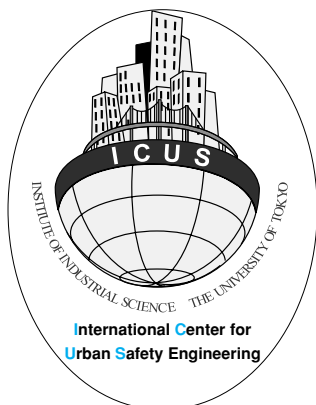

ICUS NEWSLETTER

International Center for Urban Safety Engineering



**Institute of Industrial Science
The University of Tokyo**

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RECENT EARTHQUAKE RELATED ACTIVITIES IN BANGLADESH

By

*Mehedi Ahmed Ansary **

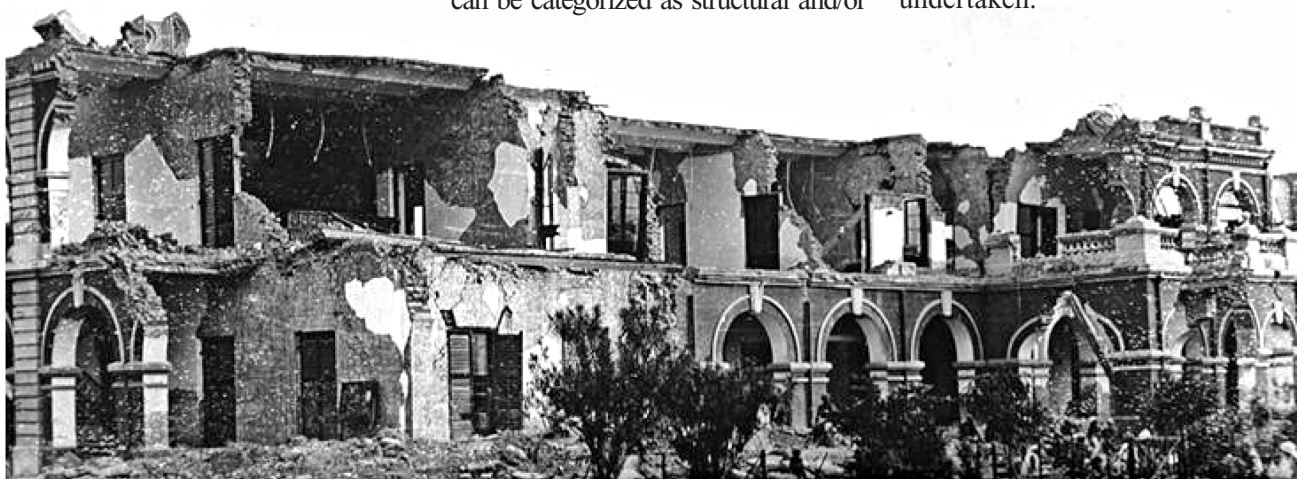
In the recent past, Bangladesh has not suffered any damaging large earthquakes, but in the past few hundred years, several large catastrophic earthquakes struck this area. So far, all the major recent earthquakes have occurred away from major cities, and have affected relatively sparsely populated areas. This has limited the human casualty and the economic losses. However, earthquakes in Gujarat (India, 2001), Bam (Iran, 2003), and Kashmir (Pakistan and India, 2005) have amply demonstrated that inappropriate construction technology may lead to high casualty levels even for moderate earthquakes.

In 1897, an earthquake of magnitude 8.7 caused serious damage to buildings in the northeastern part of India including Bangladesh and over 1,500 people were killed. The population around this region is at least 50 times larger than the population of 1897 and cities like Dhaka, Kathmandu and Guwahati have populations exceeding several millions. It is a cause for great concern that the next great earthquake may occur in this region at any time.

The extent of damage to structures and casualty level due to an earthquake in the future can be reduced by the introduction of suitable mitigation measures. These mitigation measures can be categorized as structural and/or

non-structural. The structural measures are those that directly influence the performance of building stock through strengthening of code provisions and the prevalent construction practice.

The non-structural mitigation measures include improvement in the state of awareness and preparedness before a disaster, land-use control and other government policies, and the response following a disaster. The non-structural measures help to reduce the severity of casualty levels following an earthquake. In order to reduce the consequences of a major earthquake in the cities of Bangladesh, it is necessary that appropriate structural as well as non-structural measures are undertaken.



Damage to a brick masonry building during the 1897 Great Indian Earthquake

ACTIVITIES UNDERTAKEN IN BANGLADESH

In 2001, the World Seismic Safety Initiative (WSSI) sponsored the author to participate in an interdisciplinary reconnaissance team from developed and developing countries around the world to visit the earthquake affected Gujarat state. It was a unique experience for the author to visit and to get “live” learning experience from an earthquake devastated region with the presence of experienced people of different interests and professional background. This exposure motivated the author to work in the field of earthquake risk reduction.

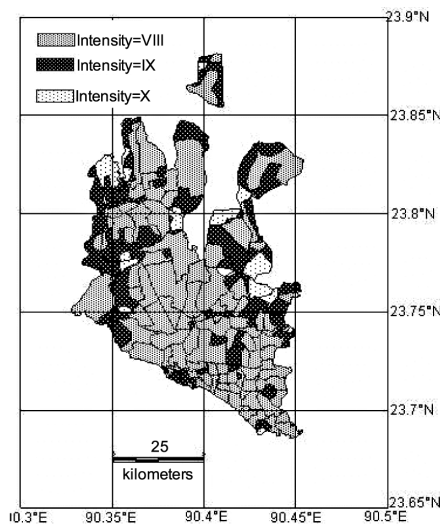
In 1996, the author together with a Bangladesh University of Engineering & Technology (BUET) team submitted a project proposal to the Jamuna Multipurpose Bridge Authority to install seismic devices on the bridge (a 4.8 km long RC bridge) and the surrounding area. The Panel of Experts approved the project on March 1997. The author also developed a course on Earthquake Engineering for postgraduate level at BUET and for the last few years has been offering the course at the postgraduate level. In the following paragraphs a brief summary of activities undertaken by different organizations of Bangladesh to mitigate earthquake disaster are presented.

BUET

The Department of Civil Engineering, BUET offers postgraduate courses on Earthquake Engineering, Soil Dynamics, Structural Dynamics and Vibration Analysis. So far 15 students completed their Master's thesis related to Earthquake Engineering field.

The Department of Civil Engineering, BUET is working as a consultant to monitor the seismic instruments installed at the Jamuna Multipurpose Bridge. In addition to the seismic instrumentation of the bridge, there are a borehole accelerograph at 57 m depth and seven free-field seismic instruments at Bogra, Natore, east and west bridge approaches, Mymensingh, Gazipur and Dhaka.

In January 2004, a linkage was established between the Virginia Polytechnic Institute, USA and the National Centre for Earthquake Engineering, BUET with USAID funding. Under this project several BUET faculties were trained in various



*Integrated hazard map
for Dhaka developed
by a Master's student at BUET*

earthquake related topics in India for one to two weeks.

Under the leadership of the author, several BUET teams performed field surveys after recent Bangladeshi earthquakes. The author also visited earthquake affected parts of Gujarat state of India as mentioned earlier with the Gujarat Earthquake Reconnaissance International Team under the joint sponsorship of Earthquakes and Megacities Initiative and WSSI. The author has also contributed two reports: one on unreinforced masonry and the other on mud houses to the World Housing Encyclopedia Project.

Recently, BUET acquired 60 analog SMA-I Type accelerographs from Strong-motion Accelerographs For Earthquake Loss Reduction Cities Project of Consortium of Organizations for Strong-Motion Observation Systems, a WSSI initiative. These accelerographs are already installed at the Public Works Department (PWD) offices all over the country to acquire earthquake data. These data will be used to develop attenuation laws for Bangladesh, which can be readily used for earthquake hazard analysis and updating of the existing seismic zonation map.

A workshop on earthquake curricula development was held at BUET on July 22, 2004. Thirty four faculties of different universities of Bangladesh attended and gave their feedback. A report was published.

The Directorate of Continuing Education, BUET, conducted the first

short course on Earthquake Resistant Design and Retrofitting of Buildings in October 2004. In April and September 2005 similar short courses for Professional Engineers and Polytechnical Institute teachers of Bangladesh were offered. In July 2005, the Ministry of Science, Information and Communication Technology of Government of Bangladesh provided a fund to the author for a one-year project entitled Earthquake Vulnerability Assessment and Community Awareness. Under this project, activities for raising community awareness regarding earthquake effects and vulnerability analysis of a ward of old Dhaka will be conducted and remedial measures will be proposed.

Recently, with the help of Prof. Maksud Helali of the Mechanical Engineering Department of BUET, the author together with Dr. Noor has developed an indigenous shaking table (3m x 5.5m) for checking structural behavior under dynamic loading.



Indigenous shaking table

GOVERNMENT AGENCIES

The Disaster Management Bureau (DMB) was established with the help of UNDP and UNICEF in 1993. Although initially it was established to manage flood and cyclone, after 1997 earthquakes in Chittagong and Sylhet region, the Bureau started to train different government officials and volunteers about pre and post-earthquake preparedness and management techniques. For the last couple of years, the Bureau has conducted fifty or more earthquake training workshops in different regions of Bangladesh. In 2002, it also published a Disaster Management Training Manual. The second part of the manual has a complete chapter on Earthquake Training Module and Public Awareness Guidelines.

The Ministry of Food & Disaster Management (MoFDM) is currently working as the government coordinator for all activities regarding earthquakes. Recently, they asked all the concerned ministries, departments and armed forces division to submit a Contingency Plan in case of an earthquake. The Ministry also compiled a list of available rescue and recovery equipment available in the country. The MoFDM held a mock drill on April 12, 2005.

The second phase (2003-2008) of the Program for Enhancement of Emergency Response (PEER), a USAID funded international project includes Bangladesh together with four other PEER affiliated countries — India, Indonesia, Nepal and Philippines. The program aims to strengthen and institutionalize capacities in emergency and disaster response of the member countries. A Memorandum of Understanding (MOU) in this regard was signed between PEER and MoFDM in June 2004.

In 2001, the Bangladesh Meteorological Department initiated a project to establish four broadband seismic stations at Rangpur, Sylhet, Dhaka and Chittagong cities. The installation of these seismic stations will be completed soon.

The PWD is responsible for constructing all the government buildings of the country. For the last few years, the PWD arranged several in-house workshops to train their engineers about earthquake resistant design. Also the engineers of this organization have started to use seismic codes for building design.

The Bangladesh Armed Forces Division (AFD) played a significant role in all the past disasters in the light of the tasks assigned in the “Standing Order on Disaster, 1999” circulated by MoFDM. Recently in consonance with the national initiative, AFD chalked out a contingency plan for Dhaka city. According to the AFD’s contingency plan, the city is divided into eight sectors with predefined tasks after an earthquake. AFD will also activate the “Disaster Management and Relief Monitoring Cell” at the Prime Minister’s Office after an earthquake.

The Geological Survey of Bangladesh (GSB) is the oldest organization in the country involved with the development of seismic zonation maps. The organization was pivotal in developing the 1972 and 1979

seismic zonation maps. But unlike its predecessor, the Geological Survey of India (GSI) under the British rule, it did not initiate any research in earthquake field. Currently it depends on the US Geological Survey (USGS) and GSI for earthquake source information. In September 2004, GSB together with USGS and UNESCO conducted a four-day long workshop on seismic analysis for the South Asia region in Dhaka.

In January, 2006 DMB with the verbal instruction of Minister, MoFDM has started to develop a comprehensive Earthquake Risk Management Plan which comprised two plans namely, Earthquake Preparedness and Earthquake Response Plans. Also, the Comprehensive Disaster Management Programme under the MoFDM is proposing a Comprehensive Disaster Management framework for the South Asian Association for Regional Cooperation (SAARC) countries. This will be placed at the SAARC Expert Group meeting to be held in Dhaka in early February, 2006.

BANGLADESH EARTHQUAKE SOCIETY

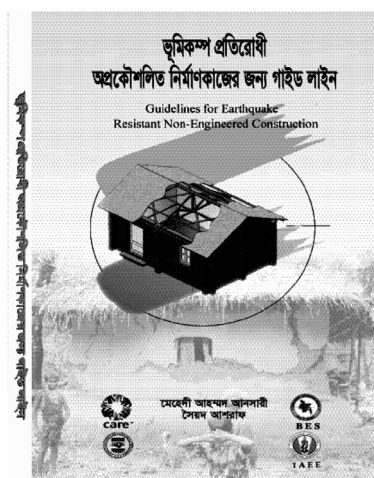
Bangladesh Earthquake Society (BES), a non-government voluntary organization, was established on April 2002 and was registered on January 2003. The first election of the society was held on August 2003 and the second election was held on December 2005. The BES members consist of engineers, geologists, NGO activists and government administrators.

After the July 2003 Rangamati Earthquake, the author and other members of the Society visited the affected earthquake sites and provided the government with their technical advice. BES also organized two national level workshops and held several monthly seminars so far. The first workshop was jointly organized with RAJUK (Capital Development Authority) in August, 2003 to train the engineers of Bangladesh about earthquake resistant design. The second workshop was organized together with DMB, MoFDM in September, 2003 to sum up the findings of 2003 Rangamati Earthquake. BES also successfully organized the First Bangladesh Earthquake Symposium (BES-1) on December 14-15, 2005. BUET and BES jointly hosted the symposium. More than 100 participants joined the symposium, 40 papers were presented:

10 international and 30 local.

With the financial assistance of USAID and the Cooperative for Assistance Relief Everywhere (CARE), Bangladesh, BES translated and published the International Association for Earthquake Engineering’s Guidelines for Earthquake Resistant Non-Engineered Construction in 2004. Recently the final draft of an Earthquake Resistant Design Manual was completed and will be jointly published by BES and the Canadian International Development Agency soon.

OTHER ORGANIZATIONS



Guidelines for non-engineered construction

Also many NGOs, private organizations, universities and mass media are playing an important role in earthquake risk mitigation in Bangladesh. CARE-Bangladesh, Bangladesh Red Crescent Society, Oxford Committee for Famine Relief, ActionAID, CARITAS, European Policies Research Centre, Franco-Bangladesh Association of Scholars and Trainees, Grameen Jonokallyan Sangsad, Safety Assistance for Emergencies, Bangladesh Insurance Academy, BRAC University, Chittagong University of Engineering & Technology, Institute of Engineers Bangladesh, Institute of Diploma Engineers Bangladesh, Military Institute of Science & Technology, Shahjalal University of Science & Technology, Real Estate and Housing Association of Bangladesh, Institute of Architects Bangladesh are some of those organizations.

**Professor, BUET, Dhaka,
Bangladesh & Secretary General,
Bangladesh Earthquake Society*

Comparative Studies on Urban Earthquake Disaster Management

The 6th Workshop on “Comparative Studies on Urban Earthquake Disaster Management” was held on January 18, 2006 at the Kobe International Conference Center. It was cosponsored by the Research Center for Disaster Reduction Systems at the Disaster Prevention Research Institute, Kyoto University and ICUS and was attended by approximately 100 people. This time the topic was: “Towards a drastic increase of retrofitting of existing low earthquake resistant structures — Comparative study of the environment surrounding seismic retrofitting activities in different countries.”

Recently, Japanese society has been shocked by the scandal of faulty apartment buildings, mainly RC buildings, deliberately designed and constructed without following the Earthquake Resistant Design Code. When the next big earthquake comes, they will surely perform poorly. However, these will not be the only affected structures. If the number of the buildings related to this scandal is compared to the total number of existing low earthquake resistant buildings in Japan, the later is

15,000 times larger. The panorama is even darker if the wooden houses with low earthquake resistance, whose number is over 10 million, are included in the count. This situation is common to both developed and developing countries. In the symposium, Prof. K. Meguro, Dr. M. Yoshimura, Prof. H. Murakami (Yamaguchi University) and Mr. B. Fujimura (Waseda Shopping Street Association) discussed this issue from different viewpoints.

At first, Prof. Meguro made an overall explanation of the similarities and differences in developed and developing countries in their quest to protect their building stock. He made emphasis on the technological and social viewpoints of the problem. He then invited the other



Prof. Meguro pointed out key issues for protecting building stock

speakers to share their ideas. Dr. Yoshimura introduced the successful retrofitting experiences of California State, US, particularly the case of Berkeley City. She compared the system there and in Japan highlighting social, individual, and structural differences. Prof. Murakami pointed out that even old structures can perform well during earthquakes in spite of their age as long as they are well constructed — using good materials, at locations with good soil conditions — and have good maintenance. This was the situation observed during the 2000 Tottori Earthquake. She stressed that high quality houses represent a good social stock which is needed in countries like Japan characterized by low birth rate and aging population. Mr. Fujimura shared his belief that for solving the issue at hand, the business driving force is essential. He explained his own activities to promote retrofitting such as training of house builders and developing and obtaining approval for new retrofitting methods. The presentations were followed by a lively panel discussion in which there was an exchange of questions and answers.

(by K. Meguro)

RNUS Activities

RNUS Seminar

RNUS Seminar on ‘Advanced Technologies toward Sustainable Concrete Structures’ was held on January 17th, 2006. The speakers were Prof. Toyoharu Nawa and Dr. Pipat Termkhajornkit from the Hokkaido University and Prof. Somnuk Tangtermsirikul from the Sirindhorn International Institute of Technology, Thammasat University.

Prof. Toyoharu Nawa presented the development of various types of superplasticizers and the production of high performance concrete. Prof. Somnuk gave a presentation about both



RNUS Seminar Snapshot

theoretical background and practice of zero-shump concrete in Thailand, while, Dr. Pipat Termkhajornkit made a presentation entitled ‘XRD and Its Application in Cement and Concrete Field’. The seminar was well received by AIT personnel.

Special Visit of Prof. H. Mutsuyoshi

It was a great honor for RNUS to welcome Professor Hiroshi Mutsuyoshi and Assistant Professor Takeshi Maki from Saitama University on March 15th, 2006.

On this occasion, Prof. Mutsuyoshi kindly gave the special lecture entitled ‘Structural Damage due to 2004 Niigata-Ken-Chuetsu Earthquake’ to AIT staff and students. The presentation delivered special characteristics of the Niigata-Ken-Chuetsu earthquake and promising technologies to prevent sudden failure and to minimize the residual deformation of structures under seismic loads.

ICUS Director Visited the AIT President

On March 21st, Prof. Uomoto visited AIT and held a meeting with Prof. Said Irandoust, the current President of AIT and Prof. Worsak Kanok-Nukukchai, the Acting Dean of the School of Engineering and Technology. The meeting was also attended by Dr. Pennung Warnitchai, Dr. Susaki and Dr. Kato. The director of ICUS and the president of AIT agreed to strengthen the collaboration between their institutions and to promote more activities in the region.

(by R. Sahamitmongkol)



Meeting participants

ICUS Signed MOU with LCM Research Center, PARI, Japan

On January 18, 2006, ICUS signed a Memorandum of Understanding (MOU) with The Life Cycle Management (LCM) Research Center; the Port and Airport Research Institute (PARI) in order to collaborate in research and other academic activities.

LCM Research Center was established on April 1, 2005 to respond to the demands of efficient operation

and maintenance of infrastructures. The Sustainable Engineering Division of ICUS aims to develop new technologies for the evaluation of structural safety. The two centers will exchange personnel and will provide research cooperation in the field of maintenance and management of new technologies for structural safety and other fields of common interest.

(by H. Kanada)



Prof. T. Uomoto and Dr. H. Yokota, Director of LCM Research Center

Prof. Uomoto Visited BUET, Dhaka, Bangladesh

The Director of ICUS, Prof. T. Uomoto, visited Bangladesh University of Engineering & Technology (BUET), Dhaka, Bangladesh from February 17 to 19, 2006. He was accompanied by Dr. Mehedi Ahmed Ansary. During his visit, Prof. Uomoto met Prof. Md. Aleem Murtuza, Vice-Chancellor (VC) of BUET and Prof. Md. Mazharul Hoque, Head of the Department of Civil Engineering, BUET. They discussed the establishment of an ICUS branch office at BUET (South Asian Network Office for Urban Safety Engineering: SAUS) and collaborative research activities between ICUS and

BUET. Prof. Uomoto also met the President of the Institute of Engineers in Bangladesh, Mr. Akhter Hossain and discussed issues of mutual interest. Mr. Hossain also holds the post of Secretary of Ministry of Energy and Power,



Prof. T. Uomoto presenting ICUS brochures to Prof. Md. Aleem Murtuza VC, BUET

Government of Bangladesh. Prof. Uomoto met Mr. Abu Sadek and Dr. MA Noor, members of the Bangladesh Concrete Society, and the President of the Bangladesh Earthquake Society, Prof. JR Choudhury, at his office. At the end of his visit, Prof. Uomoto delivered a lecture on non-destructive testing at the BUET seminar room which was attended by about 100 people. The lecture was presided by the Head of the Department of Civil Engineering, BUET, Prof. Md. Mazharul Hoque and BUET VC Prof. Md. Aleem Murtuza was the Chief Guest.

(by M. A. Ansary)

Contract for the Establishment of IIS Office at Chula Unisearch

On March 21, 2006, Prof. Uomoto visited to Chulalongkorn University as a representative of IIS. He and Prof. Ekasit Limsuwan, Director of Chula Unisearch signed the contract for the establishment of a collaborative research office.

Both parties agreed to establish a local office in Chula Unisearch in order to support the activities of IIS professors when they have research activities in

Thailand.

Chula Unisearch was founded under Chulalongkorn University on Feb 14th, 1986. It was the first agency in higher education institution in Thailand created to put knowledge and expertise of its faculty members to the public service. Chula Unisearch is determined to create for faculty members and researchers the environment to help solving the country problems by

studying, analyzing and solving issues in collaboration with concerned agencies.

(by R. Sahamitmongkol)



Ceremony participants

Professor Meguro Appeared in NHK TV Program

On January 16, 2006, Professor Meguro appeared in the TV program "Close Up Gendai." This is NHK's current affairs program, broadcasted from Monday to Thursday at 19:30.

The TV program was concerned with the lack of earthquake resistance of old wooden houses. Lessons from the 1995 Kobe earthquake have not been

learned and many wooden houses are not reinforced against great earthquakes yet.

He suggested promotion systems such as renovation grant, tax cut and preferential treatment based on the house hold's current situation.

(by T. Uomoto)



Prof. K. Meguro and Ms. H. Kuniya, Anchorperson of Close Up Gendai

Workshop on Disaster Management at The University of Tokyo Hospital

The first collaborative workshop on disaster management between ICUS and The University of Tokyo Hospital was held on February 1, 2006 at the hospital auditorium.

It was held for doctors, nurses and administrative staff in order to give them a better understanding of the current problems, and to raise their disaster awareness.

A project team was formed to consider the role of The University of Tokyo Hospital in a time of disaster. ICUS members are investigating the social demands of a disaster base

hospital during a disaster situation and based on these findings propose an adequate disaster management manual.

Prof. Meguro delivered a



Prof. Amano outlined the project

presentation on the importance of an efficient disaster management manual while Prof. Amano outlined the background and future plans of the project. Dr. Yoshimura introduced countermeasures against great earthquakes and the role of a disaster base hospital and Dr. Kanada presented the necessity of reviewing the current disaster management manual. The workshop was attended by more than 100 participants who were impressed with the presentations.

(by H. Kanada)

10th ICUS Open Lecture Was Held

The 10th ICUS Open Lecture was held at the Convention Hall of the Institute of Industrial Science (IIS), The University of Tokyo (UT) in the afternoon of March 16, 2006. The title of the lecture was "Communication of Scientific Technologies and Risk Management Technologies to the Public." About 80 people attended the lecture.

Prof. Marie Oshima (IIS, UT), Dr. Toshiko Kikkawa (Associate Professor, Faculty of Business and Commerce, Keio University), and Dr. Yayoi Tanaka (Associate Professor,

Department of Civil Engineering, UT) delivered the following speeches:

1. Prof. Marie Oshima: "Importance of communicating scientific technology to the public."
2. Dr. Toshiko Kikkawa: "How to communicate risk information to the public."
3. Dr. Yayoi Tanaka: "Drawbacks of communication by engineers."

Prof. M. Oshima emphasized that scientists and engineers should pay more attention to increase public understanding of their research and introduced some activities for communicating research results to

young generations such as junior and senior high school students. Dr. T. Kikkawa explained how understanding of risk information is different between engineers and the general public. Finally, Dr. Y. Tanaka showed examples of poor communication between engineers and the general public in the process of public involvement in city planning.

Prof. T. Uomoto delivered concluding remarks on this Open Lecture and expressed gratitude to the presenters and participants.

(by M. Yoshimura)



Prof. M. Oshima



Dr. T. Kikkawa



Dr. Y. Tanaka

Announcement of USMCA 2006

The 5th International Symposium on New Technologies for Urban Safety of Mega Cities in Asia (USMCA) will be organized by the School of Engineering and Technology, AIT, Thailand and ICUS.

The symposium will be held at Cape Panwa Hotel, Phuket in Thailand on November 16-17, 2006. The scope of the symposium covers the following areas.

- Safety Assessment of Existing

Infrastructure and Buildings

- Planning for Development and Maintenance of Urban Infrastructure
- Environmental Impact Assessment of Urbanization
- Advanced Technologies for Monitoring and Assessment for Urban Safety
- Disaster Management Engineering
- Application of Remote Sensing to

Enhance the Safety of Society

- Rehabilitation and Retrofitting of Urban Structure against Disasters

Your participation is crucial for the meaningful discussion and success of the symposium. For more information, please access the symposium website at <http://www.sce.ait.ac.th/rmus/usmca2006>

(by R. Sahamitmongkol)

THE 10TH EARTHQUAKE TECHNOLOGY EXPO

The 10th Earthquake Technology Expo/Natural Disaster Recovery Expo was held on February 1-2, 2006 at Pacifico Yokohama. This is the biggest exhibition of advanced technologies for reducing disasters. It has been held every year after the 1995 Kobe Earthquake. This year more than 9,000 people including risk managers in private companies, local government officials and structural engineers visited the exhibition.

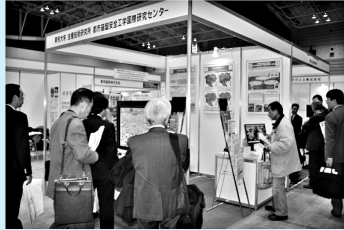
Hundred thirty booths were displayed and ICUS prepared a booth for presenting the Integrated

Information System for Total Disaster Management. This is a leaning tool developed by Prof. Meguro research group in ICUS to increase the people's disaster awareness and to effectively reduce disasters. Over 400

visitors enjoyed the experience of operating it.

ICUS is willing to join the Earthquake Technology Expo again in the next year.

(by M. Yoshimura)



ICUS Booth



Integrated Information System for Total Disaster Management

ICUS New Staff

Dr. Mehedi Ahmed Ansary joined ICUS as a Project Associate Professor on January 16, 2006. He graduated from the Department of Civil Engineering, BUET in 1991 and joined at the same Department as Lecturer in June 1991. He obtained his PhD in Civil Engineering from the University of Tokyo in 1996. He was promoted to Professor in the Department of Civil Engineering, BUET in 2006.

His research interest is urban disaster mitigation which includes development of microzonation maps for cities of Bangladesh, assessment of building and lifeline vulnerabilities,

characterization of strong ground motion from free-field and bridge monitoring data, raising awareness among citizens of Bangladesh through simplified experimental techniques and easily understandable guidelines for earthquake resistant construction, study



Dr. Mehedi Ahmed Ansary

of other urban disasters such as floods, fires and tornadoes, etc.

He is currently working as the Secretary-General of Bangladesh Earthquake Society which is affiliated with the International Association of Earthquake Engineering. He is also the Project Director of the Virginia Polytechnic Institute, USA and the National Centre for Earthquake Engineering - BUET Linkage project funded by USAID, Bangladesh from January, 2004. He is a member of consultative panels of several Government agencies of Bangladesh.

(by T. Uomoto)

ICUS Activities

- Prof. Uomoto visited BUET to discuss the establishment of an ICUS branch office there (Feb 17-21) and Chulalongkorn University to sign the contract for the establishment of an IIS collaborative research office (Mar 20-22).
- Prof. Meguro attended an Earthquake Summit in Beijing (Feb 19-23). He also visited Algeria and Pakistan (Mar 17-26) to conduct microzonation studies and shaking table demonstrations of his proposal local acceptable, simple and economical masonry retrofitting method.
- Dr. Oki attended IPCC AR4 WG 2 Conference in Merida, Mexico (Jan 14-21), AGS Annual Meeting 2006 in Bangkok (Mar 18-23), and Global Water System Project/Scientific Steering Committee in Oaxaca, Mexico (Mar 22-26).
- Dr. Ooka attended 2006 ASHRAE Winter Meeting in Chicago, 86th AMS Annual Meeting in Atlanta (Jan 21-Feb 2), and AGS Annual Meeting 2006 in Bangkok (Mar 18-23).
- Dr. Ansary visited BUET to discuss the establishment of an ICUS branch office there (Feb 17-21).
- Dr. Kato stayed at AIT for his research work and teaching duties at RNUS (Jan 10-18, Feb 27-Mar 22, Mar 26-31).
- Dr. Susaki attended the ASEAN Subcommittee on Space Technology and Applications in Hanoi (Feb 15-17) and the Forum on Monitoring of Global Environment from Space at IIS (Mar 12-19).
- Dr. Endo visited Bangkok to carry out data processing of ANHRR and MODIS (Mar 4-14).
- Dr. Yoshimura visited Istanbul to arrange the workshop with Istanbul Technical University and to investigate the urban structures of Garata area (Mar 17-26).
- Dr. Sahamitmongkol stayed at AIT for his research work and teaching duties at RNUS (Dec 29-Mar 29).

Awards

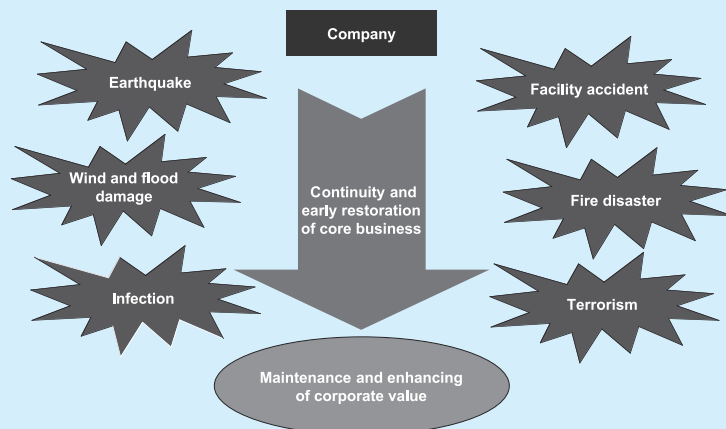
Dr. Oki, Dr. Sinjiro Kanae (IIS) and Dr. Yukiko Hirabayashi (Research Associate of University of Yamanashi) won the Annual Prize of the Journal of

Hydraulic Engineering, Japan Society of Civil Engineers (Mar 7).

Editor's Note

The importance of the Business Continuity Plan (hereafter referred to as BCP) that takes into account the experience gained from the series of coordinated terrorist attacks in the United States and the Niigata Chuetsu Earthquake is being increasingly recognized in Japan. For example, advanced enterprises in the United States specify the Recovery Time Objectives (RTO: the target time required for the recovery of core businesses or basic services in cases when enterprises face emergencies such as natural disasters, fires and terrorist attacks) and make positive use of experts on data-back-up. Furthermore, a system for PDCA (plan-do-check-act) with regard to the BCP is set in place. In this respect, the BCP plays an important role in business activities at large and this plan has been carried out at management levels.

The ratio of Japanese enterprises applying the BCP is limited to about 8%. It will be indispensable to fully promote its implementation as well as to put it into practice at management



The role of BCP (Guideline of The Small and Medium Enterprise Agency)

levels. The concept of the BCP originated from dealing with the IT industry. In its earlier stage, it was applied mainly to infrastructural enterprises or financial firms. At present, it is being widely applied to other business areas. Moreover, the standardization of the BCP has begun to be discussed at the International Organization for Standardization. Enterprises will inevitably be required to adopt the BCP within 1~2 years. The BCP will become one of the most important company assets and will

represent a competitive advantage for those companies who adopt it.

At present, ICUS and The University of Tokyo Hospital are studying how the latter should function as a disaster base hospital during large-scale emergencies, such as in the case of severe earthquakes. Taking the role of a disaster base hospital during earthquake disaster is very important and that is why it is necessary to investigate the BCP for The University of Tokyo Hospital.

(by R. Amano)

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