



# THE INTERNATIONAL EMERGENCY MANAGEMENT SOCIETY

## Newsletter - Special Edition - ISSUE 7 - December 2018

ISSN 2033-1614

*A TIEMS Special Issue Covering*

*The TIEMS 25<sup>th</sup> Anniversary and 2018 Annual Conference in Manila, the Philippines.*



### The International Emergency Management Society Newsletter - Special Edition

*TIEMS network constitutes a large international multidisciplinary group of experts, with different educational backgrounds and various experiences. Their knowledge and experience are important to share with other experts worldwide. TIEMS has therefore decided to issue this additional newsletter, which we now call TIEMS Newsletter - Special Edition. This is the seventh issue, which we have dedicated to TIEMS 25th Anniversary and 2018 Annual Conference in Manila 13 - 16 November 2018. We invite other conferences and workshops, and RTD projects to use the opportunity to present the conference and workshop presentations and RTD projects to present articles of their results in the upcoming Special Edition Newsletters. We plan to have an issue three times a year. Please, give us feedback, and send us new articles for publication.*

**Alex Fullick**  
TIEMS Scientific Newsletter Editor

**DISCLAIMER:** *The opinions expressed herein are solely those of TIEMS and those responsible for the different articles and do not necessarily reflect the views of the Law and Justice. It remains for the National Courts and ultimately the European Court of Justice to interpret the Law. Under no circumstances will TIEMS be liable for any direct or indirect damages arising in connection with the use of this newsletter.*

#### Articles in this issue

*This issue is dedicated to*

**TIEMS 25<sup>th</sup> Anniversary and  
2018 Annual Conference in  
Manila**

- ✓ **Presentaion of Hirain  
Best Company**
- ✓ **Songpa Safety Training  
Center**
- ✓ **Disaster Risk  
Reduction  
Communication  
Platform**
- ✓ **TIEMS TQC  
Certification**
- ✓ **The AMaDeUs Approach  
to Earthquake  
Prediction**
- ✓ **Analysis of the  
Application of Haidexin  
Emergency Industry  
Platform in the  
Philippines**
- ✓ **A New Approach to  
Disaster Education**
- ✓ **From Protection To  
Resilience**
- ✓ **Poverty and Domestic  
Fuel Challenges**
- ✓ **And much more.....**

## Table of Contents

Message from TIEMS President .....	3
Editor's Message.....	4
TIEMS 25 <sup>th</sup> Anniversary and 2018 Annual Conference Report .....	7
HIRAIN Best Presentation .....	12
Songpa Safety Training Center, I-SAFE School .....	45
COMMUNITY = CITY / RESILIENCE .....	52
PASIG-MARIKINA River Channel Improvement Project .....	59
Analysis of the Application of Haideixin Emergency Industry Platform in the Philippines .....	62
A New Approach To Disaster Education.....	63
From Protection To Resilience .....	64
Lessons Learned From Korean Local Government Disaster Risk Reduction (DDR) Manuals and Capacity Building Activities .....	65
Assessment of the Risk and Effect of Flood in Some Selected Communities in Makurdi Local Government Area of Benue State, Nigeria .....	67
World's 100 Resilient Cities, India's 100 Smart Cities, and Jaipur Resilient & Smart City.....	68
Case Study On Disaster Risk Reduction And Public Health Implications Management in South Africa.....	69
Poverty and Domestic Fuel Challenges; A Threat to Global DRR Crusade in Nigeria	70
CERT and Local Community Resilience In China: Case From Chengdu and Shaanxi .	71
How to Predict the Next Big Earthquake in Manila? Is it Possible? The AMaDeUs Approach .....	74
Regional Collaborative Strategies for Preventing Disaster Risks in South Asia: Need for a Better Cooperation and Coordination among the SAARC Member Countries ..	75
Next TIEMS Newsletter .....	77

## Message from TIEMS President

We are approaching the end of 2018 and the Holiday Season is close, with Christmas and New Year 2019. I therefore like to start my editorial with wishing all the readers of TIEMS Newsletter a ***Merry Christmas and a Prosperous New Year.***



For TIEMS, the year 2018 has been another good year with further development of the society reaching out more and more worldwide. The year was concluded with TIEMS 25<sup>th</sup> Anniversary and 2018 Annual Conference, which took place in Manila, Philippines, 13 - 16 November this year. This Special Edition Newsletter is dedicated to that event and give you a glimpse of what is going on in TIEMS worldwide.

TIEMS has been around for 25 years, and from the early start with the establishment of the society in Washington DC in May 1993, the role of TIEMS today, is a worldwide society with chapters in 14 countries, which focus on making a communication platform for experts to meet and discuss through the society's conferences and workshops, to participate in RTD projects, focusing on developing new methods, systems and equipment for emergency management and disaster response, and with an international education, training and certification program updated to the state-of-the-art knowledge in emergency management and disaster response. All activities are focused on making the world a safer place through contributing to capacity building of more resilient societies worldwide.

TIEMS is a volunteer organization, where all members, officers and directors work free for the society, and this has resulted in a

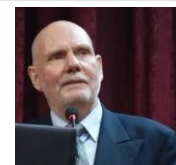
group of 100 experts from 25 countries forming TIEMS International Group of Experts (TIGE), which is a unique reference group of international expertise and experience in emergency management and disaster response. This group also reflects the cultural differences in emergency management and disaster response worldwide, which we think is important to understand in order to communicate efficiently in disaster situations.

And disasters continuous to happen worldwide at an alarming rate, and 2018 disaster events are summed up in an overview article, ***The Worst Natural Disasters in 2018***, which can be found at the following link:

<https://www.ranker.com/list/worst-natural-disasters-2018/lauren-slocum>

In TIEMS we believe that our efforts with developing an international certification in emergency and disaster management, ***TIEMS TQC Certification***, which is described with summing up the workshop on this topic in the Manila event, can contribute to putting more focus on the profession of emergency management and disaster response, and thus make an international recognized platform for this competence.

TIEMS continuous our efforts to spread out worldwide in the coming years, and Latin America and Caribbean and Africa are two continents we focus more on in the coming years. TIEMS 2019 Annual Conference will take place in Seoul in Korea, the 12 - 16 November next year, and I welcome you all to join us there and support TIEMS worldwide activities.



Oslo 20<sup>th</sup> Decemeber 2018  
K. Harald Drager  
TIEMS President

## Editor's Message



**Alex Fullick**

Hello and welcome dear readers to the latest installment of the TIEMS Special Edition Newsletter! It has been some time since our last edition but I hope the wait proves to be well worth it.

This edition focuses on our recent 25<sup>th</sup> Annual TIEMS Conference in Manila, Philippines (Nov 13-16/2018), organized by the talented Angeli Medina. Angeli and her team did a fantastic job of organizing tours, creating a knowledge-packed program and food...of course the great food. Thanks Angeli!

I'm including many of the key session papers that were submitted and presented at the conference. It's no secret that TIEMS is chalk-full of great minds, and when you read the papers you'll see just how varied and knowledgeable they are. I could comment on the papers and offer personal thoughts but I think they will speak for themselves. As for the presentation sessions themselves, well, except for the odd technical glitch (doesn't that happen at all conferences?), they were well received and presenters communicated some great ideas and thoughts. Even my own Key Note speech was well received!

I supposed I'd be remiss if I didn't provide some personal experiences during this year's conference in Manila. First of all, it was HOT! I mean HOT! I'm from a country that declares heat warnings and alerts when temps even come close to that. Still, it was nice to see blue skies on a daily basis and not to feel the wet drizzle of autumn rain, which was occurring back home...and when I returned home the car was covered in snow.

I enjoyed many of the sessions and I brought a few new ideas back with me - it's never too late to learn new tricks and views to help build one's skills. I'm going to reach out to a few of the session presenters to see if I can get them on my radio show ('Preparing for the Unexpected' on the [www.VoiceAmerica.com](http://www.VoiceAmerica.com) radio network), as I think their ideas would be of benefit to my global listeners.

The most surreal moment of the entire week has to be the tours of the Manila Municipal Disaster Authority (MMDA) and the Philippines Civil Defense Emergency Command Centres. The tours of the centres and the corresponding presentations were insightful, with phenomenal hospitality, which I know was greatly appreciated by everyone in attendance. I can't help but wonder how I got a full two-story television monitor in my own home. Hmm...

Now the surreal part.

When we arrived at the MMDA facility there was a marching band playing and the surrounding streets were closed - for us! A few of us thought there was something else going on but we quickly realized it was for TIEMS. Then when we were about to leave, the streets remained closed, the band continued to play, and all the MMDA employees were outside cheering. We even had a police escort back to our hotel! If you know Manila traffic you know how much of a challenge that must have been for the officers involved. We felt like rock stars! I'm not sure who organized that but I'll thank Angeli and her crew and our hosts at MMDA and Civil Defense for the unbelievable experiences. Thank you!





*The Marching Band playing just for the TIEMS delegation. Great job everyone!!*



**Monitoring screens at MMDA! WOW!**

I know you've seen communications about the forthcoming TIEMS Certification. During the conference a Memorandum of Understanding (MOA) was signed with a University in Nigeria who is interested in partnering with TIEMS with regards to the TIEMS certification.



TIEMS board members, Guosheng Qu, K. Harald Drager and Sandro Bologna signing and giving an update of the MOU between TIEMS and a Nigerian University.

I'm not going to say much more, as I want you to turn the page to read the rest of the newsletter. I will say that the next TIEMS conference will be held in Seoul, Korea November 12-16, 2019 so keep an eye out for announcements and details. See you in Seoul! #seeyouinseoul

Thanks for reading and enjoy!

**Alex Fullick**

***Editor - TIEMS Special Edition Newsletter***

# TIEMS 25<sup>th</sup> Anniversary and 2018 Annual Conference Report

TIEMS 25<sup>th</sup> Anniversary and 2018 Annual Conference took place at the University of Santo Tomas (UST) in Manila in the Philippines, as a join conference with the third USTCN Conference on Disaster Risk Reduction and Climate Change, the 13<sup>th</sup> - 16<sup>th</sup> November 2018. The conference overview is shown below:

TIEMS 25<sup>th</sup> ANNIVERSARY & 2018 ANNUAL CONFERENCE CONCEPT PROGRAM

Monday 12 <sup>th</sup> November	Tuesday 13 <sup>th</sup> November	Wednesday 14 <sup>th</sup> November	Thursday 15 <sup>th</sup> November	Friday 16 <sup>th</sup> November
Arrival of Delegates  Reception and Poster Session and Registration  Get Together Networking	Pre- Conference	Registration	Registration	Registration
	3 <sup>rd</sup> USTCN Conference on DRR and Climate Change  Program	Welcome & Introduction of the Workshops	Welcome & Opening	Technical Session
		Workshop 1 DRR Communication Platform TIEMS Korea Chapter	Plenary Sessions 1 Keynote Speakers	
		Coffee Break with visit to Posters & Exhibition		
		Workshop 2 Simulation in DRR The Hiran Company	Technical Session	Plenary Session 2 Keynote Speakers
			TIEMS Annual General Meeting	Summary & Conclusions
		Lunch with visit to Posters & Exhibition		
		Bus Tour with Box Lunch		
		Workshop 3 TIEMS TQC Certification TIEMS	Technical Session	Visit to
		Coffee Break with visit to Posters & Exhibition		
		Workshop 4 Industry Presentations Exhibiting Companies	Technical Session	Office of Civil Defense- National Disaster Risk Reduction Management Council (OCD-NDRRMC) Emergency Operations Center & Earthquake Center
		Welcome Reception	Gala Dinner	

The conference were attended by around 100 experts from 12 countries, Australia, Canada, China, Croatia, Czech Republic, India, Italy, Norway, Philippines, South Africa, South Korea and USA. During the USTCN conference day, also about 500 students from UST attended.

The conference was noticed on the highest political level in the Philippines, by a warm welcome from the President of the Philippines.



MALACAÑAN PALACE  
MANILA

## MESSAGE

My warmest greetings to The International Emergency Management Society as it holds its 25<sup>th</sup> Annual Conference on Disaster Risk Reduction and Climate Change Mitigation.

In recent years, our nation has witnessed and experienced some of the worst calamities recorded in history, testing our people's unity in times of tragedy and proving our ability to smile in the face of adversity.

With a wide scope of professionals and industry leaders in attendance, this gathering is a vital opportunity to learn about the latest technical and operational methodologies in global emergency and disaster management. May today's activities further accelerate the progress of your sector and improve society's competence to respond to and recover from natural and man-made disasters.

I look forward to the solutions and innovations this conference will bring as we collectively address climate change and engender a culture of safety, preparedness and resilience in our communities.

I wish you all a successful and productive event.

  
RODRIGO ROA DUTERTE

MANILA  
14 November 2018

THE PRESIDENT OF THE PHILIPPINES



## USTCN Conference Day Final Program

<p><i>Invocation, National Anthem &amp; Welcome Remarks</i>  <b>Rev. Fr. Julius Paul C. Factora, RN, OP, JCD</b>  <i>Regent, UST College of Nursing</i></p>
<p><i>“Climate Change Mitigation”</i>  <b>Honorable Secretary Manny De Guzman</b>  <i>Secretary, Climate Change Commission</i></p>
<p><i>“DRR &amp; Climate Change”</i>  <b>Usec/Dr. Philip Francisco U. Dy</b>  <i>Chief of Staff, Office of the Philippine Vice President</i></p>
<p><b>The First Panel Discussion</b></p> <p><i>“Philippines Public Safety”</i>  <b>Ret. General/Dr. Ricardo De Leon</b>  <i>President, Philippine Public Safety College</i>  <i>“New Disaster Management Paradigm”</i>  <b>Dr. Francisco A. Magno</b>  <i>Director, Jesse M. Robredo Institute of Local Governance, De La Salle University</i>  <i>“Leadership in Disaster Management”</i>  <b>Professor/Dr. Ralph Brower</b>  <i>Florida State University</i></p> <p><b>Questions &amp; Answers</b></p>
<p><b>The Second Panel of Discussion</b></p> <p><i>“The Philippines’ Current Strategies in Disaster Risk Reduction &amp; Climate Change”</i>  <b>Honorable Undersecretary/ Dr. Renato Solidum Jr.</b>  <i>Usec, Disaster Risk Reduction and Climate Change Adaptation - DOST</i>  <i>“Civil Protection During Disasters”</i>  <b>Director Susana Juangco, MPH, RN</b>  <i>Capacity Building and Training Service, Office of Civil Defense - NDRRMC</i>  <i>“Mutual Assistance Agreement &amp; Healthcare Continuity Reserve Corps (HCRC)”</i>  <b>Dr. Jaime Almora,</b>  <i>Founder of Almora General Hospital, BOD, PHA</i>  <b>Co-Presenter: Angeli Medina MPA, RN, CHPCP, CBCP, CEN</b></p> <p><b>Questions &amp; Answers</b></p>
<p><b>The Third Panel Discussion</b></p> <p><i>“Zero Casualty, DRR and Climate Change”</i>  <b>Cedric D. Daep Ph.D.</b>  <i>Department Head, Albay Public Safety &amp; Emergency Management Office/  Executive Director, Climate Change &amp; Disaster Risk and Management Training Institute</i>  <i>“Status of SMD Hospital &amp; Rebuilding Efforts in Malawi City”</i>  <b>Dr. Saffrullah M. Dipatuan</b>  <i>Medical Director, SMD General Hospital, Marawi City &amp; Tindig Marawi</i></p>



<p><i>Foundation Representative</i>  <b>Ms. Mayfourth Luneta, Deputy Director</b>  <i>Center for Disaster Preparedness</i></p> <p><b>Questions &amp; Answers</b></p>
<b>UST Choir/ Break</b>
<p><b>The Fourth Panel of Discussions</b>  <i>“Introduction of TIEMS Annual Conference”</i>  <b>K. Harald Drager</b>  <i>TIEMS President</i></p> <p><i>“Emergency Preparedness &amp; Response for Catastrophe”</i>  <b>Dr. Guosheng Qu</b>  <i>TIEMS Vice President</i></p> <p><i>“Preserving Cultural Heritage as Climate Changes”</i>  <b>Dr. Thomas V. Robertson</b>  <i>TIEMS Regional Director for North America</i></p> <p><b>Questions &amp; Answers</b></p>
<p><i>Closing Remarks</i>  <b>Dean Susan N. Maravilla, DNM, RN,</b>  <i>Dean College, USTCN</i></p>
<i>UST Hymn</i>

The USTCN conference day, gave the participants a good insight into the potential disaster situation for the Philippines, which are the third highest country in the world concerning disaster risk, and how the Philippines government and authorities have established disaster resilience means how to handle and recover from potential disasters.



*Undersecretary Francisco U. Dy is thanked after his Keynote Opening Speech*

The afternoon speakers at the USTCN day from TIEMS did an introduction to TIEMS activities and an overview of the following TIEMS conference days, with 4 workshops and presentations on different topics within disaster resilience.



An audience of 600 attended the USTCN conference day on Disaster Risk Reduction and Climate Change

## TIEMS Workshop Day

The final program for TIEMS Workshop day comprised the following TIEMS Workshops:

1. Workshop 1: The Disaster Risk Reduction Communication Platform
2. Workshop 2: The Hiraan Best Companies Disaster Simulation Tools
3. Workshop 3: The TIEMS TQC Certification
4. Workshop 3: Disaster Resilience Industry Presentations



TIEMS Directors meeting and preparing the TIEMS Workshop Day

## Workshop 1. The Disaster Risk Reduction Communication Platform

Workshop 1 on Disaster Risk Reduction (DRR) Communication Platform focused on good practices on community resilience initiated by local governments. The workshop featured five different case studies from the Philippines, China, India and Republic of Korea on the following topics:

- Empowering Communities Towards a Resilient Makati
- CERT and local community resilience in China: Case from Chengdu and Shaanxi
- TIEMS - India Chapter disaster management partnership with world's largest free
- Jaipur Literature Festival
- Pasig Marikina Channel Improvement Project
- DRR Education: Songpa Disaster Safety Experience Center in Korea

These presentations were followed by a quick introduction and demonstration of the DRR platform.



*Empowering Communities towards a Resilient Makati present by the Makati City representative*

### *About the DRR Technology Platform*

Aligned with various global agenda on resilience, the Government of Korea (Ministry of Interior and Safety) along with its research team has established a web-based platform for collecting dispersed data and technology on climate change adaptation (CCA) and disaster risk reduction (DRR). It contains various case studies illustrating problem-solving, project development, and technology products. The website aims to offer an easily accessible Q&A and discussion board for DRR experts to engage in a thorough dialogue regardless of time and space both during emergencies and at normal times. The site can be explored on the link below:

<http://www.pr4gdm.org>

## Workshop 2: The HiraIn Best Company's Disaster Simulation Tools

The HiraIn Best Company gave a presentation of their simulation tools for disaster resilience as follows.



Elaine Yang presenting the simulation tools solutions of the HiraIn Best

### HIRAIN Best Presentation







**HIRAIN-BEST INTRODUCTION**

HIRAIN-BEST Emergency Science&Technology Co., Ltd is the key component of Hiran's emergency culture, we are dedicated to

- Improving the safety awareness and the coping ability of the public against disasters
- Promoting the rapid growth of the emergency industry
- Providing knowledge, materials, technical supports and professional services for the safety and stability of the society

Integrating high-tech experience methods into emergency and disaster risk reduction, and spreading it to the world.

Copyright © 2018 HIRAIN-BEST Emergency Science&Technology Co.,Ltd





# 01 THE PROMOTION OF EMERGENCY CULTURE

- 1.1 The Exhibitions & Workshops of Emergency Industry
- 1.2 The All-purpose Service Platform of Emergency Culture
- 1.3 The Education & Training of Disaster Response

Copyright © 2018 HIRAIN-BEST Emergency Science&Technology Co., Ltd

## 1.1 THE EXHIBITIONS & WORKSHOPS OF EMERGENCY INDUSTRY

HIRAIN-BEST has been leading the communication and strategic development of the emergency industry by hosting emergency exhibitions and workshops with the cooperation of domestic and overseas authorities and institutes.



Copyright © 2018 HIRAIN-BEST Emergency Science&Technology Co., Ltd

## 1.2 THE ALL-PURPOSE SERVICE PLATFORM OF EMERGENCY CULTURE

Relying on the expertise in the emergency industry, and by integrating the professional data and knowledge throughout the industry, HIRAIN-BEST has built a diversified and multi-channel service platform of emergency culture with the functions of interactive science popularization, professional online communication, professional courses sharing, emergency and safety products sales service.



Copyright © 2018 HIRAIN-BEST Emergency Science&Technology Co., Ltd

### 1.3 THE EDUCATION & TRAINING OF DISASTER RESPONSE

We stick to professional emergency knowledge and teaching resources of all disaster species, and combine leading virtual reality technologies with teaching and learning process to visualize the emergency knowledge, and to create an immersive interactive virtual learning environment of high simulation.



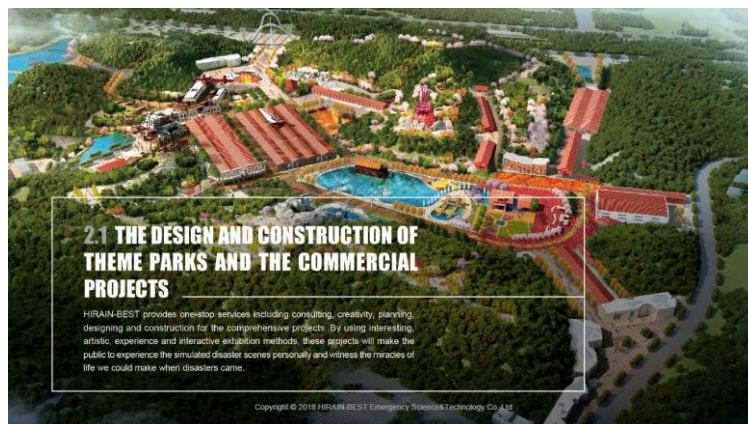
Copyright © 2018 HIRAIN-BEST Emergency Science&Technology Co., Ltd

## 02

### THE INTERACTIVE EXPERIENCE OF EMERGENCY & SAFETY

- 2.1 The Design & Construction of Theme Parks and Commercial Projects
- 2.2 The Development and Production of Themed Products
- 2.3 The Development of Customized Projects of Emergency & Safety

Copyright © 2018 HIRAIN-BEST Emergency Science&Technology Co., Ltd



### 2.1 THE DESIGN AND CONSTRUCTION OF THEME PARKS AND THE COMMERCIAL PROJECTS

HIRAIN-BEST provides one-stop services including consulting, creativity, planning, designing and construction for the comprehensive projects. By using interesting, artistic, experience and interactive exhibition methods, these projects will make the public to experience the simulated disaster scenes personally and witness the miracles of life we could make when disasters came.

Copyright © 2018 HIRAIN-BEST Emergency Science&Technology Co., Ltd



### 2.2 THE DEVELOPMENT AND PRODUCTION OF THEMED PRODUCTS

HIRAIN-BEST presents the customized single and combined theme products and services, by focusing on international view and disaster reduction theme experience of all disaster species, to create a comprehensive and diverse disaster scene solutions.

Copyright © 2018 HIRAIN-BEST Emergency Science&Technology Co., Ltd





## 03

## THE OPERATION OF EMERGENCY THEMED PROJECT

### 3.1 The Operation of Emergency Themed Project

Copyright © 2018 HIRAIN-BEST Emergency Science&Technology Co.,Ltd



### 3.1 THE OPERATION OF EMERGENCY THEMED PROJECT

Depending on the 20 years experience in the operation and management of 5A scenic spot, HIRAIN-BEST was the first company to integrate innovative digital operation idea and developed personnel training system into digital disaster reduction projects. We provide entrusted management service to achieve the prosperous development.

Copyright © 2018 HIRAH-BEST Emergency Science&Technology Co.,Ltd



### 3.2 THE TRAINING OF PROFESSIONAL OPERATION TEAM

We provide operation menus to guide our clients to build an operation team independently, and provide effective orientation service.

*The International Emergency Management Society ([www.tiems.org](http://www.tiems.org))*  
*Rue Des Deux Eglises 39, B - 1000 Brussels, Belgium, Tel: +32 2 286 80 38, Fax: +32 2 286 80 39*  
*E-mail: [secretariat@tiems.info](mailto:secretariat@tiems.info)*





## POWERFUL CROSS-COUNTRY TEAM OF INNOVATION TAKING THE ADVANTAGE OF BEING INDUSTRIAL LEADER

HIRAIN-BEST gathered the experts and talents specialized in creative design, science and technology development, project implementation and operation management from China and abroad, and built an elite team with rich experience. Our South Korean creative team has accomplished multiple creative space designs in the field of construction, interior, exhibition, multimedia interaction, VI. The team has successfully captured numerous international design prizes, and has reached some remarkable achievements.



Copyright © 2018 HIRAIN-BEST Emergency Science&Technology Co., Ltd



Copyright © 2018 HIRAIN-BEST Emergency Science&Technology Co., Ltd

## THE RESEARCH&DEVELOPMENT OF EXPERIENCE PRODUCTS

The experience products of HIRAIN-BEST has three features:  
independent research&development, local originality, digital pioneer  
10 completed overseas projects, 4 films of safety education, 100+ partners in China and abroad



55  
national  
patents



48  
software  
copyrights



48  
film  
copyrights



Copyright © 2018 HIRAIN-BEST Emergency Science&Technology Co., Ltd

## THE RESEARCH&DEVELOPMENT OF EXPERIENCE PRODUCTS

### INDEPENDENT RESEARCH&DEVELOPMENT

#### Continuous Development of High-tech Cultural and Tourism Products

Awarded with over 20 prizes from state ministries and commissions, local research centers, and the industry. Possessing 9 patents for invention, 18 patents in utility model, 2 patents in design.

#### Experience Project of Disaster Scene with Strong Immersion

Providing disaster scene solutions according to the demands and environment. Integrating the company owned high-tech interactive products into the disaster experience projects to bring an immersive experience to the audience.

Shanghai "Cultural Integration and Innovation Demonstration Project" Funding Project  
The development and adoption of 360° immersive panoramic cinema system with special effect.

Technology Supporting Plan and Funding Project of China 12th Five-Year Plan Has Captured Shanghai Investment Golden Prize  
The development and adoption of dome theater system.



Copyright © 2018 HIRAIN-BEST Emergency Science&Technology Co., Ltd

THE RESEARCH&DEVELOPMENT  
OF EXPERIENCE PRODUCTS

## LOCAL ORIGINALITY

□ The top-class ability of culture productivity, 55 copyrights for special films

Being the first non-cultural company to obtain the film production license issued by the General Administration of Radio and Television in China.

□ Professional Special Effect Disaster Movie Customization

Making special disaster films and televisions basing on customer's demands, and the films were used in the popularization of disaster risk reduction. The movies filmed were widely adopted by the enterprises and institutions, such as National Earthquake Emergency Rescue Training Base.



Copyright © 2018 HIRAIN-BEST Emergency Science&Technology Co., Ltd

THE RESEARCH&DEVELOPMENT  
OF EXPERIENCE PRODUCTS

## DIGITAL PIONEER

□ Taking the lead in VR/AR Smart Disaster Risk Reduction layout Using Big Data to Create Better AI Interactive Experience

12 technologies with the Computer Software Copyright Registration Certificate, 36 Computer Software Copyrights.

□ Scientific and Intelligent Disaster Interactive Experience

With the professional data, the multimedia products from HIRAIN-BEST are based on high techs like the computer graphics, VR, AI and automatic control. We developed a series of multimedia products with new type of interactive methods, which allow the audience to get the closest to the real disaster scene and to interact with computers. In this way, it scientizes and intelligentizes emergency and disaster experience.



Copyright © 2018 HIRAIN-BEST Emergency Science&Technology Co., Ltd

## THE RESEARCH&DEVELOPMENT OF TRAINING SYSTEM

We originated an operation personnels' training system of smart disaster themed projects, and provided talents for the sustainable development of the project.

Based on years of operation and management experience of HiraIn Group in theme cultural and tourism projects and safety experience projects, HIRAIN-BEST conducts multidimensional delivery training and sustainable operation services like the system maintenance of the experience projects and the upgrades of personnel training.



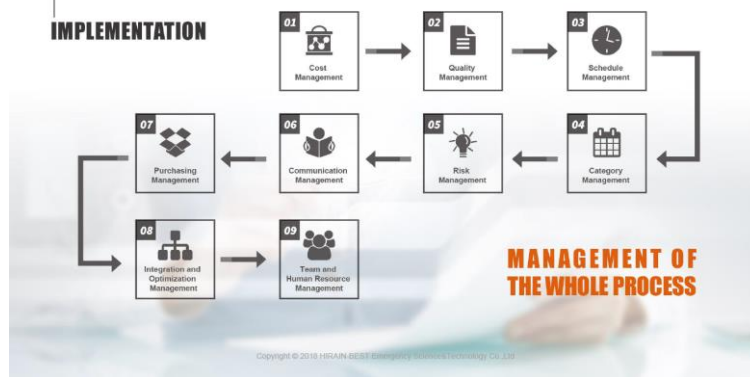
Copyright © 2018 HIRAIN-BEST Emergency Science&Technology Co., Ltd



Copyright © 2018 HIRAIN-BEST Emergency Science&Technology Co., Ltd



## IMPLEMENTATION



## OPERATION MODE



## OPERATION ADVANTAGE





### CHIBI INTERNATIONAL DISASTER EXPERIENCE TOWN

Combining disaster training with safety education, combining corporate culture with drill and performance, combining technology spread with conferences and exhibitions to build an emergency and disaster complex that has great international influence.

Area:  
554,000m<sup>2</sup>



Copyright © 2018 HIRAIN-BEST Emergency Science&Technology Co., Ltd

### CHONBUK 119 SAFETY EXPERIENCE MUSEUM ( INDOOR AREA )

The biggest comprehensive experience museum in South Korea, and the only space for new concept education and culture that integrates experience into "Children's Safety Village". It's made up of 4 main museums and outdoor facilities which fit from children to adults, and experience all the stages of a disaster safety skill training by telling stories.



Area:  
98,154m<sup>2</sup> Exhibition Area:  
5,000m<sup>2</sup>

Copyright © 2018 HIRAIN-BEST Emergency Science&Technology Co., Ltd

### CHONBUK 119 SAFETY EXPERIENCE MUSEUM ( OUTDOOR AREA )

The biggest comprehensive experience museum in South Korea, and the only space for new concept education and culture that integrates experience into "Children's Safety Village". It's made up of 4 main museums and outdoor facilities which fit from children to adults, and experience all the stages of a disaster safety skill training by telling stories.

Area:  
98,154m<sup>2</sup> Exhibition Area:  
5,000m<sup>2</sup>



### CENTRAL CIRCLE'S SAFETY EXPERIENCE MUSEUM

The earliest local safety experience museum in South Korea that allows the nation to get rid of the mode of single safety experience. The disaster scene is consist of traffic safety, life safety and emergency solutions in our daily life.



Area:  
3,895m<sup>2</sup>

Copyright © 2018 HIRAIN-BEST Emergency Science&Technology Co., Ltd

### ULSAN PRODUCTION SAFETY EXPERIENCE MUSEUM

Ulsan Production Safety Experience Museum reflects the importance of industrial safety and disaster prevention in recent years. Industrial safety has been drawing more and more attention in the society. By the training at the simulative production scene, visitors can experience the real situation of the disasters and learn how to cope with the fatal accidents.



Copyright © 2018 HIRAIN-BEST Emergency Science&Technology Co.,Ltd

### BUSAN FIRE SAFETY MUSEUM

A safety education space that taking safety as the theme. It combine education with interest.

The museum with 7 themes and 23 experience facilities is equipped with experience facilities of typhoon, earthquake and nuclear power plants, which is designed according to the geographical features of Busan city. The museum is also listed as the first electricity experience museum.



Copyright © 2018 HIRAIN-BEST Emergency Science&Technology Co.,Ltd

### CHILDREN'S MUSEUM OF TRANSPORTATION SAFETY & EMERGENCY

Add comic character into children experience museum.

Adopting interesting methods to simulate real life situations in children's perspective, and cultivate the traffic safety awareness of the children.



Copyright © 2018 HIRAIN-BEST Emergency Science&Technology Co.,Ltd



Copyright © 2018 HIRAIN-BEST Emergency Science&Technology Co.,Ltd



## Workshop 3: The TIEMS TQC Certification

### Workshop 3: The TIEMS TQC Certification

#### TIEMS TQC Certification

*With an increasing number of disasters worldwide, resulting in more international collaboration and support to disaster stricken areas, the need for more education and training in emergency and disaster management seems evident. TIEMS believes that it is important to raise the awareness of the competencies needed in emergency and disaster management, and to support those participating in these activities and operations in acquiring those competencies in an international setting*

*An international certification has been launched by TIEMS, called Certification of Qualifications in International Emergency and Disaster Management (QIEDM), or TIEMS QIEDM Certification or just TQC*

*The full name of the TQC certification is:*

***TIEMS TQC International Certification - Operations and Good Practise***

### Benefits of Certification

You may be asking yourself what the benefits of being certified are. One of the primary reasons for becoming certified is to be Standard and/or Best Practices compliant. By being certified, you show that you are knowledgeable in the four core components of emergency management: preparedness, response, recovery and mitigation. The certification is recognized case by case, either across the country or internationally. TIEMS TQC aims to be internationally recognized. Another reason is to be professionally recognized by other professional emergency managers. By being certified, you are more marketable in looking for another position, whether it is for a promotion or another position outside of the law enforcement profession. Many positions for managers in emergency management are seeking a certification as a prerequisite to employment.

With that in mind, TIEMS is working to fill the gap of an Internationally Recognized Certification Body, awarding an assessment-based certification based on the evaluation of Compliance Assessment Results and Test Examination Results provided by two distinct Sections of the TIEMS Certification Body. To implement this idea, TIEMS has a short term and a long term goal. In the short term TIEMS will address the definition of a TIEMS Certification Scheme and Requirements Internationally Recognized and endorsed by



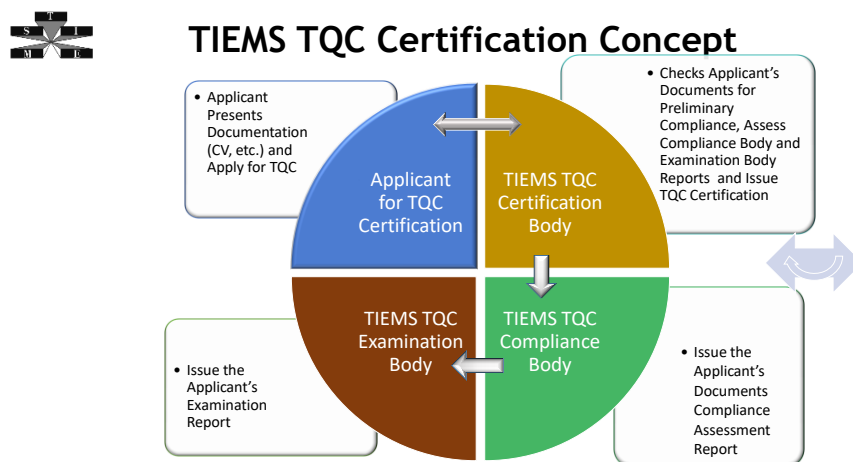
different institutions worldwide; in the long term TIEMS will address TIEMS Certification Body Accreditation.

TIEMS TQC Certification will not address all aspects of Emergency Management for all countries and do not intend to compete with what is already fixed by the local Legislation and Governmental Authorities in different countries. Instead, TQC will be a TIEMS “product” reflecting international standards and best practices that apply to all countries. TIEMS International Certification can be in addition to National Certification, and should not be consider being in competition to any existing certification schemes in Emergency Management and Disaster Response.

**TIEMS TQC Certification** is a voluntary process by which individuals are evaluated against predetermined standards for knowledge, skills, or competencies, as well as test exam results. Participants who demonstrate they meet the certification requirements by successfully completing the assessment process are granted a time-limited credential. To retain the credential, the certified applicants must maintain continued competence and periodically re-evaluated.

**TIEMS TQC Certification** is reserved for individuals who have demonstrated their knowledge and experience in the risk management / emergency management / disaster response as certified by the TIEMS Certification Body, based first on the results evaluation of TQC Compliance, and after on the results evaluation of TQC Examination, with reference to International Standards and Best Practices. Prerequisite to apply for TQC Certification is to possess at least five years of significant, practical, community wide experience in risk management / emergency management / disaster response.

**TIEMS TQC Certification** is the highest level and the most globally respected certification that can be obtained by experts in the field and by academia. It is foreseen only have 1 level of certification, based on ISO standard. Too many other organization have multiple levels of certification where the entry level certification really only requires a person to pass and exam.



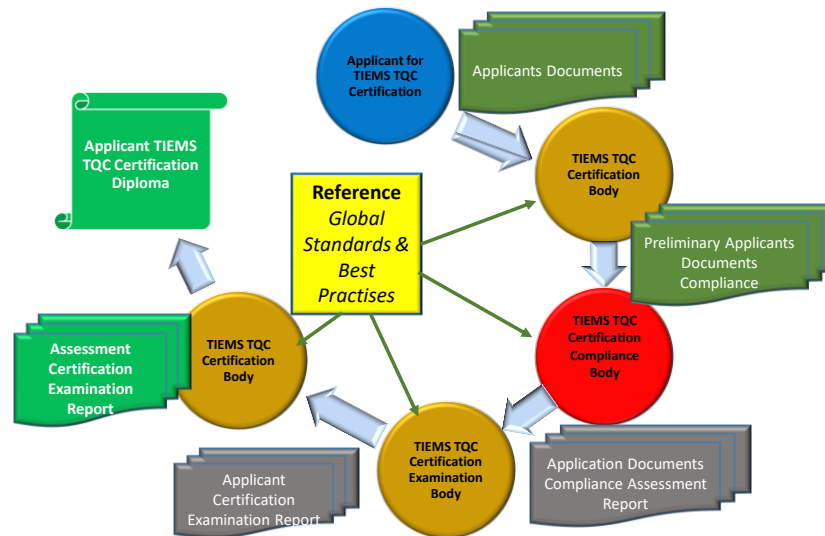
17

Figure 1. TIEMS TQC International EM Certification Concept and Basic Steps





## TIEMS TQC Certification Document Flow



18

Figure 2. TIEMS TQC International EM Certification Documentation Flow

### Players in the TIEMS TQC International Certification

**TIEMS TQC Certification Body:** composed of TIEMS Emergency Management Experts, is the only one with legal responsibilities and entitled awarding for an assessment-based certification.

**TIEMS TQC Compliance Body:** is the organization, composed of TIEMS Emergency Management Experts, providing auditing and certification services, based on a demonstration that TIEMS **specified requirements** relating to TIEMS Qualification Certification (TQC) are satisfied by the Applicant Documents. Compliance Certification represents a written assurance by a third party of the conformity of all documentation provided by the Applicant.

**TIEMS TQC Examination Body:** is the organization, composed of TIEMS Emergency Management Experts, doing oral examination of the Applicant. The emphasis of the TIEMS TQC Examination Body is to establish the technical competence of the Applicant.

**Applicant Documents:** Applicant Documents is a generic term for any document that explains the competences and education of the Applicant. An Applicant CV is essential. Information should be accurate and complete. Text should be clear and concise. The information should be organized in a hierarchical and consistent manner by use of headings. Step numbering should be used to support the structuring into levels of information. Illustrations (photo, drawings, and graphs) should be used to support information text.

**Applicant Documents Compliance Assessment Report:** This is how the TIEMS TQC Compliance Body certify the conformity of the Applicant Documents with TIEMS TQC Requirements. TIEMS TQC Compliance Body shall ensure that the Applicant Documents comply with TIEMS TQC Requirements. A possible Template for the Compliance Assessment Report would help to make uniform the documentation produced.

**Applicant Certification Examination Report:** Examination Report is released by the TIEMS TQC Examination Body reporting the examination results. The prime objective of this document is to explain various details about the examination performed and the methods used. A possible Template for the Examination Report would help to make uniform the documentation produced.

**Certification Assessment Report:** This is a Document issued by TIEMS TQC Certification Body based on the compliance and examination results of the Applicant. Based on its content the Applicant will be eventually awarded with TIEMS TQC Certification. TIEMS guideline for Applicant certification schemes would be necessary. A possible Template for the Examination Assessment Report would help to make uniform the documentation produced.

**Reference Standards & Best Practices:** Any international recognized standard and Best Practice against which the TIEMS Certification Body, TIEMS TQC Compliance Body and TIEMS TQC Examination Body do their evaluation of the Applicant.

### TIEMS TQC Certification Reference Standard & Best Practices

Any international recognized standard and best practice within Emergency and Risk Management, related to all phases of the Emergency Management and Risk Management Cycles, against which the TIEMS Certification Body do their Evaluation of the Applicant



*TIEMS has started a Survey of the existing National and International Standards, Best Practices, Guidelines, etc. about Emergency and Risk Management in the different Countries, where they exist*



40

### ISO 31000:2018 Risk Management Guidelines

<https://www.iso.org/obp/ui/#iso:std:iso:31000:ed-2:v1:en>

This document is for use by people who create and protect value in organizations by managing risks, making decisions, setting and achieving objectives and improving performance.

Organizations of all types and sizes face external and internal factors and influences that make it uncertain whether they will achieve their objectives.

Managing risk is iterative and assists organizations in setting strategy, achieving objectives and making informed decisions.

Managing risk is part of governance and leadership, and is fundamental to how the organization is managed at all levels. It contributes to the improvement of management systems.

Managing risk is part of all activities associated with an organization and includes interaction with stakeholders.

Managing risk considers the external and internal context of the organization, including human behavior and cultural factors.

Managing risk is based on the principles, framework and process outlined in this document. These components might already exist in full or in part within the organization, however, they might need to be adapted or improved so that managing risk is efficient, effective and consistent.

### **ISO 22320:2011 Societal security – Emergency management – Requirements for incident response**

<https://www.iso.org/obp/ui/#iso:std:iso:22320:ed-1:v1:en>

This International Standard enables public and private incident response organizations to improve their capabilities in handling all types of emergencies (for example, crisis, disruptions and disasters). The multiple functions of incident response are shared between organizations and agencies, with the private sector and the government having different levels of responsibility. Thus, there is a need to guide all involved parties in how to prepare and implement effective incident responses. This International Standard will, based on minimum requirements, enable organizations involved to operate with joint optimum efficiency.

Effective incident response needs structured command and control, and coordination and cooperation, in order to establish coordination and cooperation, carry out command processes and facilitate information flow amongst the involved organizations, agencies and other parties. Cross-organization, -region or -border assistance during incident response is expected to be appropriate to the needs of the affected population, and also to be culturally acceptable. Therefore, community participation in the development and implementation of incident response measures is essential. Involved organizations require the ability to share a common approach across geographical and organizational boundaries.

Information requirements, as well as requirements pertaining to the information management process and structure, may enable industry to develop technical solutions, which will provide maximal interoperability according to information and communication exchange needs during incident response. This International Standard can be used alone or together with the other standards developed by ISO/TC 223.

### **AVAILABLE CERTIFICATION SCHEMES**

There are several different certifications programs available for emergency managers currently in existence, among others, the most popular:

- The FEMA Professional Development Series (PDS) Certificate<sup>1</sup>,
- The FEMA Advanced Professional Series (APS) Certificate<sup>2</sup>,
- The International Association of Emergency Managers (IAEM) Certified Emergency Manager® (CEM®)<sup>3,4</sup>,

<sup>1</sup> <https://training.fema.gov/is/searchis.aspx?search=pds>

<sup>2</sup> <https://training.fema.gov/programs/aps/>

<sup>3</sup> <http://www.iaem.com/page.cfm?p=certification/intro>

<sup>4</sup> <http://www.iaem.com/>

- The Associate Emergency Manager (AEM)<sup>5</sup> Certificates,
- The Homeland Security Certifications<sup>6</sup>, The International Association for Disaster Preparedness and Response (DERA)<sup>7</sup>.

### PROPOSED CERTIFICATION SCHEME BY TIEMS TQC

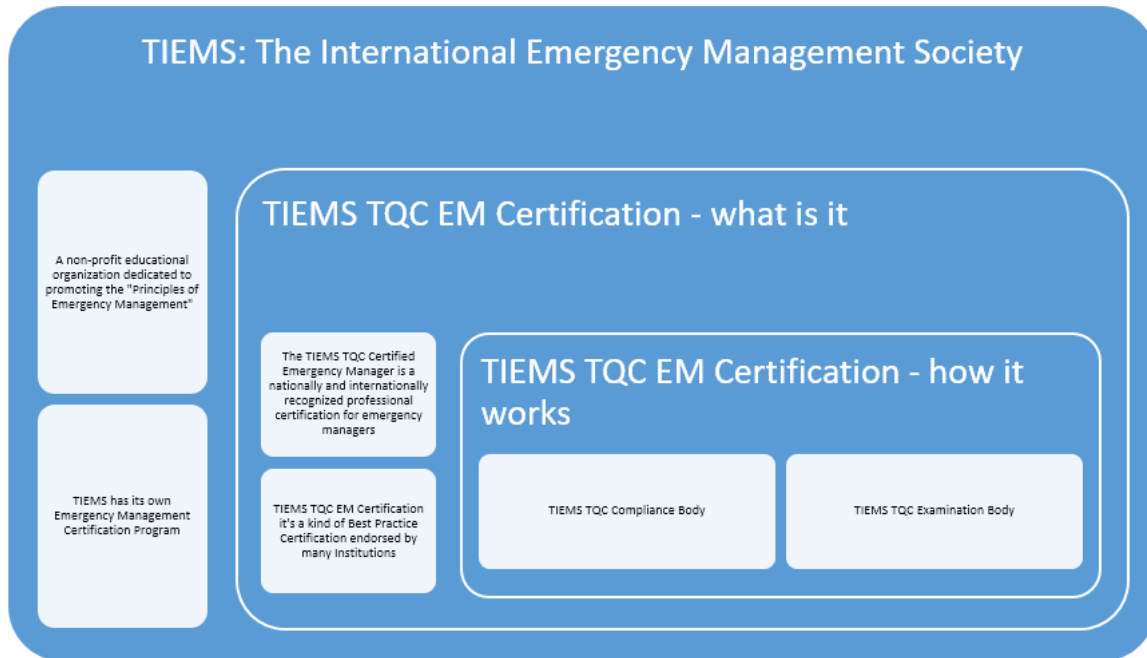


Figure 3. TIEMS TQC International EM Certification Scheme

### What is a TIEMS TQC International Certification?

A TIEMS TQC International Certification exceeds all national and international requirements and certifies the capacity of Emergency Managers (EM) to handle emergency situations appropriately, following International ISO Standards, and provide best possible responses. Establish criteria for certification of individuals with the TIEMS Qualifications in International Emergency and Disaster Management (QIEDM) certification, in short TIEMS TQC.

Refer to previous Sections for **TIEMS TQC Certification Concept** and for **TIEMS TQC Certification Documents Flow**

### TIEMS TQC Certification Objectives

- Availability Globally
- Web-based On-Line
- Low Cost

<sup>5</sup> <http://www.iaem.com/page.cfm?p=certification/intro>

<sup>6</sup> <https://www.globalhomeland.org/certification-programs/>

<sup>7</sup> <https://www.emergency-management-degree.org/faq/what-is-the-international-association-for-disaster-preparedness-and-response/>



- A Common Understanding of Emergency and Disaster Management
- The Common Language is English, but local language adaption in TIEMS Chapter Countries
- State-of-the-Art and Up-to-Date

### **Why get a TIEMS TQC Certification**

An independent and objective evaluation through third-party certification like TQC offers validation that a professional EM is in compliance with the preparedness requirements of one or more of the TQC Program's foundation standards and/or best practices. Certification endorses an EM and makes regular audits of preparedness a priority. This process develops disaster awareness within and outside an organization, thereby fostering a heightened sense of security and distinguishing one from competitors.

### **TIEMS TQC Curricula needed for EM certification**

The TQC Curricula is to be developed through cooperation with worldwide recognized universities and training institutions through **TIEMS International Education Network of Excellence (TIENE)**. TQC Curricula are structured to meet the needs of diverse organizations with an emphasis on separate organizations working together in all-hazards emergencies to save lives and protect property. Nowadays, there are various types of courses available to prepare for EM certification, delivered through associations recognized at different level worldwide. It is also possible to complete emergency training courses through community colleges. Whichever qualification will be earned by the Applicant, it will ensure that he/she have skills in Emergency Management and will be part of TQC Curricula.

### **TIEMS TQC online eLearning and Certification Platform**

It is an online resource that stores all info of the Applicant TQC certification and recertification information in one place for easy viewing and retrieval. The site automatically keeps training records for the TIENE courses that the Applicant have taken, and also allows to the Applicant to upload the records and certificates from other training sources.

### **TIEMS International Education Network of Excellence (TIENE)**

As technology and services evolve, there is a growing need for highly trained professionals with the skills and confidence to keep a level head under pressure. Through its courses and integrated programs, TIENE serves as the international focal point for the development and delivery of emergency management training to enhance the capabilities of State, local, and government officials; volunteer organizations; and the public and private sectors to minimize the impact of disasters and emergencies on the public. TIENE serves the international emergency management community, offering courses to help build critical skills that emergency managers need to function effectively in mass consequence events.

The first member of TIEMS International Education Network of Excellence (TIENE) is University of Technology in Minna Nigeria, and the Memorandum of Understanding between Minna University and TIEMS was signed during the Workshop. TIEMS President marked this as the first important step to develop the TIENE network.



The MOU between TIEMS and Minna University in Nigeria being signed by TIEMS President K. Harald Drager, TIEMS Vice President Guosheng Qu and TIEMS Chair of TIEMS International Program Committee Sandro Bologna

### TIENE Course Catalog

TIENE Course Catalogue will be similar to the conceptual figure below, where the different courses and their availability are shown in TIEMS worldwide network.

	TIENE Inst.1	TIENE Inst.2	TIENE Inst.3	.....	.....	TIEMS Academy	TIEMS Academy	Others	Others
Course A									
Course B									
Course C									
Etc.									

### TIEMS TQC basic steps

Referring back to the Figure of TIEMS TQC Certification Document Flow, the basic steps are represented in the below Graphs.



## TIEMS TQC Certification Structure

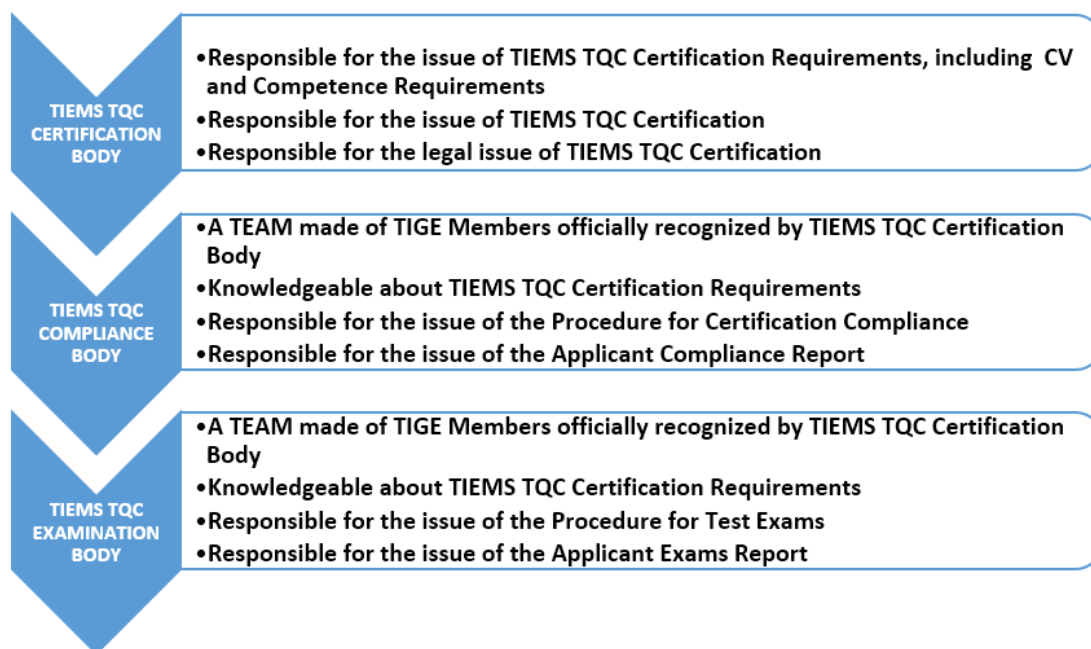


Figure 4. Main roles and responsibilities of the different Bodies of TIEMS TQC International EM Certification

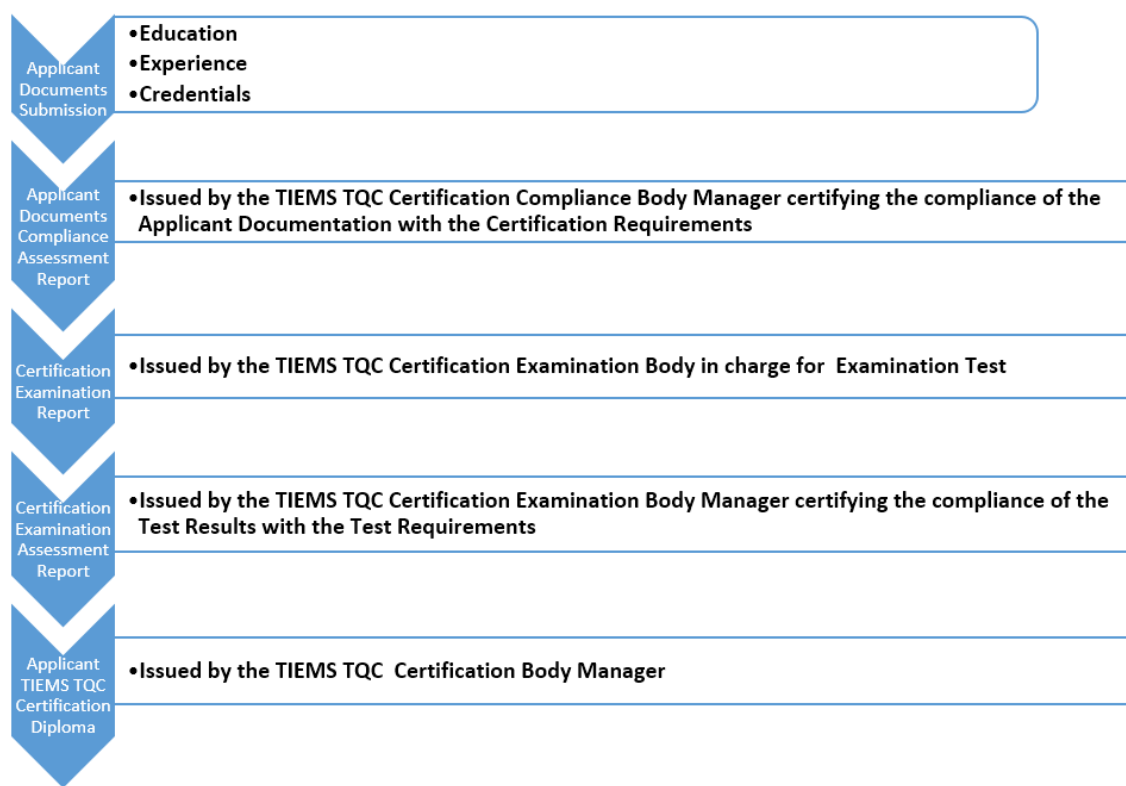


Figure 5. Main roles and responsibilities of the different Bodies of TIEMS TQC International EM Certification into the TIEMS TQC Documentation Flow

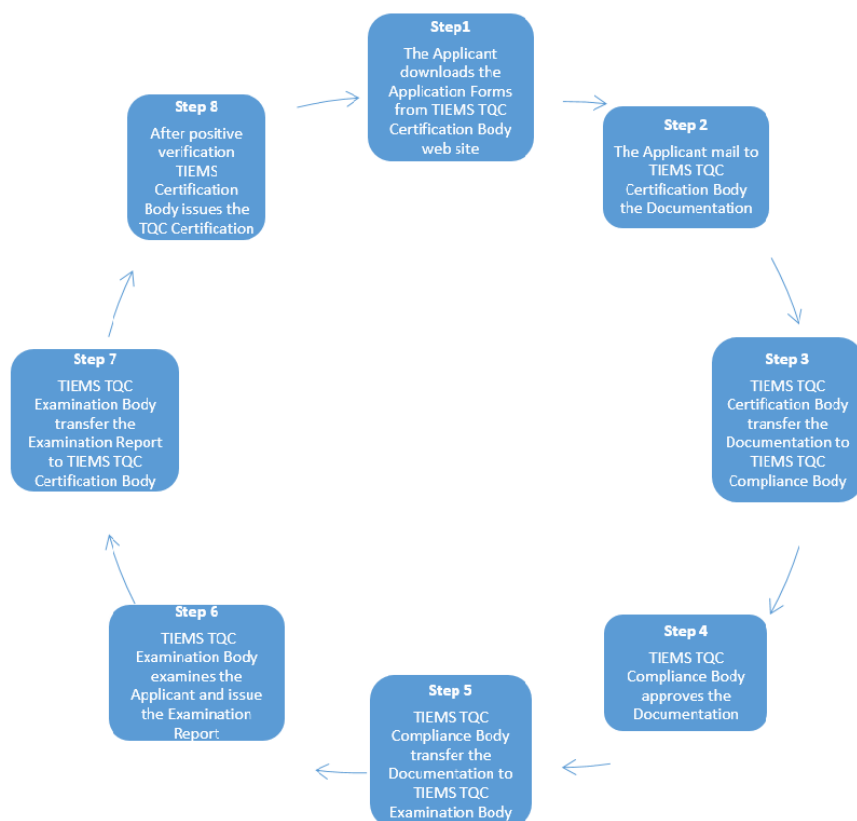


Figure 6. TIEMS TQC Certification Scheme - Eight steps from Application to Certification

### Examples of TIEMS TQC Certification Competence Requirements by the Certification Body Compliance

1. Global Overview of International Emergency and Disaster Management (EDM)
2. Deep knowledge of the Reference Global Standards & Best Practices
3. International Emergency and Disaster Management Definitions, Tools and Techniques
4. International Emergency and Disaster Management Planning and Operations
5. International Emergency and Disaster Management Research and Development Worldwide
6. International Emergency and Disaster Management Miscellaneous Issues of Importance

### Example of TIEMS TQC Certification Test Requirements by the Certification Body Examination

1. Essay questions, e.g.,
  - “Describe how the United Nations has worked to bring about a reduction in global disaster risk”
2. Fill-in-the-blank questions, e.g.,
  - “In May 1994, UN member states met at the World Conference on Natural Disaster Reduction in \_\_\_\_\_, Japan, to assess the progress attained by the IDNDR. At this meeting they developed the \_\_\_\_\_ Strategy and Plan of Action for a Safer World”
3. Multiple choice questions, e.g.,



“Which of the following UN Agencies typically coordinates the response to major disasters”:

- UNHCR, UNOCHA, WFP, UNDP

## Workshop 4: Disaster Resilience Industry Presentations

### Agenda of the Workshop

- QU Guosheng with Jing Xiaobo, Vice President of TIEMS, Full Prof. of National Earthquake Response Support Service (NERSS), Ministry of Emergency Management of The People’s Republic of China

**New Developments of Emergency Industry and Management in China and the new approach for the World**

- THOMAS V. ROBERTSON, TIEMS NORTH AMERICA DIRECTOR

**Emergency Management Industry in North America - Examples**

- Bu Bing, Associate Prof. of National Earthquake Response Support Service(NERSS), Ministry of Emergency Management of The People’s Republic of China

**Classification and Applications of USAR Equipments**

- Xianheng International Science & Technology Co., Ltd
- Longyan Haidexin Automobile Co., Ltd
- Guo Xiaojun, Director of Marketing Department of Qiaolong Company

**Case Analysis and Applications of High Power “Dragon Water Sucking” Emergency Drainage Equipments for flooding and waterlog disasters in China in recent year.**

- China Harzone Industry Corp., Ltd.

The workshop gave the participants a good insight to the state of the art of industry technology both in China and USA, for disaster resilience equipment and systems.

### Conclusion of Workshop of Emergency Industry

During TIEMS 25 Annual Conference in Manila, the Workshop of Emergency Industry had been hold by QU Guosheng and Thomas V. Robertson from 16:00-18:00, afternoon 14, Nov. 2018. There are 7 presentations from China and USA. Chinese delegation show the main productions of emergency industry and also their contributions during the flooding, earthquake, geological and typhoon disaster in recent years in China and cases analysis. Dr. QU Guosheng present the New Developments of Emergency Industry and Management in China and the new approach for the World. Thomas V. Robertson show the present situation of Emergency Management Industry in North America - Examples. Dr. Bu Bing give the Classification and Applications of USAR Equipments. And then Xianheng International Science & Technology Co., Ltd, Longyan Haidexin Automobile Co., Ltd, Qiaolong Company and China Harzone Industry Corp., Ltd. Make the presentations on the emergency industry

---

*The International Emergency Management Society ([www.tiems.org](http://www.tiems.org))*

*Rue Des Deux Eglises 39, B - 1000 Brussels, Belgium, Tel: +32 2 286 80 38, Fax: +32 2 286 80 39*

*E-mail: [secretariat@tiems.info](mailto:secretariat@tiems.info)*

productions and their applications in recent years. For examples, Qiaolong Company make Case Analysis and Applications of High Power “Dragon Water Sucking” Emergency Drainage Equipments for flooding and waterlog disasters in China in recent year.

### Types and Locations of National Emergency Industry Pilot Basements

**2017**

Deyang City of Sichuan Province:  
**Earthquake and Geological Disasters Emergency Response and Rescue**

Fushun and Shenfu New District:  
**Coal Mine and Chemical Emergency Response and Rescue**

Changsha Economic Development District ,  
Hunan Province:  
**Heavy      Emergency      Equipments  
Manufacture**

Longyan City, Fujian Province: **Emergency  
Equipments   Manufacture   +Emergency  
Service**

Economic Development District of Ulumuqi,  
Construction Group of Xinjiang  
Autonomous Region: **Anti- terrorism and  
Maintain Stability**

#### Map of High Disaster Risk and Location of National Emergency Industry Pilot Basements





## Danko Emergency Equipment\*





300 Gallon Skid System



Tanker/Pumper



Quick Attack



Airport Crash Truck



Compressed Air Foam System

\*302 East 4th St, Snyder, NE 68664-0218  
<http://www.danko.net/>

## Drain on Road



**308 provincial highway in Dongfang Village of Jitai Town**

**1 detachable Drainage Vehicle (1000m<sup>3</sup>/h) , worked for 48 hours, 48,000m<sup>3</sup> in total**

## Drain in Factory - Sand Factory in Songjiazi Village



**9 Vehicles in total :**

**1 Vertical(3000m<sup>3</sup>/h)**

**1 Vertical(1500m<sup>3</sup>/h)**

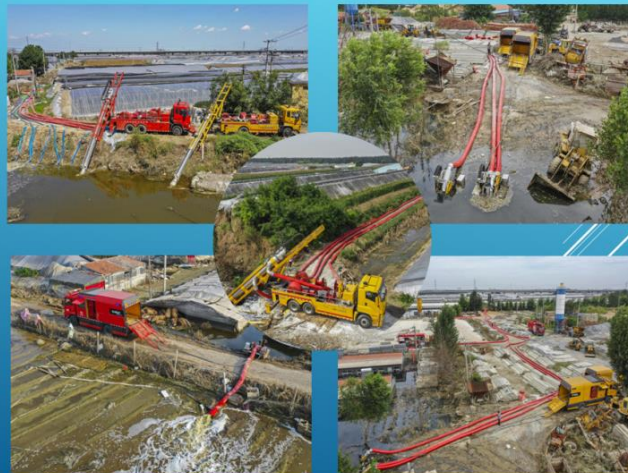
**2 Detachable(3000m<sup>3</sup>/h)**

**4 Detachable(1000m<sup>3</sup>/h)**

**1 Vertical(5000m<sup>3</sup>/h)**

**109 hrs in total**

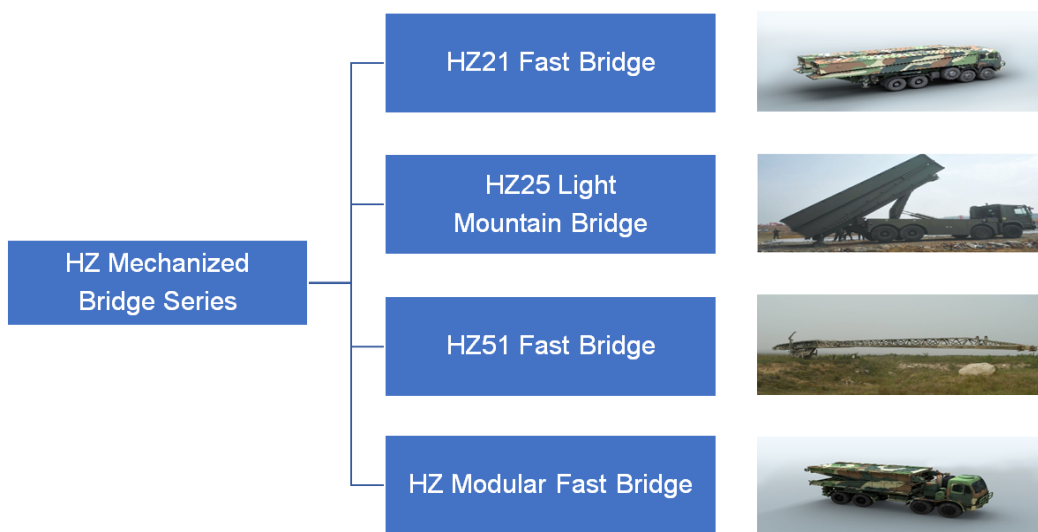
**2,125,500 m<sup>3</sup> in total**



## HZ51 Fast Bridge



- The Longest Single-span Mechanized Bridge in the World.
- This bridge equipment has already been equipped by the Chinese, Thai and Lao Army.



One of our equipment is military Mechanized bridge, we also called it fast bridge. Such as the 21 fast bridge, 51 fast bridge, and modular fast bridge. They have different functions.



## TIEMS 2018 Conference Second Day

<p><b>Welcome to University of Santo Tomas</b> UST Rector Herminio Dagohoy, O.P., Ph.D.</p>
<p><b>TIEMS International Activities to improve Global Resilience</b></p> <p>K. Harald Drager TIEMS President</p>
<p><b>State of Civil Protection in the world: Typologies, Good practices and Economic Returns</b></p> <p>Lesley Jeanne Y. Cordero Senior Disaster Risk Management Specialist World Bank</p>
<p><b>How to Predict the Next Big Earthquake in Manila? Is it possible? The AMaDeUs Approach</b></p> <p>Dimitar Ouzounov Chapman University, USA</p>
<p>COFFEE BREAK</p>

<p><b>Tyler Gates</b> USA</p>	<p><i>Virtual Reality in Emergency Management</i></p>
<p><b>Roman Tandlich, Hallo Angala, Eunice Paidamoyo Vhiriri, Nosiphiwe P Ngqwala &amp; Bongumusa M Zuma</b> South Africa</p>	<p><i>Scoping and understanding of vulnerability in the context of WASH, ethics and disaster Management</i></p>
<p><b>Bhaskararao Mulam</b> India</p>	<p><i>Regional Collaborative Strategies for Preventing Disaster Risks in South Asia: Need for a better Cooperation and Coordination among the SAARC Member Countries</i></p>
<p><b>Thomas Robertson</b> USA</p>	<p><i>Applications of Advanced Information Technologies to Disaster Risk Reduction</i></p>
<p><b>Neil Dufty</b> Australia</p>	<p><i>A New Approach to Disaster Education</i></p>
<p><b>TIEMS ANNUAL GENERAL MEETING</b></p>	

## LUNCH BREAK

*I HEARD IT ON THE INTERNET! Common Emergency Management & Business Continuity Challenges*

**Alex Fullick**  
*TIEMS Newsletter Editor*

MBCI, CBCP, CBRA, v3ITIL has been assisting major Canadian organizations initiate and manage customized Business Continuity Management (BCM) programs for over 19 years. He is the Founder and Managing Director of *StoneRoad*, a consultancy and training firm specializing in BCM.

**Bhaskararao Mulam**  
*India*

*Regional Collaborative Strategies for Preventing  
 Disaster Risks in South Asia*

**Snjezana Knezic**  
*Croatia*

*Operational procedures for the long term cultural  
 heritage adaptation strategies against climate  
 change induced disasters*

**Sandro Bologna**  
*Italy*

*From Protection to Resilience*

## COFFEE BREAK

**Jaroslav Pejcoch**  
*Czech Republic*

*Smart City - Secure Haven or Threat?*

**Young Jai Lee, Yejin Kim &  
 Seong Kyung Kang**  
*South Korea*

*Lessons Learned from Korean Local  
 Government Disaster Risk Reduction (DRR)  
 Manuals and Capacity Building Activities*

## TIEMS GALA DINNER



After a warm and formal welcome by a flag ceremony and a welcome speech by Rector Herminio Dagohoy of the University of Santo Tomas, TIEMS President set the scene for the conference by a presentation of the worldwide disaster risk and its related cost, and TIEMS activities for making the worldwide societies more resilient.

His speech was followed by a keynote speech by Lesley Jeanne Y. Cordero of the World Bank, presenting the World Bank Study on Civil Protections Worldwide, and its preliminary findings. Dimitar Ouzounov followed up with a presentation on a promising model for earthquake predictions, the AMaDeus Approach.

Alex Fullick addressed the issue of “I heard it on the internet”, and its implications on reactions and beliefs.

The Keynotes were followed by 10 presentations on different topics of disaster resilience around the world by speakers from 9 countries, as the final TIEMS conference program above shows.

The TIEMS Annual Meeting reported on TIEMS activities in 2017 - 2018 and during the election, the following Directors were elected for the coming three year period:

1. Treasurer - Jack Zhang (China)
2. Regional Director for Asia - Rodney Jagolino (Philippines)
3. Regional Director for Africa - Roman Tandlich (South Africa)

## TIEMS 2018 Conference Third day

<p><b>Soon-Joo Wang</b> South Korea</p>	<p><i>Use of Hazard Vulnerability Analysis(HVA) as a Life Saving Tool for Disaster Preparedness</i></p>
<p><b>Kailash Gupta &amp; Suresh Kumar Ola</b> India</p>	<p><i>World's 100 Resilient Cities, India's 100 Smart Cities, and Jaipur Resilient &amp; Smart City</i></p>
<p><b>Tererai Nhokodi, Sbuda Dwani &amp; Roman Tandlich</b> South Africa</p>	<p><i>Case study on disaster risk reduction and public health implications management in South Africa</i></p>
<p><b>COFFEE BREAK</b></p>	
<p><i>The Philippines' Current Strategies in Earthquake Disaster Risk Reduction</i></p> <p><b>Renato U. Solidum, Jr.</b> Undersecretary for Disaster Risk Reduction and Climate Change, Department of Science and Technology and Officer-In-Charge, Philippine Institute of Volcanology and Seismology</p> <p>Department of Science and Technology and Philippine Institute of Volcanology and Seismology (DOST-PHIVOLCS)</p>	
<p><i>USAR/CERTs Capacity Buildings and National Accreditation Process (NAP) of USAR Lessons Learned From China</i></p> <p><b>QU Guosheng</b> TIEMS Vice President Prof. National Earthquake Response Support Service (NERSS), CEA Expert Group Leader of USAR of CEA Deputy General Team Leader of China International Search and Rescue Team (CISAR) Director, Research Centre of Digital Disaster Mitigation and Emergency Management, IDC, Peking University.</p>	
<p><i>People, Supply and Information (PSI) Resilience Index for SMEs in the Philippines</i></p> <p><b>Ramil "Mel" Cabodil</b> President</p> <p><b>Business Continuity Managers Association of the Philippines (BCMAP)</b></p>	



*Presentation of TIEMS 2019 Annual Conference Venue*

**The conference will take place in Seoul, Korea 12 - 15 November 2019**

Hosted by

***TIEMS Korea Chapter jointly with the Korean Society for Disaster & Security***

**CONFERENCE SUMMARY & CONCLUSIONS**

**TOUR**

The conference will conclude and finalize before lunch on 16<sup>th</sup> of November, and after lunch there will be a tour to the Office of Civil Defense- National Disaster Risk Reduction Management Council (OCD-NDRRMC) Emergency Operations Center & Earthquake Center.

There were three important keynotes the last day of the conference. First a presentation on “*The Philippines’ Current Strategies in Earthquake Disaster Risk Reduction*” by Renato U. Solidum, Jr., giving an overview of how Philippines authorities dealt with the earthquake risk in the Philippines. Then TIEMS Vice President Guosheng Qu presented how China was building capacity in Search & Rescue in China. The last presentation of the conference was by Ramil Cabodil, addressing business continuity efforts in small and medium size companies in the Philippines.

In addition there were 3 presentations on different disaster resilience around the world by speakers from 3 countries, as the final conference program above shows.

Before TIEMS President closed the technical program of TIEMS 25<sup>th</sup> Anniversary and 2018 Annual Conference, Soon-Joo Wang, Vice President in TIEMS Korea Chapter, informed about the venue for TIEMS 2019 Annual Conference, which will take place in Seoul, Korea 12 - 15 November 2019, and which be hosted by TIEMS Korea Chapter jointly with the Korean Society for Disaster & Security.

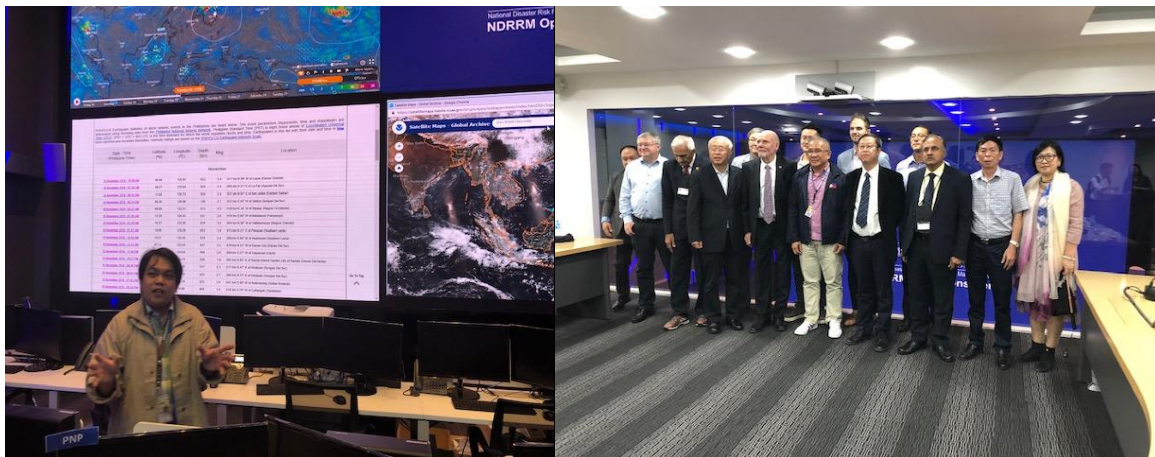


TIEMS President expressed his many thanks to the local organizing committee in the Philippines, all the presenters, and participants, and declared that TIEMS 25<sup>th</sup> Anniversary and 2018 Annual Conference had been another TIEMS success, and wished all delegates a safe journey home, and welcomed to TIEMS 2019 Annual Conference in Seoul, Korea. Before the departure for the tour the below group picture was taken:



The last event of the conference was a tour to the *Office of Civil Defense - National Disaster Risk Reduction Management Council (OCD-NDRRMC) Emergency Operations Center & Earthquake Center*, and to *Metropolitan Manila Development Authority*.

TIEMS delegates were warmly greeted both places and given a brief presentation of the authorities strategies and systems dealing with the disaster risks in the Philippines and Manila.



*Office of Civil Defense - National Disaster Risk Reduction Management Council (OCD-NDRRMC) Emergency Operations Center*



A warm welcome also at MMDA



Overview of Manila Traffic situation



## TIEMS Board Summing Up



Summing up and concluding the conference with piano music by TIEMS Secretary, Jaroslav Pejcoch from Czech Republic. This was another successful TIEMS International event joint with USTCN conference on Disaster Risk Reduction and Climate Change, with speakers from 12 countries presenting altogether more than 50 oral presentations focusing on how to make the world more resilient.



# Songpa Safety Training Center, I-SAFE School

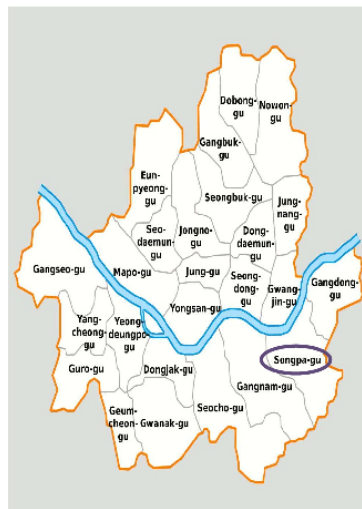


## Songpa Safety Training Center I-SAFE SCHOOL

DRR Education for creating  
a safe, inclusive and resilient community



### General Overview



Population	<b>664,496 persons</b> 264,628 households
Budget	<b>7 hundred million KRW</b>
Area	<b>33.88km<sup>2</sup> (5.6% of Seoul)</b> Residential: 21,019km <sup>2</sup> (62.1%) Commercial: 2,281km <sup>2</sup> (6.7%) Green: 10,557km <sup>2</sup> (31.2%)
Housing	<b>223,193 houses</b> Apartment 108,833 (48.8%) Single house 45,481 (20.4%) Town house 67,524 (30.2%) No permit 1,355 (0.6%)

## Core Component of District Administration: Safe Community

*Safe and Comfortable for 365 days, a Resilient City Songpa*



## 송파안전체험교육관

### Background



### Sealand Youth Training Center Fire 30 June 1999

- In memory of 9 Songpa students & 4 instructors
- 1<sup>st</sup> comprehensive disaster & safety training center
- Educate & raise awareness on public safety



02




### 씨랜드 화재참사 희생 어린이 19주기 추모식

1999년 6월 30일  
경기도 화성 씨랜드 청소년 수련시설 화재참사로 희생된 어린이들의 넋을 기리는  
19주기 추모식을 진행하고자 합니다. 어린이들을 위한 의미있는 시간을 함께  
나누고자 하오니 박프시머라도 부디 참석하여 추시면 감사하겠습니다.

일시: 2018년 6월 30일 토요일 오전 11시  
장소: 송파안전체험교육관



## A Comprehensive Safety Training Center where individuals actually SEE! LISTEN! FEEL! EXPERIENCE! a variety of disasters & accidents

### Overview

**Location:** 53 Seongnaecheon-ro 35-gil, Songpa-gu, Seoul, Korea  
**Area:** 5,516.35 m<sup>2</sup>  
**Staff size:** 15 (1 Director, 1 Mgmt. Head, 11 Trainers, 2 Facility operations)  
**Management:** Korea Children Safety Foundation  
**Hours:** Monday-Friday (3 sessions/ day: 10:30a.m., 13:00 p.m., 15:00p.m.)  
**Saturday (Once: 10:30a.m.)** ※ Duration: 40~90 minutes per program



### Operations

#### ○Priorities

- Provide systematic safety education by age and level through customized programs
- Establish a safety education infrastructure effectively responding to all disaster types
- Leveraged ICTs such as VR to enhance the quality of experience

#### ○Target audience

- Infants
- Students (elementary, middle, high schools, & university...)
- Teachers
- Parents
- All public

03



## A Comprehensive Safety Training Center where individuals actually SEE! LISTEN! FEEL! EXPERIENCE! a variety of disasters & accidents



03



## Timeline



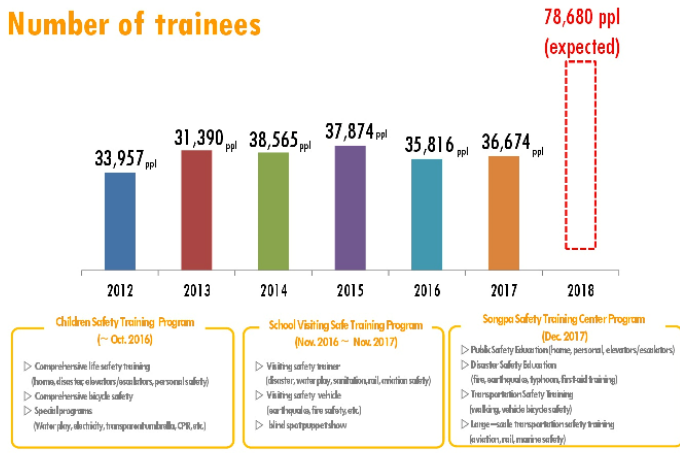
17-years process ....

04

## 송파안전체험교육관



### Number of trainees

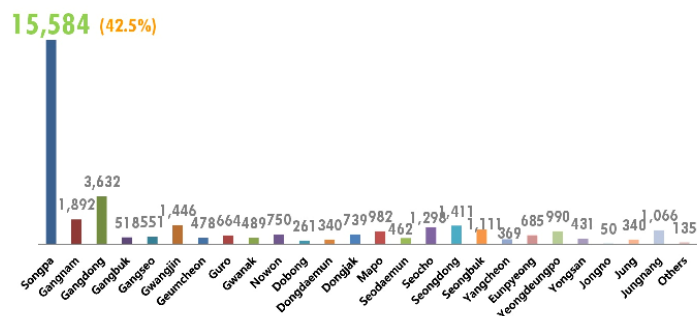


05

## 송파안전체험교육관



### Trainees by geographic location



## 송파안전체험교육관



### KEY CHARACTERISTICS

**Established facilities for new disaster types**

Disaster Safety Zone  
(Typhoon, Fire Extinguisher Experiences)  
Large-scale Transportation Safety Zone  
(Aviation, Rail, Marine safety)

**Facility renovation**

Strengthen transportation safety program

**Creating an experience-based educational environment**

Building a simulation education programs moving beyond theory-oriented safety education

07



## KEY CHARACTERISTICS

	<b>Promoting user convenience</b>	
<b>Old facilities replacement &amp; reinforcement</b> Personnel, elevator/escalator safety zones	<b>Infant movement pose</b> Improved environment for the disabled	
		<b>Others</b> New space for special programs, Luggage storage facility, Lobby space extension

08

## MAJOR PROGRAMS

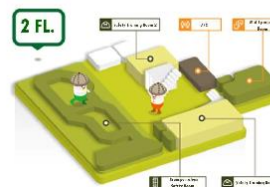
	<b>Life-friendly Safety Experience</b>
	<ul style="list-style-type: none"> <li>○ Home Safety               <ul style="list-style-type: none"> <li>- Areas with potential risk at home &amp; safety response measures</li> <li>- Adult education for creating a safe home environment</li> </ul> </li> <li>○ Personal Safety               <ul style="list-style-type: none"> <li>- Understanding concept of a "stranger" and "self protection" (Role Play)</li> </ul> </li> <li>○ Elevators &amp; Escalator Safety               <ul style="list-style-type: none"> <li>- Elevators &amp; Escalator Safety tips and emergency evacuation experience</li> </ul> </li> </ul>
	<b>Disaster Preparedness Safety Experience</b>
	<ul style="list-style-type: none"> <li>○ Earthquake Safety Experience               <ul style="list-style-type: none"> <li>- Tremblant earthquake drills like actual seismic waves (&lt; M<sub>w</sub> 6)</li> </ul> </li> <li>○ Typhoon Safety Experience               <ul style="list-style-type: none"> <li>- Response drill through strong wind simulator (&lt; 30m/s)</li> </ul> </li> <li>○ Fire Safety Experience               <ul style="list-style-type: none"> <li>- Fire drill using fire extinguishers</li> </ul> </li> </ul>

09

## MAJOR PROGRAMS

### Comprehensive Transportation Safety Experience

- Walking Safety
  - Pedestrian crossing
  - Traffic Safety Signs
- School Transportation Safety
  - Vehicle Safety
  - Vehicle Blind Spot Safety
  - Seatbelt use in emergency vehicle
  - Vehicle emergency evacuation
  - Child safety seat installation and fastening
- Bicycle Safety
  - Role of the bicycle
  - Riding a bike wearing a protective gear



10

## 송파안전체험교육관



### MAJOR PROGRAMS

3 FL.



4 FL.



#### Large-scale Transportation Safety Zone

- Marine Safety Experience
  - Ship safety rules and safety devices
  - Evacuation measure, warm temp. maintenance
- Rail Safety Experience
  - First-Aid Kit location and usage
  - Evacuation measures for fire accidents
  - Railway engineering
- Aviation Safety Experience
  - Safety check during take off/ & landing, wearing a safety vest
  - Using emergency escape slide for emergency
- First-Aid Experience
  - CPR and First Aid
- VR Experience
  - Education on Climate Change (VR theme on fine dust)



11

## 송파안전체험교육관

### SUCCESS FACTOR



## 송파안전체험교육관

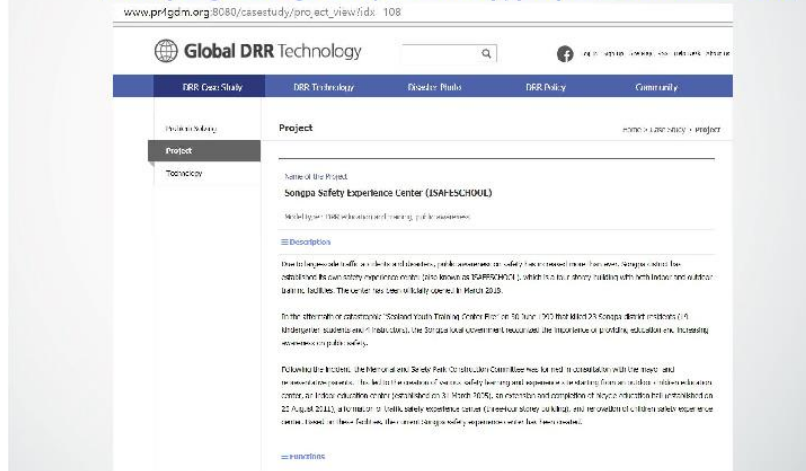


Creating a safe living environment for all

12

## Additional information available on :

- [www.pr4gdm.org:8080/casestudy/project\\_view?idx=108](http://www.pr4gdm.org:8080/casestudy/project_view?idx=108)



# Thank you

송파안전체험교육관

## Questions or Cooperation:

[yennie86@gmail.com](mailto:yennie86@gmail.com)



# COMMUNITY = CITY / RESILIENCE

Empowering Communities Towards a Resilient Makati



CITY GOVERNMENT OF MAKATI  
DISASTER RISK REDUCTION AND MANAGEMENT



community = CITY  
**RESILIENCE**

EMPOWERING COMMUNITIES TOWARDS A RESILIENT MAKATI

USTON/TIEMS 2018 Manila Conference  
Workshop 1: Disaster Risk Reduction (DRR) Communication Platform

14 November 2018, 9:10 – 11:00am  
University of Santo Tomas, Manila, Philippines

## DISASTER RESILIENCY



## MAKATI CITY FINANCIAL CENTER OF THE PHILIPPINES

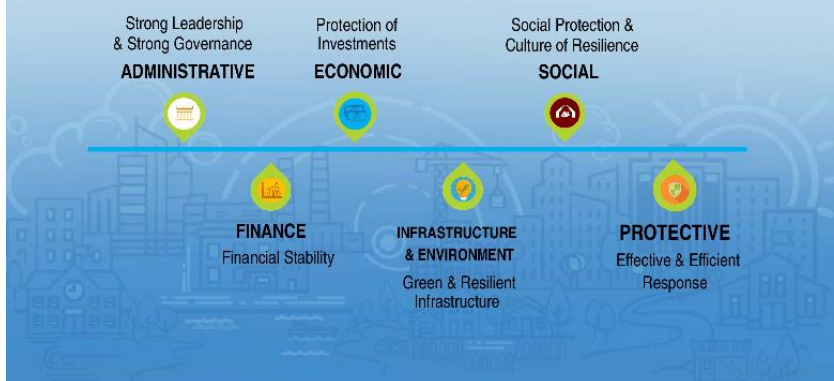




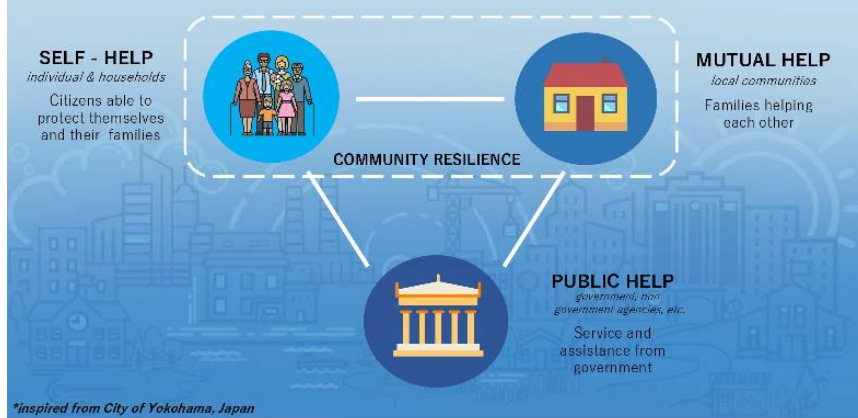
## GUIDING PRINCIPLES

- **SCIENCE-BASED PLANNING** science is still the best basis for DRRM planning
- **SYSTEMS APPROACH** **all-of-society approach**, considering the city as a **system of systems**
- **MAINSTREAMING DRRM** in our sectoral development plans, budgeting, and policies
- **SUSTAINABLE DEVELOPMENT** **optimal use of resources** driven by our duty to **think of the future generations**
- **GLOBAL COMPETITIVENESS** **everything that we do is for the best interest of Makatizens while meeting international standards and practices**

## SECTORAL VISION



## THREE TYPES OF ASSISTANCE



## DISASTER RISK REDUCTION AND MANAGEMENT PLANS

### MAKATI DRRM PLAN

#### VISION

Makati, a progressive city with safe, secure and resilient communities and a world leader in disaster risk reduction and management.

#### MISSION

Develop a culture of safety and establish a sustainable way of life that will make Makati a safe and secure place to live in.

#### GOALS

The Makati DRRM Plan will use the first four (4) targets of SFDRR as its goals:

1. Reduce disaster-related mortality including injuries
2. Minimize the number of affected people
3. Reduce direct disaster economic loss
4. Minimize damage to infrastructure and disruption of basic services.



### ENHANCED BARANGAY DRRM PLANS

Barangays were provided technical assistance to enhance all 33 barangay DRRM plans of the city to meet national and international standards.



### FAMILY PREPAREDNESS PLAN

Family Preparedness Plan encourages families to plan together, discuss together, and put in writing the roles and responsibilities of each member of the family, agreements where to meet in case separated because of a disaster.

## RESPONSE COMMUNICATION & COORDINATION

National Government Agencies



Barangays and Community



## EARLY WARNING SYSTEM







## THE WEST VALLEY FAULT IN MAKATI

Barangays transected by the WVF: Pembo, Rizal, East Rembo, and Comembo

### From Fault Line to Green Line



Through the CLUP 2013-2023 and its Zoning Ordinance, **5-meter buffer zone on both sides is delineated as OPEN SPACE.**

### Disaster Resilient Infrastructure



**Retrofitting of properties within the 5-meter buffer zone** on both sides to reduce the impact of earthquake and typhoons through the construction of a disaster-resilient infrastructure.

### Community Empowerment & Capacity Development



Raising awareness on earthquake preparedness and provision of Emergency Go Bag to all **540** affected households



Dialogue between the city government and community members

## CAPACITY BUILDING AND AWARENESS RAISING

### MAKATI DRRM AWARDS



- It aims to capacity barangays to build its **resilience based on international and national standards, familiarity of basic DRRM concepts and innovation in buildings its resilience;** and

### VOLUNTEER MANAGEMENT SYSTEM



**278** volunteers

w/ **2** volunteer groups

**55** accredited volunteers w/ training

- To promote **active citizenship and strengthened partnership** and create a pool of committed, knowledgeable, skilled, competent and ethical volunteers; and
- The City institutionalized protocols and standards for accreditation and capacity building, such as profiling, skills matching, etc.

## MAKATI DRRM ACADEMY

- envisioned to transform Makati into a **globally competitive force in DRRM**, it will be an area for sharing DRRM **knowledge and best practices;** and
- will be the **official training institution of Makati for DRRM** with state-of-the-art building and facilities and green features designed for **all stakeholders** in the city

### FORMAL LEARNING

- standard contextualized international standards which can also be used as a course

TRACK OFFERED



Haagen's Training Facility



Yokohama Training Center

### INFORMAL LEARNING



Tokyo Rinkai Disaster Prevention Center



Yokohama Disaster Learning Center



© MAKATI DRRM OFFICE





### “Makatizen at the heart of Makati’s resilience”

Makati City, as a premier city, aims to set the bar high and try to be at par with international standards without compromising the context of the City.

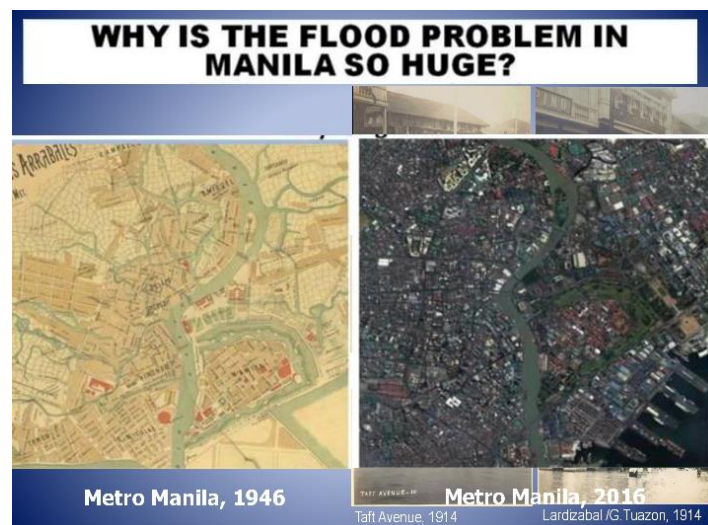
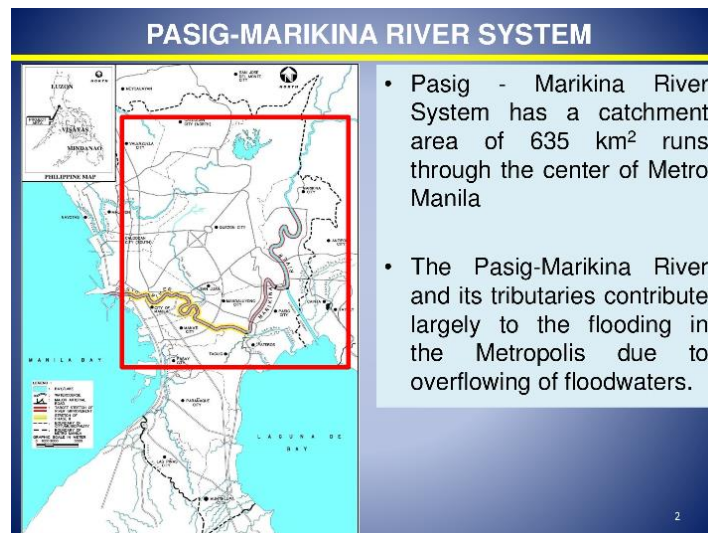
However, these initiatives, plans and technologies to make Makati resilient can only be effective if each Makatizen understand their roles and responsibilities and take action accordingly



Angeli Medina (3<sup>rd</sup> from left) and her many volunteers and planning committee!! Thanks everyone!

# PASIG-MARIKINA River Channel Improvement Project

By Fano, Jerry Austria





## BACKGROUND

### Past Studies and Plans for Pasig-Marikina River Flood Mitigation Project

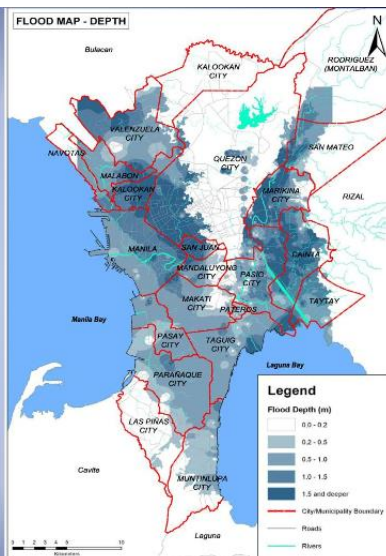
- Master Plan and Feasibility Study, JICA in 1990 (Study on Flood Control and Drainage Project for Metro Manila)
- Special Assistance for Project Formation (SAPROF) JBIC in 1998

#### FLOOD by Tropical Storm "Ondoy" in 2009

- Preparatory Study for Pasig-Marikina River Channel Improvement Project, Phase III (JICA in 2011)
- Master Plan of Flood Management for Metro Manila and Surrounding Areas (WB in 2012)
- Data Collection Survey on Flood Management in Metro Manila (JICA in 2013)
- Preparatory Study (Definitive Implementation Plan) for PMRCIP IV (DPWH in 2015)

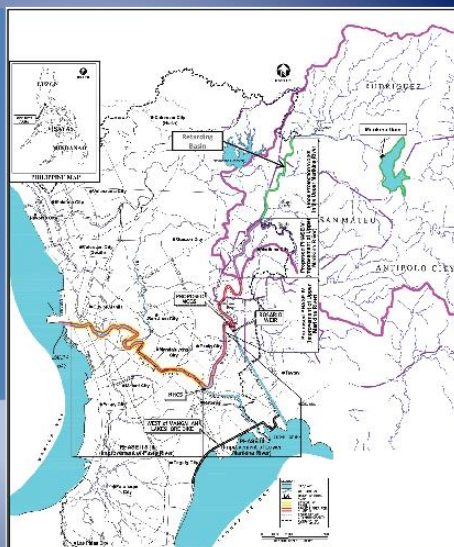
4

### Flood Condition by "ONDOY" in Pasig-Marikina River Area

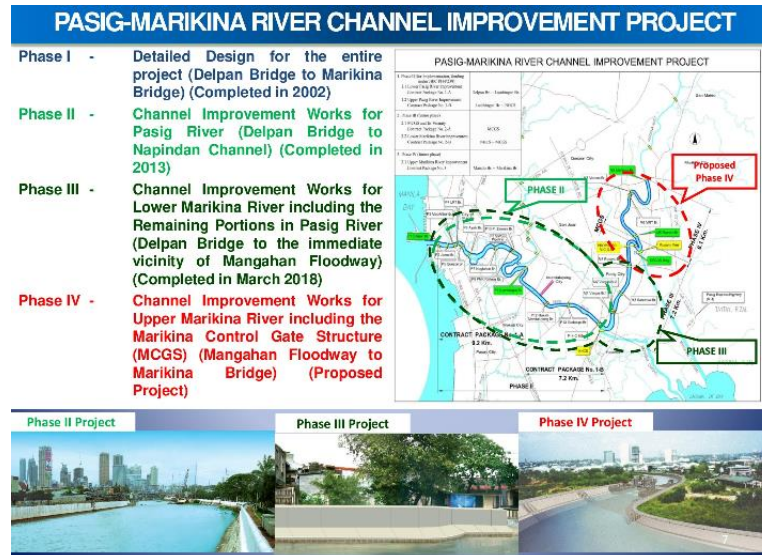


### FLOOD MITIGATION PROJECTS FOR PASIG-MARIKINA RIVER BASIN

- Pasig-Marikina River Channel Improvement Project
- Construction of Dam and Retarding Basin Upstream/Upper Marikina River







## PASIG-MARIKINA RIVER CHANNEL IMPROVEMENT PROJECT

### Project Objective:

The main objective of the project is to mitigate flood damages in Metro Manila caused by channel overflow of the Pasig-Marikina River, thereby facilitating urban development and enhancing the sustainable environment along the river.

8

## Construction Stages of PMRCIP

### Stage I: PMRCIP Phase II (JICA, PH-P239)

#### • Project Description:

Construction and improvement of revetments/river walls, parapet walls and appurtenant drainage improvement works along the selected priority critical sections of the Pasig River Channel (from Delpan Bridge to immediate vicinity of Napindan Hydraulic Control Structure-NHCS)

#### • Completion Date: May 2013

#### • Project Location : Pasig River (Manila, Makati and Mandaluyong Cities)



9

[Access the Full Presentation Here](#)

## **Analysis of the Application of Haidexin Emergency Industry Platform in the Philippines**

By Li Xyanye, Longyan Emergency Industry Association

With the rapid development of global economic integration, the continuous improvement of human living standards, the stability of economic development and the security-related socialized anti-risk ability have become important indicators for measuring the overall strength of a country. Located in the Pacific Earthquake Belt, Philippines is an archipelago country in the northwestern Pacific Ocean, with an oceanic monsoon climate. At the same time, the anarchic deforestation phenomenon is more serious, therefore, the probability of being affected by sudden natural disasters due to environmental factors is much higher than that of most countries in the world. The losses and impacts caused by disasters have a negative effect on the economic development and social stability of the Philippines to a certain extent. Strengthening emergency management and disaster prevention capabilities, and reducing the risk and impact of disaster damage are extremely crucial to the economic development of the Philippines.

This paper analyzes the Philippines' macroeconomic trends and the impacts of historical disaster events, and combines the impact of emergency management on economic development to analyze the necessity of improvement of the national emergency management capabilities of China-Philippines cooperation. At the same time, under the policy of the Chinese government advocating the construction of the "Community of Human Destiny" and the "The Belt and Road" policy, based on the reliable resources of the Haidexin emergency industry platform, we will discuss and provide rationalization advice on how to work together with representatives from all walks of life in the Philippines to improve the level of national emergency management, promote the economy steady development and enhance overall national strength.

[Click here to download the full article](#)

## A New Approach To Disaster Education

By Neil Dufty

Disaster education helps people learn what to do before, during and after a disaster or emergency. Mitigation structures and planning will never protect all people in all disasters; emergency agencies may not be able to help all people. Therefore, disaster education is a critical basis for resistance and recovery in many disasters.

Although it is commonly used around the world by emergency organisations particularly to encourage preparedness, there is surprisingly little academic research into understanding the most appropriate content and methods for effective disaster education. Furthermore, there is scant practical guidance into how to tailor disaster education to local hazard risk scenarios and communities.

Drawing on andragogical program design from other fields (e.g. health, road safety) and evaluations of disaster education, a new approach for the development of effective tailored disaster education programs has been explored and tested. The approach uses a framework consisting of three levels to prepare bespoke disaster education programs. The three levels are:

1. Principles of effective disaster education. Many disaster education programs rely solely on the provision of generic information and preparedness plan templates. However, this 'traditional' approach has found to be lacking in impact and principles based on evidence from disaster psychology, sociology and learning theory have been shown to be preferable. These alternative principles include the need for social and experiential learning activities, in addition to cognitive learning. Ongoing evaluation is another hallmark of effective disaster education programs.

2. 'Palettes' of potential content and methods to choose from in the development of the disaster education program. The content range is across the disaster management cycle of mitigation, preparedness, response and recovery. The methods that could be used are from the following categories:

- Public communications, information products and services
- Training, development and industry-specific programs
- Community engagement programs
- Comprehensive personal education programs

3. 'Filters' to identify appropriate education content and methods from the palettes guided by the principles of effective disaster education. These filters include an understanding of the at-risk community (e.g. vulnerabilities, social networks), hazard risks, risk reduction measures, emergency management arrangements and local disaster knowledge. An appreciation of the specific learners in the at-risk community is also important as the learners can include residents, emergency managers (e.g. volunteers), school students and business owners with each group having a different educational praxis.

Using this deductive approach, the most appropriate content and methods are identified which can then be moulded into a sequence of learning activities that comprises the tailored disaster education program for an at-risk community which can be located anywhere in the world.

[Click here to download the full article](#)

## From Protection To Resilience

By Sandro Bologna

Past and recent experiences have shown how likely is that protection policies, sooner or later, may fail. For this reason, and being aware of the fact that the efforts put in place for the protection of

Critical Infrastructures (CIs) supporting Communities life can be easily bypassed, all of the stakeholders involved in the protection of such delicate and vital infrastructures have reached a level of awareness that strongly suggests to put more emphasis on Critical Infrastructure and Community resilience instead of protection.

It can be affirmed that the adoption of resilience measures seems to be justified by the same variables that a long time ago have suggested the adoption of protection measures and from the awareness that there's no resilience without protection and vice-versa. At the same time, it's necessary to highlight that the adoption of resilience measures shouldn't in any case divert or reduce the focus from protection, as these approaches are complementary and cannot be equally missing from the management and security lifecycle of modern infrastructures.

The paper proposes a methodology for modelling and evaluating Community Resilience.

[Click here to download the full article](#)



## **Lessons Learned From Korean Local Government Disaster Risk Reduction (DDR) Manuals and Capacity Building Activities**

By Kan, Seong Kyung – Kim, Yejin and Lee, Young Jai

Natural and man-made disasters continue to occur resulting in massive fatalities and economic losses even in the fourth industrial revolution era. To minimize damages from such catastrophes, the Korean government is investing considerable time and money in developing effective manuals and training workshops.

This paper aims to identify challenges of utilizing emergency management manuals of local government that includes specific on-site action procedures for effective disaster response. It will also provide recommendations to overcome ongoing problems.

The on-site emergency response manual serves to strengthen local disaster response capacity only when specific action tasks, roles and responsibility, and inter-agency coordination mechanism are developed in consideration of local hazard types and vulnerability. But analysis of on-site emergency response manuals highlight that specific hazards types with high frequency and intensity in certain locality is not well reflected.

Thus, disaster response phase is activated without clear distinct division between risk monitoring and early response.

What are the means to improve existing challenges? The paper scrutinizes the problem into four different areas. Firstly, Korea's disaster management framework needs to be enhanced. Secondly, it is critical to improve disaster response procedures and processes.

Thirdly, there should be changes in action list for each disaster response phase. Lastly, disaster response coordination should be strengthened at all response stages.

How can manual problems be resolved? First, the local government is to identify main responsibilities and support functions to be carried out during an emergency. Second, action responses are to be classified by action codes. Third, individual interviews are to be conducted by responsible divisions. Finally, review major tasks and support actions by ministries, organizations and divisions based on interview results. Then the revised manuals are

[Click here to download the full article](#)



Taking a break during conference

## **Assessment of the Risk and Effect of Flood in Some Selected Communities in Makurdi Local Government Area of Benue State, Nigeria**

By Daka Tersee William – Gbenge Morenikeji – Nurudeen Mohamed

Flood disaster is seen as a recurrent event in Nigeria. When it occurs, it affects not only human lives and farmlands but also socio-cultural settings of communities. This thesis provides understanding of Risk and effect of Flood in some Selected Communities in Makurdi Local Government Area in Benue State, Nigeria. The objectives explored were the determination of the factors responsible for flooding in the study areas, mapping of the flood prone areas in the study area, development of the flood risk map of the study area and assessment of the socio-economic impact of flood in Benue State. The study employed both quantitative and qualitative methods. It further engaged key stakeholders within the communities as well as randomly sampled households. Quantitative Household questionnaire was used to collect data. It was observed that flood is recurrent within the study areas. When flood occurs, it affects their businesses seriously as they depend on farm produce and have no alternative businesses. It was also observed from the Digital Elevation Model that, the lowlands are located along the river course of river Benue and these low lands can be termed as flood plains. From this it was observed that many dwellers encroached on flood plains. The analysis revealed that high risk area occupies a total of 18,547,314 square metres, Moderate risk has a land area of 6,513,663 square metres while the Low risk area occupies the least land area with a total of 2,508,034 square metres. It was observed that tributaries of river Benue is one of the major sources for consumption and domestic use. The implication is that the communities will continue to be vulnerable to disease outbreak as a result of contamination that occurs during flooding. The study recommended amongst others that; Benue State Emergency Management Agency should endeavor, with the community heads and members to initiate mitigation measures by introducing community based flood early warning system in order to build community resilience. Budgetary allocation dedicated to effective pre-disaster should be implemented as against disaster relief that is common in the state. Lastly, introduction of disaster related management courses should be introduced in secondary school to catch the youth young on knowledge based preparedness.

[Click here to download the full article](#)

## World's 100 Resilient Cities, India's 100 Smart Cities, and Jaipur Resilient & Smart City

By Kailash Gupta and Suresh Kumar Ola

More than half of world's population started living in urban areas in 2007. This trend is continuing, unabated. Unplanned and haphazard urbanization around the world is affecting the quality of life of urban dwellers. Majority of the economic growth is also contributed by cities, for example 63% of Indian GDP is generated in cities. Therefore, governments, international organizations, foundations, and civic societies around the world started thinking about improving the cities. This paper will present 100 Resilient Cities around the world program pioneered by Rockefeller Foundation, 100 Smart Cities program in India, and about Jaipur city, which is both 100 Resilient City and Smart City.

[Click here to download the full article](#)



Trooping of the colors.



## Case Study On Disaster Risk Reduction And Public Health Implications Management in South Africa

By Nhlaphoa, B., Nhokodi, T, Dwani, S, Tandlich, R., Khamanga, S. M., Bradshaw, K, Srinivas,

Water pollution and service delivery issues have long plagued South Africa due to historical inequality in the water service delivery, technical capacity shortages, primary water scarcity and the semi-arid/arid climate in the country. Two initiatives are described in this article. The first one is a health promotion about preventing water pollution was run as a combination of the computer-based quiz, an information poster, interactive model and a take-home information leaflet. That was implemented at the 2014 National festival of Science and Technology held in Grahamstown, South Africa. The second initiative is the use of the H2S kit as a tool to assess disaster risk/hazard from microbial contamination of potable water resources used by students and staff at Rhodes University at 5 sampling sites between 30th July 2017 and 5th September 2017. Some infrastructure integrity of the potable water infrastructure and the policy used to deal with water outages were analysed; and modifications are proposed where applicable based on the study results. After an educational intervention, there was a significant improvement in the overall participants' percentage knowledge scores about prevention of water pollution (p-value = 0.009) at 5 % level of significance. The intervention results showed significant improvement postintervention among the participants who attended or had attended independent schools (p-value = 0.024). The H2S microbial water testing initiative indicated that 90% of the rainwater samples were positive for faecal contamination or were suspected of the being faecally contaminated. On the other hand, while all municipal water samples were negative for fecal contamination. Integrity of the rainwater harvesting infrastructure was sound, but treatment by the additional of bleach and the installation of filters on all rainwater harvesting campus installed on campus. A regular monitoring of the microbial water quality on campus was implemented and the results were communicated to the respective Rhodes University stakeholders. That was accomplished using WhatsApp and email

[Click here to download the full article](#)

## Poverty and Domestic Fuel Challenges; A Threat to Global DRR Crusade in Nigeria

By Dukiya J,J and Adeleye B,M

Nigeria that is crown as the giant of Africa is acclaimed to have one of the world's highest economic growth rates, averaging 7.4% (according to the Nigeria economic report released in July 2014 by the World Bank) yet her over 80 million people (42.4%) are currently living below the poverty line, according to the UN. Instead of eradicating poverty by the year 2030 according to the UN SDG in Nigeria, about 7 people are entering poverty every minute cooking gas per 2.5kg is NGN4000. Charcoal and fuel wood therefore becomes the only alternative domestic power source. In fact, Nigeria currently ranks second to Brazil in the production of charcoal and currently exports 380,000 metric tonnes of charcoal annually.

This study uses secondary data and remote sensing GIS to analyse the trends of poverty, charcoal and fuel wood production in the country and the loss of vegetal cover in the western region of the country. The result reveals that there is positive correlation between povert, fuel wood, charcoal and loss of vegetal cover, and this implies that all Disaster Risk Reduction (DRR) programmes must be intertwine with poverty reduction.

[Click here to download the full article](#)



The whole group!! You can just barely see me underneath and the right of thel in TIEMS.

# CERT and Local Community Resilience In China: Case From Chengdu and Shaanxi

By QU Guosheng

## CERT and Local Community Resilience in China Case from Chengdu and Shaanxi

QU Guosheng

Vice President, The International Emergency Management Society (TIEMS)

Expert Group Leader of China Earthquake SAR

Deputy General Team Leader of China International Search and Rescue Team

Director, Research Center of Digital Disaster Mitigation and Emergency Management,

IDC, Peking University

Prof. National Earthquake Response Support Service (NERSS), CEA

Email: [qgsh@263.net](mailto:qgsh@263.net), Tel: 86-13801225593

### CERT Concept

- ✓ Community Emergency Response Team (CERT) concept was developed and implemented by the City of Los Angeles Fire Department (LAFD) in 1985. They recognized that citizens would very likely be on their own during the early stages of a catastrophic disaster. Accordingly, LAFD decided that some basic training in disaster survival and rescue skills would improve the ability of citizens to survive and to safely help others until responders or other assistance could arrive.
- ✓ Community is the basic cell where gather the peoples to live together. It can be divided into urban type, countryside type, industry park type, company type and campus types. Community are the basic units for society management, living and working places, and also are the first responding area when the erupted disaster occurred.

### CERT Concept

- ✓ Community emergency response capacity or community emergency resilience are the capacity buildings for disaster mitigation, preparedness, response and recovery of the organizations, company, institutes, family, and personnel.
- ✓ The training model that the LAFD initiated was adopted by other fire departments around the country, including communities where the major threat is hurricanes rather than earthquakes. Building on this development, in 1994 the Federal Emergency Management Agency (FEMA) expanded the CERT materials to make them applicable to all hazards and made the program available to communities nationwide. Since that time, thousands of dedicated trainers, organizations, and citizens have embraced the responsibility to learn new skills and become prepared to execute safe and effective emergency response.

### CERT Activities

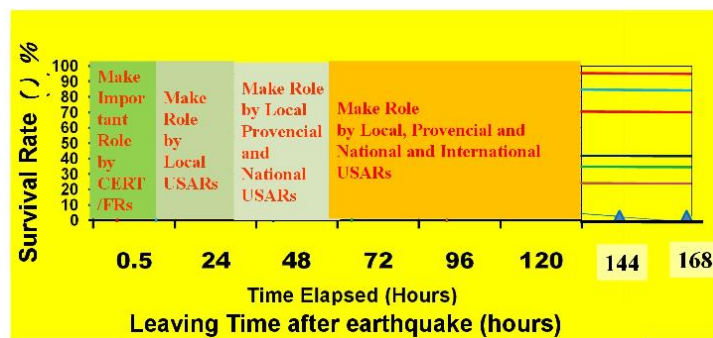
- ✓ Up to 2016, there are totally about 3700 CERT prgrams in the World. About 400 CERT programs in USA each year. Anout 850 instructors participate CERT training, about 1000 times CERT basic training in the local communities, 25000 peoples have got the CERT basic training each year.



曲国胜与美国CERT创始人Frank先生



### Survival /Rescue Rate and SAR



— Average Survival Rate      — Arriving Time of USARs Distribution

### USAR Classification Based on INSARAG



Figure 4: The INSARAG response framework



## CERT in China

From the end of 2014, the Community Emergency Response Team (CERT) concept was introduced to China and the CERT pilot project was held in China by the cooperation between FEMA and Peking University and NERSS, China, and EMA of Chengdu municipal government and Shaanxi provincial government. The modified and localized Chinese version were translated, compiled and publication.

In the end of 2015, there are about 100 instructors have been trained and about 15 communities have got CERT training.

[Click here to Access the Full Presentation](#)



Chinese, Korean and Philippines TIEMS delegation members

## How to Predict the Next Big Earthquake in Manila? Is it Possible? The AMaDeUs Approach

By Dimitar Ozounov, Gary de la Pomerai, Katsumi Hattori

The recent decade of catastrophic earthquakes (EQ) claimed thousands of lives and caused extensive economic losses. The DRR agencies and NDMAs are struggling with the provision of real time early warning systems, let alone earlier detection of potential major seismic events. In a recent poll by Swiss Re (2014), an international reinsurance company, Metro Manila is the world's second riskiest 'city' in terms of natural disasters waiting to happen, behind only Tokyo-Yokohama in Japan. Assessment was made on to five natural disasters, EQ, storm, storm surge, tsunami, and river flood. About 34.6 million (2013) people are potentially on the receiving end of the five catastrophes.

Therefore the questions "How to predict the next Big EQ in Manila " is more then relevant. The seismically active Marikina Valley Fault System creates a real treat for a large-scale EQ with an estimated M 6-7 and as high as M7.6. (Nelson et al, 2000)

After years of research and development, we are now witnessing the emergence of new realistic inter-disciplinary approaches based on data fusion enabling the reliable forecasting of major seismic events. Whilst still in continuous development, it is now a reality and proven to provide reliable short-term advanced warning. The new approach is a multi-observational data strategy to detect EQ precursors by integrating both satellite observations with ground-based data in order to determine the most relevant signal that provide a pre-EQ warning. The concept is based on innovative methods that were presented in our recent AGU/Wiley Geophysical Monograph Series describing pre-seismic patterns detection and on other underlying physical precursors e.g.: radon - gas; NASA numerical assimilation atmospheric models, GPS/TEC ionospheric soundings and thermal satellite observations recorded by NASA/NOAA/ESA/JAXA satellites (Ouzounov et al, 2018) We use these inputs for an initial physical representation of the interactive process between the EQ source with the Earth surface and the ionosphere. An example of a connection between EQs with the ionosphere is the Lithosphere Atmosphere-Ionosphere Couping model (LAIC) to detect the pre-EQ signals.

[Click here to download the full article](#)

## **Regional Collaborative Strategies for Preventing Disaster Risks in South Asia: Need for a Better Cooperation and Coordination among the SAARC Member Countries**

By M. Bhaskara Rao

The SAARC region, consisting of the countries of Afghanistan, Bangladesh, Bhutan, India, the Maldives, Nepal, Pakistan and Sri Lanka is one of the most disaster prone regions in the world. The region is highly susceptible to all types of natural and human induced disasters. Due to its high vulnerability, the SAARC region is suffering the most and experiencing maximum casualties and severe damages to property and infrastructure resulting in huge economic losses on account of all types of disasters. Climate change and environmental pollution is further compounding the problem. Although the SAARC region contributes very little towards climate change and global warming, environmental pollution, it is suffering the most on account of climate change due to the region's high vulnerability.

The SAARC region is also host to one of the most threatened eco-systems in the world. Climate change is also contributing to sea level rise, stronger windstorms and higher temperatures, increasing urban risk and exacerbating migration in the region. With the Sendai Framework's greater emphasis on Global and Regional Platforms for Disaster Risk Reduction there is a much need to develop more Collaborative Strategies, coordination and cooperation mechanisms and regional platforms for preventing Disaster Risks in South Asia. Regional Platforms for Disaster Risk Reduction are multi-stakeholder forums with varying characteristics, which will act as dynamic forums for policy-makers, partners, experts and practitioners of Disaster Risk Reduction to initiate activities, share information, promote campaigns and monitor progress about disaster risk reduction.

In the SAARC region, there are a large number of organizations and institutions which are actively involved in disaster risk reduction. But there is a lack of proper coordination mechanisms or platforms among them. For an effective disaster risk reduction strategy, collaboration, cooperation and coordination among various government departments, organizations and institutions is a must. This paper briefly discusses the importance of regional cooperation and strategies for preventing disaster risks and provides a framework for engagement of national coordination mechanisms, collaborative strategies and regional platforms for disaster risk reduction in the SAARC region.

[Click here to download the full article](#)



Visiting the Department of Civil Defense. By the way, the blue in the background is a two-story TV screen. I want one!



## Next TIEMS Newsletter

The next TIEMS Newsletter is planned for Spring 2019.

TIEMS issues two electronic newsletters quarterly, the Regular Newsletter and the Newsletter - Special Edition, and they are distributed to more than 160 000 experts worldwide, with articles on global emergency and disaster management events and activities, TIEMS news, etc.

Advertisement is possible on [these terms](#).

Contact TIEMS Secretariat at [secretariat@tiems.info](mailto:secretariat@tiems.info) or fax: +32 2 286 80 39.

TIEMS Editors are:

1. Snjezana Knezic (Proceedings), Croatia, [snjezana.knezic@gradst.hr](mailto:snjezana.knezic@gradst.hr)
2. Joseph Pollack, (Newsletter), USA, [josephrichardpollack@gmail.com](mailto:josephrichardpollack@gmail.com)
3. Alex Fullick, (Newsletter - Special Edition), Canada, [alex@stone-road.com](mailto:alex@stone-road.com)

Please, contact one of the editors or TIEMS Secretariat if you have news, articles of interest or like to list coming events of interest for the global emergency and disaster community or like to advertise in this coming issues.

