

INCEDE -Our Activities and Aspirations-

INCEDE これまでの活動と将来

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Two years' activities of INCEDE since its establishment in April 1991 are summarized. We made a lot of discussions to find our identity. We have tried hard to make ourselves visible. We wrote many proposals to obtain support for our own research projects. Although our spirits are higher than ever before, we do see many problems ahead. "A dream or a reality"- INCEDE is always open and awaits your ideas, suggestions and criticisms.

1. INCEDE - Two Years After

The International Center for Disaster-Mitigation Engineering (INCEDE) was established in April 1991 in the Institute of Industrial Science (IIS), University of Tokyo. It is one of Japan's contributions to the United Nations' International Decade for Natural Disaster Reduction (IDNDR).

The broad objectives of INCEDE are:

- 1) To understand the physical processes causing natural disasters,
- 2) To find ways to mitigate the effects of natural disasters on the society, i.e. minimizing loss of life and property, and socioeconomic disruption, and
- 3) To undertake action-oriented research on disasters and suggest appropriate steps for disaster mitigation.

The activities of INCEDE could be classified into the interrelated "center" and "research" activities.

The center activities have so far focused on establishing networks of researchers and organizations in disaster-mitigation engineering and sciences. The network will gather and disseminate various information related to natural disasters. To achieve this, archives and data bases on disasters and disaster-mitigation technologies are being constructed. In short, INCEDE will be a focal point and an information clearing house by coordinating various disciplines in the field of natural disaster sciences with initial emphasis on the Asia Pacific region.

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INCEDE is staffed by a limited number of professionals. Professor T.Katayama has taken the charge as the Director. His field of research in INCEDE is urban earthquake disaster mitigation engineering. Dr.M.A.H. Pramanik, a Bangladeshi, has assumed the position of Foreign Visiting Professor, specializing in remote sensing (RS) and geographic information system (GIS) as related to natural disaster mitigation. Associate Professor S.Herath, a Sri Lankan, specializes in water resource engineering and water-related disasters. Dr.K.Meguro, Research Associate, works in the field of earthquake engineering. Professor Haresh C.Shah, Chairman of the Department of Civil Engineering of Stanford University, stayed with us for three months as INCEDE's visiting scholar (September-December 1992). Professor Shah is an internationally known specialist in earthquake engineering and applied probability and statistics in civil engineering.

It is extremely fortunate that we have experienced and active researchers in various fields of disaster-mitigation engineering in IIS. Many of INCEDE's research activities are being made in close cooperation with IIS's staff and, therefore, the role of the Center is catalytic in that the research activities in earthquake and water-related disasters, remote sensing and GIS are synthesized through concerted efforts.

2. External Activities

The strongest effort we have made in the past two years is to make ourselves visible. Our belief is that an invisible organization is not worth existing.

We published 10,000 copies of brochures, all of which have already been distributed to disaster-related engineers and scientists on national and international levels. The "INCEDE NEWSLETTER" is being published quarterly. Two INCEDE Reports have been published, namely

- "INCEDE Looking Ahead", INCEDE Report No.1, by Katayama, Pramanik, Herath and Meguro, and
- "Aftermath of the Loma Prieta Earthquake -How Radio Responded to the Disaster-", INCEDE Report No.2, by Katayama.

Two "INCEDE Open Lectures" were held for the staff member of IIS as well as for the general public.

The first INCEDE Open Lectures were held at IIS on May 13, 1992 for the staff and students of IIS. They dealt with recent disasters and their effects. Professor Herath (INCEDE) talked about the floods which devastated Ormoc City in Philippines on November 5, 1991. Professor Nakano (Department of Applied Physics and Applied Mechanics, IIS) gave the second lecture on why buildings collapsed during the Erzincan, Turkey, earthquake on March 13, 1992. Dr. Meguro (INCEDE) gave the final lecture on the rescue operations and life of evacuees after the Erzincan earthquake.

The second INCEDE Open Lectures were held on October 14 to commemorate the IDNDR Day. (The second Wednesday of October has been designated as the IDNDR Day by the United Nations). It attracted some 130 people from the academic and industrial sectors. The topics discussed were:

- IDNDR - Past and Future - : T. Katayama (INCEDE)
- Seismic Risk Management - A Global Perspective: H.C. Shah (INCEDE)
- Japan's Response to Pinatubo Eruption : A. Hamamori (International Engineering Consultants Association)
- Impact of Natural Disasters on Environment and Development : M.A.H. Pramanik (INCEDE)

The members of INCEDE together with other IIS staff and outside researchers have so far made reconnaissance of six recent disasters, domestic and overseas.

In October 1991, Herath and Meguro made field surveys to clarify the causes and effects of the highwater in Lake Saiko (Photo 1), which inundated the area surrounding the lake for several months.

In November 1991, Meguro visited Hiroshima and Nagasaki in the western Japan to make a reconnaissance



Photo 1 Lake Saiko Highwater (October 1991)

of Typhoon No.19 which inflicted heavy damage to the private, agricultural and industrial sectors. The survey emphasized the effects of prolonged power outage on lifelines and urban activities.

In March 1992, Herath visited Ormoc City in Leyte Island, Philippines, to investigate the November 5, 1991, flood which claimed some 8,000 lives (Photo 2). During his visit, topographical, geological and hydrological data/ records were collected for further study.



Photo 2 Flood in Ormoc, Leyte, Philippines (November 1991)

In April 1992, Meguro visited Erzincan, Turkey, which was heavily hit by a M6.9 earthquake on March 13, 1992, as a member of the combined AIJ (Architectural Institute of Japan) and JSCE (Japan Society of Civil Engineers) reconnaissance team (Photo 3).

In June 1992, Herath visited Hong Kong to gather information about the heavy rains and associated landslips there which took place on May 8 and 9, 1992.

In July 1992, Herath surveyed the damage of the flooding in Colombo, Sri Lanka, which was caused by the heavy rains on June 4 and 5, 1992. He also collected data and information related to the event.



Photo 3 Erzincan, Turkey, Earthquake (March 1992)

The INCEDE members also participated in many international conferences and symposia as listed below (January–December 1992):

- International Symposium on the Effects of Surface Geology on Seismic Motion (Katayama and Meguro), Odawara, Japan, March 1992.
- International Symposium on Earthquake Disaster Prevention (Katayama), Mexico City, Mexico, May 1992.
- United Nations Conference on Environment and Development (Pramanik), Rio de Janeiro, Brazil, June 1992.
- First Thematic Conference on Remote Sensing for Marine and Coastal Environment (Pramanik), Louisiana, USA, June 1992.
- 10th World Conference on Earthquake Engineering (Katayama and Meguro), Madrid, Spain, July 1992.
- International Space Year (ISY) Conference (Pramanik), Boulder, Colorado, USA, August 1992.
- 29th International Geological Congress (Katayama), Kyoto, Japan, September 1992.
- Second Asia-Pacific Conference on Disaster Medicine (Katayama and Pramanik), Chiba, Japan, September 1992.
- US-Japan Workshop on Earthquake Disaster Prevention for Lifeline Systems (Katayama), Tsukuba, Japan, October 1992.
- 13th Asian Conference on Remote Sensing (Pramanik), Ulaanbaatar, Mongolia, October 1992.
- Jubilee Workshop on Earth Sciences and the Environment (Pramanik), Enchede, Netherlands, October 1992.
- ILT (Institute of Lowland Technology) Seminar on Problems of Lowland Development (Katayama, Herath and Meguro), Saga, Japan, November 1992.
- Asia-Pacific ISY Conference (Pramanik), Tokyo, Japan, November 1992.
- IDNDR Chiba International Conference 1992 (Katayama, Pramanik and Herath), Chiba, Japan, November 1992.
- International Symposium on Flood Disaster Reduction in Southeast Asia (Herath), Tokyo, Japan, November 1992.
- Nova Tech 92 (Herath), Lyon, France, November 1992.
- Asia and Pacific Ocean International Typhoon Conference (Pramanik), Fukuoka, Japan, December 1992.
- IDNDR International Symposium on Earthquake Disaster Reduction Technology (Katayama), Tsukuba, Japan, December 1992.

3. Internal Activities

Many of INCEDE activities are internal. But they are important as they provide the groundwork for the external activities.

A number of intense discussions were made among the members of INCEDE, often together with outside researchers, to make clear the goals of the Center and their implementation plans. Although many of the points raised during such discussions have been included in our first INCEDE Report "INCEDE Looking Ahead", it may not be a surprise that we are still searching for our identity. Because the problems have extremely wide spectrum and there are only very limited resources in the Center, it may continue to be of utmost importance for us to find realizable goals.

Establishment of a network of researchers and organizations, both domestic and overseas, in disaster-mitigation engineering and sciences, has been one of the most time-consuming activities of the Center. We now have more than 500 names of researchers and organization in our network data base, which can be utilized to gather and disseminate information. Although it is effectively used for sending out our publications at present, it also requires substantial expansion and improvement. Through our NEWSLETTER, we have been asking specialists working in disaster-mitigation engineering and sciences to "Be Part of the Network".

Writing proposals have also been one of our essential activities in the past two years. Although disaster-related researches in IIS had been actively conducted even before the INCEDE was established, the Center has to find its

own independent field of research. To achieve this purpose, the Center needs its own research projects. A few of such proposals have been approved and are becoming materialized. One such example is the cooperative research between INCEDE and Philippino counterparts. The project will deal with RS/GIS studies to analyze natural disasters in the Philippines. It will start in April 1993 and will continue for three years.

Similar RS/GIS studies are being planned for several regions in Asia including Bangladesh, China and Sri Lanka. Several GIS-related softwares have been implemented and are now in workable conditions.

When Dr. Herath (INCEDE) visited the Asian Disaster Preparedness Center (ADPC) at the Asian Institute of Technology (AIT) in March 1992, he had discussions with a Senior Scientist there on possible joint activities between INCEDE and ADPC. On the same trip, Dr. Herath also visited the Asian Development Bank in Manila and had discussions with several ADB's officials on their experiences in handling disaster-related projects in Asia. These kinds of activities, we believe, are extremely important for the Center to chart a course for its future activities.

We cosponsored a Disaster Mitigation Seminar held by the Civil Engineering Society of the University of Peradeniya, Sri Lanka, on September 5, 1992. We are planning to cosponsor several more workshops on natural disasters. One of them will be the "Workshop on Seismic Risk Management for the Countries of Asia Pacific Region" to be held in early February 1993 in Bangkok.

Research agreements between INCEDE and other similar institutions are under preparation. In doing this, we would like to evade university bureaucracy as much as possible. We hope to have some half a dozen such agreements signed by the end of March 1993, which is the end of fiscal 1993.

Several INCEDE reports are now being prepared. They include reports on the 1991 typhoon in Japan, comparative studies on flood disasters in Asia, the 1992 Erzincan (Turkey) earthquake, and the UN Conference

on Environment and Development.

4. Problems Ahead

The title of our first INCEDE Report was "INCEDE Looking Ahead". After the two years' activities, however, we now see more problems than we did when the Center was established two years ago. This is just natural because, before you start doing something, you do not usually realize what kinds of problems and difficulties you may face and why and where they exist.

The greatest problem we are facing now is lack of manpower. The more recognized the Center becomes, the more work we have to do. There are more and more visitors, and more and more letters to respond. The members of the Center have to be engaged in publication of reports and newsletters, creation of the network and databases. And at the same time, we have to carry out our own research projects.

However, our spirits are higher than ever before. We strongly believe, unless somebody starts something now, the good cause of the IDNDR can never be realized. What we can do by ourselves may be small when compared with the grand goals of the UN Decade program. However, it should be recognized that, in spite of the international nature of the program, the self-help efforts at the national or even at the personal levels are more critical.

In closing, we would like to quote, with slight modifications, what we have stated at the end of our INCEDE Report No.1:

"Success of the implementation of our objectives will depend to a large degree on the positive responses of outside persons and agencies, on whom we depend for information and data."

"A DREAM OR A REALITY?"

INCEDE is always open and awaits your ideas, suggestions and criticisms."

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