



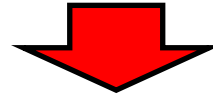
Footprint of ACECC TC21 to Promote Transdisciplinary Approach (TDA) for Building Societal Resilience to Disasters

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Objective of ACECC TC21

Promote the transdisciplinary approach (**TDA**) for **Scientific Knowledge-based Decision-making (SKD)** for building societal resilience to disasters

How to design and practice TDA



- Discussion and case studies of TDA practices by members of different sectors
- Perform comparative analyses and describe factors and positive effects of TDA
- Publication and dissemination

Kick-off Meeting and Seminar in CECAR7

TC21 was approved in the 28th ACECC ECM in Gunsan, Korea in **March 2015**.

TC21 held a kick-off meeting and a seminar in CECAR7 **in August to September 2016**.



September 2016



Co-Chairs Dr. Takeuchi and Usec Momo at the TC21 Kick-off Meeting



TC21 Members from Indonesia, Taiwan, and U.S.A.

Launched TC21 Website in October 2016

<http://www.acecc-world.org/TC21>

The TOR, member list, all symposium documents are available in the site.

October 2016



Remarks: The URL was changed and the site cannot be updated since 2021 due to technical reasons.

Meeting with Policy Makers in the Philippines

Ormoc City: 8,000 deaths and missing by Typhoon Uring in 1993

Leyte Island

November 2016

Tacloban City and Palo Municipality:
Severely damaged by storm surge caused by Typhoon Haiyan (Yolanda) in 2003



Meeting with Vice-Mayor of Ormoc City,
Leyte Island, the Philippines



Meeting with Mayor of Palo Municipality,
Leyte Island, the Philippines

Site Survey in the Philippines

Ormoc City:
Establishment of Flood Mitigation
Committee covering central and city
government, and barangay, the
smallest administrative unit in the
Philippines. River maintenance works
are done by communities.

Tacloban City
Palo Municipality
Ormoc City

November 2016



Slit Dam in Ormoc City, Leyte Island,
the Philippines



Resettlement Housings, Tacloban, Leyte
Island, the Philippines

Meeting and Symposium in the Philippines

1st TC21 Symposium:

International Comparison
of Scientific Knowledge-
Based Decision-Making
Schemes for Disaster
Reduction



Panel Discussion in
the Symposium



November 2016

Participants of the
Symposium

International Symposium in Hanoi, Feb. 2017



International Symposium on Natural Disaster Mitigation was held in University of Transport and Communication in Hanoi, Vietnam

February 2017

We introduced TC21 and JSCE's activities regarding disaster risk reduction



Meeting with Policy Makers in Nepal

We discussed how scientific knowledge is applied to decision-making.

April 2017



Meeting at regional office of Department of Urban Development and Building Construction (DUDBC)



Stakeholder meeting among academia, government, and private sector

Site Survey in Nepal, April 2017



Historical Former Prime Minister's
Office building in Kathmandu damaged
by 2015 Nepal Earthquake

April 2017

Reconstruction works of housings
in Irkhu Village, Sindhupalchowk
District



Meeting and Symposium in Nepal, April 2017



TC21 committee meeting

April 2017

2nd TC21 Symposium on
Scientific Knowledge-
Based Decision-Making
Schemes for Disaster
Reduction



JSCE Global Leaders Symposium, May 2017



Video Message by
TC21 Co-Chair, Mr.
Romeo S. Momo

May 2017

Video Message by Mr. Irwin L.
Antonio, Leyte 4th Office,
Department of Public Works and
Highways (DPWH), Philippines



Training in Taiwan and Intl' Meeting in U.K.

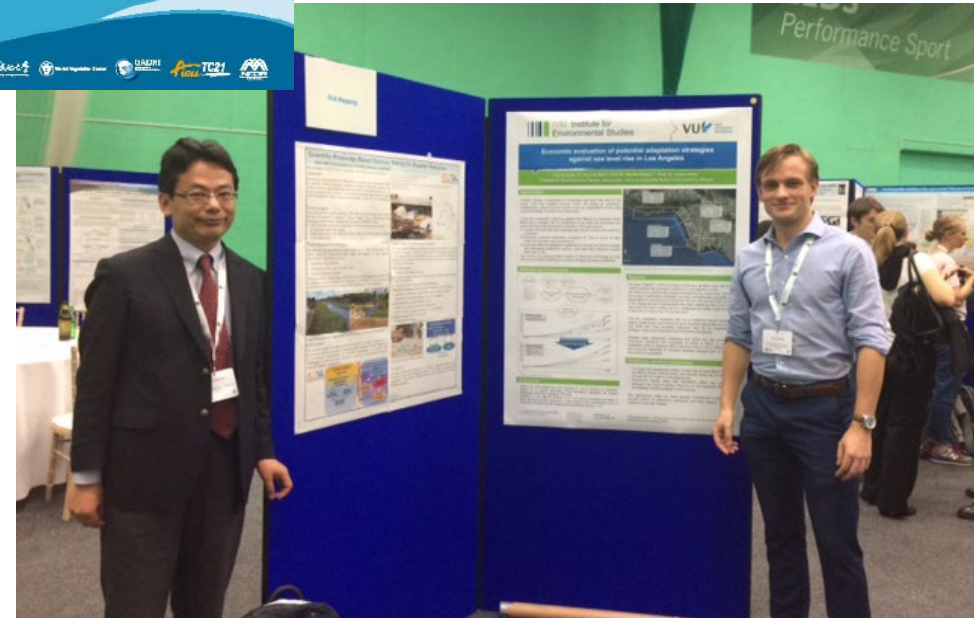


International Disaster Mitigation Training Workshop Co-hosted by National Science and Technology for Disaster Reduction (NCDR), Taiwan, TC21, and others.

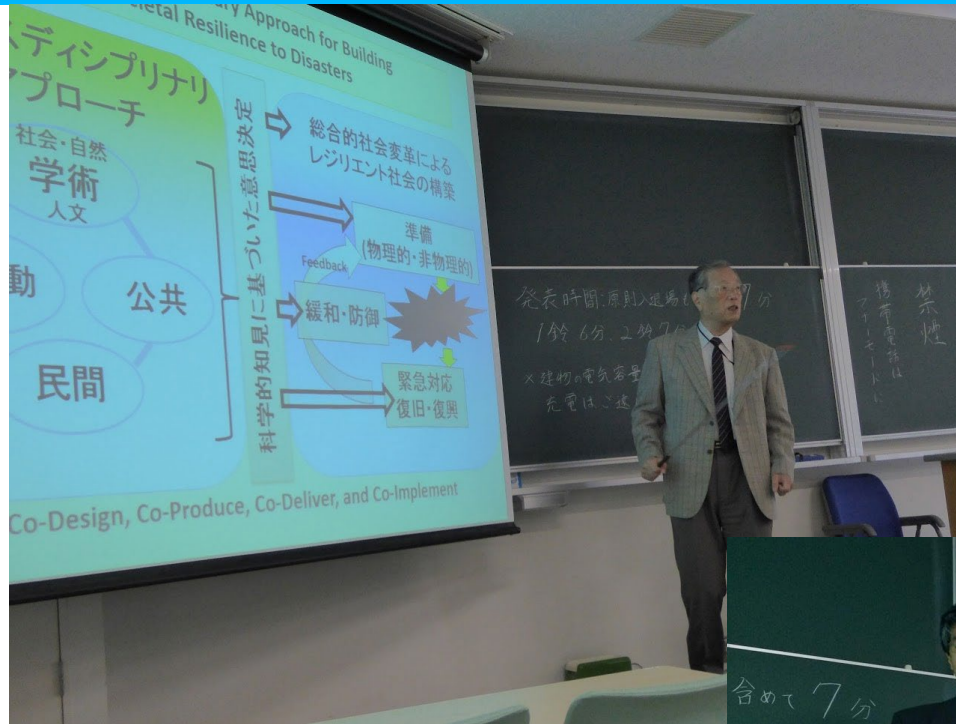
July 2017

September 2017

Dr. Ishiwatari, TC21 member, introduced a case study in Ormoc, the Philippines, and TDA at the 7th International Flood Management Meeting held in Leeds, U.K.



Annual Meeting of JSCE, September 2017



Hosted by ACECC TC21 Support Committee of JSCE, we introduced TC21 activities and case studies in Japan from the point of view of TDA at the Annual Meeting of JSCE held in Fukuoka, Japan.

September 2017



World Bosai Forum, Sendai, November 2017

TC21 held a special session at the World Bosai Forum held in Sendai, Japan. We introduced TDA case studies and measures to remove root causes of disaster.

November 2017



Site Survey in Nam Dinh Province, Vietnam



TC21 members surveyed areas affected by coastal erosion in Nam Dinh Province, Vietnam

April 2018

Damaged church as a monument of storm surge disaster, Nam Dinh Province, Vietnam



Meeting with Government Officials in Vietnam

April 2018



We discussed with local government officials in Nam Dinh Province about the current situation and issues about disaster management.



Third TC21 Symposium in Vietnam



Session 1: Disaster management practices in Vietnam

Session 2: TDA case studies from TC21 member states

April 2018



TC21 Sessions at CECAR8 and JSCE Annual Meeting

TC21 session at JSCE Annual Meeting

September 2019



April 2019

ACECC TC21 Sessions at CECAR8: Transdisciplinary Approach (TDA) for Building Societal Resilience to Disasters



This session presents the concepts, activities, and future issues of Disaster Risk Reduction (DRR), where the main focus is on promoting transdisciplinary approach (TDA) for implementing scientific knowledge-based decision-making.

Date & Time Tuesday, April 16, 2019
First Session: 14:00-15:30 Second Session: 16:00-17:30
Venue Hotel Metropolitan Ikebukuro (Room: Fuji-2)

Program

First Session Results of Case Studies by TC21 Member States

Opening Address and Outline of the Session:

Dr. Kuniyoshi Takeuchi (TC21 Co-Chair, Emeritus Professor, Yamanashi University)

Preparedness: State, type of DRR, Presenter

Taiwan: Preparedness against landslides,

Mr. Ting-Chi Tsao (Principal Engineer and Group Chief, Sinotech Engineering Consultants, Inc., Taiwan)

Indonesia: Preparedness against tsunami, Dr. Harkunti Rahayu (Prof. Institute of Technology Bandung, Indonesia)

Recovery and mitigation: State, type of DRR, Presenter

Philippines: Recovery of city from storm surge, Dr. Senro Kuraoka (Chief Engineer, R&D Center, Nippon Koei Co., Ltd., Japan)

Vietnam: Mitigation of coastal erosion,

Dr. Pham Hoang Kien (Professor, University of Transport and Communications, Vietnam)

Bangladesh: Mitigation of vulnerable buildings,

Md. Abdul Malek Sikder (Freelance Consultant, Fellow, Institution of Engineers Bangladesh (IEB), Bangladesh)

Nepal: Recovery of buildings from earthquake,

Mr. Masashi Inoue (Researcher, EJ-Research Center for Disaster Risk Reduction, Eight-Japan Engineering Consultants, Inc. Japan)

Pakistan: Mitigation of vulnerable structures,

Dr. Sarosh H. Lodi (Faculty of Civil & Architecture, NED University of Engineering & Technology, Pakistan)

Japan: Recovery of cities from tsunami,

Dr. Mikio Ishiwatari (Visiting Prof. Graduate School of Frontier Sciences, The University of Tokyo)

Japan: Recovery of historical structure from earthquake,

Mr. Masaru Arakida (Senior Researcher, Asian Disaster Reduction Center, Japan)

Second Session Summary, Q&A, and Way Forward

Activities of TC21 from 2016 to 2019: Dr. Yoshihiro Katsuhama (Manager, R&D Planning Office, Nippon Koei Co., Ltd., Japan)

Summary of Case Studies: Dr. Senro Kuraoka (Chief Engineer, R&D Center, Nippon Koei Co., Ltd., Japan)

Forthcoming TC21 Activities / Announcement of TC21 Publication:

Dr. Kenichi Tsukahara (Professor, Faculty of Engineering, Kyushu University, Japan)

Overview Lecture: Dr. Kuniyoshi Takeuchi (TC-21 Co-Chair, Emeritus Professor, Yamanashi University)

Q&A Session: Dr. Kuniyoshi Takeuchi

Closing Remarks:

Mr. Romeo S. Momo (TC-21 Co-Chair, Grand Master of Freemasonry, Former Undersecretary of DPWH Republic of the Philippines)



Transdisciplinary Approach (TDA)
for Building Societal Resilience to Disasters



Special TC21 Session at 2019 World Bosai Forum

The aim of the session was to present the needs of the TDA for disaster risk reduction (DRR) and discuss the current progress and issues. Experts of DRR from Indonesia, Japan, Malaysia, Nepal, and the Philippines presented specific examples to clarify the needs and the merit of TDA.



November 2019

Photos of TC21 Special Session at the Sendai International Center

ACECC TC21 Webinar in Parallel with ECM in the Philippines

TC21 Webinar entitled “Transdisciplinary Approach (TDA) for Building Societal Resilience to Disasters under and after COVID-19” was held on October 6, 2020. Case studies from the Philippines and Japan were introduced to show how COVID-19 influences disaster preparedness and response from the viewpoint of TDA.



The poster features a world map with the Philippines highlighted in orange. The text is in white and yellow on a dark blue background. At the top left is the ACECC logo with the tagline 'For a Better Quality of Life'. The main title is 'Technical Committee 21 Session' followed by 'Transdisciplinary Approach for Building Societal Resilience to Disasters (JSCE&PICE) Under and After COVID-19'. Below this, it says 'Video Meeting through the system 'ZOOM'' and '20:00-21:00, October 6, 2020 (Philippine Time)'. The host is listed as 'PHILIPPINE INSTITUTE OF CIVIL ENGINEERS, INC.' with its logo. At the bottom, there are 15 logos of participating organizations arranged in three rows of five.

ASCE
American Society of Civil Engineers (ASCE)

中國土木水利工程學會
Chinese Institute of Civil and Hydraulic Engineering (CICHE)

Engineers Australia (EA)

Federation of Myanmar Engineering Societies (Fed. MES)

Indonesian Society of Civil and Structural Engineers (HAKI)

The Institution of Civil Engineers (ICE India)

The Institution of Engineers Bangladesh (IEB)

The Institution of Engineers Pakistan (IEP)

Japan Society of Civil Engineers (JSCE)

Korean Society of Civil Engineers (KSCE)

Mongolian Association of Civil Engineers (MACE)

Nepal Engineers' Association (NEA)

Philippine Institute of Civil Engineers (PICE)

Vietnam Federation of Civil Engineering Associations (VFCEA)

October 2020

First International Webinar at JSCE Annual Meeting

JAPAN SOCIETY OF CIVIL ENGINEERS 2021 ANNUAL MEETING
ACECC TECHNICAL COMMITTEE 21 (TC21) SPECIAL SESSION

How COVID-19 AFFECTED TRANS-DISCIPLINARY APPROACH (TDA) AND DECISION MAKING ON BUILDING DISASTER RESILIENCE?

This session presents the actual cases of Disaster Risk Reduction (DRR), where emphasis will be placed on transdisciplinary approach; the institutional scheme to establish efficient processes of scientific knowledge-based decision-making to implement DRR under COVID-19. Takeaway of the session will be the remarks that are reached through discussing the factors and mechanisms in light of the Sendai Framework.

- Organizer : Japan Society of Civil Engineers (JSCE)
- Date and Time : September 6th, 2021 13:00-15:00 (Japan Time, UTC+9)
- Venue : Online (Vimeo) URL: <https://vimeo.com/586662066/02cb3beae2>
- Online Q&A system (Slido) URL: <https://app.sli.do/event/swbxmzlz>
- NO Reservation Required! Please visit above URL directly.

PROGRAM

(The program is subject to change without notice.)

- MC: Mr. Masashi Inoue (TC21 Member; Eight-Japan Engineering Consultants INC.)
- 13:00 - 13:05 Welcome Remarks: Dr. Mikio Ishiwatari (TC21 Co-chair; the University of Tokyo / JICA)
- 13:05 - 13:10 Keynote Speech: Congressman Hon. Romeo S. Momo
(TC21 Co-chair; Representative, CWS Partylist, Republic of the Philippines)
- 13:10 - 13:20 Outcome of TC21 activities: Dr. Daisuke Sasaki (Tohoku University)
- 13:20 - 14:30 [Panel discussion: Presentation (Video)]
Dr. Masaru Arakida (Asian Disaster Reduction Center, Japan)
"Efforts of DRR organizations in Asia under COVID-19 situation"
Dr. Youb Raj Paudyal (National Reconstruction Authority, Government of Nepal)
"Application of Project Monitoring Information System (PMIS) for the robust monitoring of the School Reconstruction Program in Nepal during Covid-19 Pandemic"
Dr. Khamarrul Azahari Razak (Universiti Teknologi Malaysia, Malaysia)
"Advancing Compound Disaster Risk and Societal Resilience in Malaysia: Progress and Challenges"
Mr. Ting-Chi Tsao (Sinotech Engineering Consultants, Inc., Taiwan)
"Disaster Management and Evacuation under COVID-19 in Taiwan"
Dr. Chandan Ghosh (National Institute of Disaster Management, India)
"Covid-19 2nd Wave in India - O2 crisis, mass congregation, statistical fallacy and Vaccination conundrum"
Mr. Warren Ladbroke (Auxilium Ltd., New Zealand)
"Working with Covid-19 - A New Zealand Perspective"
- 14:30 - 14:55 [Panel discussion: Discussion (LIVE)]
Facilitator: Dr. Mikio Ishiwatari (TC21 Co-chair; the University of Tokyo / JICA)
- 14:55 - 15:00 Closing Remarks: Dr. Kuniyoshi Takeuchi (TC21 Special Advisor, University of Yamanashi)



Contact:

Masashi Inoue (ACECC TC21) inoue-ma@ej-hds.co.jp, Eight-Japan Engineering Consultants INC.(EJEC)

First international webinar in its history of JSCE Annual Meeting was held by ACECC TC21 discussing how COVID-19 affected transdisciplinary approach (TDA) and decision making on building disaster resilience.

September 2021

PANELIST



Dr. Chandan Ghosh
(National Institute of Disaster Management, India)
(インド国立災害管理研究所)

zoom



Transdisciplinary Approach (TDA) for Building Societal Resilience to Disasters -Concepts and case study for practicing TDA-



November 2016: Survey of flood prevention works in Ormoc, Philippines November 2016: Survey of new settlements in Tacloban, Philippines



April 2017: Survey of reconstruction after earthquake in Chaurara, Nepal April 2018: Survey of coastal hazards in Nam Dinh Province, Vietnam

TC21: Transdisciplinary Approach (TDA) for Building Societal Resilience to Disasters:
Committee of ACECC (The Asian Civil Engineering Coordinating Council)

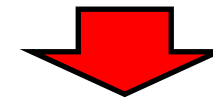
Transdisciplinary Approach (TDA) for building Societal Resilience to Disasters

- *Concepts and case study for practicing TDA* -

<http://www.acecc-world.org/TC21/> ISBN: 978-4-8106-1014-7

Discusses the key components and structure of TDA models that were assessed through the case studies.

The contents are intended to clarify the necessity of TDA and catalyze innovative approaches



How to design, practice, and evaluate TDA

Other Major TC21 Publication

- Katsuhama Yoshihiro (2021). *Committee Report ACECC TC21's Commitment Webinar "Transdisciplinary Approach for Building Societal Resilience to Disasters under and after COVID-19"* JSCE Magazine Vol.106 No.2, pp.102-103[in Japanese].
- Tukada Yukihiro (2020). *"Accumulation and Sharing of Knowledge to counter global wild disasters"* Engineers Without Borders Japan, News Letter Vol.15 June, pp.2-3 [in Japanese].
- Kuraoka Senro, Paudyal Youb Raj, and Razak Khamarrul Azahari (2020). *"Transdisciplinary Approach for Building Societal Resilience to Disasters -Interpreting the Processes of Creating New Knowledge in the Context of Knowledge Management -"* J. Disaster Res., Vol.15 No.7, pp. 868-877.
- Kuraoka Senro (2020). *Committee Report "Transdisciplinary Approach for Building Societal Resilience to Disasters -Event Report of TC21 Session at World BOSAI Forum"* JSCE Magazine Vol.105 No.2, pp.86-87 [in Japanese].
- Takeuchi Kuniyoshi(2019). *"Transdisciplinary Approach for Scientific-Knowledge Based Decision Making for Building Societal Resilience to Disasters"* A full paper presented at the 8th CECAR, Tokyo.
- Tsao Ting-Chi, Hsu Chih-Hao, Yin Hsiao-Yuan (2019). *"Transdisciplinary Approach in the Preparedness Phase of a Debris Flow Prone Village in Taiwan"* A full paper presented at the 8th CECAR, Tokyo.
- Rahayu Harkunti Pertiwi (2019). *"Trans-Disciplinary Approach for Enhancing Resilience of Business Communities: Learning from Padang City"* A full paper presented at the 8th CECAR, Tokyo.
- Kuraoka Senro, Jopson Tedence A., Bernadas Brando (2019). *"Institutional Structure for Incorporating Science into Decision-making -Building the new-settlement of Tacloban city of the Philippines-"* A full paper presented at the 8th CECAR, Tokyo.
- Kien Pham Hoang, Cong Le Van (2019). *"Status of Vietnam Coastal Erosion and Preposed Policies for Protection"* A full paper presented at the 8th CECAR, Tokyo.
- Inoue Masashi, Kuraok Senro, Paudyal Youb Raj, Bhandary Netra Prakash (2019). *"Restoration of Housings in Nepal after the Gorkha Earthquake, April 25th, 2015 in the Light of Trans Disciplinary Approach"* A full paper presented at the 8th CECAR, Tokyo.
- Lodi Sarosh H., Khan Pashid A. (2019). *"Good Reconstruction Practices in Pakistan after the Kashmir Earthquake"* A full paper presented at the 8th CECAR, Tokyo.
- Ishiwatari Mikio (2019). *"Relocation and Land-use Regulation following the Great East Japan Earthquake: How can Scientific Knowledge be Incorporated into Recovery?"* A full paper presented at the 8th CECAR, Tokyo.
- Arakida Masaru (2019). *"Trans Disciplinary Approach for Restoration of Kumamoto Castle after the Earthquakes in 2016"* A full paper presented at the 8th CECAR, Tokyo.
- Tsukahara Kenichi (2019). *"DRR Transdisciplinary approach in Civil Engineering Society"* Activities of TC21 in ACECC-2019 Annual Conference, Japan Society for Natural Disaster Science.
- Tsukahara Kenichi (2018). *"Disaster Risk Governance and Transdisciplinary Approach for Building Societal Resilience to Disasters"* ACECC TC21 Activity-The 18th Science Council of Asia (SCA) Conference.
- Ishiwatari Mikio, Takeuchi Kuniyoshi, Kaku Shuji, Muronaga Takeshi, Kikuri Kai (2017). *"Scientific Knowledge Based Decision Making for Disaster Reduction: How was the problem of informal settlers resolved?"* The 7th International Conference on Flood Management (ICFM7), Sep.15-17, Leeds.
- Katsuhama Yoshihiro (2017). *Committee Report "Transdisciplinary Approach for Building Societal Resilience to Disasters"* JSCE Magazine Vol.102 No.11, pp.68-69 [in Japanese].