

Proceedings of the WSSI Workshop on

Seismic Risk Management

for

Countries of the Asia Pacific Region

February 8 to 11, 1993
Bangkok, Thailand

Edited by

K. Meguro and T. Katayama

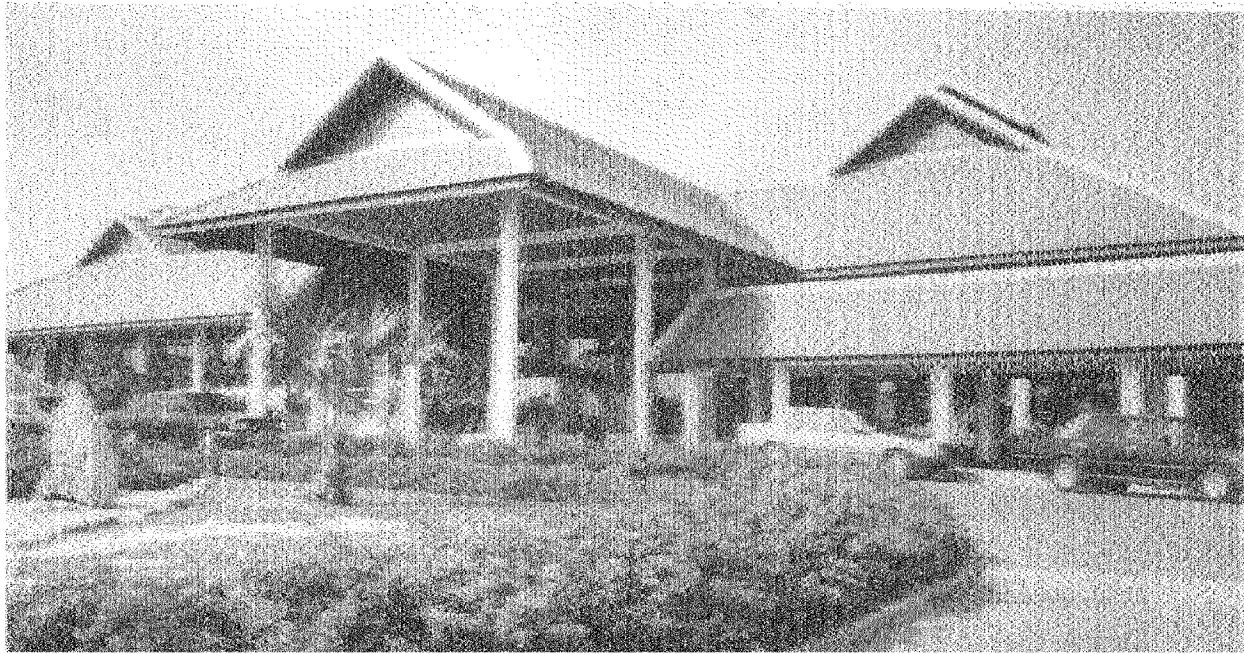
Organized by

WORLD SEISMIC SAFETY INITIATIVE (WSSI)

INTERNATIONAL CENTER FOR DISASTER-MITIGATION ENGINEERING (INCEDE)

with assistance from

ASIAN DISASTER PREPAREDNESS CENTER, ASIAN INSTITUTE OF TECHNOLOGY



*The WSSI workshop was held at PINEHURST LODGE
located 10 km north of Don Muang International Airport.*

WSSI Bangkok Workshop on Seismic Risk Management

Edited by

K. Meguro and T. Katayama

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Abstract

This contains the proceedings of the WSSI Workshop on Seismic Risk Management for the Countries of Asia Pacific Region held in Bangkok, Thailand, from February 8 to 11, 1993. The workshop was the first solid activity of the World Seismic Safety Initiative (WSSI), a new undertaking of the International Association for Earthquake Engineering (IAEE) in support of the United Nations' International Decade for Natural Disaster Reduction (IDNDR).

The purposes of the workshop were to bring together people at risk in the Asia Pacific region and to let them speak out on what are their major problems in carrying out disaster mitigation measures, especially those against earthquakes. There were about 30 participants from 19 countries. Resource persons representing WSSI and IAEE were there to listen to the voices of peoples at risk.

During the workshop, two meetings of the WSSI Interim Organizing Committee were held. The minutes of these meetings are also included in this report as an appendix. The success of the workshop and the discussions during the Interim Organizing Committee Meetings have laid foundations for the fruitful activities of WSSI which have followed since then.

The workshop has raised the interests of some of the countries in Asia in the continuing efforts to mitigate seismic disasters. National organizations for earthquake engineers have been established in Pakistan, Thailand, Nepal, and Malaysia. Pakistan has already joined and Thailand will soon join IAEE. A research funding has been granted to a university in Singapore to investigate the effects of Sumatran earthquakes on the buildings in Singapore.

Although WSSI has been actively working to realize the goals of IDNDR for the last 20 months since the Bangkok Workshop, it is believed that WSSI and its activities should be more widely known to the world community of earthquake engineers. To make WSSI a really successful initiative, more people must be involved with and devoted to its future activities.

International Center for Disaster-Mitigation Engineering

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INTRODUCTION

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These are the proceedings of the WSSI Workshop on Seismic Risk Management for the Countries of Asia Pacific Region held in Bangkok, Thailand, from February 8 to 11, 1993.

The Workshop was the first solid undertaking of the World Seismic Safety Initiative (WSSI) since its establishment was approved by the International Association for Earthquake Engineering (IAEE) in support of the United Nations' International Decade for Natural Disaster Reduction (IDNDR).

The Workshop was successful and became a breakthrough for WSSI and IAEE to be really involved with the activities of IDNDR and to contribute to the realization of its goals.

BACKGROUND

The original concept of IDNDR was proposed in 1984 by Dr. Frank Press, then President of US Academy of Sciences, during the Opening Ceremony of the 8th World Conference on Earthquake Engineering held in San Francisco. This idea evolved into the UN resolution in 1987 and the Decade program started on January 1, 1990.

IAEE, the definitive academic organization in the field of earthquake engineering, therefore, had been feeling moral responsibility to take an active role in implementing the goals of IDNDR. In Madrid in 1992, IAEE made an important decision to be more strongly involved with IDNDR by creating WSSI as an IAEE's undertaking.

An Interim Committee of seven members was first established with T. Katayama (Secretary General of IAEE) and Haresh C. Shah (Stanford University) as cochairmen. We attended the meeting of the Scientific and Technical Committee (STC) of IDNDR held in Delhi, India, in February 1993, and explained what is WSSI and what it is planning to do. The workshop in Bangkok was held immediately after the STC meeting in Delhi.

No other region of the world has the potential of incredible earthquake disaster as the Asia Pacific region. Historically, almost 85 percent of all deaths due to natural disasters have occurred in this part of the world. It is also true that in no other region of the world can we save many lives and property with a modest investment as in this part of the world. These were the reasons why WSSI took the first bold and definitive step in organizing the Bangkok workshop.

GOALS

The current state of knowledge about seismic risk management in general and earthquake engineering in particular is impressive. If the available knowledge is implemented in an integrated manner, we may be able to make a dent in managing the existing risk.

The dilemma that we face, however, is that many nations at risk do not have the resources to do what need to be done. The challenge is to find the right mix of actions that will manage the earthquake risk through an integrated strategy, consistent with the available resources of these nations and aspirations of their peoples.

Balancing present actions against future vulnerability is at the heart of controlling the consequences of earthquakes. Having the knowledge and capability necessary to select the best mix of actions is fundamental in making these choices.

The purposes of the workshop were, therefore, to bring together people at risk in the Asia Pacific region and to let them speak out on what are their major problems in carrying out disaster mitigation measures, especially those against earthquakes. Resource persons who attended the workshop representing WSSI and IAEE were there to listen to the voices of peoples at risk.

To embody the purposes of the workshop, the following goals had been set:

- Articulate the current resources and needs of each nation for managing earthquake risk,
- Develop an integrated mix of strategies that will work for each nation,
- Provide to the world community the above two pieces of information,
- Create a network from each of participating countries with each other, and
- Create a support structure for regional cooperation at the educational, planning, and engineering level.

RESULTS

The workshop schedule and the list of participants are shown in Appendix I and II, respectively. There were about 30 participants from 19 countries. In principle, resource persons financially supported themselves. The president and ex-president of IAEE participated in the workshop on their own funds.

The summary of the workshop is given separately in the last part of the proceedings.

During the workshop, two meetings of the WSSI Interim Organizing Committee were held. The minutes of these meetings are also included as Appendix III. We believe that the success of the workshop and the

discussions in these meetings laid the foundations for the activities of WSSI that followed the Bangkok workshop.

Because almost 20 months have passed since the workshop, it may be appropriate to summarize the activities of WSSI to date. Some of the things we discussed in Bangkok have been implemented but others have not been primarily because WSSI has not been organizationally fully established.

The IAEE Board of Directors officially approved the eleven Directors of WSSI who have met three times so far to discuss the working principles of the Initiative. The first WSSI Board of Directors meeting was held in Tokyo on September 7, 1993. The second and the third meetings were held in Manila on February 7, 1994, and in Vienna on September 2, 1994, respectively.

WSSI has organized, coorganized, and financially supported the following meetings:

- June 1993: The Workshop: Towards Natural Disaster Reduction, in Okinawa, Japan, proceedings of which are available at the International Center for Disaster-Mitigation Engineering (INCEDE), The University of Tokyo.
- January 1994: International Workshop on Seismotectonic and Seismic Hazard in South East Asia, in Hanoi, Vietnam.
- March 1994: International Training Course on Earthquake Resistant Non-Engineered Buildings, in Hyderabad, India.
- September 1994: Workshop on Mitigation of Earthquake Risks - Needs and Resources of European Countries, in Vienna, Austria.
- September 1994: Workshop in the Black Sea University in Romania.
- September 1994: Workshop on Opportunities for Disaster Reduction in Pacific Island Countries, in Suva, Fiji.

Three High-Level Meetings were held in Kuala Lumpur, Singapore, and Kathmandu in November 1993, and two more will be held in Dhaka and Colombo in early December 1994. WSSI lectures were also given to local engineers in Kuala Lumpur, Singapore, Kathmandu, and Manila. Directors gave lectures at various times on the concept and goals of WSSI in many parts of the world, including Australia, Costa Rica, India, Indonesia, Iran, Japan, Malaysia, Nepal, Singapore, and USA.

WSSI participated through the Exhibition and Poster Session in the World Conference on Natural Disaster Reduction held in Yokohama in May 1994. The Conference was organized by the United Nations and hosted by the Government of Japan to review the activities of IDNDR in the first five years and chart directions for the remaining five years.

The Bangkok workshop has been successful in raising the interests of some of the countries in Asia on the continuing efforts to mitigate seismic disasters. National organizations for earthquake engineering have been established in Pakistan, Thailand, Nepal, and Malaysia. Pakistan has already joined and Thailand will soon join IAEE. A research funding has been granted to a university in Singapore to investigate the effects of Sumatran earthquakes on the buildings in Singapore.

As was mentioned earlier, WSSI has yet to be established as a certain form of legal entity. At present, WSSI works out from INCEDE, The University of Tokyo, and the Department of Civil Engineering, Stanford

University. Reports on the activities of WSSI are generally disseminated through the quarterly INCEDE Newsletter. We feel extremely sorry for our colleagues in Taiwan who volunteered after the Bangkok workshop to publish the newsletter of WARN (WSSI Asian Resource Network). The organizational structure of WSSI is not strong enough to regularly supply news materials to our Taiwanese colleagues.

WSSI is rather proud of what it has done in the last 20 months or so. But, at the same time, it is strongly realized that WSSI and its activities should be more widely known to the world community of earthquake engineers. Lack of time and manpower has so far hindered this. To make WSSI a really successful initiative, more people must be involved with and devoted to its future activities.

Those who are interested in the activities of WSSI are encouraged to contact: Hareesh C. Shah, Chairman, WSSI Board of Directors, Professor, Department of Civil Engineering, Stanford University, Stanford, CA 94305-4020, USA, or Tsuneo Katayama, Secretary General, IAEE, 3rd Floor, Kenchiku Kaikan, 5-26-20, Shiba, Minato-ku, Tokyo 108, Japan.

