

WFEO STANDING COMMITTEE ON DISASTER RISK MANAGEMENT (WFEO-CDRM)

STRATEGIC PLAN (2018-2021)

Hosted by Peruvian Association of Professional Engineers



Updated November 2018



About C	DRM				
Mandate	The Committee on Disaster Risk Management (CDRM) was established at the WFEO General Assembly held in December 2009, Kuwait, having as role minimizing the potential damage and risk to human life and damage through the proper application of technology.				
	The CDRM shall support the WFEO and the engineering profession worldwide by encouraging and supporting sustainable engineering approaches that reduce disaster risk. The CDRM focuses on contributing to the implementation of prevention and reduction measures upon the effects of disasters, implementation of the global disaster risk reduction initiative, Sendai Framework for Disaster Risk Reduction 2015-2030.				
Who	CDRM is a WFEO standing technical committee dedicated entirely to disaster risk management. The CDRM is headed by a Chair, during its trajectory this committee has had two chairs: Dr. Yumio Ishii (2009-2013) and Dr. Toshimitsu Komatsu (2014-2017). Dr. Jorge Alva is the CDRM's third chair from 2018 to 2021.				
	CDRM mobilizes and coordinates a network composed of engineers linked to the public, private and academic sectors from different parts of the world.				
What	CDRM coordinates international engineering efforts on disaster risk management through subcommittees. CDRM started with two subcommittees: Water-related Disaster Risk Management (WDRM) and Earthquake-related Disaster Risk Management (EQDRM). In 2013, the subcommittee on capacity building for Natural Disaster Risk Management (CBNDRM) was established.				
	These subcommittees have a new denomination from 2018: water and climate-related Disaster Risk Management (WCDRM), earthquake and tsunami-related Disaster Risk Management (ETDRM), and capacity building-for Disaster Risk Management (CBDRM).				
Where	CDRM executes its mandate through its headquarters in the Peruvian Association of Professional Engineers based in Lima (Peru) for a term of four years.				
	It should be mentioned that the CDRM was hosted by the Science Council of Japan and the Japan Federation of Engineering Societies (JFES) for a period of eight years.				



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INTRODUCTION AND BACKGROUND

The so-called natural disasters have caused more than seven trillion US dollars in economic damage and eight million deaths, since the start of the 20th century. Earthquakes, storms, volcanic eruptions, landslides and floods of diverse origin have hit humankind and its development infrastructure. Within this framework, engineering appears as a key set of disciplines using updated scientific knowledge to address the risk that such natural phenomena could become disastrous events.

The WFEO Committee on Disaster Risk Management is a motivated team of engineers that work voluntarily for the development and strengthening of a worldwide network of scientists and engineers, who deal with hazardous natural phenomena, in order to reinforce the various processes of Disaster Risk Management.

This Strategic Plan used as its starting point the Strategic Plan 2013-2017 of the Science Council of Japan. The Plan review validated continued engineering engagement to create safer, sustainable and prosperous societies. The review further recommended that CDRM should contribute to implementation of prevention and reduction measures upon the effects of disasters, and other processes aiming to avoid loss of life and property, and to reduce human suffering due to the damaging effects of natural hazards. Thus, the CDRM Strategic Framework is developed to support through engineering the implementation of the global disaster risk reduction initiative, Sendai Framework for Disaster Risk Reduction 2015-2030 and the 2030 Agenda for Sustainable Development.

The Strategic Framework sets directions by outlining operating principles, objectives, expected results, results indicators, outputs and main activities to achieve its vision for the next four years. The Plan will be updated annually based on the progress made and to respond to changes in the environment.



WFEO Strategic Approach

Vision 2015-2019

To be the acknowledged global leader of the engineering profession.

Mission

To be the unified voice of the engineering profession in providing strategic engineering guidance to global society.

CDRM-WFEO Strategic Framework 2018-2021

Vision 2018-2021

To be a permanent international platform for support on Disaster Risk Management (DRM), through which knowledge and sustainable practices are integrated and disseminated to reduce vulnerability and increase resilience of populations.

Mission

As a standing committee of WFEO, the CDRM aims to promote the culture of disaster risk management through the dissemination of applicable knowledge and best engineering practices.

To promote research and exchange of experiences in DRM at local, regional and global levels.

WFEO-CDRM Mandate

The WFEO-CDRM shall support the WFEO and the engineering profession worldwide by:

- Encouraging countries to implement the Sendai Framework for Disaster Risk Reduction;
- Maintaining the CDRM policies driven by Japan headquarters to achieve disaster risk reduction;
- Promoting the implementation of National Committees on Disaster Risk Management;



- Encouraging and supporting CDRM team leaders to organize international webinars, technical-scientific events and publication related to their work within the strategic plan;
- Developing and promoting DRM policies, strategies and practices to reduce disasters caused by natural phenomena;
- Strengthening the committee's visibility and presence in the public sector, academic institutions, and multilateral organizations.

Operating Principles

The WFEO-CDRM will conduct its activities in a transparent, inclusive and consultative manner among its members as well as the other committees and structures within the WFEO by:

- Convening and incorporating the WFEO national members to be part of this committee;
- Working with international and local organizations to develop projects in the issues dealt with by the subcommittees;
- Promoting research in disasters caused by natural phenomena such as: earthquakes, landslides, avalanches, rock falls, tsunamis, droughts, floods, frost, volcanic eruptions, hurricanes, among others;
- Participating as WFEO representative in the UN System and representing WFEO at meetings on disaster issues;
- Organizing technical-scientific events to exchange technical ideas and engineering experiences to promote DRM;
- Channeling funds from World Bank (WB), United Nations (UN), Inter-American
 Development Bank (IDB), United States Agency for International
 Development (USAID), Japan International Cooperation Agency (JICA),
 Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), among
 others, to support committee's proposals to reduce climate and disaster risks.

SWOT Analysis

This analysis was carried out by the outgoing CDRM, with the aim of having a diagnosis of the committee. This will contribute to the new headquarters raised the



actions that must be implemented to take advantage of the opportunities detected and prepare against threats considering its weaknesses and strengths.

Strengths	Weaknesses			
Continuity (e.g., holding an international symposium on Disaster Risk Management)				
Active supporters (Science Council of Japan, Japan Federation of Engineering Societies, and Kyushu University) with funding, people etc.	Lack of Funding			
Availability of Engineering Resources	Secretariat of Human Resources			
Networking of Science & Technology communities	Needs more formal members from other countries			
Great leadership from Japan				
Earthquake; floods; tsunami				
Relationship with annual International Institute for Infrastructure Resilience and Reconstruction (IIIRR) conference				
International network of engineering societies				
Engineering essentialness for practice and an application				
Opportunities	Threats			
Sendai Framework for Disaster Risk Reduction (SFDRR)	None			
Sustainable Development Goals (SDGs)				
Global Facility for Disaster Reduction and Recovery (GFDRR) by the World Bank				
Expand to cover other disasters				

Focused Area

Because there are a wide variety of disaster and risk management categories, diverse methodologies and technologies are needed to deal with them. The CDRM activities will be oriented to consider all different disasters. The three subcommittees are: Water and climate-related Disaster Risk Management (WCDRM), Earthquake and tsunami-related Disaster Risk Management (ETDRM), and Capacity Building for Disaster Risk Management (CBDRM), in order to deal with related types of disasters.



The WCDRM subcommittee

Extreme natural phenomena related to water, with the possibility of causing disasters such as floods, landslides, storms and droughts, are associated with the climate; there are also extreme weather behaviors such as frost that can cause disasters. For this reason and in order to integrate the study of disaster risk related to water with its origin and its possible intensification by climate change, the WCDRM members are presenting a proposal to include Climate in the name of this subcommittee.

The main objective of this subcommittee is to contribute to reduce disaster risks and to increase population resilience in the event of extreme weather events.

☐ Objectives:

- Facilitate records/information for identifying (including geographical location)
 and characterizing natural and anthropogenic phenomena that may increase
 threats or vulnerabilities associated with water-related disasters;
- Facilitate records/information about Early Warning Systems for assessment, adaptation and vulnerability to climate change;
- Facilitate data records to local and regional authorities for timely decisionmaking in water and climate-related disaster risk management;
- Strengthen a water culture to improve production habits, the use of efficient technologies, and provide a legal framework for environmental issues at the level of catchment areas and urban zones.

☐ Goals:

- Obtain risk zoning maps of potential disasters related to water and climate change that will form part of a Global Risk Map of disasters for the use of authorities and their respective mitigation;
- Obtain reports of Early Warning Systems for assessment, adaptation and vulnerability to the climate, for the use of the authorities in the mitigation of damage;
- Strengthen mechanisms and develop strategies to ensure the use of the information gathered by decision-makers;
- Establishment of international technical cooperation programs and projects with WFEO national members.



The ETDRM subcommittee

Strong earthquakes occur in different geological settings all around the world: active continental margins, island arcs and large crustal fault systems, and their effects are worse when tsunamis follow them. Promoting and sharing knowledge and experiences on earthquake science and engineering is a key role to be played by the WFEO ETDRM as support for the disaster risk management processes: risk assessment, reduction, prevention, preparedness and response as well as recovery and reconstruction of the affected infrastructure.

□ Objectives:

- Promoting innovative engineering to increase earthquake and tsunami resiliency of urban areas;
- Promoting awareness of earthquake and tsunami disaster risk and assessing best practices and lessons learned;
- Promoting early warning systems according to the type of hazard for the decision making;
- Contributing and participating in the implementation of programs for the rehabilitation and rebuilding of damages after earthquakes and tsunamis;
- Promoting the development and application of Business Continuity Plans.

☐ Goals:

- Organizing and supporting technical conferences, workshops and/or publications related to earthquake and tsunami engineering;
- Organizing and supporting technical meetings, presentations, workshops and/or publications for authorities and social organizations;
- Advising on the implementation of monitoring and alarm systems in vulnerable regions, as well as drills for preparation of the population;
- Appointing experts in rehabilitation and rebuilding to support local authorities in regions affected by earthquake and tsunami-related disasters;
- Organizing specialized meetings and presentations, and disseminating the business continuity concept for public and private sector.



The CBDRM subcommittee

Capacity building under the CBDRM is aimed at improving the capacity and skills of engineering professionals to carry out effective action in the face of disasters, and is a prerequisite for the proper implementation of prevention and mitigation measures that contribute to the implementation of the Sendai Framework.

The CBDRM subcommittee considers it important to update scientific knowledge, skills and technical skills continuously, with the participation of strategic partners and international experts.

□ Objectives:

- Providing information and support on DRM practices and programs, focusing on best practices to develop recommendations for the implementation of a DRM program;
- Organizing on-site and on-line training courses on disaster risk management;
- Organizing scientific and technical events related to DRM.

☐ Goals:

- Implementation of a platform for data and information related to DRM;
- Development of a DRM programs and good practices communications plan that includes: DRM early warning and post-disaster recovery, renovation and reconstruction systems;
- Implement processes to provide support for DRM on-site and virtual teaching and learning environments;
- Implementation of a platform for the development of virtual courses;
- Development of a world-wide DRM conferences tour.

Work Plan

The CDRM work plan is in accordance with its Mandate and the activities of the subcommittees.

The proposals for the second year of management are:

- Encourage WFEO national members to establish their national DRM committees.
- Implement a platform for online courses in DRM.



- Convene new members for the subcommittees.
- Establish agreements with national and international institutions/organizations related to DRM.
- Channeling funds from national and international institutions to support committee's proposals to reduce climate and disaster risks.

Focused Sustainable Development Goals





Target 11.5-By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in

vulnerable situations.

Target 11.B - By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels.

Sustainable development is a dynamic concept that has evolved and will continue to evolve in time to fulfill the social, environmental, institutional, political and economic needs of present and future generations. Disaster risk management has experienced



a similar transformation. It used to consist of a punctual intervention to attend to disasters, and it has now become a fundamental component to achieve true sustainable development.

Committee Structure, Representation and Membership

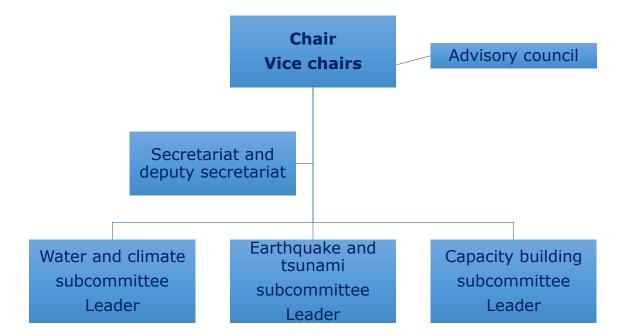
The WFEO-CDRM 2018-2021 is hosted by Peruvian Association of Professional Engineers (CIP), in Lima, Peru, and chaired by Dr. Jorge Alva Hurtado. The Secretariat of this committee is in charge of Dr. Javier Arrieta Freyre and Dr. Lizett López Suárez is the deputy secretariat.

The CIP will increase the number of members in each subcommittee; recruitment of members will be an on-going effort. To this end, CIP will convene specialists from other continents such as North America, Latin America, Africa, Asia, Europe and Oceania.

There are two categories of membership, Member and Corresponding Member. A Member is an active participant on one or more projects or initiatives of the committee, and likely to attend the annual meetings of the Committee. If the Member is nominated and sanctioned by the WFEO Member Organization for their country, then this member has voting privileges for any motions put forward at CDRM meetings. If the Member is not the official representative of the WFEO Member Country, they may participate in all activities and meetings of the CDRM, but cannot vote.

The organizational chart of CDRM is shown below:





Work Plan for Secretariat

The Secretariat is responsible for the following:

- Budgeting annual activities and dealing with administrative issues;
- Preparing and submitting activity reports, including annual and bi-annual reports;
- Helping the CDRM Chair by circulating memoranda and being responsible for liaison when the Chair participates in the WFEO extended executive council meetings, the WFEO general assembly, and other conferences;
- Preparing events such as international symposia and workshops;
- Managing the CDRM budget;
- Communicating with WFEO office in Paris and preparing reports for WFEO headquarters;
- Updating the website and issuing an annual newsletter;
- Providing news and relevant data to WFEO for its website.

Website Arrangements and Communications Plan

 Keeping the website updated according to the activities hosted by CDRM and WFEO;



- Strengthening communications with WFEO headquarter, WFEO national and international members and other WFEO Standing Technical Committees (STCs) as well as working/Task groups, informing them about CDRM activities;
- Strengthening communications with CDRM members by every means, especially by internet such as website, email and mobile applications, as may be developed;
- Strengthening communications with other players and stakeholders, especially relevant engineering organizations with whom to work together to promote DRM for sustainable development;

Four year Budget

As host, the CIP will provide financial support for the secretariat, supporting travel expenses for the Chair, the use of rooms, equipment, staff, activities sponsored by CDRM and office supply expenses. The annual budget will be about 100,000 EUR; a detailed breakdown of the budget is shown below:

ITEM	DESCRIPTION	COST (EUR)	
Secretariat	Office expenses; personnel costs; cost	22,000	
	of printing; stationery; paper; etc.		
Cost for attending WFEO	Cost for attending WFEO Chair and secretariat staff travel		
meetings	expenses, accommodation, and		
	subsistence costs.		
Cost to implement a	Technical expenditure and others.	30,000	
platform to courses			
Cost for promoting DRM	Travel expenses, meetings, etc.	14,000	
national committees			
Cost to establish	Contact with national and international	6,000	
agreements	organizations related to DMR.		
	100,000		

The four year budget will be about 400,000 Euro. Besides receiving funding from CIP, CDRM will make all necessary arrangements with financing agencies to gain financial support from other donors.



ANNEX

STRATEGIC MATRIX

WCDRM Subcommittee					
Objective	Goal	Measurable indicators	Means of verification	Activities	Important assumptions
Facilitate records/information for identifying (including geographical location) and characterizing natural and anthropogenic phenomena that may increase threats or vulnerabilities associated with water-related disasters.	Obtain risk zoning maps of potential disasters related to water and climate change that will form part of a Global Risk Map of disasters for the use of authorities and their respective mitigation.	% of member countries with zoning records / Number of participating member countries	Inventory of GIS resources dedicated to monitor and control	Develop database and attach it to the WFEO CDRM platform	Participation of the WFEO CDRM member countries, international public and private entities, and DRM specialists
Facilitate records/information about Early Warning Systems for assessment, adaptation and vulnerability to climate change.	Obtain reports of Early Warning Systems for assessment, adaptation and vulnerability to the climate, for the use of the authorities in the mitigation of damage.	% of member countries with Early Warning Systems / Number of participating member countries	Inventory of GIS resources dedicated to monitoring and control	Create checklist for self-assessment of vulnerability conditions to climate change	
Facilitate data records to local and regional authorities for timely decision-making in water and climate-related disaster risk management.	Strengthen mechanisms and develop strategies to ensure the use of the information gathered by decision-makers.	% of communications to authorities of member countries on zoning maps of potential risks / Number of participating member countries		Attach the database obtained to the WFEO CDRM platform	Participation of the WFEO CDRM member countries, international public and private entities, and DRM specialists
Strengthen a water culture to improve production habits, the use of efficient technologies, and provide a legal framework for environmental issues at the level of catchment areas and urban zones.	Establishment of international technical cooperation programs and projects with WFEO national members.	Number ITC programs / projects in execution and implemented in member countries / Total number of member countries		Develop a program of conferences, seminars, lectures, on-site and virtual	Participation of the WFEO CDRM member countries, international public and private entities, and DRM specialists



ETDRM Subcommittee						
Objective	Goal	Measurable Means of indicators verificatio		Activities	Important assumptions	
Promoting innovative engineering to increase earthquake and tsunami resiliency of urban areas	Organizing and supporting technical conferences, workshops and/or publications related to earthquake and tsunami engineering	Percentage of activities supported or coorganized from the total of the activities held in the period.	Reports and publications	1. Map vulnerable regions. 2. List meetings to be held. 3. Contact the organizers and set a special session up.		
Promoting awareness of earthquake and tsunami disaster risk and assessing best practice and lessons learned	Organizing and supporting technical meetings, presentations, workshops and/or publications to authorities and social organizations	Percentage of activities from the proposed target.	Reports and publications	1. Map vulnerable regions. 2. Enter in contact with DRM authorities. 3. Look for funding 4. Set a series of meetings up.	The ET subcommittee members are able and willing	
Promoting early warning systems according to the type of hazard for the decision making	Advising the implementation of monitoring and alarm systems in vulnerable regions, as well as drills for preparation of the population;	Percentage of requests advised from the total required.	Reports and publications	1. Define target regions through polls. 2. Map resources and experts in EWS in different regions. Articulate actions to achieve goals.	to a) identify needs, b) rise money from funding agencies,	
Contributing and participating to the implementation of programs for the rehabilitation and rebuilding of damages after earthquakes and tsunamis	Appointing experts in rehabilitation and rebuilding to support local authorities in regions affected by earthquake and tsunami-related of disasters.	Percentage of assisted cases from the total of disasters that occurred.	Reports and publications	1. Monitoring of disasters that occurred in the world. 2. Look for funding. 3. Appoint the expert.	3) establish and extend an expert network worldwide.	
Promoting the development and application of Business Continuity Plans	Organizing specialty meetings and presentations, and disseminating the business continuity concept for public and private sector.	Percentage of activities from the established target.	Reports and publications	1. Define target regions through polls. 2. Map resources and experts in BC/OC in different regions. Articulate actions to achieve goals.		



CBDRM Subcommittee					
Objective	Goal	Measurable indicators	Means of verification	Activities	Important assumptions
Providing information and support on DRM	Implementation of a platform for data and information related to DRM	Number of visits to the platform.	Platform with counter of visits and registration of enquires.	Project for the implementation of platform.	Access to the WFEO CDRM platform.
practices and programs, focusing on best practices to develop recommendations for the implementation of a DRM program	Development of a DRM programs and good practices communications plan that includes: DRM early warning and post-disaster recovery, renovation and reconstruction systems	Number of press releases, case studies published, photo contest and other / month	Activity report, including coordination with partners who sent information in DRM.	Dissemination to the public, private and academic sector, and society through the publication of information related to DRM in electronic and printed media.	Participation of the WFEO CDRM member countries, international public and private entities, and GRD specialists.
Organizing on-site and on-line training courses on disaster risk management	Implement processes to provide support for DRM on-site and virtual teaching and learning environments	Number of implement processes to provide support for environments	Use of support services for the environments.	Identify topics, specialists, target audience, frequency, to offer courses in DRM.	Platform with continuous interactive information management and with appropriate and useful pedagogical methodology for participants.
	Implementation of a platform for the development of virtual courses.	Number of virtual courses/month Number of onsite-courses/month	Brochure containing a summary of virtual and onsite courses.	Project for the implementation of a virtual courses platform.	Participation of the WFEO CDRM member countries, international public and private entities, and DRM specialists.
Organizing scientific and technical events related to DRM	Development of a world-wide DRM conferences tour.	Number of events scheduled per year	List of attendees to the events.	Organize conferences in Latin America, Asia, Africa, and Europe.	WFEO CDRM member countries agree to organize events and to obtain sponsorship for events.



CDRM WFEO Peruvian Team

The development of this Plan was overseen by Dr. Jorge Alva and Dr. Javier Arrieta, and coordinated by Dr. Lizett López.

CIP is indebted to its members for their engagement on iterative drafts that resulted in the current document.

WCDRM subcommittee

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Abbreviations

CBCDRM - Capacity building-for Disaster Risk Management - Peruvian Association of Professional Engineers CIP

CISMID - Peruvian-Japanese Center of Seismic Research and Disaster

Mitigation

- Disaster Risk Management DRM

ETCDRM - Earthquake and tsunami-related Disaster Risk Management

- Geological, mining and Metallurgical Institute INGEMMET

PUCP - Pontifical Catholic University of Peru - National University of Engineering UNI - Standing Technical Committees STC

WCDRM - Water and climate-related Disaster Risk Management



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