

# Asian Disaster Preparedness Center



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Report

1989

This report covers the period January 1, 1986 - December 31, 1989.

/Activity Report/, /Asian Disaster Preparedness Center/, Asian Institute of Technology/, /disaster management/, /disaster preparedness/, /emergency

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*Cover Photo: Participants in ADPC's first Disaster Management Course.*

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# Asian Disaster Preparedness Center

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**Activity Report**  
**1986 - 1989**

### **IN MEMORIAM**

The staff of ADPC wish to extend their sincerest condolences to the family and friends of Mr. Tony Anthonimuthu, who died tragically in Sri Lanka on October 8, 1987. Mr. Anthonimuthu was government agent in Batticaloa District. He had attended Disaster Management Course No. 2.



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## WHAT IS ADPC?

**The role of the Asian Disaster Preparedness Center is to assist countries of the Asia-Pacific region in formulating their policies and developing their capabilities in all aspects of disaster management.**

The ADPC was established in January 1986 by the Board of Trustees of the Asian Institute of Technology (AIT) following a joint feasibility study conducted by the Institute, the Office of the United Nations Disaster Relief Co-ordinator, and the World Meteorological Organisation. The study was funded by the United Nations Development Programme.

### Services

The ADPC offers a range of services, principally

- training, workshops, and seminars
- technical, and general project development
- support to national programs through advisory and consulting services
- a database on disaster-related literature

### Programing Principles

- The first priority of disaster preparedness should be the safety of people most at risk, second the protection of critical property.
- Though intervention during a disaster calls for provincial, national, and international coordination, concern should be for the welfare and self-reliance of individuals, their families, and their communities.
- Disaster preparedness activities should be the responsibility of community-based organizations and integrated into national development plans.
- Disaster preparedness calls for a multidisciplinary, all-hazards approach, and collaboration among government and nongovernment organizations, research and training institutes, and the private sector.
- Access to up-to-date information on the causes and consequences of disasters is the basis of sound disaster planning.

### AIT

The Asian Institute of Technology was established in 1959 as an autonomous international postgraduate technological institute. It was chartered in 1967 by special legislation of the Royal Thai Government.

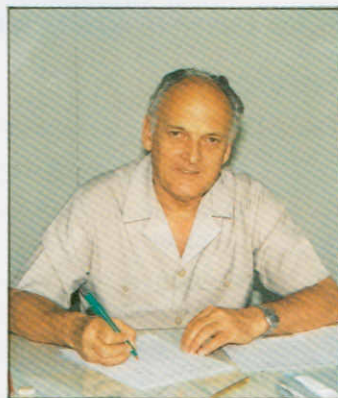
## FROM THE DIRECTOR

It is a rare privilege to be associated with an organization during its conception and formative years. So it is with great pleasure and pride that I present this first Activity Report of the Asian Disaster Preparedness Center.

The ADPC was formally established by decision of the Board of Trustees of the Asian Institute of Technology on January 30, 1986. That decision was the logical conclusion of two surveys. The first was conducted by the Institute itself, the other by the Office of the United Nations Disaster Relief Co-ordinator (UNDRO) and the World Meteorological Organisation (WMO), following requests from countries in the Asia-Pacific region for international assistance in strengthening their national disaster management systems. The result is that our Center was established to meet clearly identified needs, and in an ideal location—Thailand—a gracious host country, and in a highly reputed international institute—the Asian Institute of Technology—recipient of the 1989 Ramon Magsaysay Award.

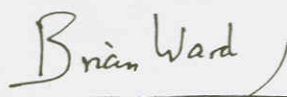
New concepts need people with faith. In our case, it was the United Nations Development Programme, which funded the UNDRO/WMO feasibility study and provided an initial fellowship grant, and the Office of United States Foreign Disaster Assistance, which pledged a five-year start-up grant. We owe both organizations a special debt of gratitude for their encouragement and material support. Special mention should also be made of UNDRO, and the administration, faculty, and staff of AIT for their advice, support, and unfailing commitment to the concept of an Asian disaster preparedness center.

This first activity report is a statement of our mission, our philosophy, and our activities during the past four years. It has been a busy period; we have seldom had time to draw breath. We wish, however, to be judged on our performance, and it is for others to decide if our efforts have been successful.



Now that our programs are well established and running smoothly, the time has come to look at new ventures. In the coming year, we shall initiate a series of courses, Improving Cyclone Warning Response, based on our very successful course in 1988, an Emergency Health Program, and a Technological Hazards Program; develop, in collaboration with the Cranfield Disaster Preparedness Centre and the Relief and Development Institute in the United Kingdom, a microcomputer-based logistics decision support system for disaster managers; and, in the context of the International Decade for Natural Disaster Reduction (IDNDR), implement a study on disaster mitigation on behalf of the Asian Development Bank.

Whatever our successes may have been, the credit belongs to the staff of the Center. One of our course participants once kindly wrote about our staff in an end-of-course evaluation: "The best working group in terms of enthusiasm, commitment, diligence and unfailing good humour I'm ever likely to come across." I share that view wholeheartedly and take this opportunity to express my profound respect and gratitude to the members of such a wonderful team.

A handwritten signature in dark ink that reads "Brian Ward". The signature is fluid and cursive, with a long horizontal line extending from the end of the name.

Brian Ward





## **COLLABORATION: AN ADPC COMMITMENT**

In an interdependent world cooperation is not an option, it is a policy dictated by reality. The ADPC's commitment to establishing collaborative links with individuals and institutions concerned with disasters has been consistent from the beginning. Some of those links have been created by ADPC alumni—course participants—who have returned to their home countries determined to maintain contact with the Center. Every participant in the Center's Disaster Management Course, for instance, has been in touch with ADPC at least once since returning home, usually to report on initiatives taken. Equally important, are the ongoing links established among participants themselves. This unofficial network of ADPC alumni is becoming a significant factor in the region and the Center is exploring the possibility of establishing it in a more formal fashion.

The ADPC collaborates closely with national and international agencies in the Asia-Pacific region. In 1986, for instance, a Memorandum of Understanding was signed to strengthen disaster management in Indonesia. Other examples of government organizations with which ADPC has collaborative links, are the Ministry of Home's Special Disaster Coordinating Unit in Nepal; the Department of Social Welfare and Development, and the Office of Civil Defence in the Philippines; and, the Ministry of the Interior's Department of Local Administration in Thailand.

In the region, important ties have been established with universities and technological institutes, nongovernment organizations, and regional and country representatives of agencies of the United Nations, in particular, those of the United Nations Development Programme (UNDP). The ADPC also collaborates with the WMO/ESCAP Panel on Tropical Cyclones and Typhoon Committee, and the South East Asia Association of Seismology and Earthquake Engineering.

In the international arena, in addition to its close links with the Office of Foreign Disaster Assistance/United States Agency for International Development (OFDA/USAID), and UNDRO, ADPC collaborates with the Australian Counter Disaster College, the Australian Natural Disaster Organisation, the Australian Overseas Disaster Response Organisation, the Cranfield Disaster Preparedness Centre, the Disaster Research Center (University of Delaware), the Disaster Management Center (University of Wisconsin), the Oxford Disaster Management Centre (Oxford Polytechnic), and the Relief and Development Institute in the United Kingdom.

The ADPC also has links with other UN agencies, such as the United Nations Educational, Scientific and Cultural Organisation (UNESCO), the United Nations Children's Fund (UNICEF), the United Nations High Commissioner for Refugees (UNHCR), the World Health Organisation (WHO), and WMO.



*April 4, 1986: AIT President, Prof. Alastair North, and United Nations Disaster Relief Co-ordinator, Mr. M'Hamed Essaafi, sign an agreement setting out the terms of collaboration between ADPC and UNDRO.*



## TRAINING AND OTHER ACTIVITIES

The UNDRO feasibility study on the disaster management needs of the region, which led to the creation of the Asian Disaster Preparedness Center, identified training as “the greatest need of all.” “Nowhere in Asia, and perhaps in the world,” the report went on to say, “is there at present available the in-depth disaster management training needed for the comparatively small number of people in each country who occupy key positions in national disaster management structures...”

### General Programs at AIT

#### Disaster Management Course

The UNDRO consultancy recommended an intensive training course that would emphasize a multidisciplinary approach, disaster simulation exercises, and exchange of information and ideas among contemporaries from the many countries of the region.



*Training: “The greatest need of all...,” said the UNDRO feasibility study that led to the creation of ADPC.*



### Frequency of Disasters in Selected Asian Countries—by Type (1964 - 1986)

Country	Cyclone/ Typhoon/ Storm	Drought	Earthquake	Flood	Other
Bangladesh	36	2	—	18	24
Burma	6	—	—	5	16
China	10	3	16	18	7
India	43	7	9	32	52
Indonesia	5	6	34	32	19
Japan	31	1	13	8	9
Korea	13	2	1	11	5
Nepal	—	4	5	8	2
Pakistan	4	—	3	8	10
Philippines	59	1	14	14	13
Sri Lanka	3	5	—	12	5
Thailand	2	—	—	9	6
Vietnam	13	—	—	7	7
<b>Total</b>	<b>225</b>	<b>31</b>	<b>95</b>	<b>182</b>	<b>175</b>
<b>Grand Total</b>					<b>708</b>



The ADPC moved quickly to establish such a course. Its first Disaster Management Course (DMC) was offered July 28 - September 5, 1986, and a second one the same year, October 18 - November 29. Participants were senior officials representing a broad spectrum of disciplines in government and nongovernment organizations. They came from Bangladesh, China, Hong Kong, India, Indonesia, Papua New Guinea, the Philippines, Sri Lanka, Thailand, and Vietnam. There have now been eight DMCs with a total of 179 participants from 24 countries.

The Center's Disaster Management Course has been designed to familiarize disaster management officials with a wide range of disaster management topics and to balance theoretical considerations with practical skills training. The latter, for instance, includes a three-day field trip to refugee camps located along the Thai-Kampuchean border where logistics and other aspects of emergency situations can be observed first hand.

Although the primary responsibility for organizing DMC, and other training courses, rests with ADPC's staff, resource people are drawn from all over the world. The DMC has had lecturers from Australia, Bangladesh, Belgium, Canada, India, Singapore, Sri Lanka, Thailand, the United Kingdom, and the United States.

One of the most distinctive, and possibly the most important feature of DMC, is the extent to which the course tailors its contents to meet the needs of each participant. This begins with the "Wish List" sent to participants as soon as they are accepted in the training program.

The Wish List suggests to participants that they bring with them all the documentation they can find on disasters in their respective countries, such as legislation, statistics, manuals, bibliographies, reports, and public information campaign posters. This helps assure that each participant, though exposed to a broad range of core information, will be able to apply new knowledge and skills to a specific organization within a national context. These documents are shared with other participants, who, in turn, learn about the situation in neighboring countries.

During the course, participants present a Hazard Review, which consists of an overview of the hazards faced by their country, a projection of hazards anticipated during the next decade, and the organizational structures in place to respond to those hazards.

A Case Study, an analysis of a particular disaster that has occurred in their country—its scope, nature, and the measures taken to cope with it—is also presented by all participants.

In addition, each participant prepares a Briefing Paper, which incorporates the Hazard Review, describing the disaster-related functions of their organization, and recommendations for improvements. In turn, ADPC helps each participant prepare resource materials, such as slides, a video, or a set of overhead transparencies. It is recommended that those materials be used to motivate colleagues and stimulate discussion within their respective organizations.

When participants leave AIT they do not return empty-handed. They carry with them a substantial volume of documentation—books, reprints, and other papers—to form the basis of a library of disaster-related literature in their respective organizations.

### **Improving Cyclone Warning Response**

In 1964-1986, the Asia-Pacific region experienced 225 wind storms resulting in more than 400 000 people killed, 74 million people affected, and US\$4.5 billion in property damage. Clearly, an effective cyclone warning response in the region is vital to reduce loss of life and damage to property.

Under the leadership of Mr. Robert Southern, and with funding provided by the Australian International Development Assistance Bureau, ADPC organized its first course on improving cyclone warning response, October 31 - November 11, 1989, for 18 participants.

Recognizing the important links between those who issue cyclone warnings and those who make use of warnings, two participants from each country were invited, a meteorologist and a management official. Some of the topics covered were: global occurrence and impact of cyclones, community awareness, cyclone warning systems, hazards and vulnerability analyses, and methodologies for evaluating warning systems.

The ADPC is planning additional courses on this topic starting in late 1990.



*Course participants on a field trip: just the right balance between theory and practice.*

## **Refugee Camp Management: UNHCR**

In April 1987, ADPC, together with the Disaster Management Center, University of Wisconsin, organized an Emergency Management Workshop on refugee camp management. The workshop, which was sponsored by UNHCR, was held at AIT and attracted 43 participants from 13 countries.

## **Emergency Assistance Programs: UNICEF**

June 11, 1987, ADPC coorganized a second Emergency Management Workshop with the University of Wisconsin's Disaster Management Center. This workshop, which was sponsored by UNICEF, was also held at AIT, and was designed for staff interested in improving UNICEF's emergency assistance programs.

## **General Programs in Selected Countries**

### **Storm Preparedness in Vietnam**

Following a request from Vietnam's Ministry of Water Resources and the Bureau of the Central Committee for Flood and Storm Prevention, ADPC's Program Associate (Research), Mr. Huynh Thanh The, helped organize three training courses in Vietnam for storm preparedness and prevention officers. These courses, funded by Save the Children Fund (UK), were held in December 1988 and April 1989.

To date, 129 officers have benefited from those courses. The Government of Vietnam has asked ADPC to assist in organizing other courses on flash flood and river flood prevention and management.



## **Sri Lanka Workshop**

The ADPC provided organizational and other inputs to the Workshop on Disaster Preparedness and Response, held in Colombo, February 5 - 12, 1988. The workshop, which was attended by 43 participants and conducted by the Sri Lanka Ministry of Social Services and the Ministry of Rehabilitation, was sponsored by Save the Children Fund (UK), UNHCR, and the Sri Lanka Red Cross Society.

## **Philippines Workshop**

In March 1988, the Department of Social Welfare and Development organized a highly successful two-week national workshop on disaster management for 29 participants from government and nongovernment organizations. The workshop was sponsored jointly by the British Government, OFDA, and UNICEF. The ADPC, together with the Disaster Management Centre at the Oxford Polytechnic, advised on the workshop and provided its director, program coordinator, and senior research scientist as resource persons. The UNDP subsequently approved funding support for further training programs to include national and regional workshops; these, which were conducted in 1989, will continue in 1990. ADPC support is provided within the framework of the UNDP project, while the British Government funds a resource person from the Oxford Disaster Management Centre.

## **Technical Programs**

### **Seismic Hazards Mitigation**

An intensive training course, Aseismic Design and Construction of Structures, for 28 engineers—26 from the Philippines and two from Indonesia—was held at the University of the Philippines, October 1 - 30, 1987. The Philippines archipelago is located in a region of high seismic activity and its inhabitants have repeatedly experienced devastating earthquakes. The course, which was coordinated by Prof. Satyendra P. Gupta, ADPC's senior research scientist, and funded principally by OFDA, with additional financial support from UNESCO, covered seismology; seismotectonics; geology; structural dynamics; earthquake engineering, analysis, design and construction; and, soil dynamics.

A second course in the series was conducted September 11 - October 10, 1989, at the University of San Carlos, Technological Center Talamban, Cebu



City, Philippines. Out of a large number of applicants, 36 engineers were selected—27 from the Philippines, and nine from Brunei, Burma, Indonesia, Malaysia, and Thailand. New topics covered included earth dam construction, and bridge analysis and design with special emphasis on earthquake resistance. Major funding was provided by the Government of Canada's ASEAN/Canada Fund, with additional funding from OFDA/USAID, and UNESCO.

## **Social Sciences Research Seminar**

Though social scientists have been interested in the study of disasters for several decades, research has not been systematic and rarely cross cultural. The result is a paucity of data on individual and collective response to emergencies and an incomplete foundation on which to develop effective disaster management policies and programs—especially in developing countries. The Seminar on Socioeconomic Aspects of Disaster in the Asia-Pacific Region, organized by ADPC and the Disaster Research Center at the University of Delaware, held at AIT March 22 - 24, 1989, brought together the leading social scientists in the field for a multidisciplinary discussion of research priorities and strategies. It was, quite probably, the first such gathering in the history of the region.

The Seminar, which was sponsored by the Science in Developing Countries Division of the U.S. National Science Foundation, laid the groundwork for a sharpened research focus. In essence, this calls for a reconceptualization of disaster as a social process, rather than as a physical event, and of the community as a unit of analysis with cross-national and cross-cultural applicability.

Participants also agreed generally that the disaster phases used to develop a research agenda should not be conceptualized as distinct time periods, but rather as clusters of activities around which research should be undertaken.

Research topics identified as likely to have immediate theoretical and policy implications in the region were wide ranging. These included studies on public awareness, the inter-relationships between structural and nonstructural mitigation measures, the relationship between the degree of preparedness in a country and national development goals, and the relationship between political systems and disaster response.

Part I of the Seminar report will be published by ADPC in February 1990. Parts II and III will be published later in 1990 by the Disaster Research Center.

### Loss of Life in Disasters in Selected Asian Countries—by Type (1964 - 1986)

Country	Cyclone/ Typhoon/ Storm	Drought	Earthquake	Flood	Other
Bangladesh	353 750	N/A	—	31 299	33 812
Burma	1 359	—	—	127	330
China	896	N/A	659 041	4 089	645
India	30 900	N/A	537	17 507	22 683
Indonesia	24	8 657	4 518	1 755	1 320
Japan	1 485	N/A	364	663	1 255
Korea	860	N/A	25	2 134	318
Nepal	—	N/A	476	1 938	117
Pakistan	479	—	4 932	2 139	226
Philippines	8 840	—	7 281	1 422	460
Sri Lanka	946	—	—	396	563
Thailand	55	—	—	504	189
Vietnam	9 197	—	—	653	1 100
<b>Total</b>	<b>408 791</b>	<b>8 657</b>	<b>677 174</b>	<b>64 626</b>	<b>63 018</b>
<b>Grand Total</b>					<b>612 806</b>



## POSTDISASTER EVALUATION REPORTS

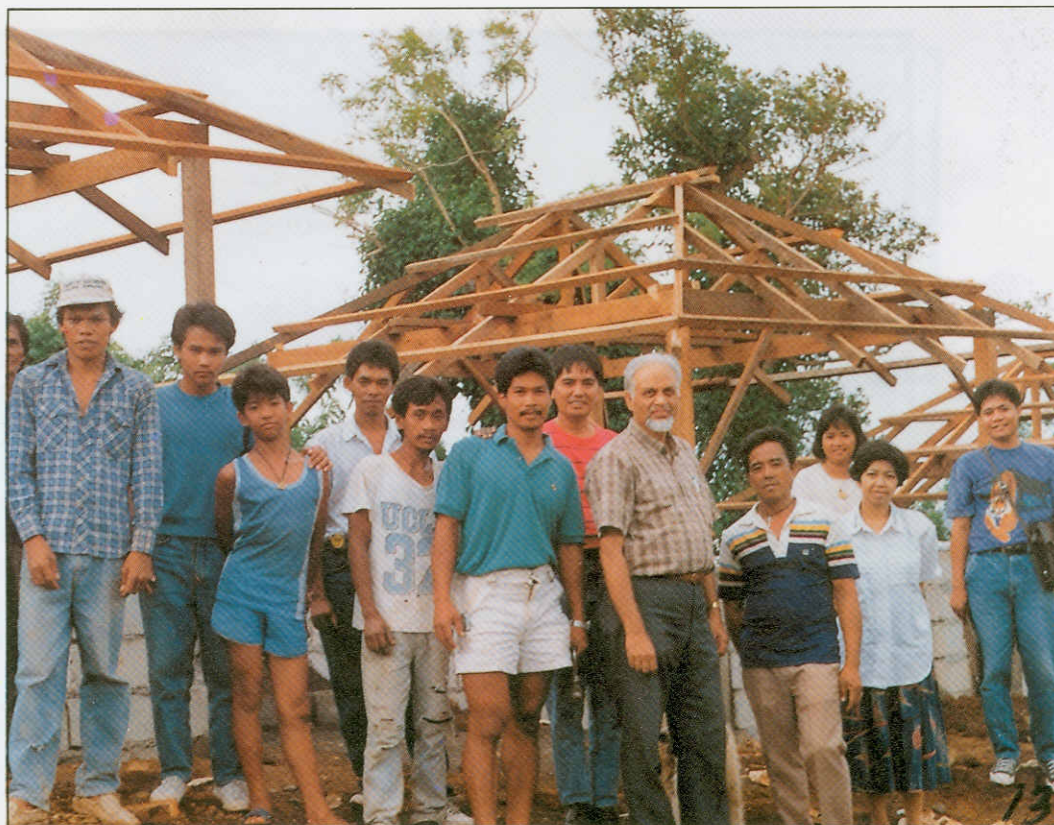
One of the ways ADPC assists countries in the region in strengthening their disaster response capability is by conducting postdisaster evaluation studies. These, which are particularly concerned with assessing damage, help formulate long-term recovery plans and mitigate the effects of any future disasters.

### Typhoon Sisang

Typhoon Sisang, with wind speeds of 220 km/h hit the Philippines on November 25, 1987, cutting a swath of destruction across Albay and Sorsogon provinces. Leaving 1200 dead or injured, and ₱552 million in property damage, Sisang earned its reputation as the country's worst storm of the year.

Shelters available to members of low-income groups—often built of lightweight salvage materials, such as bamboo and thatch—are extremely vulnerable to high winds. In some *barangays* Sisang destroyed 99 per cent of traditional houses. In all, 90 174 houses were destroyed leaving nearly half a million people homeless.

ADPC's senior research scientist, Prof. Satyendra P. Gupta, traveled to the Philippines to analyze the structural factors implicated in the widespread destruction, and to suggest short- and long-term measures that would help avoid such massive devastation in the future.



*The ADPC's senior research scientist on a field trip to the core shelter project in the Philippines.*

## **Core Shelter Project**

The ADPC report on Typhoon Sisang suggested the construction of vernacular housing capable of resisting extremely strong winds. That recommendation was implemented with the Philippine Department of Social Welfare and Development (DSWD) spearheading a core shelter assistance project for the typhoon victims. In this pioneering program, some 450 shelters were built according to a design and specifications developed by a DSWD engineer under the guidance of ADPC's senior research scientist. Those shelters have since withstood cyclonic winds of 175 km/h, demonstrating convincingly the appropriateness of the technology. Since then, in the context of a joint assistance program involving DSWD, UNDP, UNDRO, and with technical assistance from ADPC, several thousand such shelters have been built in various regions of the Philippines.





**Alumni in Countries not Shown  
on the Map.**

Algeria (1)  
 Canada (1)  
 Ethiopia (2)  
 Ireland (1)  
 Mauritius (1)  
 Panama (1)  
 U.S.A. (5)

AUSTRIA

## APDC Alumni in the Asia-Pacific Region

Afghanistan (1)	Malaysia (12)
Australia (3)	Nepal (13)
Bangladesh (19)	Pakistan (2)
Brunei (3)	Papua New Guinea (4)
Burma (8)	Philippines (79)
China (9)	Singapore (4)
Cook Islands (1)	Sri Lanka (34)
Fiji (3)	Solomon Islands (1)
Hong Kong (9)	Thailand (5)
India (17)	Tonga (1)
Indonesia (33)	Vanuatu (4)
Japan (1)	Vietnam (14)
Laos (2)	

Alumni Worldwide – 344

JAPAN

INES

PAPUA  
NEW GUINEA

SOUTH PACIFIC ISLANDS

NEW ZEALAND



## **Drought in India**

The June - September 1987 rains in India were below normal in 15 states—60 per cent of the country. It was the worst phase of the most severe drought in India this century, one that affected 285 million people, 92 million of them poor farmers and agricultural laborers.

However, unlike drought situations almost everywhere else in the world, food was available in villages, malnutrition levels were not appreciably higher, there was no widespread sale of land and cattle, nor was there large-scale migration away from the drought-stricken areas toward food stations and urban centers.

At the invitation of the Government of India, Mr. Everett Ressler, ADPC's program coordinator, traveled through drought-affected areas and prepared a report on the country's remarkably effective mechanisms to deal with drought.

The report highlighted a well-coordinated, community-based response fully integrated at the highest level of the central government, improved meteorological forecasting, and the ability of central authorities to formulate a comprehensive national strategy and implement contingency plans.

## **Nepal Earthquake**

Nepal is highly prone to earthquakes. Between February 1963 - January 1987, the U.S. National Oceanic and Atmospheric Administration reported 279 earthquakes with their epicenter in Nepal. The earthquake that struck central and eastern Nepal on August 21, 1988 with a magnitude of 6.7 on the Richter Scale, resulted in 722 dead, 12 244 injured, and some 66 000 houses destroyed.

With funding from UNDRO, ADPC made available its senior research scientist, Prof. Satyendra P. Gupta, to various ministries of the Government of Nepal to assess damage, plan rehabilitation and reconstruction programs, and advise on the use of appropriate low-cost earthquake-resistant construction using locally available building materials.

The report's recommendations, which covered such areas as preparing seismic zoning maps, drafting building codes, and education and training programs have since been incorporated into national reconstruction plans.

### Number of People Affected In Disasters in Selected Asian Countries—by Type (1964 - 1986)

Country	Cyclone/ Typhoon/ Storm	Drought	Earthquake	Flood	Other
Bangladesh	9 390 003	N/A	—	114 467 542	17 470 182
Burma	831 359	—	—	1 413 000	224 803
China	4 111 000	6 000 000	1 461 237	5 637 500	30 292
India	32 996 439	510 666 000	50 100	191 927 210	10 797 733
Indonesia	17 000	3 722 220	1 021 245	2 230 726	1 221 636
Japan	454 542	N/A	68 098	3 095 117	2 002 945
Korea	250 906	4 705 944	N/A	1 920 652	14 151
Nepal	—	4 400 000	195 000	318 500	24
Pakistan	400 000	—	30 000	13 613 427	1 503 530
Philippines	18 335 036	533 200 000	424 433	6 675 300	82 745
Sri Lanka	1 288 000	4 050 000	—	3 513 347	1 405 055
Thailand	43 000	—	—	6 920 820	883 250
Vietnam	6 206 000	—	—	7 795 541	518 259
<b>Total</b>	<b>74 323 245</b>	<b>533 744 164</b>	<b>3 250 113</b>	<b>359 528 682</b>	<b>36 154 605</b>
<b>Grand Total</b>					<b>1 007 billion</b>



## SYSTEMS DEVELOPMENT

Systems development at ADPC explores applications of new computer technologies in the field of disaster management. In addition to the computing resources available through AIT, the Center also maintains its own microcomputers and extensive software library. The ADPC now has one 386SX, two PC/AT compatible, and five PC/XT compatible microcomputers. Plans are being prepared to integrate these machines into a local area network.

### Office Automation

The scope of computer use at the Center ranges from routine applications, such as wordprocessing and spreadsheets, to databases and desktop publishing. The ADPC maintains a 1,500-record mailing list and has developed a reservation system to help manage its many courses.

An Electronic (E-mail) facility, made possible through a computer link with the United Nations International Emergency Network (UNIENET), is used for communicating with other organizations in the disaster management field.



*With access to AIT's mainframe, ADPC is well positioned to act as an information node on disaster management in the Asia-Pacific region.*



*The range of computer applications at ADPC ranges from wordprocessing to the creation of databases and desktop publishing.*

## Information Systems

In addition to the CD/ISIS online information retrieval system maintained in AIT's IBM 3080 mainframe, the Center can also access the UNIENET database of disaster-related information. The ADPC's activities are updated weekly in UNIENET's electronic bulletin board.

## Current Research

Computer simulation exercises are effective in disaster management training. The Center makes use of two such exercises, the Atlantis Crisis Management Exercise, developed by the Cranfield Disaster Management Centre, and the Simulation Game for Relief Management, developed by the Relief and Development Institute.

The ADPC is exploring the development of a new generation of software packages to tap the huge potential of computer applications in disaster management. Collaborative work on a microcomputer-based logistics decision support system, for instance, is proposed with the two organizations in the United Kingdom mentioned above.



## **INFORMATION FOR DECISION MAKING**

Never before in history has information, and the processing of information, been so important in virtually every field of human endeavor. As we learn about the world in which we live and seek answers to the many questions that puzzle us, we generate an awesome volume of information. The challenge confronting ADPC is to provide the right information to the right people and avoid "information overload."

### **Database**

The Center's database is a bibliographic retrieval and library management system. Its 1,700 abstracts, classified by subject, title, and author, are a compilation of selected documents—books, reprints, and lecture notes—in four areas:

- disaster management
- emergency health care
- psychological, sociological, and economics research findings; and
- technical subjects

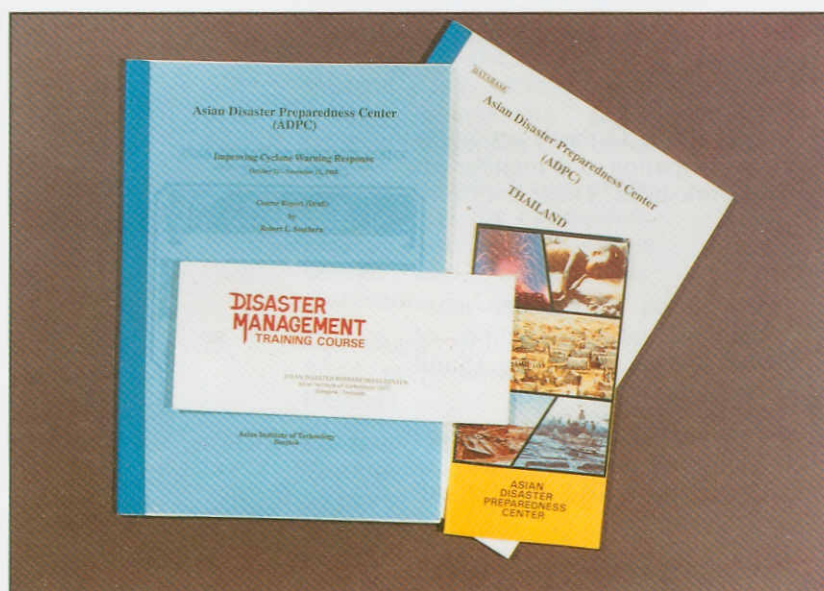
The database is maintained in AIT's Regional Computer Center's IBM 3080 mainframe, utilizing CD/ISIS, and available to any organization in the world with online access to AIT. The database, combined with ADPC's membership in the United Nations International Emergency Network (UN-IENET), account for the Center's role as the information node for all organizations concerned with disasters in the Asia-Pacific region.

### **Library and Other Resources**

The database is complemented by a 1,100-volume library housed in AIT's 200 000-volume library. Both libraries are available to course participants, resource persons, and other interested individuals and organizations.

In addition, ADPC provides on demand copies of any of its 125 training and documentary videos to organizations in the region. With some 50 more videos on order, the Center's collection constitutes a valuable resource for training programs. The ADPC's information services also have a collection of nearly 1,000 slides. This collection includes, for instance, a 400-slide set from the Pan American Health Organization (PAHO) on Emergency Management of Environmental Health and Water Supply, and another PAHO 400-slide set on Emergency Vector Control After Natural Disaster.





*Information for decision making.*

## Publications

*Disaster Preparedness Citizen's Forum—Panel Presentation, Tokai University, Shimizu, Japan, Gupta, Satyendra P., July 1988.*

*Drought in India: Lessons Learned, Ressler, Everett M., June 1988.*

*Earthquake Vulnerability of Developing Asian Countries—Japan/United States Workshop on Urban Earthquake Hazards Reduction, Tokai University, Shimizu, Japan, Gupta, Satyendra P., July 1988.*

*Eastern Nepal Earthquake 21 August, 1988: Damages and Recommendations for Repairs and Reconstruction, Gupta, Satyendra P., December 1988.*

*Engineering Countermeasures for Loss Reduction After an Earthquake—International Symposium on Earthquake Counter-Measures, Beijing, Gupta, Satyendra, P., May 1988.*

*Flood Protection and Relief Management for Thailand: Presentation at a Seminar on Flood Protection and Relief Management for Thailand, Asian Institute of Technology, Ward, Brian and Gupta, Satyendra P., March 1989.*

*Training in Disaster Management—An Asian-Pacific Perspective, Paper Presented at Emergency 88, London, Ward, Brian, November - December 1988.*

*Typhoon Sisang in the Philippines November 25, 1987: Damage Survey Report, Gupta, Satyendra P., January 1988.*

## MISSIONS: PROMOTION AND COOPERATION

The ADPC staff have promoted the Center's activities through liaison visits and participation at a number of seminars, conferences, and workshops. These overseas missions include:

September 24 - October 5, 1986	Promotion of disaster management and collection of information, Sri Lanka. (Sunil Govinage)
May 30 - June 8, 1986	Collection of information and follow-up of training program participants, Sri Lanka. (Sunil Govinnage)
December 21, 1986 - January 25, 1987	Attend the 9th Symposium on Earthquake Engineering, Roorkee, India; liaise in several cities with government officials and organizations concerned with disasters, with particular reference to ADPC technical training programs. (Satyendra P. Gupta)
March 9 - 20, 1987	Finalize program for training of technical personnel, in consultation with Philippine Institute of Volcanology and Seismology and other organizations. (Satyendra P. Gupta)
March 30 - April 21, 1987	Attend conferences on hurricanes (Orlando) and earthquakes (Los Angeles); meet with OFDA officials, Washington, D.C. (Satyendra P. Gupta)
May 1 - 27, 1987	Attend conferences on search and rescue in preparation for an ADPC training program on the topic and discuss funding for the program with Ford Foundation officials, UNICEF, OFDA, and other agencies. (Everett Ressler)
June 13 - 21, 1987	Presentation at Seminar on Education and Public Awareness in Disaster Management, Australian Counter Disaster College, Melbourne. (Brian Ward)

August 3 - 14, 1987	Discuss with officials at the University of the Philippines, Quezon City, details of a training course on earthquakes. (Satyendra P. Gupta)
September 18 - November 6, 1987	Conduct training course at the University of the Philippines, Quezon City, on Aseismic Design and Construction. (Satyendra P. Gupta)
September 20 - 25, 1987	Consultancy in Bangladesh on flood preparations. (Everett Ressler)
October 3 - 17, 1987	Liaison visits to OFDA, Washington D.C.; UNDRO, Geneva; participation at WHO workshop, Geneva. (Brian Ward)
October 28 - 30, 1987	Participation at Aseismic Design and Construction of Structures, University of the Philippines. (Brian Ward)
December 4 - 16, 1987	Discuss project proposals with authorities in the Philippines in the context of Typhoon Sisang, and explore possible funding for other projects and ADPC courses in the country. (Satyendra P. Gupta)
February 3 - 12, 1988	Conduct workshop on disaster management and response in Colombo. (Brian Ward, Everett Ressler)
March 5 - 9, 1988	Liaison visit in reference to ADPC project in Nepal. (Brian Ward)
March 6 - 23, 1988	Resource persons at 1st National Disaster Management Workshop, Tagaytay, Philippines. (Brian Ward, Everett Ressler and Satyendra P. Gupta)
April 12 - 16, 1988	Liaison visit, Indonesian Disaster Management Center, Jakarta. (Brian Ward)
April 20 - 23, 1988	Liaison visit in reference to an ADPC/UNDRO technical assistance program, Manila. (Brian Ward)
May 7 - 16, 1988	Participation in Earthquake Counter-Measures Conference, Beijing. (Brian Ward, Satyendra P. Gupta)



July 25 - August 14, 1988	Attend 9th World Conference on Earthquake Engineering and other seminars; meetings with Japanese officials in Tokyo, Kyoto, and other cities. (Satyendra P. Gupta)
July 27 - August 2, 1988	Assist Department of Social Welfare and Development and UNICEF officials conduct a training program in the Philippines. (Everett Ressler)
August 2 - 3, 1988	Liaison visit, European Economic Community, Brussels. (Brian Ward)
September 7 - 17, 1988	Emergency consultation on floods in Bangladesh. (Everett Ressler)
September 15 - October 5, 1988	Assess damages in Nepal following an earthquake. (Satyendra P. Gupta)
September 30 - October 12, 1988	Liaison visit in reference to preparation of a training workshop for storm prevention officers, Hanoi. (Huyn Thanh The)
October 5 - 12, 1988	Liaison visit in reference to preparation of a training workshop for storm prevention officers, Hanoi. (Brian Ward)
November 3 - 5, 1988	Participation in AIT/Bangladesh University of Engineering and Technology seminar on floods in Bangladesh, Dhaka. (Brian Ward)
November 26 - December 30, 1988	Participation in Emergency '88 conference, London; liaison visit, European Economic Community, Brussels. (Brian Ward)
November 30, 1988 - January 3, 1989	Assist training program on storm control management, Vietnam. (Huynh Thanh The)
January 29 - February 8, 1989	Participation in OFDA's Disaster Operations Advanced Management Course, Florida; liaison visit with OFDA, UNDRO, and UNDP officials, New York, and Washington, D.C. (Brian Ward)

**Estimated Disaster Losses in Selected Asian  
Countries—by Type (1964 - 1986)  
(000 US\$)**

<b>Country</b>	<b>Cyclone/ Typhoon/ Storm</b>	<b>Drought</b>	<b>Earthquake</b>	<b>Flood</b>	<b>Other</b>
Bangladesh	176 579	N/A	—	959 600	1 400 000
Burma	11 700	—	—	N/A	132 104
China	437 200	N/A	N/A	2 950 000	N/A
India	2 307 228	400 000	400	3 093 559	10 000
Indonesia	N/A	71 200	556 040	59 838	200
Japan	144 900	N/A	476 000	102 000	6 000
Korea	264 220	N/A	N/A	352 634	12 577
Nepal	—	10 000	246 000	10 813	N/A
Pakistan	4 100	—	3 255	1 169 800	122 060
Philippines	1 092 799	N/A	156 777	349 800	30 200
Sri Lanka	37 300	N/A	—	17 500	165 512
Thailand	13 000	—	—	506 400	N/A
Vietnam	50 000	—	—	10 000	13 500
<b>Total</b>	<b>4 539 026</b>	<b>481 200</b>	<b>1 438 472</b>	<b>9 581 944</b>	<b>1 892 153</b>
<b>Grand Total</b>					<b>18 billion</b>



February 1 - 7, 1989	Assist Philippine authorities conduct a national disaster management workshop. (Everett Ressler)
February 15 - 22, 1989	Participate in a joint UNDP/UNDRO evaluation of disaster-related programs in Nepal. (Brian Ward)
February 16 - 20, 1989	Liaison visit in conjunction with community development projects, Ho Chi Minh City. (Huynh Thanh The)
March 12 - 20, 1989	Consultancy, Indonesian Disaster Management Center, Jakarta; discussion with officials in Singapore on project proposals. (Satyendra P. Gupta)
March 26 - April 1, 1989	Technical assistance to Indonesian Disaster Management Center, Jakarta, to establish UNIENET system. (Jay David)
April 6 - 27, 1989	Conduct, in collaboration with other agencies, training programs for storm prevention officers, Vietnam. (Huynh Thanh The)
May 5 - 15, 1989	Liaison visits in conjunction with training program at the University of San Carlos, Philippines, on Aseismic Design and Construction. (Satyendra P. Gupta)
June 8 - 9, 1989	Liaison visit to finalize projects with UNDP, ADB, and Philippine authorities, Manila. (Brian Ward)
June 20 - July 6, 1989	Participate in joint UNDP/UNDRO evaluation of disaster-related programs, Yogyakarta and Jakarta; liaison visit to IDRC, Singapore; meet with JICA officials, Tokyo. (Brian Ward)
July 8 - 18, 1989	Resource persons at 2nd National Disaster Management Workshop, Philippines. (Brian Ward and Everett Ressler)



- |                                |  |
|--------------------------------|--|
| July 31 - August 4, 1989       | Attend Structural Dynamics Symposium, University of Malaysia; liaison visit to Dept. of Public Works, Kuala Lumpur. (Satyendra P. Gupta) |
| August 20 - 22, 1989           | Resource person at Disaster Management Workshop, University of Dhaka; liaison visit to UNDP. (Brian Ward)                                |
| August 28 - September 2, 1989  | Discussions and visit to Core Shelter Project, Philippines. (Satyendra P. Gupta)   |
| September 3 - October 10, 1989 | Conduct 2nd Seismic Hazard Mitigation Course, University of San Carlos, Cebu, Philippines. (Satyendra P. Gupta)                          |
| October 12 - 16, 1989          | Conduct Core Shelter Project training program, Philippines. (Satyendra P. Gupta)   |
| October 23 - 26, 1989          | Resource person at regional course on Geotechnical Earthquake Hazards Mitigation, Kathmandu. (Satyendra P. Gupta)                        |
| December 17 - 20, 1989         | Discussions with Asian Development Bank officials on a regional disaster mitigation study, Manila. (Brian Ward)                          |

## **INTERNATIONAL DECADE FOR NATURAL DISASTER REDUCTION**

On December 11, 1987, at its 42nd Session, the UN General Assembly designated the 1990s as the International Decade for Natural Disaster Reduction (IDNDR). The aim of IDNDR is to reduce, through concerted international initiatives, especially in developing countries, loss of life, property damage and social and economic disruption caused by natural disasters. In the words of the General Assembly, the goals of IDNDR are to

- improve the capacity of each country to mitigate the effects of natural disasters expeditiously and effectively, paying special attention to assisting developing countries in the establishment, when needed, of early warning systems;
- devise appropriate guidelines and strategies for applying existing knowledge, taking into account the cultural and economic diversity of nations;
- foster scientific and engineering endeavors aimed at closing critical gaps in knowledge in order to reduce loss of life and property;
- disseminate existing and new information related to measures for the assessment, prediction, prevention and mitigation of natural disasters;
- develop measures for the assessment, prediction, prevention and mitigation of natural disasters through programs of technical assistance and technology transfer, demonstration projects, and education and training, tailored to specific hazards and locations, and to evaluate the effectiveness of those programs.

### **ADPC Activities**

In the context of the decade, ADPC is promoting a number of programs whose chief objective is to stimulate awareness in countries of the region of the need for proactive disaster management measures.

The major activities call on making available authoritative documentation on disaster management measures in selected countries of the region, improved understanding of technical and nontechnical means to mitigate the effects of disasters, and a forum for designated chairpersons of national committees for IDNDR to assist countries in the region develop national strategy position papers.



(Dr. Rusdibjono)



*In the context of IDNDR, ADPC's principal objective is to promote awareness of the need for proactive disaster management measures.*

## FINANCING\*

As an independent cost center within the administrative framework of AIT, ADPC is responsible for raising its own funding. The Center's annual core costs amount to approximately \$400 000. Major operating expenditures are: Staff—\$190 000; and, AIT Administrative Services—\$80 000.

All training programs, workshops, seminars, etc., are specially-funded activities, income from which goes towards core costs.

### Major Grants

Donor	Period	Amount (Approx.)
Australian International Development Assistance Bureau <sup>1</sup>	1988 – 1990	50 000
Canadian International Development Agency	1988 – 1989	48 000
Office of U.S. Foreign Disaster Assistance <sup>2</sup>	1986 – 1989	956 500
Overseas Development Administration (U.K.)	1988 – 1992	240 000
United Nations Development Programme	1986 – 1989	250 000

\* All figures are in \$(US)

<sup>1</sup> Provisional commitments of \$31 200 and \$35 100 (approximately) for fiscal 1990/1991 and 1991/1992, respectively.

<sup>2</sup> Provisional commitment of \$220 000 for fiscal 1990.



## Other Donor Support

ADPC would also like to thank, particularly on behalf of its participants, the following organizations for their valued support:

Australian Overseas Disaster Response  
Organisation  
CARITAS  
Catholic Relief Services  
Ceylon Electricity Board  
Christian Children's Fund  
Commonwealth Fund for Technical  
Cooperation  
Government of Brunei and Darussalam  
Government of Hong Kong  
Indonesian Disaster Management Center  
International Committee of the Red Cross  
International Development Research Center  
Health, Education and Economic Develop-  
ment (Bangladesh)  
Lutheran World Service  
Mennonite Central Committee  
National Science Foundation (U.S.)  
Norwegian Agency for International  
Development  
OXFAM  
Philippines Business for Social Progress  
Save the Children Fund (U.K.)  
United Nations Children's Fund  
United Nations Educational, Scientific and  
Cultural Organisation  
United Nations Department of Technical  
Cooperation for Development  
United States Agency for International  
Development  
US-ASEAN  
World Vision



## CURRENT STAFF

<b>Director</b>	Brian WARD
<b>Program Coordinator</b>	John BARRETT (Acting)
<b>Senior Research Scientist</b>	Satyendra P. GUPTA
<b>Information Officer</b>	André McNICOLL
<b>Systems Analyst</b>	Jay DAVID
<b>Information Scientist</b>	Teofila BARCENAS
<b>Senior Program Associate</b>	Romana MALONG
<b>Research Associate</b>	Le Van MINH
<b>Administrative Secretary</b>	KRITIYA Gajaseni
<b>Secretaries</b>	NUALCHAN
	Sangthongstit
	ORATHAI Sanithvong
	URAIWAN
	Sittinukulchai
<b>Junior Clerk</b>	WEERAWAN
	Niumsukhon
	SURIYA Juycharoen



## **Previous Staff**

<b>Program Coordinator</b>	Everett RESSLER (January 1986 - August 1989)
<b>Information Officer</b>	Sunil GOVINNAGE (April 1986 - April 1988)
<b>Systems Analyst</b>	Md. Arshad ALI (April 1987 - December 1988)
<b>Program Officer</b>	Alfonso LIM (January 1987 - December 1987)
<b>Program Associate (Research)</b>	Huynh Thanh THE (January 1988 - August 1989)
<b>Secretaries</b>	KESINEE Pongvichitphan (July 1986 - January 1987) PUSADEE Prasertsamran (March 1987 - August 1988) TASSANEE Boonwan (March 1987 - April 1989)

## ACRONYMS

**ADB**

Asian Development Bank

**ADPC**

Asian Disaster Preparedness Center

**AIDAB**

Australian International Development Assistance  
Bureau

**AIT**

Asian Institute of Technology

**CARITAS**

Conférence Internationale des Charités Catholiques

**ESCAP**

United Nations Economic and Social Commission for  
Asia and the Pacific

**IDMC**

Indonesian Disaster Management Center

**IDNDR**

International Decade for Natural Disaster Reduction

**ISIS**

Integrated Set of Information Systems

**OFDA**

Office of U.S. Foreign Disaster Assistance

**PAHO**

Pan American Health Organization

**UNDP**

United Nations Development Programme

**UNDRO**

Office of the United Nations Disaster Relief  
Co-ordinator

**UNEP**

United Nations Environment Programme

**UNESCO**

United Nations Educational, Scientific and Cultural  
Organisation

**UNICEF**

United Nations Children's Fund

**UNINET**

United Nations International Emergency Network

**UNHCR**

United Nations High Commissioner for Refugees

**USAID**

United States Agency for International Development

**WHO**

World Health Organisation

**WMO**

World Meteorological Organisation



**AIT**

Asian Institute of Technology