

COMMITTEE ON DISASTER RISK MANAGEMENT

WORLD FEDERATION OF ENGINEERING ORGANIZATIONS



Engineering Initiatives in Disaster Risk Management: WFEO's CDRM, UNESCO, IRDR & World Bank

José Macharé O. – Chairman
Lizett López S. – Secretary

Paris, October 27 2022

DISASTERS CONTINUE OCCURRING

- Every year, huge damage and loss.
- Economic losses in tens of billions of dollars.
- Tens of thousands of lives lost.
- Permanent disabled, homeless and displaced people.
- Built environment, infrastructure damaged and destroyed.
- Natural environment and cultural heritage strongly affected



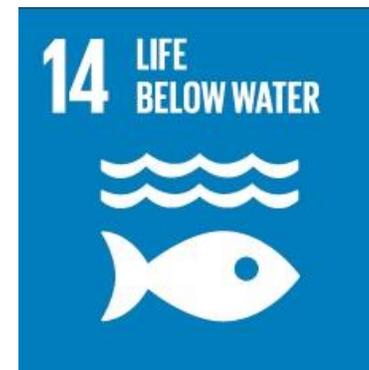
DISASTERS THREATEN THE ACHIEVEMENT OF SDG



Resilient societies

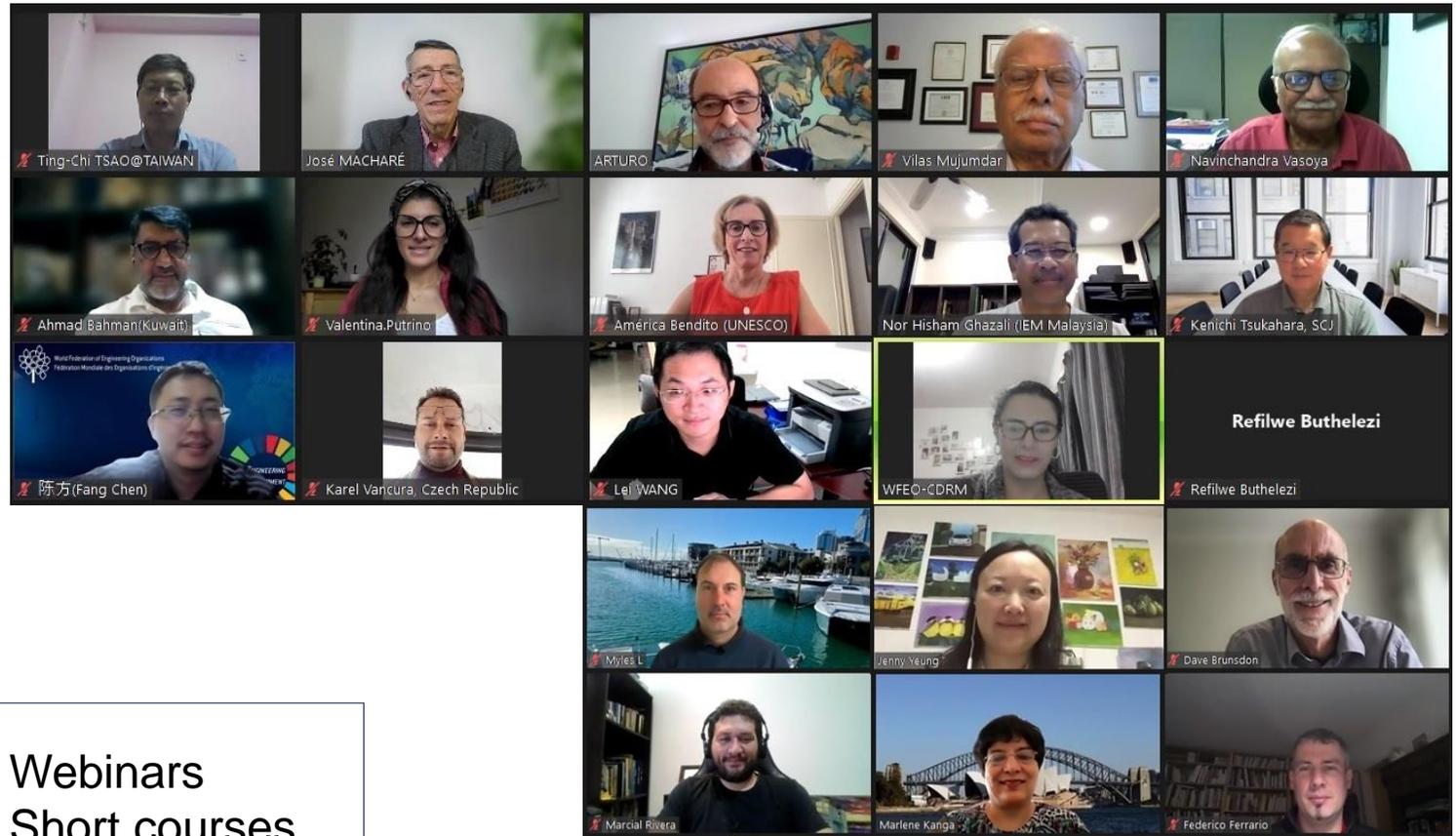
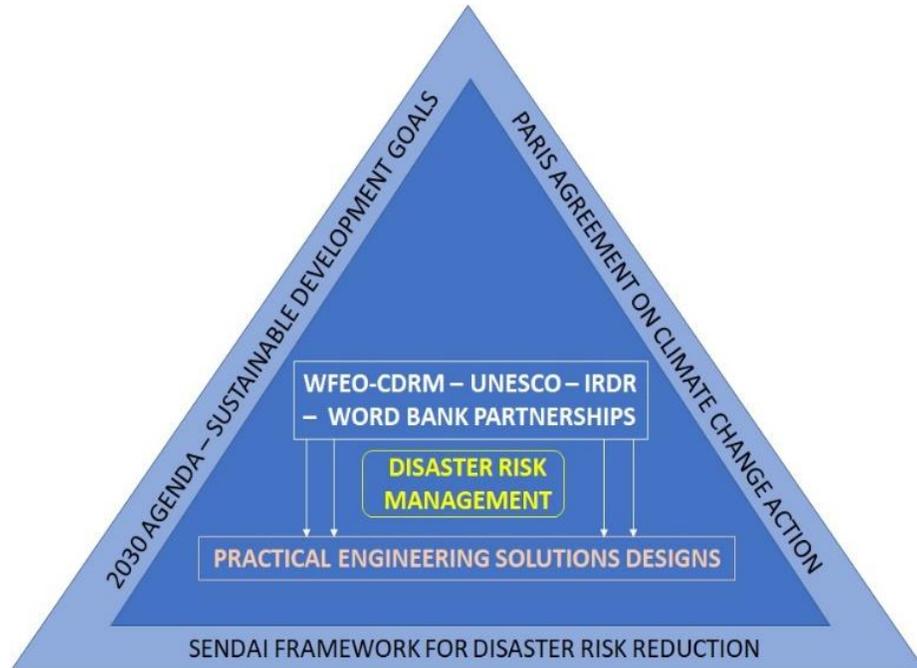


Built environment



Natural environment

THE WFEO-CDRM



- 30 members
- 5 continents
- 5 working groups
- Webinars
- Short courses
- Publications

THE WFEO-CDRM GLOBAL PARTNERSHIPS



Peruvian
Engineers
Association

UNESCO Disaster Risk
Reduction Unit



Global Program for
Disaster Risk Analytics at
GFDRR / World Bank.



Integrated Research on
Disaster Risk. International
Science Council (ISC) &
United Nations Disaster Risk
Reduction office (UNDRR),



RESULTS & PRODUCTS

- WEBINARS & TECHNICAL SESSIONS
- SHORT COURSES
- PUBLICATIONS

WEBINARS & TECHNICAL SESSIONS

INTERNATIONAL WEBINAR

Engineering Contributions for Managing the Next Pandemics
18 December 2:00p.m. Lima time





Dr. Carina Fearnley
 University College of London, UK
 Early warning systems for pandemics: Lessons learned from natural hazards

Dr. Simiao Chen
 Chinese Academy of Medical Sciences, CN
 Fangcang shelter hospitals: a novel concept for responding to public health emergencies

Dr. Michael O'Sullivan
 University of Auckland, NZ
 Healthcare Modelling for Pandemic Planning and Recovery

ORGANIZED BY
 

www.cip.org.pe

58th Anniversary

WEBINAR
GLOBAL ENGINEERING IN THE CONTEXT OF COVID-19

Peruvian Engineers Association






Dr. Gong ke
 President World Federation of Engineering Organizations

Dr. Marlene Kanga
 Former president World Federation of Engineering Organizations

Dr. Vilas Mujumdar
 Member American Society of Civil Engineers

Eng Carlos Herrera
 President Peruvian Engineers Association

18:00 (Lima time)
 8 June, 2020

Registration: www.cip.org.pe
 CIPCN/ 

ORGANIZAN:
  

WEBINAR INTERNACIONAL:
LA LOGÍSTICA HUMANITARIA EN CASOS DE DESASTRES: NUEVAS TECNOLOGÍAS PARA LA TOMA DE DECISIONES
 26 de agosto - 19.00pm (Perú)





Dr. Pavel Albores
 Nuevas Tecnologías y Ciudades Inteligentes en la Gestión de Desastres y Emergencias
 Austin University, UK

Dr. William Guerrero
 Principios de la Industria 4.0 aplicados a los desastres y la Gestión de la Respuesta a Desastres
 Universidad de la Sabana, Colombia

MSc Renzo Benavente
 Aplicación de herramientas de análisis y nuevas tecnologías en la logística humanitaria
 Grupo para Manejo de Crisis y Desastres, de la PUCCP Perú

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www.cip.org.pe

INFORMES: eventoscip1@cip.org.pe
 CIPCN/ 

Organizado por:
    

WEBINAR INTERNACIONAL:
FORTALECIENDO ESFUERZOS PARA PROTEGER Y SALVAGUARDAR EL PATRIMONIO CULTURAL Y NATURAL DEL MUNDO

JUEVES 07 OCTUBRE 2021

11:00 am Lima
5:00 pm Londres
6:00 pm España





Dr. Dina D'Ayala
 Universidad de Londres, Reino Unido
 Riesgos múltiples y priorización del patrimonio arquitectónico. Aplicaciones en Filipinas

Dr. Pere Roca
 Universidad Politécnica de Cataluña, España
 Directrices del Icomos / IcarusSh sobre el análisis, la conservación y la restauración estructural del patrimonio arquitectónico

Dr. Victor Carlotto
 Academia Nacional de Ciencias, Perú
 Investigaciones geológicas en sitios de patrimonio cultural y natural

Informes: eventoscip1@cip.org.pe

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ACCESO ZOOM
 Traducción simultánea



TOWARD RESILIENT SOCIETIES: THE ENGINEERING CONTRIBUTION

9 March 2021
19:00 Lima time
 08:00 Hong Kong time (10 March)
 13:00 New Zealand time (10 March)
 18:00 Costa Rica time (9 March)

REGISTRATION
<https://forms.gle/jsDe4z6mphaOUr8o6>

SESSION OPENING

Gong Ke
 WFEU President

INTRODUCTORY SPEECH

Marlene Kanga
 WFEU Past President

1 Land Use Planning to Build Disaster Resilience
 Ir Eric MA Siu-cheung, GBS, JP, CEO, NWS Holdings Limited, Hong Kong


2 Infrastructure as a Key Contributor to Resilient Nations
 Roger Fairclough, Chair, New Zealand Lifelines Council, New Zealand


3 Business continuity in the construction sector based on COVID-19 preventive measures in Costa Rica.
 Andrea Chacón, Marcial Rivera, Members, CRIA Costa Rica
 



WFEO-CDRM ONLINE COURSES



The online courses are available on a platform based on the Moodle system, are free of charge, however the issuance of the certificate of participation will cost 50 dollars.

This is a joint project between WFEO-CDRM and the [Peruvian Engineers Association \(CIP\)](http://www.cip.org.pe).

Platform: <http://ordcursos.cip.org.pe/>

Information: [wfeo-cdrm\(at\)cip.org.pe](mailto:wfeo-cdrm(at)cip.org.pe)



Managing the risk of debris and mud flow-related disasters

Gestión del riesgo de desastres ante la ocurrencia con flujos de lodo y detritos

Course offered in English with translation to Spanish.
It comprises six modules and will be taught by specialists from the United States, Italy, Colombia, Norway, Greece and Switzerland.

*Course starts 13 April 2021



Risk Management for Tsunami-Related Disasters

Gestión del riesgo de desastres relacionados con tsunamis

Course offered in English and Spanish
It comprised 5 modules and was taught by specialists from Japan, Peru and Canada.

*Completed course



Management of Volcanic Risk

Gestión de Riesgos Volcánicos

Course offered in Spanish
It comprises eight modules and will be taught by specialists from Ecuador, Colombia, Costa, Chile, Mexico, Guatemala and Peru.

*Available course



LAUNCHING OF THE BOOK ON RESILIENCE

United Nations | Department of Economic and Social Affairs
Sustainable Development

STI FORUM | Science, Technology & Innovation for the Sustainable Development Goals

TECHNOLOGY

7th Multi-stakeholder Forum on Science, Technology and Innovation for the Sustainable Development Goals

Conference

ENGINEERING RESILIENCE IN DISASTER RISK MANAGEMENT FOR SUSTAINABLE DEVELOPMENT

Thu 05 May 2022, 7.30 am, NY time

<p>José Vieira WFEO President</p>	<p>Shamila Nair-Bedouelle UNESCO ADG</p>	<p>José Macharé CDRM chair</p>	<p>Karel Vancura Land use planning</p>
<p>Dave Brunson Infrastructure systems</p>	<p>Fang Chen Data management</p>	<p>Ashok Basa Capacity building</p>	<p>Myles Lind Institutional frameworks</p>
<p>Qunli Han Executive Director ISC-IRDR</p>	<p>Gong Ke Past President of WFEO</p>	<p>Marlene Kanga Past President of WFEO</p>	<p>K.N. Gunalan Chair WFEO UN Relations Committee</p>

Organized by:

World Federation of Engineering Organizations
Fédération Mondiale des Organisations d'Ingénieurs

WFEO-CDRM

unesco

International Science Council
The global voice for science

ASCE
AMERICAN SOCIETY OF CIVIL ENGINEERS

FREE AND VIRTUAL EVENT
<https://resilienceconference.cip.org.pe/>

Engineering Resilience in Disaster Risk Management for Sustainable Development

World Federation of Engineering Organizations
Peruvian Engineers Association

<https://www.youtube.com/watch?v=0R7t5ibS06g&t=25s>

On May 5, at a side event to the Seventh Annual Multi-Stakeholder Forum on Science, Technology and Innovation for the SDGs.

On June 9, within the framework of its 60th anniversary, the CIP presented a translated-to-Spanish version.

ORGANIZATION INTERNATIONAL WEBINARS

Organized by:



INTERNATIONAL WEBINAR:

INFRASTRUCTURE SYSTEMS FOR RESILIENT SOCIETIES

SPEAKERS:



DAVE BRUNSDON
New Zealand Lifelines Council
New Zealand



CARLIEN BOU-CHEIDID
Ghana Institution of Engineers
Ghana



STEFAN SCHAUER
Austrian Institute of Technology
Austria



YOSHIHISA MARUYAMA
Chiba University
Japan



YOLANDA ALBERTO
University of Chile
Chile

MODERATOR:



JOSÉ MACHARÉ
WFEO-CDRM chairman
Peru



JULY 12
4:00pm (Lima time)

FREE EVENT
Simultaneous interpretation

Organized by:



INTERNATIONAL WEBINAR:

LAND USE PLANNING FOR RESILIENT SOCIETIES

SPEAKERS:



IR JENNY YEUNG
Hong Kong Institution of Engineers



KENICHI TSUKAHARA
Science Council of Japan



LAURIE A. JOHNSON
Laurie Johnson Consulting

MODERATOR:



JOSÉ MACHARÉ
WFEO-CDRM Chairman



AUGUST 09
7:00pm (Lima Time)

FREE EVENT
Simultaneous Interpretation
<https://bit.ly/3NpRIHF>

[MORE INFORMATION](#)

Organized by:



INTERNATIONAL WEBINAR:

INSTITUTIONAL FRAMEWORKS AND PUBLIC POLICIES FOR RESILIENT SOCIETIES

SPEAKERS:



MYLES LIND
Institute of Public Works
Engineering Australasia
New Zealand



MASAMITSU ONISHI
Disaster Prevention
Research Institute of Kyoto
University Japan



NORLANG GARCÍA
Secretariat for Integrated Risk
Management and Civil
Protection
Mexico



MARIA PECCE
University of Naples
Federico II
Italy

MODERATOR:



JOSÉ MACHARÉ
WFEO-CDRM chairman
Peru



JULY 19
6:00pm (Lima time)

FREE EVENT
Simultaneous interpretation

Organized by:



Supported by:



INTERNATIONAL WEBINAR

ENGINEERING: DRIVER FOR THE RISK INFORMED DEVELOPMENT

SPEAKERS:



SATURO NISHIKAWA
Professor, Disaster Mitigation
Research Center, Nagoya University



TATSUO NARAFU
Technical Advisor, JICA Japan
International Cooperation Agency



SOICHIRO YASUKAWA
Chief of the Disaster Risk Reduction
Unit Natural Sciences Sector / UNESCO

MODERATOR:



VALENTINA PUTRINO
WFEO-CDRM leader of working group
Catasphre Risk Analyst, ARIEL RE



15 SEPTEMBER
8:00am (Lima Time)

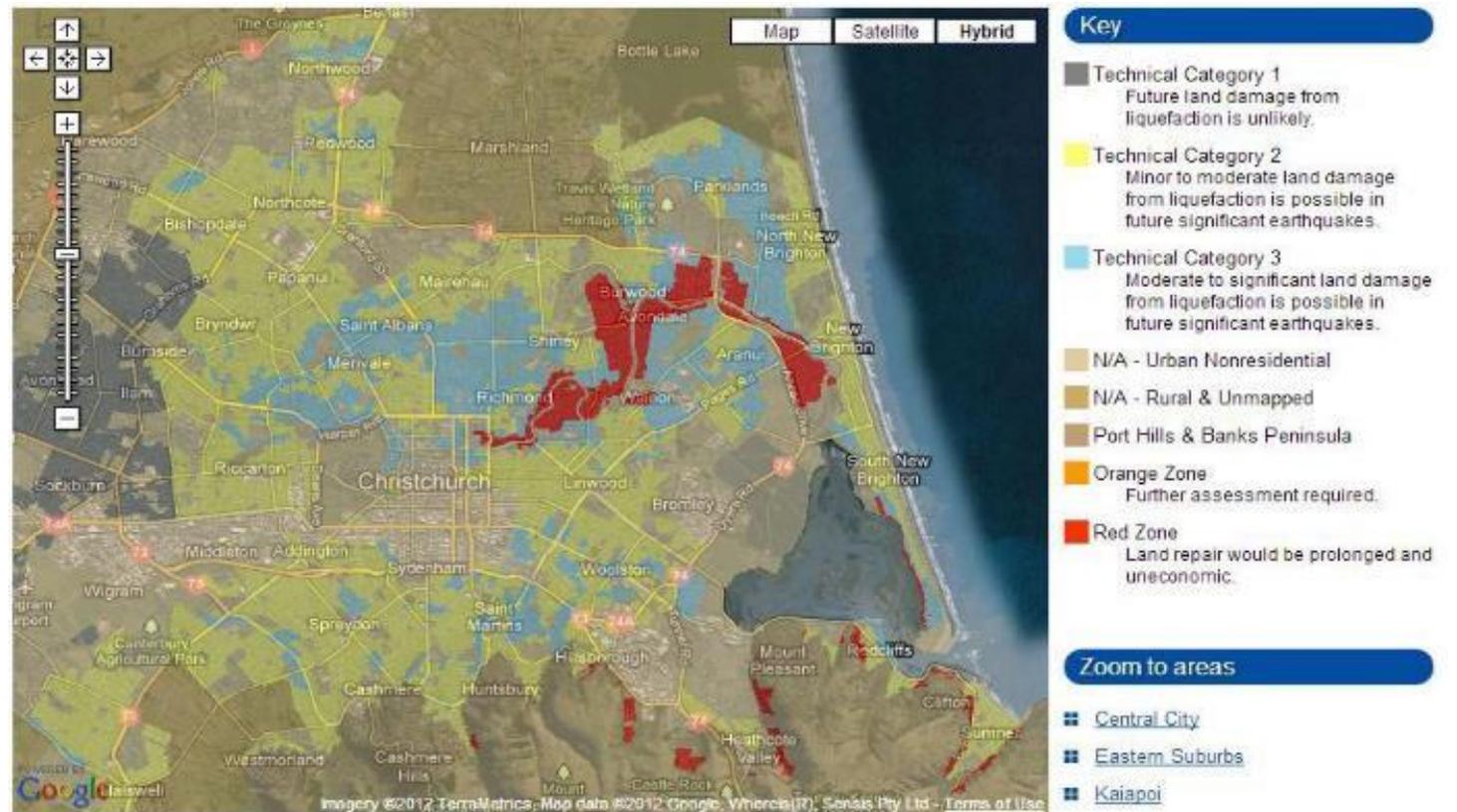
FREE EVENT
Simultaneous Interpretation
<https://bit.ly/3TE2mVg>

ON LAND USE PLANNING:

Engineering inputs should be incorporated into the land use planning at an early stage, making the identification of risks and mitigation measures integral components of the whole process.

The new land use plans require:

- the assurance of terrain arrangement and landscaping,
- building of protective infrastructure, and
- agreement of the population as a function of their future life expectancy, traditional or innovative activities.



The example above depicts the new land use and forbidden zones enforced by laws after the 2010 Canterbury earthquakes in New Zealand.

(Contribution by Laurie Johnson)

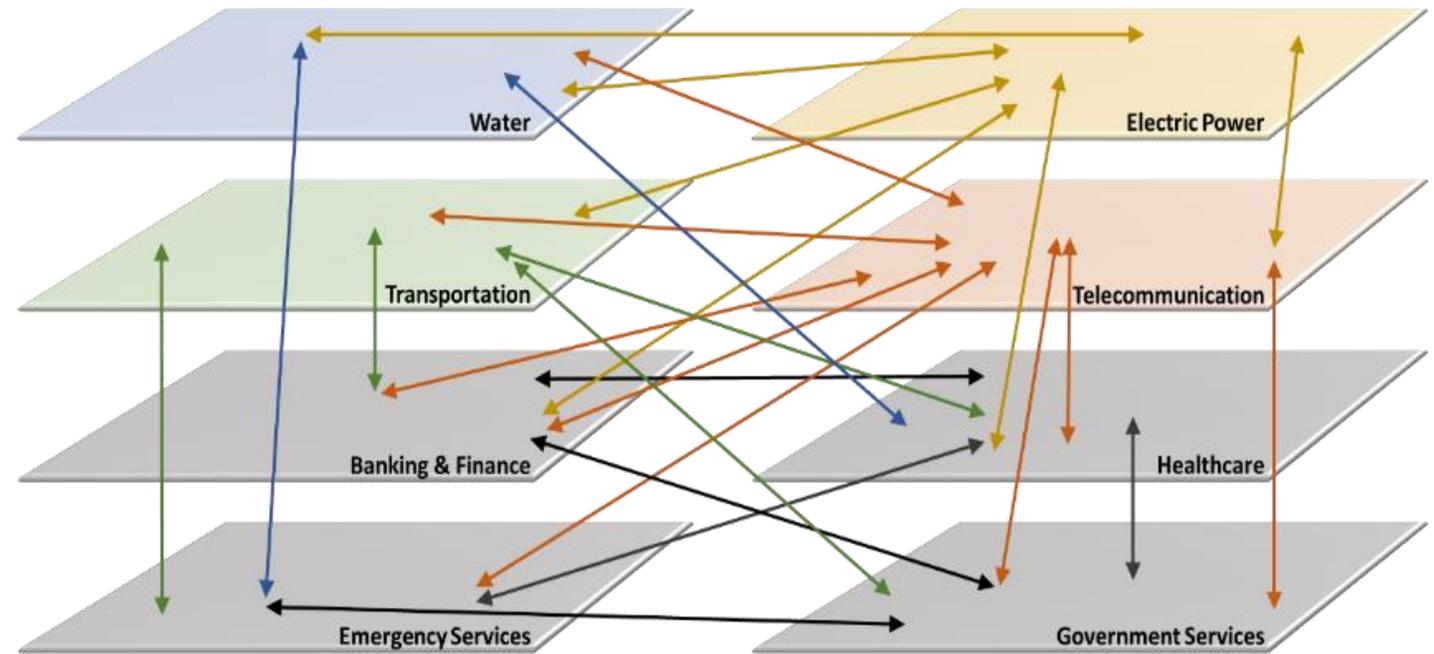
ON INFRASTRUCTURE SYSTEMS:

Resilience of critical infrastructure should be ensured since its design.

To warrant its performance, the different components of infrastructure resilience need to be understood.

The ownership and regulatory systems influence the investment and responsibilities, so they have to be clear in contractual conditions.

Finally, the multiple interdependencies among infrastructure components should be taken in account



Contribution Stephan Schauer)

ON INSTITUTIONAL FRAMEWORKS:

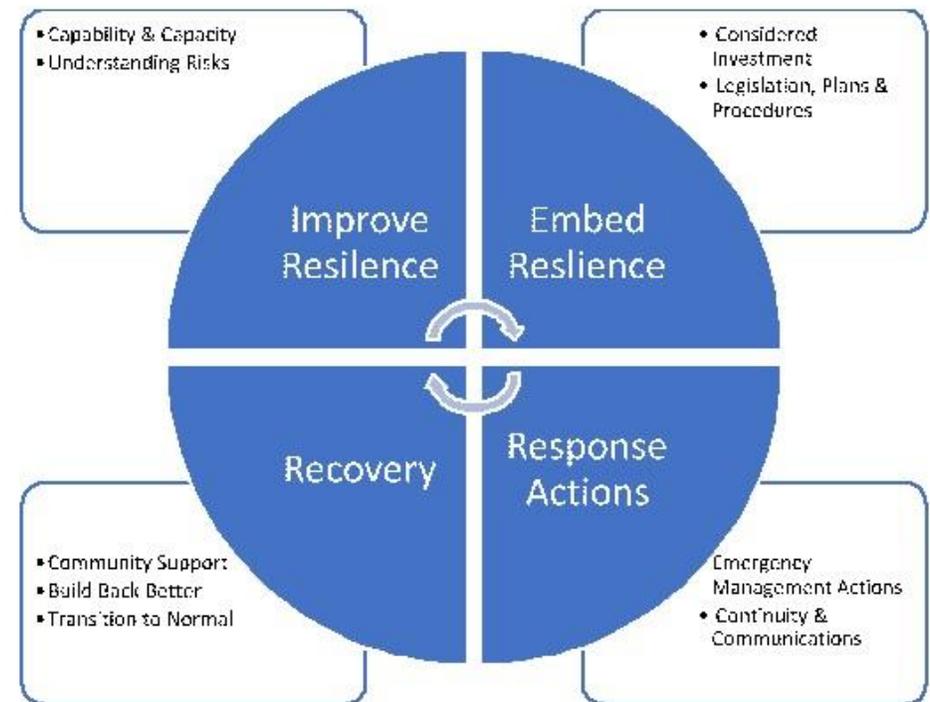
A robust and healthy institutional framework allows the optimal operation of DRM systems.

The process to institutionalize DRM throughout a country requires consistent investment over many years.

During times of response to natural and other disaster events, ensuring and retaining public trust is essential.

Although the general components of the DRM system need to be centralized, there are benefits to DRM activities being decentralized and emphasizing that local authorities are primarily responsible for building resilience through enabling public and private sector participation, including volunteer organizations throughout the community, through planned actions with focus on risk management.

A great effort is needed to avoid corruption



ON CAPACITY BUILDING:

To strengthen capacity building, it is recommended to make country-scale vulnerability atlases identifying areas susceptible to be affected by different natural hazards.

All stakeholders should be aware and use updated engineering codes of practice.

For an adequate response, people should be trained about “*Dos and Don’ts*” during the disaster.

The risk-awareness and involvement in its management should start from childhood; afterwards, the active participation in DRM activities is perceived to be normal to everyone.



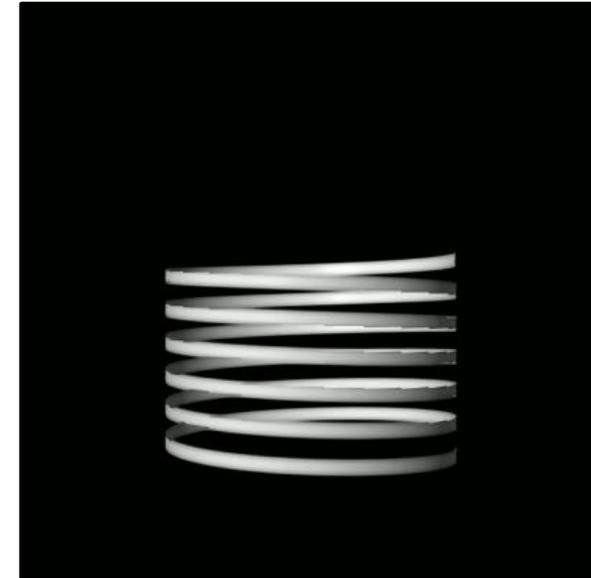
TWO KEY CONCEPTS

Culture of risk



- At all times, to be aware that a hazardous event can happen.
- That there is a risk of losing assets, property, health or even the life.
- That this can be avoided.
- Start learning how.

Resilience



- Withstand the impact without breaking.
- Adapt temporarily.
- Recover quickly.
- Turn out to be better

2022 INTERNATIONAL DAY FOR DISASTER RISK REDUCTION

October 13th
**International Day for
Disaster Risk Reduction**
#EarlyWarningForAll

*Disasters are not natural
Earth is a powerful dynamic planet
Do not expose to its hazards
Reduce your vulnerability
Be prepared to withstand impacts
Ensure a quick recovery
Build back better and wiser
This is to be resilient*



**WFEO Committee on
Disaster Risk Management**

Fires in California – Photo Noah Berger AP