



IAC News No.100

Japanese Crises and the Future of Civil Engineering - from the Perspective of Our Origins and Culture - (3/3)

Prof. IEDA delivered a Presidential Speech at the 2020 JSCE Annual Meeting. The IAC News introduces the speech from No.98 to No.100.

< The previous parts of essay discuss the set of 3 elements, “comprehensive approach”, “bricolage ability” and “openness and tolerance” is the origin of civil engineering.” We should be aware that in ensuring “openness and tolerance”, it is the key to promote “diversity of values” in society and the civil engineering community. That will give us the civil engineers the knowledge, experience and ability to overcome the three inherent crises and to bring in innovation and development to the society and civil engineering community. Furthermore, we will be pioneer a new age. >

■ Looking Back on Postwar Infrastructure Projects

For about 70 years after the war, Japan has undertaken numerous epoch-making projects that are still etched in the minds of citizens today. For example, the Tokaido Shinkansen (High Speed Railway), Kurobe Dam, Tomei Expressway, Kashima Port, Seikan Tunnel, Honshu-Shikoku Bridge, etc. are all really marvelous, and they make me realize once again that the current Japanese society and economy are built on these foundations. At the same time, they deeply impress and encourage us. What is it exactly about these projects that moves and encourages us? Is it how big they are? Their length? Their speed? No doubt such elements have this effect. But apart from that, I think there is a more essential source of emotion that lies here.



Prof. Dr. Hitoshi IEDA
108th JSCE President

After the war, Japan’s civil engineering industry was innovative by boldly overcoming limited national power and, as Prof. Tokujiro YOSHIDA observed, the existing systems, experiences, and customs in a technological environment that was far behind Europe and the United States, and created innovative businesses, took on the challenge of many technical and business difficulties, and put them into practice with rational ingenuity. I think that what impresses us is this powerful ‘*ability to take on challenges and ability to put things into practice*’.

Of course, the challenges we will face in the future are not the same as in the days of these projects to date. However, we too, without resting on our laurels in this present situation, will be able to pioneer a new age for the first time by taking on new challenges and testing ourselves in response to new difficulties.

■ What to Develop and What to Change

Considering it this way, the most important thing is to develop the entire civil engineering industry’s ‘ability to take on challenges and ability to put things into practice’, and this will no doubt increase the vitality to pioneer a new age without being bound by the state of affairs we find ourselves in now. From a mental-point of view, the future of the civil engineering industry may lie right here.

So how does one improve one’s ability to take on challenges and the ability to put things into practice? The basis

is, of course, our qualities as an individual. In particular, *imagination*, *ingenuity*, and *creativity* of each individual. Echoing the thoughts in Analects of Confucius, “Those who do something (just as a job) cannot beat those who like doing it, and those who like doing it cannot beat those who enjoy doing it”, I would also like to add the ‘*ability to enjoy oneself*’ to the three I just mentioned. We must attract and develop such talented people in our field.

In order for significant individuals to exert sufficient vitality, in the values of our organization as well, I think it is essential that we courageously transform the industry symbolized by the conventional ‘standardization and groupism’ into an industry ‘emphasized on individuality and the individual’. By doing so, we will attract people with diverse values who think unique and interesting thoughts, and it will be important to make our entire environment of value more diverse and productive through the various inspiration brought about by such diverse people.

I hope that through such changes we develop the ability to look at ourselves and the degree to which we advance the ‘internal open nation’. The term ‘internal open nation’ here refers to the idea that in order for us to strengthen our true international competitiveness, rather than sticking to Japan’s particular methods of contracting, personnel management, and thinking, we must properly align ourselves with international standards.

Through implementing such improvements, I hope that everyone will be able to fully demonstrate their ability of ‘overseeing integration’, which can be said to be one of the origins of civil engineering.

■ How to Develop One’s Overseeing Integration Ability - from My Personal Experiences -

The phrase ‘overseeing collective ability’ used here is a phrase I made up by combining the phrases ‘ability to oversee’ and ‘collective ability’. A critics’ ability to oversee alone which lacks collective ability rich with the power to execute is not enough, and conversely, poor collective ability alone which lack a well-educated ability to oversee does not have the potential to deliver results. Therefore, the ability to oversee and our collective ability must become one. That’s why I coined the term ‘*overseeing integration ability*’.

It was about 35 years ago when I became an assistant professor at the University of Tokyo that I first became aware of the importance of the ‘ability to oversee’ from among this “overseeing integration ability.” When I greeted Prof. Fumio NISHINO, who was a prominent expert in applied mechanics, he offered me words of encouragement by saying, “The civil engineering faculty must be able to give all the lectures on at least undergraduate-level specialized civil engineering subjects.” Since then, I have learned from talented people in various fields. However, I still have not reached this level at all.

Looking back now, as far as school education is concerned, I think what helped me to open the door to this ability to oversee was the various liberal arts subjects, especially the group of subjects that seemed to be of no use, rather than specialized education. Curiously, I feel this kind of useless knowledge of fundamental learning can be connected to all kinds of other ideas or provide hints in basic areas such as how we think of things, and then suddenly after much time has passed since you first encountered it, its importance hits you or it’s like a lightbulb flashes on inside your head.

I think that this ‘ability to oversee’ can be improved if you are aware of it and continue ‘learning’ such as by engaging in a wide range of reading. The other part, ‘integration ability’, however, doesn’t seem to work that way. As you might expect, it seems that some kind of ‘opportunity’ and interaction with others are essentially

important. In my case, I think that the opportunity of bricolage, such as investigating disasters and accidents and making countermeasures and proposals associated with them, was really effective.

For example, in the train-derailment accident on Hibiya Subway Line of Tokyo in 2000, an accident investigation committee was temporarily set up by the Ministry of Transport, and I was made the secretary-general. Experts from various different fields had to come together to have intense discussions on almost a nightly basis, tackling each other and helping each other to reach the truth and come up with measures to prevent recurrence as soon as possible. I decided to improve my integration ability whether I liked it or not.

Going back further, leads me to research by the Japan Society of Civil Engineers after the Great Hanshin-Awaji Earthquake in 1995. Prof. Hideo NAKAMURA, my mentor and the 82nd president, instantly set up what you might now call a 'comprehensive research team', and included experts from various fields and led the team himself as its leader. I was added as one of these experts, and I went around work sites with experts on concrete and steel structures, etc., and while looking at the destroyed objects, I was able to participate in discussions about understanding the destruction phenomenon and future design and reinforcement policies. I think it wasn't until I joined this research team that I began to recognize that I should include the whole of civil engineering in my scope.

Since then, I have created and participated in the comprehensive research of academic societies as much as possible when various disasters such as the Great East Japan Earthquake have occurred. Furthermore, sometimes I have created my own teams from volunteers of different fields and stepped foot into disaster sites. In the torrential rain in eastern Japan in October 2019, a comprehensive survey team was set up with experts from various fields as members, with former president, Mr. Yasuo HAYASHI as the team leader. In addition to conducting on-site inspections, we held many passionate discussions that, from the perspective of a bystander, may have looked as if we were fighting. In January 2020, we were able to publish an innovative policy proposal report calling for complete reform of conventional flood control, including the concept of 'comprehensive flood control at river basins'. This was the result of each participating member with a wide range of knowledge demonstrating a high level of 'overseeing integration ability'.

My own contribution to such comprehensive surveys were truly marginal. Meanwhile, I think that what I gained through the efforts was extremely significant. Through such an opportunity, I think I was able to get invaluable input, such as meeting very knowledgeable people and learning a lot from them, expanding my own knowledge even just a little, and developing my ability to oversee and my integration ability.

Needless to say, in the event of a disaster, we civil engineering specialists should make full use of our expertise and make every effort to clarify phenomena, restore, reconstruct, and formulate countermeasures. Such disasters are, however, an 'opportunity' in which experts from various fields cooperate collectively across their respective fields and unite their wisdom, as well as being a unique chance to train and demonstrate one's own 'overseeing integration ability'. To motivated youngsters, in particular, I strongly recommend that you actively get involved in disaster research and reconstruction without being bound by your current specialties, and that you make it an opportunity to contribute to society and the affected areas while at the same time improving your own skills.

This is the end of the essay.

The Asian Civil Engineering Coordinating Council (ACECC) 39th Executive Committee Meeting in Manila

1. Overview

The Executive Committee Meeting (ECM), the highest-level decision-making body of the ACECC, is held twice a year in ACECC members on a rotating basis. This 39th Executive Committee Meeting was held in the form of an online conference from October 5 to October 7, 2020, organized by the Philippine Institute of Civil Engineers (PICE). This article describes the main matters that were discussed and reported at the Technical Coordination Committee Meeting (TCCM) and the Planning Committee Meeting (PCM) and approved at the ECM.

The 39th Executive Committee Meeting and Related Events

Date	Local Time in Manila	Local Time in Japan	Event
Monday, October 5	11:00–13:45	12:00–12:45	Technical Coordination Committee Meeting (TCCM)
	11:45–13:15	12:45–14:15	Planning Committee Meeting (PCM)
	19:00–20:10	20:00–21:10	Future Leaders Forum
	20:10–21:00	21:10–22:00	TC22 Session
Tuesday, October 6	11:00–11:30	12:00–12:30	Confirmation of TCCM and PCM Minutes
	11:30–13:00	12:30–14:00	Executive Committee Meeting (ECM)
	19:00–20:10	20:00–21:10	TC24 Session
	20:10–21:00	21:10–22:00	TC21 Session
Wednesday, October 7	11:00–12:30	12:00–13:30	Virtual Technical Tour

2. Technical Coordination Committee Meeting (TCCM)

(1) Reports on TC activities

At the Technical Coordination Committee Meeting, reports were made on the efforts of the eight Technical Committees (TCs) that are currently engaged in activities. Although TC21 (Transdisciplinary Approach for Building Societal Resilience to Disasters), for which JSCE acts as the chair, has seen some of its activities postponed due to the impact of COVID-19, Professor Kenichi Tsukahara of Kyushu University reported that literature surveys and the submission of papers continue to push on unabated and that the TC Seminars will be held during the period of the Executive Committee Meeting.

(2) Proposal to establish a new TC

The American Society of Civil Engineers (ASCE) proposed the establishment of a new TC entitled ‘Climate Change, Water Resources, and Sustainability’. With regards to this new TC, it was pointed out that there may be some overlap with the content covered by TC14 (Sustainable Infrastructure). The launch of the new TC was approved, but it was decided that it would be examined again at ASCE.

3. Planning Committee Meeting (PCM)

(1) MD-RSCE’s membership application

The Moscow Department of the Russian Society of Civil Engineering (MD-RSCE) wishes to join the ACECC, and discussions were held on the pros and cons of this. Basically, MD-RSCE’s membership was approved, but it was decided that going forward an MD-RSCE representative shall participate in the Executive Committee

Meeting as an observer and they would be asked for their thoughts.

(2) The upcoming 40th Executive Committee Meeting

For the 40th Executive Committee Meeting scheduled to be held in Taipei from March 25 to March 27, 2021, a proposal of the program was introduced by the event organizer, the Chinese Institute of Civil and Hydraulic Engineering (CICHE). Assuming that it will not be possible to travel due to the impact of COVID-19, it was decided that the possibility of holding the event online will be examined.

(3) The 41st Executive Committee Meeting

As a result of calling for applications from the members to host the 41st Executive Committee Meeting, the Federation of Myanmar Engineering Society (Fed. MES) put themselves forward as a potential host, and this proposal was unanimously approved.

(4) CECAR10

It was reported that PICE and the Korean Society of Civil Engineers (KSCE) have put themselves forward as potential hosts for CECAR 10, which is scheduled to be held in 2025. The basic plan will be explained by both members at the upcoming 40th Executive Committee Meeting, and the host of CECAR 10 will be decided by a vote at the 41st Executive Committee Meeting.

4. Executive Committee Meeting (ECM)

Although there were further discussions about the participation of MD-RSCE, the decisions made at the TCCM and PCM were accepted as they were for the other matters. At the beginning of the ECM, JSCE representative, Prof. Eiki Yamaguchi, informed attendees of the sad news that Mr. Hiroshi Okada (86th JSCE President, 1st ACECC Chair, Winner of the 2013 ACECC Outstanding Civil Engineering Achievement Award) had passed away on November 29, 2019, and went on to talk about Mr. Okada's achievements. The participating members expressed their condolences regarding the passing away of Mr. Okada.

5. Future Leaders Forum and TC Seminars

The Future Leaders Forum and TC21, TC22, and TC24 Seminars were also held online in accordance with the date of the Executive Committee Meeting. There was a large number of attendees at the forum and each seminar, each with over 250 people taking part.

(1) Future Leaders Forum

The forum was held for the first time in roughly three years since it was held at the 32nd Executive Committee Meeting in Kathmandu. A total of 25 young engineers from all participating organizations took part (Photo 1). From JSCE, member and secretary of the Committee on Asian Civil Engineering Coordinating Council, Dr. Hiromasa Iwai (Nagoya Institute of Technology), and Dr. Rajali Maharjan (Japan Transport and Tourism Research Institute) participated. At this forum, representatives of PICE, IEP, and EA made a presentation entitled "Role of young engineers in successful implementation of SDGs in presenter's country." Although we were not able to hold sufficient discussions because there was a time limit of one hour, it meant a lot that the forum, which had not been held for a long time, was held once again.

(2) TC22 Seminar

At the TC22 (Retrofitting and Strengthening of Existing Infrastructures) Seminar, there were three presentations on the topic of reinforcement of fragile structures in the South Asian region, and there were lively discussions

about these presentations. I also felt the urgency of the situation and the need to take immediate action at a low cost. While it remains doubtful whether Japan's strengthening technologies can be applied directly to this project, JSCE has also been requested to dispatch members to the project, and so the Committee on Asian Civil Engineering Coordinating Council plans to consider the possibility of doing so.

(3) TC24 Seminar

The themes of TC24 are Gender and Development in Infrastructure. From JSCE, member and secretary of the Committee on Asian Civil Engineering Coordinating Council, Dr. Kikuko Yamada-Kawai (Tokyo Institute of Technology), and Dr. Rajali Maharjan, who also participated in the Future Leaders Forum, took part. At this seminar, representatives of ASCE and PICE and a representative of the Asian Development Bank each made a presentation. While it was good that the activities of TC24, which had been dormant for a while, were finally up and running again, it was a shame that no discussion was held together with JSCE's TC24 members.

(4) TC21 Seminar

The TC21 (Transdisciplinary Approach for Building Societal Resilience to Disasters) Seminar, chaired by JSCE, was facilitated by Dr. Yoshihiro Katsuhama (Nippon Koei Co., Ltd.). After the keynote speech by Co-Chair Romeo S. Momo of PICE, presentations were made by Dr. Diocel Harold M. Aquino (University of the Philippines Diliman) and Dr. Miho Ohara (International Center for Water Hazard and Risk Management, Public Works Research Institute). Very lively discussions took place under Japan's strong presence and leadership.



Photo 1 Commemorative Photo of the Future Leaders Forum

6. Conclusion

On this occasion, the Executive Committee Meeting was held online for the second time in its history. The meeting was run by taking advantage of the online format to hold many seminars. I would like to pay tribute to those of PICE who hosted the event.

As of this Executive Committee Meeting, Dr. Kenichi Horikoshi (TAISEI Corp.) has stepped down as Secretary-General of the ACECC. At the end of the ECM, he gave a speech to say farewell before leaving his post as Secretary-General. Since taking up his post in October 2013, Dr. Horikoshi has organized a total of 14 Executive Committee Meetings, and led the success of CECAR7 in Hawaii and CECAR8 in Tokyo. The trust placed in Dr. Horikoshi by the members was enormous, and the representatives of each member wished him off with warm

words of praise. Dr. Udai Singh of the ASCE will now take over as Secretary General (Photo 2).



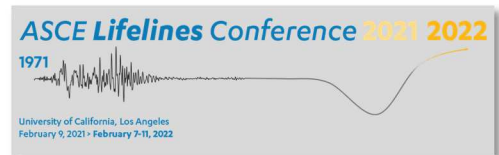
Photo 2 Dr. Udai Singh (right) Takes Over as the Secretary General at the ECM

*For details on this Executive Committee Meeting report, please read the JSCE Magazine, “Civil Engineering” vol. 106 No. 2 February 2021.

【Reported by Jun Izawa, Secretary-General, the Committee on Asian Civil Engineering Coordinating Council】

Updates

- ◆ IAC YouTube Channel
https://youtube.com/channel/UCGI6DHRzX_cGD-mHUrRlKA
- ◆ ASCE Lifeline Conference 2021 2022
<https://samueli.ucla.edu/lifelines2021/>
 - ◇ Commemorating 50-year Anniversary of February 9, 1971, San Fernando Earthquake
 - *Webinar Registration:
https://ucla.zoom.us/webinar/register/WN_tk6sXtMnQK2mVTBuFOdEtg
- ◆ Webinar organized by World Bank & UNEP
 - ◇ Connecting Sustainable Energy Business with Education: Getting the Workforce You Need
<https://www.unenvironment.org/events/webinar/connecting-sustainable-energy-businesses-education>
 - *Webinar Registration:
https://docs.google.com/forms/d/10hZJkeUP8WI_SOhCQrnWlcXJOOP969UJIHgjwqYujkM/viewform?edit_requested=true
- ◆ The Second International Conference on Press-in Engineering (ICPE) 2021, Kochi: <https://icpe-ipa.org/>
- ◆ 9th International Conference on Experimental Vibration Analysis for Civil Engineering Structures (EVACES2021)
<https://ec-intl.co.jp/evaces2021/>
- ◆ 9th Civil Engineering Conference in the Asian Region (CECAR9) in Goa, India (Sept 21, 22, and 23, 2022): <http://www.cecar9.com/>



- ◆ jhappy - JICA's Grant Aid Cooperation -
Facebook: <https://www.facebook.com/jhappy20161110/>
Twitter: https://twitter.com/jhappy_official
- ◆ The International Infrastructure Archives
– A Compilation of Japan's Greatest Projects in Transfer of
Civil Engineering Technology in Service –
<http://www.jsce.or.jp/e/archive/>
- ◆ IAC “News Pick Up!!” on the JSCE Japanese website
https://committees.jsce.or.jp/kokusai/iac_dayori_2021
- ◆ Summary of featured articles in JSCE Magazine Vol. 106,
No.2, February 2021
<http://www.jsce-int.org/pub/magazine>
- ◆ Journal of JSCE:
<https://www.jstage.jst.go.jp/browse/journalofjsce>



Hiroki Hirakawa, 6th Grade Elementary School

“Let's Draw Civil Engineering Around Us!”

<https://note.com/jsce/n/n0c14fd7d2010>

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