



# **WORLD FEDERATION OF ENGINEERING ORGANIZATIONS**

## **PROGRESS REPORT STANDING TECHNICAL COMMITTEE ON DISASTER RISK MANAGEMENT 2018 ACTIVITIES**

Dr. Jorge Alva Hurtado  
Chairman WFEO/CDRM

October 15, 2018

Lima, Peru

## 1. INTRODUCTION

This report to the WFEO Executive Council gives a brief outline of the activities that the Committee has performed from December 2017 to September 2018 and projects the plans for the year 2019. The committee's activities focused on training by means of the organization of the 12th international symposium on disaster risk management and in recruiting new members for the committee.

## 2. BRIEF BACKGROUND

The Peruvian Association of Professional Engineers (CIP) became the chair of the WFEO-CDRM on December 29 2017 in Rome, Italy. The transfer of responsibility from the previous headquarters, the Science Council of Japan (SCJ) was successfully implemented.

In order to organize their activities, the Peruvian members of the CDRM prepared the 2018-2021 Strategic Plan, which was circulated among all the committee members for their input. Said plan was approved at the General Assembly meeting in Rome.

The committee's organizational structure was subjected to some adjustments: the Chairman is Dr. Jorge Alva, the position of Secretary was occupied by Dr. Javier Arrieta (Peru) and that of Deputy Secretary by Dr. Lizett López (Peru). Dr. Javier Piqué del Pozo was appointed head of the earthquakes and tsunamis sub-committee, while Prof. Kenichi Tsukahara and Er. Ashok K Basa heads of the water and climate sub-committee, and Capacity Building sub-committee, remained at their posts.

## 3. PLANNED AND EXECUTED ACTIVITIES

For the first year of activities, the CDRM's Peru headquarters proposed to carry out the following activities:

Activities	Status
Organize an International event on post disaster reconstruction	Finished
Convene new members for the subcommittees	In process
Establish agreements with national and international institutions/organizations related to DRM	In process
Channeling funds from national and international institutions to support committee's proposals to reduce climate and disaster risks	In process
Encourage WFEO national members to establish their national DRM committees	In planning
Design a platform for online courses in DRM, internationally	In planning
Organize the General Meeting of the CDRM	Pending

The organization of a face-to-face general meeting of the CDRM in Peru was disregarded. Virtual meeting options are the best alternative.

### **3.1 Organize an International event on post disaster reconstruction**

The current headquarters of the committee wanted to follow up on the Symposia organized by the previous Japan headquarters since 2009, in order to disseminate that the DRM is key to promote disaster prevention and reduction. So the Disaster Risk Management Committee of the World Federation of Engineering Organizations (WFEO), led by the Peruvian Association of Professional Engineers with the support of the National University of Engineering, organized the 12th International Symposium of Disaster Risk Management, which took place for the first time in Peru, host country of the WFEO-CDRM. On this opportunity, the event's theme was Reconstruction aimed at resilient cities, a subject of special interest for our country, that has been plunged into said process as a result of the disasters caused by the so-called Coastal El Niño of 2017.

The Symposium took place between the 5<sup>th</sup> and 8<sup>th</sup> of September, 2018 at the Lima Convention Center and included the participation of 700 attendees from the public sector, the country's regional and municipal governments, academia, the private sector, and the general public. This event took place within the framework of the activities planned in the 2018-2021 Strategic Plan of the WFEO's Disaster Risk Management Committee.

The event's four keynote conferences presented cases of post-disaster reconstruction originating from the experiences of China (2008 Wenchuan Earthquake), Haiti (2010 Earthquake), Colombia (2010-2011 La Niña Phenomenon) and United States (2005 Katrina Hurricane). In the 5 thematic sessions, the following themes were developed: Regulations and Planning, Research, Technology and Infrastructure, Economy and Project Management, Institutional and Social Linkages, and Capacity-Building for Resilience. National and international specialists undertook analyses, proposals, and critiques on how to focus on each subject to achieve an adequate reconstruction of the cities affected by disasters.

In line with adhering to scientific rigor, short paper sessions were organized, where 45 technical-scientific works were presented, through oral and poster media, with a focus on disaster risk management. On Saturday, September 8, last day of the event,

technical visits with specialist guides were made in Lima and Ica to confirm on-site disaster risk conditions.

The Symposium ended with the reading of the conclusions of the 5 technical workgroups, along with the reading of the Lima Declaration for Resilient Cities. The symposium was successfully ended with greatly valuable talks by the speakers and their constructive discussions with the audience.



Dr. Alva's opening remarks



Participants at the Symposium



Dr. Xun Guo Keynote speaker



Dr. Mauricio Sarrazin



Thematic panels



Dr. Vilas Mujumdar

### 3.2 Convene new members for the subcommittees

Actually, the Committee on Disaster Risk Management (WFEO-CDRM) has over 30 active members from seven countries. The members of the committee that joined during the tenure of the Japan headquarters confirmed their presence and activities on the committee. During these months 12 new members have joined the committee, of whom half are Peruvian engineers for the water and earthquake sub-committees. We are in the process of identifying and convening DRM specialist engineers in Latin America. The International Symposium allowed us to contact several of them, among who are: Dr. Sergio Alcocer (Mexico), Dr. Mauricio Sarrazin (Chile), Dr. Xun Guo (China), Doris Suaza P.E. (Colombia), and Ricardo Peñaherrera P.E. (Ecuador).

## New CDRM members

Dr. Javier Piqué del Pozo	Peru	Eng. Jorge Bustamante Dawson	Peru
MSc. Richard Pehovaz	Peru	Dr. Nicola Tarque	Peru
Dr Jorge Vargas	Peru	Dr. Miguel Estrada Mendoza	Peru
Dr. José Macharé Ordóñez	Peru	Mikaël Gartner, P.E.	USA
Dr. Kimiro Meguro	Japan	Dr. Taiki Saito	Japan
Dr. Masayuki Nagano	Japan	Dr. Yoshikazu Takahashi	Japan

**3.3 Agreement with national and international institutions/organizations related to DRM**

Thanks to our contact P. Eng. Jacques de Mereuil, WFEO executive director, we have been able to establish communications with P. Eng Soichiro Yasukawa, disaster risk reduction and resiliency coordinator for UNESCO in Paris. The committee is interested in signing a cooperation agreement with UNESCO, as well as with the Latin American region UNISDR.

**3.4 Channeling funds from national and international institutions to support committee's proposals to reduce climate and disaster risks**

For the organization of the International Symposium, we raised funds from 3 Peruvian companies for an amount of US\$ 15,500. These funds were allocated to covering expenditures for the organization of the event. For the committee's next activities we will rely on Peruvian companies and will seek out international contacts in order to request support, not all of which needs to be expressed in cash contributions.

**3.5 Other activities**

The first online meeting of the WFEO-CDRM was held on September 26, at 8pm Peruvian time. Dr. Jorge Alva presented his proposal of activities for the year 2019, which were well received by the participants at this meeting and they agreed to discuss more about it at the London meeting. Participants of the online meeting: Dr. Jorge Alva Hurtado, Dr. Vilas Mujumdar, Er. Ashok Basa, Dr. Nicola Tarque, Jorge Bustamante P.E., Loren Ruiz P.E., Dr. Jing Peng, Dr. Julio Kuroiwa (next new member) and Dr. Lizett López.

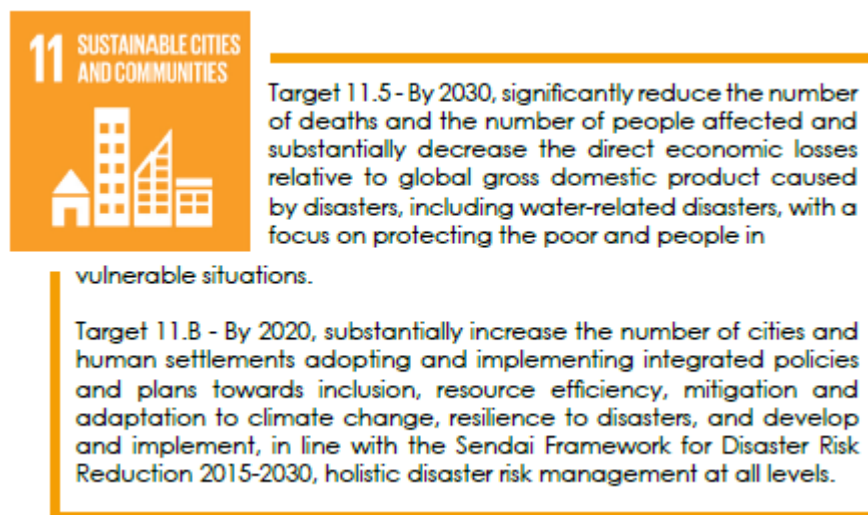
The CDRM, through its water and climate committee, prepared a project focusing on the Sustainable Development Goals, called the Piura River, Peru, Early Warning

System. The proposal initially focuses on Peru's reality, but through its committee members from other countries it intends to identify other experiences.

Dr. Miguel Estrada, member of the earthquakes and tsunamis sub-committee was invited to participate as a speaker in the workshop on natural disasters and their effect on infrastructure organized by the UNAM's Engineering Institute, the Mexican Society of Seismic Engineering and the Society of Structural Engineering in Mexico that took place on May 8 and 9. He participated as a WFEO-CDRM representative.

#### 4. PROJECTIONS FOR 2019

For the year 2019, WFEO-CDRM will focus on Objective 11 of the Sustainable Development Goals. This objective deals with the issue of sustainable cities and communities.



Two activities were prioritized by the CDRM, these being:

##### 4.1 Encourage WFEO national members to establish their national DRM committees

The CDRM will contact the presidents of the engineering associations in Latin America and other regions to inform on the benefits of relying on a national committee for disasters. The threat of the occurrence of natural phenomena of various kinds and the disasters they provoke are, to a greater or lesser degree, present throughout the world. By means of the creation of national DRM groups, a network for the exchange of information and experiences could be established. The WFEO-CDRM would be the means for relaying information, disseminating activities and exchanging experiences,

thus providing engineering support to the implementation of the global initiative for disaster risk reduction established within the 2015-2030 Sendai Framework for Disaster Risk Reduction and the achievement of the Sustainable Development Goals approved by the UN.

#### **4.2 Design an internationally platform for online courses in DRM**

With the aim of promoting DRM capacity-strengthening programs and achieving a higher number of participants, the WFEO-CDRM proposes the use of technology to design an international platform of on-line GRDM courses.

The objective of the platform will be to provide a forum where engineers and specialists in other areas and from different countries may share DRM knowledge and experiences.

### **5. DETAILED BUDGET AND SOURCES OF FUNDS**

The financial statement of the WFEO-CDRM from January to September 2018 is shown below.

The budget for Mid-FY2018 was spent as planned the previous year. The funds were used mainly in the organization of the 12th International Symposium, as well as in the participation in international meetings (including registration fees), such as the WFEO extended Executive Board meetings in Paris, March 2018 (3 people), and the Executive Council meetings in London, October 2018 (3 people).

#### **WFEO-CDRM Financial Statements for Mid-FY2018**

<b>Revenue</b>		
<b>Content</b>	<b>Unit</b>	<b>Amount</b>
WFEO allocation	EUR	0.00
CIP allocation	US\$	100,000
Income generated by the 12 <sup>th</sup> International Symposium	US\$	41,000
Sponsorship	US\$	15,500
<b>Expenditures</b>		
<b>Content</b>	<b>Unit</b>	<b>Amount</b>
1. WFEO Extended Executive Board meetings (Paris, France, March 2018)	<b>US\$</b>	<b>10,504</b>
- Airfare, accommodation and per diem	US\$	10,504
2. 12th International Symposium (Lima, Peru, September 5-8, 2018)	<b>US\$</b>	<b>91,330</b>

## WFEO-CDRM

- Invitation costs for guest speakers (accommodation, airfare, etc.)	US\$	8,232
- Printing and advertising	US\$	9,780
- Audio and video equipment	US\$	13,169
- Coffee break	US\$	16,970
- Event management company	US\$	26,917
- Others	US\$	16,262
3. Report on WFEO-CDRM activity	<b>US\$</b>	<b>15</b>
- Consumable office supplies (e.g., envelopes)	US\$	15
4. WFEO Executive Council and GEC2018	<b>US\$</b>	<b>11,985</b>
- Airfare, accommodation and per diem	US\$	11,985
<b>Total revenue</b>	<b>US\$</b>	<b>156,500</b>
<b>Total expenditures</b>	<b>US\$</b>	<b>113,819</b>
<b>Balance</b>	<b>US\$</b>	<b>42,666</b>

This positive account balance was reverted to the CIP, thus the funds granted by the CIP to the WFEO-CDRM activities were US\$ 57,334.

### **WFEO-CDRM Secretary**

Dr. Javier Arrieta Freyre  
Peruvian Association of Professional Engineers  
E-mail: decano@ciplima.org.pe

### **WFEO-CDRM Deputy Secretary**

Dr. Lizett López  
Peruvian Association of Professional Engineers  
Tel: +51-4456540 (119)  
E-mail: llopezs@cip.org.pe



## ANNEX

### 1. LIMA DECLARATION FOR RESILIENT CITIES



#### LIMA DECLARATION FOR RESILIENT CITIES

The Disaster Risk Management Committee of the World Federation of Engineering Organizations (WFEO) led by Peru and meeting for the 12th International Symposium on Disaster Risk Management: Reconstruction for Resilient Cities, agreed to support the consensually drafted proposal of the participants in favor of reducing disaster risks arising from natural hazards such as earthquakes, tsunamis, floods, hurricanes and landslides, among others.

The Committee considers that when being implemented by different countries, the recommendations should adapt to their conditions concerning social structure, policy and engineering.

The 12th International Symposium on Disaster Risk Management: Reconstruction for Resilient Cities organized in Lima convened experts from China, Japan, United States, Canada, Chile, Colombia, Ecuador, Switzerland, Mexico, Peru and Haiti to share their experiences on disasters and reconstruction. The event covered fundamental themes such as regulations and planning, research, technology and infrastructure, economy and project management, institutional and social linkages and capacity-building for resilience.

The specialists presented case studies of advances and proposals in post-disaster reconstruction processes. The importance of fostering a "culture of resilience to disasters" was underscored, and for every dollar invested in prevention, 4 dollars are saved in damages dealt with.

For "resilient" post-disaster reconstruction, society must participate in the entire process, be capable of creating its own new disaster risk reduction mechanisms, as well as developing responses in the face of climate change while implementing the UN-approved Sustainable Development Objectives and making use of the advances of science and engineering.

During the Symposium we have agreed that reconstruction must be in charge of teams made up by local experts in the various disciplines, in order to ensure that community needs are met while respecting the principles and guidelines for their normal re-establishment.



These teams have the responsibility of creating strategies for the reconstruction of resilient cities, adapting experiences and lessons learned from other cases to specific needs, while informing the population and stakeholders on the actions to be taken.

Taking into account all these considerations, the consensus of the 12th International Symposium on Disaster Risk Management: reconstruction for resilient cities and the Disaster Risk Management Committee of the WFEO submit before the international community, the authorities of the various countries, and the Engineering Associations the following recommendations:

1. Create and foster Disaster Risk Management (DRM) policies at national, regional and local level to increase resilience and be prepared to address post-disaster reconstruction.
2. Promote capacity-strengthening programs in DRM for different sectors of society and government.
3. Develop a DRM culture, with technical and social capabilities, aimed at a permanent commitment to disaster risk reduction and an increase in resilience.
4. Address disaster risk management as a social and technical issue.
5. Facilitate the creation of an international multidisciplinary group of volunteer experts to support the activities of the WFEO/CDRM.
6. As part of the task of the Peruvian Association of Professional Engineers, foster the education in DRM of the population at its various levels, from schoolchildren to community leaders.

At the conclusion of this declaration, we wish to emphasize that the achievement of this symposium and its recommendations are informed by the mission of the WFEO/CDRM to provide engineering support to the implementation of the global initiative for disaster risk reduction established in the 2015-2030 Sendai Framework for Disaster Risk Reduction.




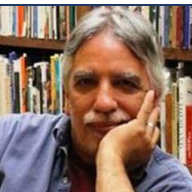

Signed in Lima, on September 7th, 2018.

**Jorge Elías Alva Hurtado**

Chairman of the Peruvian Association of Professional Engineers  
Chairman of the Disaster Risk Management Committee of the *World Federation of Engineering Organizations*

## 2. SYMPOSIUM PROGRAM

<b>5 September</b>			
17:30-18:00	<b>Opening remarks</b> Dr. Jorge Alva, WFEO-CDRM chair Dr. Javier Arrieta, WFEO-CDRM secretary		
18:00-19:30	<b>Keynote</b> Dr. Xun Guo Reconstruction Experience after the May 12, 2008 Wenchuan Earthquake		
			China
<b>6 September</b>			
09:00-10:30	<b>Keynote</b> Ivan Bartolini Towards sustainable changes in construction practices: from reconstruction to prevention - Evidence from Haiti		
			Haiti
11:00-12:30	<b>Thematic sessions</b>		
	<i>Regulations and planning</i> MSc. Edgar Quispe Remón Reconstruction and institutional strengthening with a vision of change		Peru
	<i>Research, technology and infrastructure</i> Dr. Shunichi Koshimura Paradigm shift of Japan's tsunami disaster management for enhancing disaster resilience		Japan
	<i>Economy and project management</i> MSc. Diana Rubiano Vargas Disaster recovery: strategies for planning and implementation		USA
	<i>Institutional and social articulation</i> Dr. Isabelle Thomas Rebuilding resilient communities: how to facilitate coordination between stakeholders for emergency and prevention as well as risk communication		Canada
	<i>Capacity building for resilience</i> Dr. Fumio Yamazaki Reconstruction towards Resilient Society: Japanese Experience		Japan

14:00-15:30	<b>Keynote</b> <a href="#">Doris Suaza</a> Dual purpose reconstruction: recovering the affected areas and fostering development adapted to climate change		Colombia
16:00-17:30	<b>Thematic sessions</b>		
	<i>Regulations and planning</i> <a href="#">Dr. Sergio Alcocer</a> The recent experience of reconstruction in Mexico following the earthquakes of September 2017		Mexico
	<i>Research, technology and infrastructure</i> <a href="#">Dr. Mauricio Sarrazin</a> Disaster management in Chile and Reconstruction Plan after the Maule earthquake on February 27, 2010		Chile
	<i>Economy and project management</i> <a href="#">Ivan Botter</a>		
	<i>Institutional and social linkage</i> <a href="#">Dr. Rogelio Altez</a> Building the next disaster - The reconstruction of Vargas state in Venezuela after the 1999 disaster		Venezuela
	<i>Capacity building for resilience</i> <a href="#">Ing. Julio Kuroiwa Horiuchi</a> Disaster Risk Management - Training to Save Lives		Peru

<b>7 September</b>			
09:00-10:30	<b>Keynote</b> <a href="#">Dr. Vilas Mujumdar</a> Creating Stronger Resilience in urban Regions - Lessons of Katrina Hurricane, New Orleans, USA		USA
10:30-13:00	<b>Short papers session</b> 18 short papers were presented simultaneously in two rooms		
14:30-16:30	<b>Short papers session</b> 18 short papers were presented simultaneously in two rooms		
17:00-18:00	<b>Round table conclusions</b> Reading the conclusions of the five thematic sessions		
18:00-19:00	<b>Closing remarks</b> Reading the Lima Declaration for Resilient Cities		

<b>8 September</b>			
07:00-18:00	<b>Technical guided visits</b> Visits to three different places in Lima to verify the risk conditions and analyze the strategies for their subsequent reconstruction		

### 3. WFEO-CDRM CURRENT AND NEW MEMBERS

Country	Name and title	Position
Peru	Dr. Jorge E Alva Hurtado	Chair, WFEO-CDRM
Japan	Prof. Syunsuke Ikeda	Vice Chair, WFEO-CDRM
USA	Dr. Vilas Mujumdar	Vice Chair, WFEO-CDRM
Subcommittee on Water and climate-related Disaster Risk Management (WCDRM)		
Japan	Prof. Kenichi Tsukahara	Leader
Canada	Prof. S. Chan Wirasinghe	Member
China	Dr. Jing Peng	Member
Japan	Dr. Yumio Ishii	Member
Japan	Dr. Kazumasa Ito	Member
Japan	Prof. Kazutoshi Kan	Member
Japan	Dr. Son Hung Nguyen	Member
Kuwait	Eng. Talal M. Al-Qahtani	Member
Peru	Eng. Loren M. Ruiz Garcia	Member
Peru	Eng. Jorge Bustamante Dawson	New member
Peru	MSc. Richard Pehovaz	New member
Peru	Dr Jorge Vargas	New member
Subcommittee on Earthquake and tsunami-related Disaster Risk Management (ETDRM)		
Peru	Dr. Javier Piqué del Pozo	Leader-New member
Peru	Dr. Alberto Delgado	Member
USA	Dr. Vilas Mujumdar	Member
Japan	Dr. Kimiro Meguro	New member
Japan	Dr. Masayuki Nagano	New member
Japan	Dr. Taiki Saito	New member
Japan	Dr. Yoshikazu Takahashi	New member
Peru	Dr. Miguel Estrada Mendoza	New member
Peru	Dr. José Macharé Ordóñez	New member
Peru	Dr Nicola Tarque	New member
USA	Mikaël Gartner, PE	New member
Subcommittee on Capacity Building for Disaster Risk Management (CBDRM)		
India	Er. Ashok K Basa	Leader
Canada	Prof. S. Chan Wirasinghe	Member
China	Prof. Fang Chen	Member
Kuwait	Eng. Ahmad H. Bahman	Member
USA	Prof. Vilas Mujumdar	Member
Secretary and Deputy secretary WFEO-CDRM		
Peru	Dr. Javier Arrieta Freyre	New member
Peru	Dr. Lizett Lopez Suarez	New member