters expressed as a percentage of GDP) and death rates from disasters (number of deaths per million people) in China, 1990-2009. Data from the Wenchuan earthquake event, 2008, is not included. Based on data from Fang et al., 2011<sup>11</sup>.

National Plan for Comprehensive Disaster Reduction During the "Eleventh Five-Year Plan"<sup>12</sup> introduced more regionally-focused plans and activities for disaster risk reduction in China.

In 2011, the *Atlas of Natural Disaster Risk of China*<sup>4</sup> was similarly used in the development of the plan for 2011-2015<sup>13</sup>. Based on the integrated natural hazard risk-mapping in the atlas, the plan laid out the task of building a multi-level, integrated disaster relief reserve system for China. This aimed to link central, regional and local activities in order to meet the Chinese government's commitment that people affected by disasters receive primary aid to sustain basic survival needs within twelve hours of a disaster striking.

At a local level, Shenzhen City, China's first Special Economic Zone, used local knowledge and experience with the Atlas' high-resolution maps of typhoon risk to develop its urban planning for disaster risk reduction policy. This policy supports the rapid urban development in the city whilst ensuring that buildings and infrastructure will be resilient to local hazards now and in the future.

The Atlases have also been used to inform disaster insurance policy and practice. For instance, the Chinese government's agriculture insurance program<sup>14</sup>, launched in 2007, used the Atlas to inform regional crop risk assessment and premium determination. The Atlases are also widely used by domestic and international insurers, re-insurers and relevant stakeholders in the industry.

#### Did it make a difference?

In the past 30 years, China has promoted and implemented disaster risk reduction, using the scientific evidence communicated in the three Atlases and with increasing emphasis on evidence-based risk assessment and on regional variations<sup>15,17</sup>. The resulting efforts have significantly increased the regional capacity in disaster prevention and risk mitigation. This work is believed to be a contributing factor to the general decrease in annual deaths from disasters, and the reduction in relative economic losses, seen in China in the last two decades (Figure 1)<sup>18</sup>.



Image 1: Covers of the three Atlases of natural disaster risk in China. Source: The People's Insurance Company of China, 1992; SN, 2003<sup>4</sup> and SN, 2011<sup>4</sup>.

#### The problem

Covering 9.6 million square kilometres<sup>19</sup>, and with the largest population of any country in the world, China frequently experiences a variety of hazards resulting in great casualties, economic losses and damage to infrastructure.

1 Shi P. (Chief Editor). *Atlas of Natural Disaster Risk in China*. Beijing: Science Press, 2011.

2 Chinese Government. *Official Web Portal*. China Profile. Land area. [ webpage ]. Available at: [http://english.gov.cn/2008/02/02/content\\_1120211.htm](http://english.gov.cn/2008/02/02/content_1120211.htm) [accessed 21 March 2012].

3 UNISDR. *Disaster Reduction Milestone* [web page]. Available at: <http://www.unisdr.org/we/in/pressroom/2012/03/20120301-disaster-reduction-milestone> [accessed 21 March 2012].

4 The People's Insurance Company of China and Beijing Normal University. *Atlas of Natural Disasters in China* (Chinese and English versions). Beijing: Science Press, 1992.

5 Shi P. (Chief Editor). *Atlas of Natural Disaster System of China*. Beijing: Science Press, 2003.

6 Shi P. (Chief Editor). *Atlas of Natural Disaster Risk in China*. Beijing: Science Press, 2011.

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18 Fang W, Shi P, Wang J. *Integrated Risk Governance - Database, Risk Map and Network Platform*. Beijing: Science Press, 2011.

# Recommendations

- 1. Encourage science to demonstrate that it can inform policy and practice*
- 2. Use a problem-solving approach to research that integrates all hazards and disciplines*
- 3. Promote knowledge into action*







# Recommendations

- 1. Encourage science to demonstrate that it can inform policy and practice*
- 2. Use a problem-solving approach to research that integrates all hazards and disciplines*
- 3. Promote knowledge into action*
- 4. Science should be key to the Post-2015 Hyogo Framework for Action*





**Prof. Takashi Onishi**  
Science Council, Japan



## Global Platform for Disaster Risk Reduction

Fourth session, Geneva, Switzerland  
19-23 May 2013



**It is expected that the HFA2 will recognize the need to govern disaster risk reduction and resilience through clear responsibilities, strong coordination, enabled local action, appropriate financial instruments and **a clear recognition of a central role for science.****

and science. The session builds on regional platforms for disaster risk reduction convened in Africa, the Americas, Asia-Pacific, Arab States and Europe as well as many consultative and preparatory meetings convened by civil society, national and local governments and Red Cross and Red Crescent national societies.

# Towards a post-2015 DRR Framework

- Requested by the UN General Assembly Resolution A/RES/66/199
- UNISDR is facilitating a multistakeholder consultation process and engages a full range of actors from Member States to civil society.
- Consultation events include the Global and Regional Platforms, national and local events, and targeted events of stakeholders, partners and networks.
- Builds on the *International Framework for the International Decade for Natural Disaster Reduction of 1989*, the *Yokohama Strategy and Plan of Action of 1994*, the *International Strategy for Disaster Reduction of 1999*, the *Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters (HFA)*, and the *Mid-Term Review of the HFA (2010-2011)*.
- Expected to be adopted at the 3rd World Conference on Disaster Risk Reduction and endorsed by the UN General Assembly in 2015.

2013

2014

2015

Consultations started in March 2012 (with some 89 events up to the Global Platform) through 2013...

... and continues in 2014

## MINISTERIAL CONFERENCES AND REGIONAL PLATFORMS ON DISASTER RISK REDUCTION

- Feb 13-15 : Africa (Arusha, Tanzania)
- Mar 19-21 : Arab States (Aqaba, Jordan)
- Sep 23-25 : Europe (Oslo, Norway)

**MAY 19-23**

Global Platform for Disaster Risk Reduction (Geneva, Switzerland)

**SEP-NOV**

UN Secretary-General's Report and UN General Assembly Resolution on the *International Strategy for Disaster Reduction*

## MINISTERIAL CONFERENCES AND REGIONAL PLATFORMS ON DISASTER RISK REDUCTION

- Apr : Central Asia (Almaty, Kazakhstan)
- May 5-8 : Africa (Abuja, Nigeria)
- May 27-29 : Americas (Guayaquil, Ecuador)
- May/June : Arab States (Sharm El Sheikh, Egypt)
- Jun 2-4 : Pacific (Suva, Fiji)
- Jun 23-26 : Asia (Bangkok, Thailand)
- Jun/July : Europe (Brussels, Belgium / Ministerial Session)
- 6-8 Oct : Europe (Madrid, Spain / European Forum)

**JUL 14-15**

1st Preparatory Committee Meeting (Geneva, Switzerland)  
Subject to an anticipated decision of the UN General Assembly in 2013

**NOV 17-18**

2nd Preparatory Committee Meeting (Geneva, Switzerland)  
Subject to an anticipated decision of the UN General Assembly in 2013

**SEP-NOV**

UN Secretary-General's Report and UN General Assembly Resolution on the *International Strategy for Disaster Reduction*

**MAR 14-18 / SENDAI, JAPAN**

The 3rd World Conference on Disaster Risk Reduction will review the implementation of the Hyogo Framework for Action and is expected to adopt a successor framework for disaster risk reduction.

**SEP-NOV**

UN Secretary-General's Report and UN General Assembly Resolution on the *International Strategy for Disaster Reduction*. The UN General Assembly Session will also consider the post-2015 disaster risk reduction framework for endorsement.



**Plataforma Regional para la Reducción del Riesgo de Desastres de las Américas**  
*Invertir en RRD para proteger los avances del desarrollo*

**IV Sesión - Guayaquil, Ecuador del 27 al 29 de Mayo 2014**



Secretaría de  
Gestión de Riesgos



Ministerio de  
Asuntos Exteriores,  
Cooperación Internacional



UNISDR  
OFFICE OF DISASTER RISK REDUCTION  
OF THE UNITED NATIONS

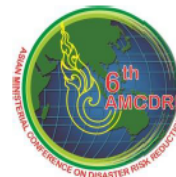
**Communiqué de Guayaquil, Ecuador**

**IV Session of the Regional Platform for Disaster Risk  
Reduction in the Americas,<sup>1</sup> meeting in Guayaquil, Ecuador from**

1. We, participants at the Fourth Session of the Regional Platform for Disaster Risk Reduction in the Americas,<sup>1</sup> meeting in Guayaquil, Ecuador from 27 to 29 May 2014, thank the people and Government of the Republic of Ecuador, the Ecuadorian Secretariat for Risk Management Secretariat and the Ministry of Foreign Affairs and International Cooperation for the hospitality and support provided for the successful carrying out of the IV Session of the Regional Platform:
2. Acknowledge the substantial contributions of the Hyogo Framework for Action (HFA) 2005-2015 to the formulation of strategies and policies for disaster risk management.<sup>2</sup> In order to progress towards eradicating poverty, reducing inequalities and achieving sustainable and inclusive development, it is necessary to:

**3<sup>RD</sup> MINISTERIAL  
CONFERENCE ON  
DISASTER RISK REDUCTION**

The 6<sup>th</sup> Asian Ministerial Conference on Disaster Risk Reduction  
Bangkok, Kingdom of Thailand 22 – 26 June 2014



**Bangkok Declaration on Disaster Risk Reduction in Asia and the Pacific 2014**

We, the Ministers, and Heads of Delegation of the countries of Asia and the Pacific, attending the Sixth Asian Ministerial Conference on Disaster Risk Reduction (AMCDRR) in Bangkok, Thailand, hosted by the Royal Thai Government, 22-26 June 2014;

*Deeply concerned* by the increasing impact and risk of disasters in the Asia-Pacific, including the super typhoon Haiyan in the Philippines; floods in Thailand, China and India; earthquakes in Pakistan; earthquake and tsunami in Indonesia and Japan, and an increasing number of medium and small scale disasters that resulted in huge social, economic and environmental losses in the region; and the adverse impacts of climate change which countries are already experiencing increased impacts.



## 5<sup>th</sup> EUROPEAN FORUM FOR DISASTER RISK REDUCTION

### Madrid Outcomes

6-8 October 2014

We, the participants of the European Forum for Disaster Risk Reduction (EFDRR), present at the

**Champion, reinforce and better connect existing and future initiatives for integrated research and the scientific assessment of disaster risk through an adequate international scientific advisory mechanism, in order to strengthen the evidence base to inform decision-making under the post-2014 framework.**

- Recognize the need for joint actions and synergies between disaster risk reduction and climate change adaptation, sustainable development and small-scale disasters.



UN World Conference on  
Disaster Risk Reduction  
2015 Sendai Japan

14-18 March 2015  
Sendai, Japan

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Preparatory Process

PrepCom 1

• **Statements**

Consultations: post-2015 framework  
for DRR

• Global Platform

• Regional Platforms & meetings

Government announcements and  
voluntary commitments

## Statements

### **Calls for Science at Prepcom 1**

- *65/87 Country and Country Groups Statements*
- *8/9 Major Group Statements*

ory Committee is

FINAL VERSION

**Joint UN Statement – 1<sup>st</sup> Preparatory Committee Meeting  
(PREPCOM) for the Third UN World Conference on Disaster**

**RISK REDUCTION 2015-2030**

The Joint Statement by the UN System delivered at the First Preparatory Committee Meeting of the World Conference on Disaster Risk Reduction (WCDRR) was prepared under the aegis of the UN High Level Programmes Committee Senior Managers Group on Disaster Risk Reduction for Resilience (HLCP/SMG). The HLCP/SMG oversees the implementation of the *UN Plan of Action on Disaster Risk Reduction for Resilience*. Members are FAO, IAEA, IFAD, IFRC, ILO, IMO, IOM, ITU, UNAIDS, UNCCD, UNDP, UNEP, UNESCO, UNFPA, UNHABITAT, UNHCHR, UNICEF, UNISDR, UNOCHA, UNOPS, UNOOSA, UNWOMEN, UNWTO, UPU, WFP, WHO, WMO and the World Bank.

**The UN System supports the proposed creation of an international science advisory mechanism to strengthen the evidence base for the implementation and monitoring of the new framework**





# General Assembly

Distr.: General  
20 October 2014

Original: English

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## **Third United Nations World Conference on Disaster Risk Reduction**

**Preparatory Committee**

**Second session**

**Geneva, 17-18 November 2014**

**Item 5 of the provisional agenda**

**Considerations on the post-2015 framework for disaster risk reduction**

### **Post-2015 framework for disaster risk reduction**

#### **Zero draft submitted by the Co-Chairs of the Preparatory Committee**

Transmitted herewith is the zero draft of the post-2015 framework for disaster risk reduction, brought to the attention of the second session of the Preparatory Committee of the Third United Nations World Conference on Disaster Risk Reduction to be held in Geneva from 17 to 18 November 2014.

# ***Priorities for action***

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- 1) Understanding disaster risk
- 2) Strengthening governance and institutions to manage disaster risk
- 3) Investing in economic, social, cultural and environmental resilience
- 4) Enhancing preparedness for effective response, and building back better in recovery and reconstruction.



- e) Promote and improve dialogue and cooperation among scientific communities, including social, health, economic and environmental sciences, practitioners, businesses, people at risk and policymakers;
- f) Ensure the use of traditional and local knowledge to complement, as relevant and appropriate, scientific knowledge in disaster risk assessment and the development and implementation of policies, plans and programs;
- g) Strengthen technical and scientific capacity to develop and apply methodologies, standards, metrics and models to assess vulnerabilities and exposure to all hazards, taking into account landscape and watershed level considerations and ecosystem functions and services to reduce disaster risk in risk assessment protocols;
- h) Invest in research, innovation and technology and promote a long-term multi-hazard approach and solution-driven research for disaster risk management to better address gaps, societal challenges and emerging risks and interdependencies;
- i) Promote the incorporation of disaster risk education, including preparedness, in educational curricula at all levels and in informal education systems, as well as in professional education;
- j) Promote national strategies to strengthen public education and awareness of risk information and knowledge through campaigns, social media, community mobilization and other available means, taking into account specific audiences and their needs.

#### Global and regional levels

23. It is important to:

- a) Share and cooperate on the development of science-based and common methodologies and standards for risk modelling and assessment, monitoring, early warning, disaster recording and statistics, and disaggregated data collection;
- b) Continue promoting the use, application and affordability of, and access to, information, communication and space-based technologies and related services, as well as maintaining and strengthening in-situ and remotely-sensed earth observations, to support disaster risk reduction at all levels, and strengthen the utilization of social media and mobile phone networks to support successful risk communication;
- c) Promote common efforts in partnership with scientific community and the private sector to establish good international practices;
- d) Support the development of local, national, regional and global user-friendly systems and services for the exchange of information on good practices, cost-effective and easy-to-use disaster risk reduction technologies, and lessons learned on policies, plans and measures for disaster risk reduction;
- e) Continue global campaigns as instruments for public awareness and education (e.g. "The One Million Safe Schools and Hospitals", "Making Cities Resilient: my city is getting ready!", the "United Nations Sakaqawa Award for Disaster Reduction", and the yearly United Nations International Day for Disaster Reduction) to promote a culture of prevention, generate understanding of disaster risk, support mutual learning and share experiences, and encourage all public and private stakeholders to actively engage and join such initiatives, and develop new ones at local, national, regional and global levels, with similar purposes;
- f) Enhance the scientific and technical work on disaster risk reduction through the mobilization of existing networks of scientific and research institutions at national, regional and international levels in order to strengthen the evidence base in support of the implementation and monitoring of this framework, promote scientific research into risk patterns and trends and the causes and effects of short and long-term disaster risk in society, utilize available good practices and lessons learned, provide guidance on methodologies and standards for risk assessments, risk modelling and the use of data, identify research and technology gaps and set recommendations for research priority areas in disaster risk management, promote and support the availability and application of science to decision making, contribute and cooperate on the update of the 2009 Terminology on Disaster Risk Reduction, and use post-disaster reviews as opportunities to learn and enhance public policy.

24. Governance conditions the effective and efficient management of disaster risk at all levels. Clear guidance and coordination across sectors and participation of all stakeholders, as appropriate, are essential. Strengthening the governance of disaster risk management is therefore necessary.

#### National and local levels

25. It is important to:

- a) Promote the coherence of, and further develop as appropriate, national and local framework regulation and public policy, including for development, poverty reduction, climate change, environmental management, which through defining roles and responsibilities guide the process of addressing disaster risk in publically owned, managed or regulated services and infrastructure, regulate and provide incentives for actions by persons, households, communities and businesses;
- b) Adopt and implement national and local plans, across different timescales aimed at addressing medium and long term disaster risk, with targets, indicators and timeframes;
- c) Strengthen mechanisms to monitor, periodically assess, ensure compliance, and publicly report on national and local plans by all public and private stakeholders;
- d) Enhance, as appropriate, relevant normative frameworks and mechanisms to strengthen disaster risk accountability for, disaster risk;
- e) Promote public scrutiny and institutional debates, including by parliamentarians and other stakeholders, on progress reports of local and national plans;
- f) Establish or further strengthen all-stakeholder coordination mechanisms at national and local levels, and national and local platforms for disaster risk reduction. It is necessary for such mechanisms to have a foundation in national institutional frameworks with clearly assigned responsibilities and authorities, identify sectoral and multisectoral risk, build awareness and knowledge of risk through dissemination of risk information and data, contribute to and coordinate reports on local disaster risk, coordinate public awareness campaigns on disaster risk, facilitate and support local disaster risk reduction cooperation (e.g. among local governments), contribute to the determination of and reporting on local disaster risk management plans. These responsibilities and authority should be established through laws, regulations, standards, and procedures, as appropriate;
- g) Empower, through regulatory and financial means, local action and leadership in disaster risk reduction by local authorities, communities and indigenous people;
- h) Stimulate, in accordance with national practices, the development of quality standards and certification instruments, including certifications, for disaster risk management, with the participation of the private sector, professional associations and scientific organizations.

#### Global and regional levels

26. It is important to:

- a) Continue to guide action at the regional level through agreed regional and subregional strategies for disaster risk reduction, adjusted, as appropriate, in light of the framework;
- b) Foster collaboration and partnership across mechanisms and institutions for the implementation of instruments relevant to disaster risk, such as for climate change, sustainable development, health and others, as appropriate;
- c) Continue to actively engage in the Global Platform for Disaster Risk Reduction, the regional platforms for disaster risk reduction and thematic platforms, which represent effective mechanisms to forge partnerships, periodically assess progress on implementation and the knowledge on risk informed policies, programmes and investments, including on development issues;
- d) Continue to strengthen capacities and mechanisms, such as hazard-focused disaster risk reduction, to reduce transboundary disaster risk, including displacement risk;

# Zero order draft 23 f)

) Enhance the scientific and technical work on disaster risk reduction through the mobilization of existing networks of scientific and research institutions at national, regional and international levels in order to strengthen the evidence base in support of the implementation and monitoring of this framework, promote scientific research into risk patterns and trends and the causes and effects of short and long-term disaster risk in society, utilize available good practices and lessons learned, provide guidance on methodologies and standards for risk assessments, risk modelling and the use of data, identify research and technology gaps and set recommendations for research priority areas in disaster risk management, promote and support the availability and application of science to decision making, contribute and cooperate on the update of the 2009 Terminology on Disaster Risk Reduction, and use post-disaster reviews as opportunities to learn and enhance public policy.



# UNISDR Informal Working Group on Targets and Indicators

1. Reduce disaster **mortality** by [a given percentage in function of number of hazardous events] by 20[XX];
2. Reduce the number of **affected people** by [a given percentage in function of number of hazardous events] by 20[XX];
3. Reduce direct disaster **economic loss** by [a given percentage in function of number of hazardous events] in relation to the GDP by 20[XX];
4. Reduce disaster damage to **critical infrastructure** including health and educational facilities by [a given percentage in function of number of hazardous events] by 20[XX];



5. [http://www.wcdrr.org/uploads/Report-of-the-Facilitator-of-the-IWG-on-Targets-and-Indicators-to-Co-Chairs-151114 .pdf](http://www.wcdrr.org/uploads/Report-of-the-Facilitator-of-the-IWG-on-Targets-and-Indicators-to-Co-Chairs-151114.pdf)

# UNISDR Informal Working Group on Targets and Indicators

5. Increase number of countries with **national and local strategies** by [a given percentage] by 20[xx];
  - To increase the number of countries with national and local disaster risk management strategies as well as **integrated multi-hazard risk assessment** and assessment of their capacities to manage the identified risk by 20[XX].
6. **International cooperation and global partnership**
7. **Risk information and early warning** - To increase the number of people, including vulnerable people, with access to early warning and risk information by [given percentage] by 20[XX]



[http://www.wcdrr.org/uploads/Report-of-the-Facilitator-of-the-IWG-on-Targets-and-Indicators-to-Co-Chairs-151114\\_.pdf](http://www.wcdrr.org/uploads/Report-of-the-Facilitator-of-the-IWG-on-Targets-and-Indicators-to-Co-Chairs-151114_.pdf)



Four core functions that science can fulfill in support of implementation of the post-2015 framework

- Synthesis
- Assessment
- Advisory
- Monitoring and review



The top left corner features the United Nations logo, a blue globe with a white laurel wreath, partially obscured by a colorful diagonal graphic with segments in blue, green, orange, and red.

To deliver on this, there are at least two essential enablers

- Capacity building
- Communication and engagement - work in partnership with the users of science to co-identify the critical questions that need answers, co-produce and co-deliver the knowledge that can lead to action, especially at the national and local levels








# The IPCC Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation

# **THE WORKING GROUP II**

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## **CONTRIBUTION TO THE IPCC'S FIFTH ASSESSMENT REPORT**





# Resilience to extreme weather

EXECUTIVE SUMMARY

THE  
ROYAL  
SOCIETY

<https://royalsocietyp.org/~media/policy/projects/resilience-climate-change/resilience-executive-summary.pdf>



EUROPEAN  
COMMISSION

Brussels, 8.4.2014  
SWD(2014) 134 final

## **COMMISSION STAFF WORKING DOCUMENT**

### **Overview of natural and man-made disaster risks in the EU**

*Accompanying the document*

**Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions**

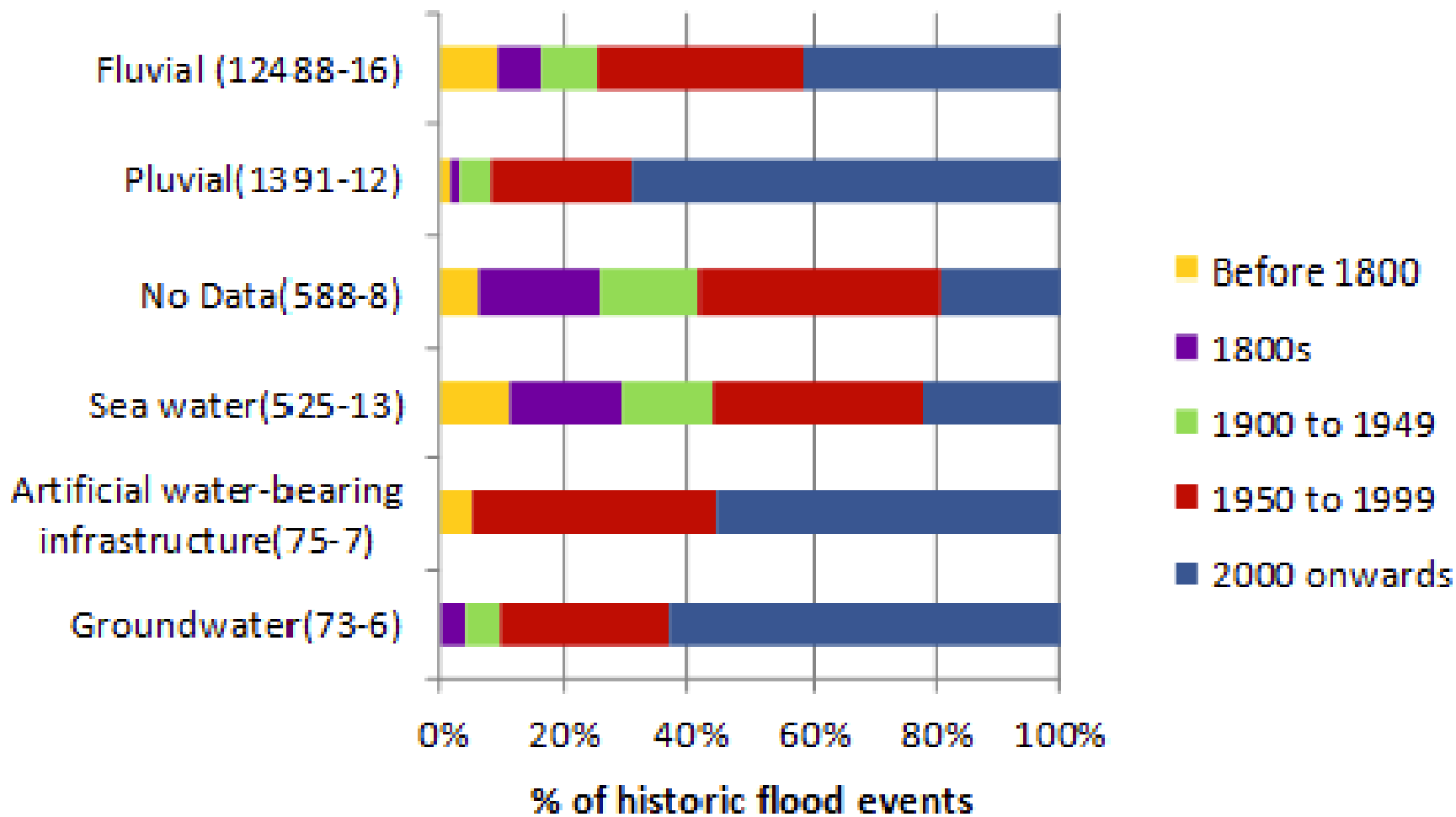
[http://ec.europa.eu/echo/files/news/post\\_hyogo\\_risks\\_overview\\_en.pdf](http://ec.europa.eu/echo/files/news/post_hyogo_risks_overview_en.pdf)

# Mechanism assessing floods as a main risk hazard (DG ECHO, 2014)



- dark grey: *participating states assessing hazard as a main risk;*
- white: *countries for which no information is available*

# Time periods of reported historic flood events (DG Environment)



(figure based on data AT, BG, CY, CZ, DE, DK, EE, EL, ES, FI, FR, HU, IE, LT, LV, MT, PL, RO, SE, SI, SK, UK. The numbers in brackets after the source of flood refers to the number of events reported from the number of MS)



Public Health  
England

# WHO Europe / Public Health England

## Floods: Health effects and prevention in the WHO European Region

May 2013

### FLOODS IN THE WHO EUROPEAN REGION: HEALTH EFFECTS AND THEIR PREVENTION





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The United Nations Office for Disaster Risk Reduction

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UNISDR PUBLICATIONS

## United Kingdom peer review report 2013 - Building resilience to disasters: implementation of the Hyogo Framework for Action (2005-2015)



This report presents the first peer review undertaken to assess progress in the implementation at national level of the Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters (HFA), under which Member States of the United Nations have committed to policy action. It aims to: 1) establish state-of-the-art approaches to each of the HFA Priorities for Action; 2) identify good practices and shortcomings/areas needing improvement; and 3) develop recommendations to achieve further progress.

The report takes advantage of a policy exchange among peers, as a governance tool, to facilitate the exchange of best practices, examining the performance of the



# PEER REVIEW REPORT

## *United Kingdom*

.....  
2013





Public Health  
England

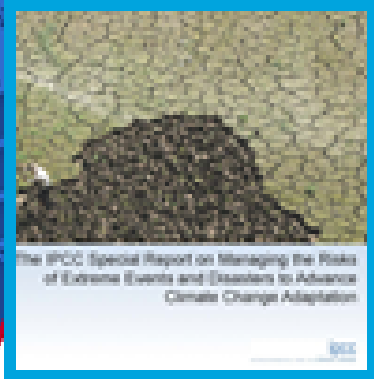
# Key findings, assessment and recommendations

In many respects, the UK resilience approach shows state-of-the-art innovations, including :

- **large use of science to support policy**
- attention to business-continuity issues and full partnerships with the private sector
- flexible institutional mechanisms and partnerships focused on delivery through voluntary approaches
- professional and dedicated co-workers in the field of DRR throughout the country
- national commitment to continue improving policy-making and pushing further implementation

# 2015 opportunities

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- Post 2015 Framework For Disaster Risk Reduction (March 2015)
  - Sustainable Development Goals (September 2015)
  - Climate change agreements through the UNFCCC (December 2015).
- 



# Post-2015 Framework for Disaster Risk Reduction – how will KNOW4DRR strengthen evidence base sciences to inform policy and practice

- Disasters are increasing in frequency
- Evidence based science is key to preparedness and response
- Opportunity for science to impact on policy and practice for disaster risk reduction to strengthen preparedness and resilience internationally, nationally and locally



*SEE YOU IN JAPAN IN 2015!*



Global Platform  
for Disaster Risk Reduction  
Fourth session, Geneva, Switzerland  
19-23 May 2013



**UNISDR**

The United Nations Office for Disaster Risk Reduction