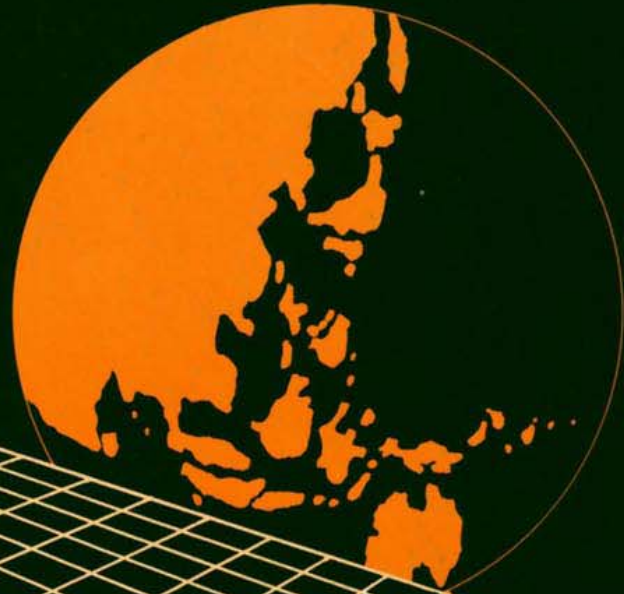


ASIAN INSTITUTE OF TECHNOLOGY



1990
AIT
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REPORT

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Cover Design:

FACING THE FUTURE

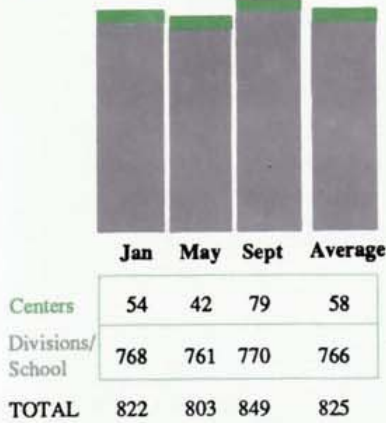
**"Our course will be an uphill path.
There is no other way, except to go up.
There is no other way, except to go further
and even beyond the horizon..."**

Dr. Thanat Khoman
Chairman of the Board

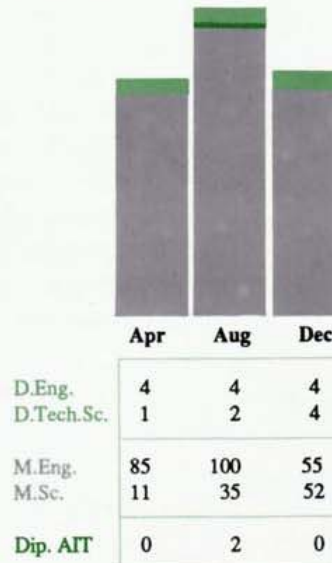
The objectives of the Institute were last revised in 1970. The ensuing decades have seen significant changes in Asia and the Pacific, as in the world at large. Guided by a response-to-needs rationale, AIT is updating its objectives as an international post-graduate institute in a twenty-first century setting.

1990 IN BRIEF

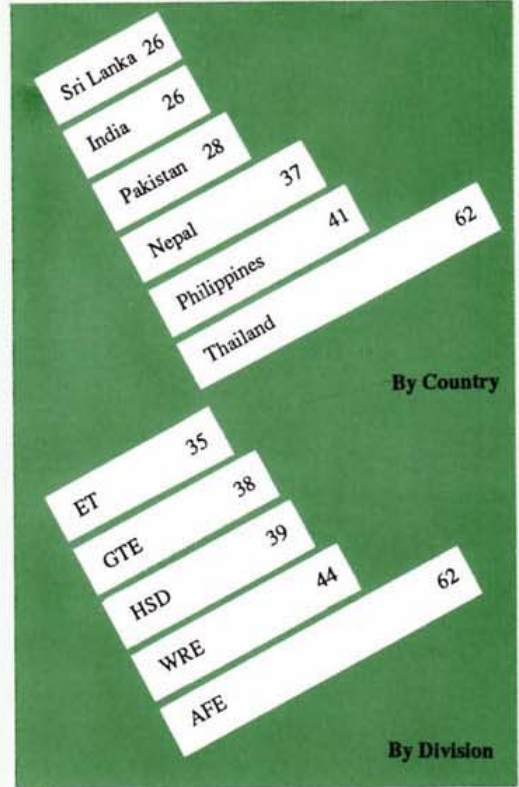
STUDENT ENROLLMENT



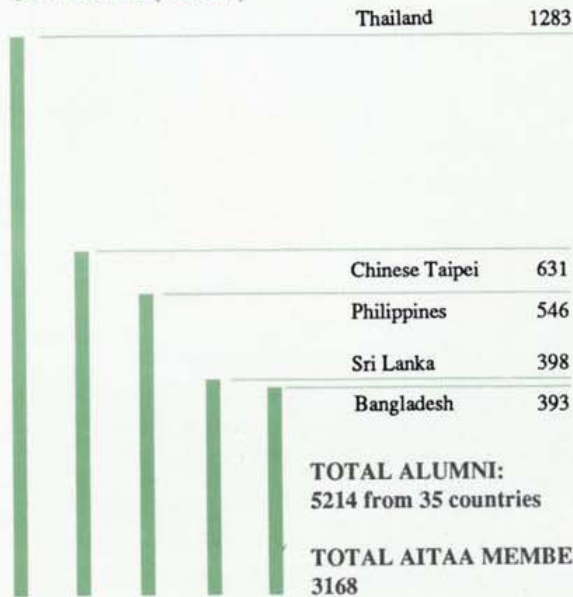
DEGREES AWARDED



FIVE LARGEST GROUPS OF GRADUATES



FIVE LARGEST GROUPS OF ALUMNI (1961-90)



PERCENTAGE CONTRIBUTION OF DONORS

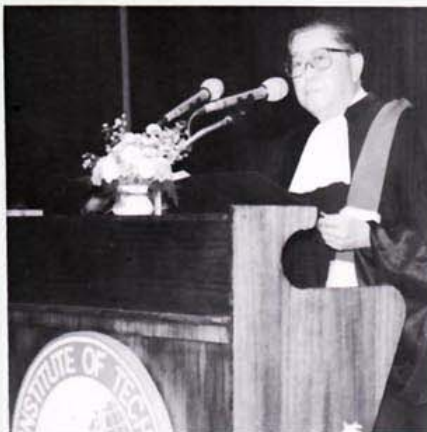
TOTAL CONTRIBUTIONS:

- BAHT 436,848,000
- Governments 77.81%
- International Organizations 8.47%
- National Government Agencies 7.44%
- Business, Foundations, Private & Others 6.28%



FACING THE FUTURE

"Our course will be an uphill path. The motto of AIT should be 'ascendere ad astra'. There is no other way, except to go up. There is no other way, except to go further and even beyond the horizon. This is the path which I hope everyone connected with AIT will continue to follow..."



Dr. Thanat Khoman
Chairman of the Board of Trustees

The objectives of the Institute were last revised in 1970. The ensuing two decades have seen significant changes in Asia and the Pacific, as in the world at large. The countries in the region are at various stages of development and their needs have clearly become heterogeneous. Those that have advanced to prosperous industrial economies concentrate their resources on the development of science and technology infrastructure, while those that have remained

Teaching Objectives

For the developed countries, the provision of high level research and information facilities is a priority. Here the niche for AIT is two-fold. By capitalizing on its unique international nature and pool of experts, AIT can carry out the dual functions of an east-west technology transfer agent and a network hub in the local spread of technological knowledge and skills.

AIT will continue to play a role in restraining the brain drain among students pursuing graduate studies outside the region. In partnership with regional institutions, AIT will provide complementary Master's programs in unique subject areas and will lead in the provision of Doctoral programs for the region.

In the less developed countries, building physical and natural resource infrastructures and planning for sustainable development will remain a major need for many years to come. To these tasks, AIT is well directed.

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largely agrarian continue to emphasize the development of physical and natural resource infrastructure.

It is against this background that the Institute is revising its objectives. The findings of an international forum organized by AIT in 1989, entitled "Higher Education in Technology for Asia into the Twenty-First Century", contributed to the revisions, which are even now still being deliberated.

Research Objectives

Economies evolving into industrialized status require four supporting infrastructures: a stable political system conducive to investment; an effective financial system for processing investment and revenue; a physical infrastructure of communications and utilities supply; and a science and technology infrastructure. AIT's efforts address the fourth requirement.

The Institute will ensure that a pro-research ethos is sustained in all its programs. It will give greater encouragement to sponsored and collaborative research with other scholars, agencies, and institutions, on- and off-campus. Research initiatives will feed into the teaching programs, maintaining the crucial relationships between the two broad activities for the benefit of the students.

The need to promote and utilize new technologies and scientific equipment throughout the region opens new opportunities for the sharing of facilities and technical expertise between AIT and other institutions, particularly in library and information services and the use of research and development facilities.

Outreach and Dissemination Objectives

Essential to the Institute's mission is the dissemination of new technological knowledge and expertise throughout the region. This requires partnerships with local agencies and AIT alumni in a wide range of in-country or outreach activities. Similarly vital is the introduction of distance learning and related educational technologies, which is underway at AIT. These developments will provide the kind of multiplier processes needed to ensure that the Institute's work is disseminated, to assist the region's population of two billion.

The AIT mission encompasses much more than the knowledge and skills imparted in the classrooms and laboratories. An equally important aim is to lead by example, by evidencing good practice in both the material and the attitudinal aspects of its operation. AIT faces the future renewed in its dedication to its purpose and objectives.

ACADEMIC ENVIRONMENT

CURRICULAR DEVELOPMENTS

Inter-disciplinarity

Inter-disciplinarity retains its influence on the Institute's curricular thinking and practice. New research initiatives envisaged in the Institute's quest for greater coherence and responsiveness in its research program are expected to be carried out by inter-disciplinary modules. The ADRC* is more than ever conscious of questions of cross- or inter-disciplinary overlap when it examines new or existing courses. The Inter-disciplinary Natural Resources Development and Management Program, the Institute's most overtly inter-disciplinary venture, is now a degree-awarding unit.

Joint Ventures

The second-intake students of the Bangladesh University of Engineering and Technology Diploma Program successfully completed their one term at AIT, as part of a UNDP-sponsored project to upgrade the training capacity of BUET staff.

The first-intake students of the SPRING program returned from their year in Germany to AIT for their final two terms of workshop, survey and research activity. Students in the second intake are in Dortmund after their first term of coursework at AIT.

*Academic Development and Review Committee



Students reading output photo from the R-3 processor in the INRDM photo laboratory.

The CIDA-supported AIT-Canadian University Consortium Partnership Project, a combined project of scholarship support, faculty secondment and joint research, was reviewed at its half-way stage. This kind of project is expected to open the way for other targeted, donor-constrained projects for which AIT would have to bid promptly, professionally and competitively. An evaluation of the three components of the CIDA/CUC project, the AIT General Program, the Environmental Planning and Management/Natural Resources Program, and the Human Settlements Development Program, yielded favorable results.

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Academic Planning

Forty-four new courses were introduced, 28 revised and 23 deleted. The total number of regular courses increased from 285 in 1989 to 309 in 1990. Areas of specialization that are at the exploration rather than development stage are electronics, electrical energy management, materials science, and an inter-disciplinary program in engineering computation, infrastructure offshore engineering development, and engineering for land, water and environmental conservation

The tape library of the Regional Computer Center provides a vital resource for the Institute's academic, research and outreach programs.



New Programs

Telecommunications

The breadth and depth of the curriculum for the Master's program in Telecommunications provide a healthy balance between the theoretical and practical demands identified during the various needs assessment processes pursued over the past three years. A total of 29 courses will be offered. Scholarships to support an initial target admission of 24 students in May 1991 have been ensured.

Manufacturing Systems Engineering

The curriculum for the field of study in Manufacturing Systems Engineering was approved. The curriculum consists of nine courses.

Biotechnology

A detailed proposal for a program in Bioprocess Technology, with an inter-divisional orientation in agricultural and environmental engineering, is expected to attract international sponsorship. The program is planned to open in 1992.

School of Management

The School's first full year of operation saw a strong demand for admission, evidence that the philosophical and professional stance of the management of technology field of study is in tune with regional needs and demand.

Efforts to develop strong scholarship support for the School and to obtain sponsorship for the construction of an academic building are continuing.

The President's Working Party subcommittee to examine the relationship between the program of the School and the management science field of study is now nearing the conclusion of its very probing academic debate.

The ambient laboratory provides facilities for pilot and laboratory scale experiments in environmental engineering.



ENROLLMENT TRENDS



Student enrollment in the degree-awarding academic units rose by around 6 % per cent to 766 in 1990, compared with 726 in 1989. A similar increase was recorded in the average full-time equivalent enrollment of 825, which includes students in the Programs in Computer Application Development and the course in Remote Sensing.

Doctoral Enrollment

The proportion of Doctoral to Master's students remained at around 12%, compared with the 20% envisaged in the Institute Plan 1988-1991. To some extent the pattern reflects the need to consolidate and to ensure secure bases and rigorous procedures in the Doctoral program. The new Doctoral Program Review Committee is mandated to undertake these tasks.

Student-Sending Countries

The number of students from the People's Republic of China and the countries neighbouring Thailand, namely Laos, Myanmar, and Vietnam, continued to increase. The percentage of students from South Asia remained at around 30% of the total enrollment.

STUDENT ENROLLMENT 1990

Term	Divisions	Centers	Total
Jan	768	54	822
May	761	42	803
Sept	770	79	849
Average	766*	58**	825

Applications for admission

Applications for admission rose by 19% over 1989, with a total of 3512 candidates applying for places in the three 1990 intakes.

Demand was strong for management and computer education and agricultural specializations. The largest number of applications was received from South Asian countries and, increasingly, from the People's Republic of China.

Above: Prof. Helmut Eggers, Vice President for Academic Affairs, discussing enrollment trends with Dr. Roger Hawkey, Academic Secretary.

*Doctoral, Master's (Pre-Master's English), Diploma, Certificate and Special Programs.

**Programs in Computer Application Development and Remote Sensing training course.

STUDENT ENROLLMENT 1990 BY COUNTRY

	Jan	May	Sept
Afghanistan	1	1	-
Australia	1	1	2
Bangladesh	65	34	31
Belgium	-	1	1
Bhutan	6	10	8
Brunei	2	1	8
Canada	1	5	3
Chinese Taipei	49	45	57
Egypt	1	1	1
Ethiopia	-	-	2
Fiji	1	2	1
France	1	1	4
Federal Republic of Germany	1	1	1
Hong Kong	8	3	2
India	59	64	55
Indonesia	43	33	34
Italy	1	-	-
Japan	5	6	9
Kenya	-	2	1
Republic of Korea	14	12	13
Laos	7	4	6
Malawi	1	1	-
Maldives	-	-	1
Malaysia	21	23	38
Mongolia	-	-	1
Myanmar	27	35	40
Nepal	71	78	71
Netherlands	-	-	1
Norway	1	-	-
Pakistan	53	49	47
Papua New Guinea	1	2	3
People's Republic of China	46	52	57
Philippines	78	74	72
Singapore	1	3	1
Solomon Island	-	-	1
Sri Lanka	53	50	53
Sweden	1	1	1
Switzerland	1	1	1
Tanzania	2	1	1
Thailand	145	151	155
USA	1	2	2
Vietnam	53	53	64
Total	822	803	849

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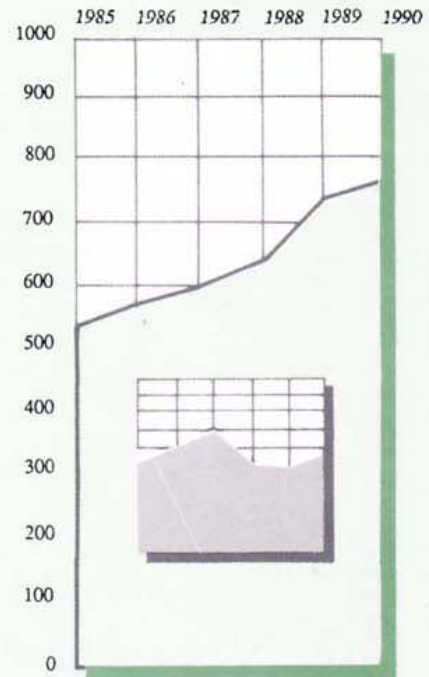
AVERAGE ANNUAL ENROLLMENT FROM 1985 to 1990

Year	Average
1985	535
1986	576
1987	596
1988	641
1989	726
1990	766

1985	58
1986	63
1987	71
1988	54
1989	51
1990	58

Doctoral, Master's, Diploma, Certificate and Special Programs

Programs in Computer Application Development and Remote Sensing training course



Source: Appendix A-1 of the VPAA's Report to the Board of Trustees January 1991

Female Enrollment

The Institute continued to monitor female student enrollment. On average, female students accounted for 20% of the total enrollment in the three academic terms in 1990.

However, the female student population was mostly confined to certain fields and represented relatively few nationality groups. In the September 1990 student intake, for example, female students accounted for 35% of the enrollment in human settlements, but only 9% in geotechnical and transportation engineering. A third or more of the students from the Philippines, the People's Republic of China, and Thailand are female, compared with only one or two students in the sizable groups from Bangladesh, Chinese Taipei, Malaysia, and Pakistan.



Female enrollment at AIT is growing. Shown above is a female student in geotechnical engineering adjusting a pneumatic triaxial compression apparatus.

Self-supporting Students

Mechanisms by which students can contribute to their study costs were endorsed, to reduce dependence on traditional, general-purpose scholarship grants from donors. Starting in the January 1991 term, incoming airfares will be borne by new students. A strengthened student assistantship scheme will be linked with this measure, to increase student independence in a constructive and relevant way, and to alleviate possible financial difficulties.

The average enrollment of self-supporting students increased from 17% in 1988-89 to 26% in 1989-90.

ASIAN INSTITUTE OF TECHNOLOGY

1990 GRADUATION

BY DEGREE

	Apr	Aug	Dec	Total
D.Eng.	4	4	4	12
D.Tech.Sc.	1	2	4	7
M.Eng.	85	100	55	240
M.Sc.	11	35	52	98
Dip.AIT	0	2	0	2
Total	101	143	115	359



BY COUNTRY

	1	2	3	4	5	6
Afghanistan	1	-	-	-	-	1
Bangladesh	15	3	-	1	-	19
Myanmar	5	3	-	-	-	8
Chinese Taipei	20	4	-	-	-	24
Fiji	-	1	-	-	-	1
Hong Kong	4	1	-	-	-	5
India	17	6	3	-	-	26
Indonesia	18	5	-	-	-	23
Japan	1	-	-	-	-	1
Republic of Korea	4	2	-	-	-	6
Laos	-	1	-	-	-	1
Malawi	-	1	-	-	-	1
Malaysia	6	1	-	1	-	8
Nepal	22	12	1	2	-	37
Pakistan	23	5	-	-	-	28
Philippines	25	12	4	-	-	41
PRC	12	7	1	-	-	20
Singapore	-	1	-	-	-	1
Sri Lanka	19	6	-	-	1	26
Thailand	36	21	3	2	-	62
Tanzania	-	1	-	-	-	1
USA	-	-	-	-	1	1
Vietnam	12	5	-	1	-	18

BY DIVISION

	M.Eng.	M.Sc.	D.Eng.	D.Tech.Sc.	Dip.AIT	Total
AFE	28	29	3	2	-	62
CS	21	10	1	-	-	32
ET	29	3	3	-	-	35
EE	26	5	1	1	-	33
GTE	32	5	1	-	-	38
HSD	-	34	-	3	2	39
IEM	30	2	-	1	-	33
INRDM	6	9	-	-	-	15
SEC	26	1	1	-	-	28
WRE	42	-	2	-	-	44

1 = M.Eng.
 2 = M.Sc.
 3 = D.Eng.
 4 = D.Tech.Sc.
 5 = Dip.AIT
 6 = Total

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GRADUATION AWARDS

	April	August	December
<p>HISAMATSU PRIZE Given from funds provided in 1982 by Prof. Yoshihiro Hisamatsu, Adviser (Technology) of Nisshin Steel Co.Ltd. of Japan.</p>	<p>Mr. Tsaor Tsay-Hua (GTE), Chinese Taipei Adviser: Dr. K. Kuroda</p>	<p>Mr. Nur Nobi (WRE), Bangladesh Adviser: Prof. A. Das Gupta</p>	<p>Mr. Rabi Kiran Maskey (HSD), Nepal Adviser: Dr. H. Demaine</p>
<p>TIM KENDALL MEMORIAL PRIZE Established in 1981 from funds provided by the UK-AIT Appeal, in memory of Mr. R.M. Kendall, Member of the Board of Trustees (1971-1981).</p>	<p>Mr. Balasubramaniam Vigneswaran (EE), Sri Lanka Adviser: Dr. S. Vigneswaran</p>	<p>Mr. Alok Kumar Singh (AFE), India Adviser: Prof. Gajendra Singh</p>	<p>Mr. Sunil Kumar Kakkar (IEM), India Adviser: Prof. P. Vrat</p>
<p>JAMES A. LINEN, III MEMORIAL PRIZE Established in 1988 in memory of Mr. James A. Linen, a Charter Founding Member and Life Member of the Board of Trustees (1967-1988).</p>		<p>Mr. Ashok Sarkar (ET), India Adviser: Dr. R.M. Shrestha</p>	
<p>MAHESH VARMA PRIZE Established from funds provided by Prof. Mahesh Varma, in recognition of the most outstanding graduate in structural engineering and construction.</p>	<p>Mr. Juneid Qureshi (SEC), Pakistan Adviser: Dr. T. Ueda</p>		
<p>NORSK DATA PRIZE Given from funds provided by Norsk Data, Norway.</p>			<p>Mr. Chandrabose Aravindan (CS), India Adviser: Dr. P.M. Dung</p>
<p>KEIDANREN AWARD Established in 1990 with funding from KEIDANREN, this award is presented to a female graduate in recognition of her outstanding academic performance.</p>			
<p>The KEIDANREN Award was presented in August as the AKIO MORITA PRIZE.</p>		<p>Ms. Siriwan Rukhavibul (AFE), Thailand Adviser: Dr. Athapol Noomhorm</p>	
<p>The KEIDANREN Award was presented in December as the ESHIRO SAITO PRIZE.</p>			<p>Ms. M.A.D. Hemachandra (IEM), Sri Lanka Adviser: Dr. O. Fujiwara</p>

OUTREACH

The region's need to keep abreast of developments in science and technology and their applications is greater than ever. The Institute responds to this need through outreach activities in the mainstream of science, engineering, management, and allied fields. Outreach activities at AIT cover a wide range of continuing education programs, research and consultancies, and information dissemination activities, such as those carried out by the five specialized information centers.

Many donor countries sponsor outreach programs, particularly in continuing education, as support to third country training programs, which comprise a strong component in their bilateral agreements. AIT also conducts outreach activities in direct partnership with regional institutions and other agencies as, for example, in the conduct of training and research, particularly in interdisciplinary areas.

CONTINUING EDUCATION

AIT is a valued resource for organizations, business groups, and individuals who recognize continuing education as an effective means of providing practising professionals with advanced academic study and up-to-date practical experience.

Continuing education programs, in the form of seminars, workshops, and short courses, are provided in a wide range of disciplines. These are mostly carried out by the Institute's academic centers, some with the involvement of outside agencies and others in collaboration with the Institute's academic divisions.

The Institute's receipts for continuing education activities in FY 1989-90 totalled Baht 56,833,000. Continuing education activities carried out in the course of 1990 are listed in the Appendix.

Continuing Education Center

In addition to regular course offerings in its international training program, the Continuing Education Center conducts custom-designed training to suit the requirements of specific clients. Such training may be delivered in Thailand or on-site in the client's country. Sixty-four percent of the Center's training activities in 1990 were specially designed contract courses. The Center's regular course offerings are in the following broad topics: agriculture and water resources engineering, environmental management and technology, management and industry, rural development, and education and development.

Library and Regional Documentation Center

Training for information professionals, focussing on information management and technology applications in the repackaging/consolidation of information, is carried out by the Library and Regional Documentation Center. The Center offers in-service training in a wide range of topics, from setting up databases to library management systems, and provides an opportunity for trainees to match academic theory with practical reality. The Center also conducts specialized short courses dealing with specific aspects of information management, and an annual three-month course from May to July, which provides comprehensive training in the utilization of new technologies in information management.



Technology application in information repackaging and consolidation is a major focus of specialized training for information professionals.

Asian Disaster Preparedness Center

Training activities carried out by the Asian Disaster Preparedness Center include a twice-yearly disaster management course and specialized courses on improving cyclone warning response and mitigation, emergency health care, and hazards mitigation. The Center also provides consultancies and technical assistance, and carries out contracted projects.

Three of the Center's major projects in 1990 included an ADB-sponsored regional study on disaster mitigation, a region-wide-pioneering project on the development and construction of housing resistant to a windforce of 180 kph, and the initiation of a series of eight interdisciplinary workshops on improving cyclone warning response and mitigation, to be carried out over three years.



RESEARCH

Research is focal in AIT's revised objectives, no fewer than three of which underline the recognition of its increasing importance.

The Institute must provide a regional focal point for the conduct of research and its applications; provide opportunities for scholars from other institutions to study and conduct research at AIT; and encourage off-campus collaborative research with agencies and institutions in the region.

For all students on AIT degree programs, research for a dissertation, a thesis or a research study is compulsory, the hallmark of AIT's insistence that its students develop their research capabilities by applying rigorously learnt coursework and laboratory knowledge. Often, such research is directed towards the analysis and solution of own-country problems; always, it is conducted with the keen guidance and evaluation of the faculty members of a student's program committee, as experienced or currently-involved researchers in the same field.

The crucial teaching:research relationships are ensured because the faculty of the academic units are constantly initiating and consolidating their research activities in line with their areas of expertise, their research reputation, and the changing demands of regional and socio-economic contexts. Respond-

ing to external research needs, sharpens and updates faculty expertise, which enhances the content and approach of their teaching, as well as providing mutually beneficial opportunities for student research.

The Institute's Regional Research and Development Center has for years assisted in the identification of suitable research and consultancy opportunities, from both grant and contract sources. The Center follows through by facilitating project design and management, making optimal use of its accumulated contacts and experience.

In the increasingly competitive project research world of the universities and institutes, the quality and cost effectiveness of the product and its process are vital. It is for this reason that an AIT action group was set up to make proposals for greater research program coherence; the establishment of quickly-mobilized inter-disciplinary research teams; intensified training and support for project design, and a high-power research steering group to strengthen and monitor the research thrust.

In FY 1989-90, the Institute's receipts for research projects totalled Baht 61,215,000. Completed and ongoing research projects are listed in the Appendix.



Far left: A core shelter project undertaken by ADPC in the Philippines led to the construction of some 12,000 houses that can resist a windforce of 180 kph. Left: A student of environmental engineering conducting an experiment on pesticides.

INFORMATION DISSEMINATION

Disseminating information efficiently requires much creativity and adaptability, especially in developing countries, where the majority of the end-users are poor and illiterate. Information in forms "tailor made" to the requirements of end-users is a permanent concern of the five specialized information centers under the Library and Regional Documentation Center.

These are the Asian Geotechnical Engineering Information Center, the Environmental Sanitation Information

Center, the Regional Energy Resources Information Center, the International Ferrocement Information Center, and the Management of Technology Information Center.

Information is selected, processed, and disseminated in the form of products generated by the Centers themselves, or through query and request services offered by the Centers. Another method of dissemination is through the Centers' participation in direct technology transfer activities.

REGULAR PUBLICATIONS OF THE REGIONAL DOCUMENTATION CENTERS

Asian Geotechnical Engineering Information Center
AGE News
AGE Current Awareness Service
AGE Refdex on Microfiche

Environmental Sanitation Information Center
ENFO Newsletter
Environmental Sanitation Abstracts
Environmental Sanitation Reviews

International Ferrocement Information Center
Journal of Ferrocement
Do-It-Yourself Series
Ferrocement Abstracts Journal
Slide Presentation Series
Specialized Bibliographies
FIN News

Regional Energy Resources Information Center
RERIC News
RERIC Holdings List
Abstracts of AIT Reports and Publications on Energy
RERIC International Energy Journal

Management of Technology Information Center
The Techno Manager's Current Awareness Service

TALKBASE is based on an analytical approach to the organization of ideas. It also provides basic instruction on the use of modern communications technology.

LANGUAGE TEACHING

The Language Center has widened the scope of the Pre-Master's English program and now admits participants from various backgrounds.

TALKBASE, a workshop in language and technology, was adopted in 1990 as the new name for the Pre-Master's program. TALKBASE caters to the needs of

- personnel engaged in technological or scientific fields where the use of English is essential,
- candidates for admission into academic programs in science or technology, at AIT and other institutions, and
- teachers of English who wish to introduce TALKBASE methodology into their own institutions.

Consultancies on needs analysis and evaluation, the development of special-purpose programs and workshops, and the delivery of on-site courses are the other major features of the Center's expanded outreach activities.



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COMPARATIVE GROWTH IN GRANTS FOR RESEARCH AND CONTINUING EDUCATION 1988-89 AND 1989-90 (BAHT '000)



Continuing Education Activities



SUMMARY OF FACULTY PUBLICATIONS DURING 1990

Academic Unit	Journal Paper	Conference Paper/Proceedings	AIT Research Report	Book/Chapter in a Book	Total	Others*
AFE	37	54	1	2	94	3
CS	12	19	-	-	31	-
ET	9	30	3	1	43	-
EE	15	30	2	-	47	-
GTE	8	46	4	2	60	5
HSD	5	4	1	6	16	22
IEM	22	19	-	2	43	33
SEC	29	22	-	1	52	11
WRE	16	27	-	3	46	-
SOM	4	-	-	3	7	1
INRDM	-	2	1	4	7	1
LC	2	4	-	-	6	6
LRDC	-	1	-	1	2	9
TOTAL	159	258	12	25	454	91

*Monographs, Working Papers, Reports (including progress, interim, consultancy, etc.)
Reviews, Division Research Reports, Division Research Papers, Newsletters, Reference Material,
Course Handbooks, Lecture Notes, etc.



Participating in major continuing activities held in November were Mr. M. Anwar, ITU Project Coordinator (Technical Cooperation Mission), seen addressing a panel discussion at a seminar on high tech telecom systems and networks (top photo); Mr. Chuan Leekpai, the Minister of Agriculture and Cooperatives in the Royal Thai Government, and Mr. Lalith Athulathmudali, Minister of Education and Higher Education, Sri Lanka, in a pre-symposium discussion on the subject of Asian farming systems research and extension.

RESOURCE GENERATION

TRENDS

In its resource generation efforts, the Institute is guided by two main priorities: to sustain support for existing programs and activities, and to pursue innovative funding schemes and mechanisms for new ventures. In either case, the Institute's resource generation strategy is continually alert to shifts in emphases and policies in development aid. There is a growing trend, for example, towards support for targetted programs and specific development aid priorities, and away from broad institutional support.

The way in which the Institute is funded will be affected by the far-reaching economic and political changes underway in a number of donor countries.

The future is full of challenges and the Institute is gearing itself up to meet the challenges and opportunities that these changes will bring.

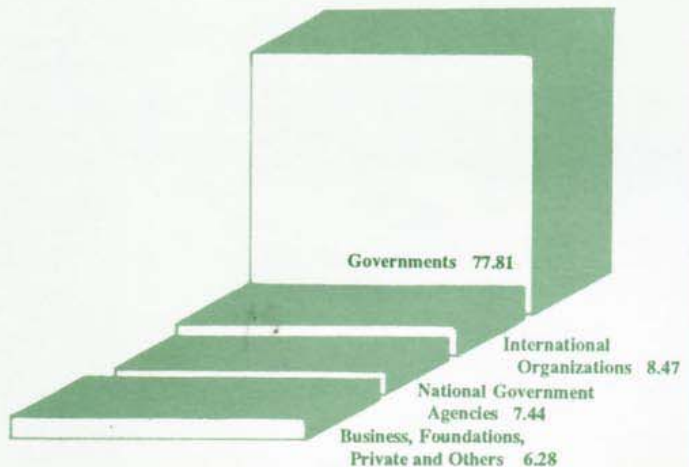
ACHIEVEMENTS

The Institute received contributions totalling Baht 436,848,000 in Fiscal Year 1989-90, bringing the total contributions to the Institute since FY 1959-60 to Baht 5,044,393,000. The FY 1989-90 total represented a 34% increase from that of FY 1988-89. In the same period, expenditures increased by 7%.

Governments from 24 countries provided the bulk (77.81%) of contributions in FY 1989-90. Scholarship grants which increased by 5% from those received in FY 1988-89 constituted 47% of total contributions. The rest of the contributions came in the form of grants for faculty and staff secondment (17.5%), research (14%), continuing education (13%), equipment and books (3.4%), operating grant (3%), capital grant (1.6%), endowment fund (.18%), and local currency grant (.12%).

The highest increase in receipts recorded between FY 1988-89 and FY 1989-90 was in continuing education (99%), followed by scholarships (47%), equipment/books (24%), research projects (18%), faculty and staff secondment (18%), and capital grant (17%).

**TOTAL CONTRIBUTIONS RECEIVED
FY 1989-90 (%)**



SUPPORT TO NEW PROGRAMS

A considerable portion of the funds received in FY 1989-90 was in support of new academic programs in Telecommunications, Manufacturing Systems Engineering, Bioprocess Technology, and Women in Development.

Telecommunications

The Telecommunications program received a total of US\$4,850,580.

US\$4,084,580 was provided by Finland for the construction of an academic building, the acquisition of laboratory equipment, and the secondment of faculty and staff.

US\$135,770 came from the Netherlands for scholarships and literature.

US\$392,000 was presented by Nokia Corporation of Finland in cash (to support scholarships and a telecommunications seminar) and in-kind (in the form of a switching system).

Grants for scholarship were provided by Ericsson (US\$105,000), the Telephone Organization of Thailand (US\$42,000), and the Communications Authority of Thailand (US\$42,000).

Tektronix Inc. donated a testing equipment worth US\$80,000.

NEW GRANTS

New grants were a significant part of total contributions received in FY 1989-90. These included scholarship grants comprising 15 from the People's Republic of China, 10 from Finland, and 5 from Spain; a local currency grant worth US\$10,000, provided by Vietnam to support AIT activities in the country; equipment grant comprising 6 micro-computers from Acer Inc.; and sports equipment from Pakistan.



AIT President Alastair North receiving Finnish support for the Telecommunications program, presented on behalf of FINNIDA by H. E. Mr. Benjamin Bassin, the Ambassador of Finland, in the presence of AIT Vice Presidents, Prof. R. Pama (Development) and Prof. Helmut Eggers (Academic Affairs), and Finnish Embassy officials, Mr. Sakari Erapohja (Counsellor) and Ms. K. Kauppi (First Secretary) top photo; and presented on behalf of Nokia Corp. of Finland by Mr. Matti Alahuhta, President of Nokia's Public Networks Division.

Manufacturing Systems Engineering

The proposed computer integrated manufacturing center received in-kind support consisting of CNC machines from Austria/EMCO and Belgium/Maho Ltd., and short-term expert secondment from Bulgaria.

Bioprocess Technology

US\$19,230 was provided by the Netherlands as literature support.

Women in Development

A grant of US\$272,000 will be presented by the Norwegian Government in the next fiscal year to support the WiD Program.

RENEWAL OF AGREEMENTS

Collaborative agreements were renewed in FY 1989-90 with Austria, France, Japan, the Netherlands, New Zealand, the Philippines, Switzerland, and the United Kingdom.

A large number of long-standing donors with whom AIT has no formal collaborative agreements continued to provide support.

ASIAN INSTITUTE OF TECHNOLOGY

TOTAL DONATIONS FY 1989-90 IN CASH AND IN KIND (BAHT '000)

	Cash	In-Kind	Total
Scholarship	206,073		206,073
Research Projects	61,215		61,215
Continuing Education	56,833		56,833
Capital Grant	6,717		6,717
Equipment/Books	10,872	3,896	14,768
Endowment Fund	779		779
Faculty/Staff	29,478	46,952	76,430
Operating Grant	13,499		13,499
Local Currency Grant	534		534
Total	386,000	50,848	436,848

SUMMARY OF DONATIONS RECEIVED FY 1959-60 TO FY 1989-90 IN CASH AND IN KIND (%)

Governments	% Contribution
Australia	5.45
Austria	0.02
Bangladesh	0.02
Canada	5.45
People's Republic of China	0.07
Chinese Taipei	3.14
Finland	0.39
India	0.29
Indonesia	0.13
Israel	0.04
Japan	10.96
Republic of Korea	0.30
Nepal	0.03
New Zealand	0.77
Norway	1.91
Pakistan	0.17
Philippines	0.19
Sri Lanka	0.02
Sweden	0.11
Switzerland	0.81
Thailand	11.99
USA	11.53
Vietnam	0.01
European Economic Community	
Belgium	1.12
Denmark	1.44
France	3.19
Federal Republic of Germany	8.89
Italy	0.32
Netherlands	3.63
United Kingdom	3.9
International Organizations	5.35
National Government Agencies	5.74
Business, Foundations Private and Others	12.62
Total	100.00



Above, left: Spanish scholarships for Filipino students being presented by Mr. Jorge Sanchez, Charge d'Affaires of the Spanish Embassy, to Philippine Ambassador, H.E. Mr. Josue Villa, who in turn presented them to AIT. Right: ACER computers from ACER Inc., presented by Dr. Leonard Liu, President of the ACER Group (Taiwan) and CEO of Acer America Corp., and received by Prof. R.P. Pama, AIT Vice President for Development.



Donations from South Asia: a contribution to the AIT Endowment Fund from H.E. Mr. Niaz Muhammad Wassan, the Ambassador of Pakistan (far left), and an equipment grant from H.E. Mr. V. Verma, the Ambassador of India (left).

ANNUAL REPORT

FACULTY/ STAFF SECONDMENTS 1989-90

Australia	24	EEC*	468
Canada	61	UN/FAO	7
PRC	6	Charoen Pokaphan Co., Ltd.	12
Chinese Taipei	7	IBM	4
Finland	10	Others	6
India	27		
Japan	136	Total	855
Republic of Korea	23		
Norway	22	*Includes the Commission of the European	
Sweden	2	Communities 12, Belgium 27.5, Denmark 32,	
Switzerland	22	France 146, Germany 132, Italy 4.5,	
USA	18	Netherlands 24, UK 90.	
		Country/Organization	Man Months



Prof. Ricardo Pama, Vice President for Development, extends his personal thanks to Philippine Ambassador, H. E. Mr. Josue Villa, who presented a grant of Baht 505,000 to support the Institute's operating fund.



From top: AIT President Alastair North signing collaboration agreements with, from top, the Indonesian Ministry of Public Works, represented by Ir. Soerbardi Wirosoemarto, Director General of Water Resources Development; the Carl Duisberg Gesellschaft, represented by Mr. Franz Georg Ronde, Director General of the Department of Development Cooperation, CDG; the Swiss Government, represented by H. E. Mr. G. Fonjallaz, the Ambassador of Switzerland; and the Government of Bulgaria, represented by Prof. Alexander Assenov, Vice Minister of the Ministry of Science and Higher Education.



ASIAN INSTITUTE OF TECHNOLOGY

SUMMARY OF CONTRIBUTIONS RECEIVED FY 1989-90 IN CASH AND IN KIND (%)

GOVERNMENTS		NATIONAL GOVERNMENT			
Australia	4.74	AGENCIES		Philippines	
Brunei	0.02	Bangladesh		University of the Philippines	0.01
Canada-CIDA	12.47	Bangladesh Water Development Board	0.01	Sri Lanka	
People's Republic of China	0.82	Belgium		Integrated Rural Development	0.02
Chinese Taipei	1.35	University of Antwerp	0.03	Irrigation Department	0.13
Finland	2.79	Canada		Mahaweli Authority	0.10
India	0.45	CUC	0.01	Ministry of Lands, Irrigation and	0.07
Japan	10.61	INDRC	2.01	Mahaweli Department	
Republic of Korea	0.25	Fiji		National Housing Development Authority	0.02
New Zealand	0.52	Native Land Trust Board	0.02	National Water Supply and Drainage	0.02
Norway	2.38	France		Board	
Pakistan	0.13	European Space Agency	0.14	Rubber Control Department	0.11
Philippines	0.12	Federal Republic of Germany		Sweden	
Sri Lanka	0.02	Universität Hohenheim	0.02	Lund University - LCHS	0.07
Sweden	0.69	Hong Kong		Switzerland	
Switzerland	0.95	Auxiliary Medical Services	0.01	Geographisches Institute	0.04
Thailand	9.87	Indonesia		Thailand	
United States of America	4.49	Bandung Institute of Technology	0.04	Bank of Agriculture and Cooperatives	0.01
European Economic Community		Lembang Horticultural Research Institute	0.01	Bureau of the Budget	0.09
- Commission of European Communities	2.09	Ministry of Agriculture	0.08	Communications Authority of Thailand	0.15
- Belgium	0.75	Ministry of Forestry	0.14	DTEC	0.23
- Denmark	2.58	Ministry of Public Works	0.08	EGAT	0.53
- France	4.78	Ministry of Transmigration	0.62	Metropolitan Waterworks Authority	0.10
- Germany	7.69	Petra Christian University	0.03	Ministry of Agriculture and Cooperatives	0.03
- Italy	0.21	University of Tarumanagara	0.07	Ministry of Science, Technology and	0.05
- Netherlands	4.18	Japan		Energy	
- United Kingdom	2.86	International Development Center	0.12	NESDB	0.17
Sub-total	77.81	Lao PDR		National Energy Authority	0.03
		Department of Forestry	0.01	National Inland Fishery Institute	0.03
INTERNATIONAL ORGANIZATIONS		Malaysia		National Research Council	0.05
ADB	2.97	Dewan Bandaraga Kuala Lumpur	0.02	Petroleum Authority of Thailand	0.02
Commonwealth Secretariat	0.10	Institute of Engineers	0.01	Royal Thai Army	0.17
ESCAP	0.10	Ministry of Education	0.10	United Kingdom	
FAO	0.45	Ministry of Science, Technology, and	0.02	AFRC Institute of Engineering Research	0.29
ICLARM	0.05	Environment		United States	
ILO	0.10	Nepal		Academy for Educational Development	0.02
IMO	0.04	Mechi Hill Program SNV.	0.09	Institute of International Education	0.32
Mekong Secretariat	0.14	Redd Barna South Asia	0.03	Ohio State University	0.01
UN - Geneva	0.21	Small Business Promotion Project	0.02	U.S. Peace Corps	0.44
UNCHS - Habitat	0.32	Papua New Guinea		University of Delaware	0.08
UNDP	1.71	Department of Finance and Planning	0.01	University of Hawaii	0.06
UNDRO	0.09			University of Michigan	0.22
UNEP	0.26			Sub-total	7.44
UNESCO	1.26				
UNICEF	0.07				
UN University	0.03				
WHO	0.11				
WMO	0.03				
World Bank	0.43				
Sub-total	8.47				

Opposite: First row, left to right, and second row, right: AIT President Alastair North thanking the Australian Ambassador, H.E. Mr. Richard Butler A.M., the New Zealand Ambassador, H.E. Mr. Harle Freeman-Greene, the German Ambassador, H. E. Mr. Bernd Oldenkott, and the Canadian Ambassador, H. E. Mr. Lawrence Smith, who presented donations on behalf of their governments;

and Ms. Virginia Kirkwood, Country Director of Peace Corps Thailand, who signed an aquaculture training agreement for Peace Corps volunteers at AIT, and Mr. David Barber, Counsellor for Technical and Economic Cooperation of the Australian Embassy, who presented a donation on behalf of AIDAB, (second row, middle and far right photos).

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BUSINESS, FOUNDATIONS, PRIVATE and OTHERS

Anichata Co. Ltd., Thailand	0.05	Rice Engineering Supply Co. Ltd. Thailand	0.02	Agency for Assessment and Application of Technology, Indonesia	0.02
Argonne National Laboratory, USA	0.19	Sarawak Electricity Supply Corp.	0.02	AIT Alumni Association	0.02
Asian Engineering Consultant Corp., Thailand	0.05	Serco Education Ltd., Indonesia	0.03	Asean-Canada Forest Tree Seed Center	0.02
BASF Vita Ltd.	0.01	Shell International Petroleum Co.	0.06	Asean Timer Technology Center	0.03
BES Engineering Corp.	0.21	Siam Cement Co. Ltd.	0.14	ARPLA, ILO	0.01
BP Solar International	0.04	Siam City Cement Co. Ltd.	0.02	Concern - Bangladesh	0.02
Caltex Oil (Thailand) Ltd.	0.03	Stichting Hivos, Netherlands	0.02	Cooperative Institute for Applied Meteorology, USA	0.01
Chareon Pokphand Group Ltd., Thailand	0.77	Taiwan Power Company	0.22	Human Resource Development Group, UK	0.03
China Technical Consultants Inc.	0.01	Takanaka Civil Engineering Co. Ltd.	0.02	ICRISAT, India	0.01
China Trust Co. Ltd.	0.06	Tata Consultant Engineers, India	0.10	International Atomic Energy Agency, Australia	0.04
Chinese Petroleum Corp., Chinese Taipei	0.13	Team Consulting Engineering Co. Ltd.	0.05	IHP/OHP National Committees, Germany	0.03
DHV Consulting Engineers, Indonesia	0.06	Telecon Oy, Finland	0.06	Japan Scholarship Fund for Asean Youth	0.02
Diakonisches Werk, Germany	0.03	Thai Central Chemicals Co. Ltd.	0.01	Kozai Club, Japan	0.10
Ebara Corp., Japan	0.04	Thai CRT Co. Ltd.	0.01	Prof. Dina Lavoie, Canada	0.01
Exotissimo International Travel, Thailand	0.04	Thai Engineering Consultants Inc.	0.04	Lutheran World Services	0.01
F.E. Zuellig (Bangkok) Ltd.	0.02	Thai German Specialty Glass Co.	0.01	Marden Family	0.11
Hassall & Associates Pty. Ltd., Australia	0.02	Thai Shell Exploration and Production Co.	0.01	Menonite Central Committee	0.06
IBM Korea	0.01	UMI Property Co. Ltd., Thailand	0.03	Nepal/Swiss Development Cooperation	0.01
IBM Singapore Pte.	0.01	URS International Inc., Indonesia	0.14	Pakistan Participant Training Program, USA	0.03
IBM Thailand Ltd.	0.24	AIT Foundation Inc.	0.16	Save the Children Fund, UK	0.08
Kiso Jiban Consultants Co. Ltd.	0.02	AIT Foundation Inc. Phase V	0.18	Thai /Australia Northeast Village Water Resources Project	0.02
Louis Berger International Inc.	0.07	Asia Foundation, Bangkok	0.04	World Council of Churches, Switzerland	0.02
National Petrochemical Corp. Ltd. Thailand	0.01	Education and Public Welfare Foundation, Thailand	0.01	Others	0.14
Nikken Consultants Inc., Japan	0.33	Forbes Foundation, USA	0.06	Sub-total	6.28
North West Hydraulic Consultant	0.19	Ford Foundation Inc.	0.20	TOTAL	100.00
Ret-Ser Engineering Agency Chinese Taipei	0.11	KEIDANREN	0.43		
P.T. Arun Natural Gas Liquefaction, Indonesia	0.01	Ramon Magsaysay Award Foundation	0.18		
		Rockefeller Foundation Inc.	0.21		
		Winrock International, USA	0.19		



REORGANIZATION

Certain central administration operations were reorganized. The most significant of these included the introduction of a new telephone system, the establishment of an Institute-wide fire safety program, the full operation of the Central Stores, and the implementa-

tion of a staff training program at the local-hire level.

Follow-up activities to ensure that support given to the Institute's academic operations is at a high level were initiated, with emphasis placed on upgrading buildings and utilities.

CENTRAL ADMINISTRATION



*AIT Bursar,
Mr. Edward Mayer,
observing the
operation of the newly-
installed telephone
system.*

ADMINISTRATIVE SERVICES

Personnel was reorganized into two sections: one dealing with local-hire personnel and staff training, and the other with international staff matters, under the Assistant Director for Administrative Services. The computerization of an integrated personnel/payroll/tax system was started.

In Purchasing, the computerized printing of purchase orders and an improved purchase order status system helped increase user satisfaction. Bulk purchasing and stocking of goods at the Central Stores yielded significant gains. English language training for staff and a short course in firefighting for staff from Security and the Physical Plant were carried out.

FINANCE

Computer programs for scholarship statements and research project listing were successfully developed. A cash registration system is expected to be implemented by January 1991.

PHYSICAL PLANT

The acquisition of a new telephone exchange and the consequent switch from the Navanakorn to the Rangsit telephone exchange resulted in improved telephone service for the Institute.

In the reorganization of Physical Plant accounts recoverable costs were separated from normal costs, thus providing a clearer financial picture of this section's multi-million baht operations.

MEDICAL CENTER

Continued use of the Thammasat Hospital, which is located next to AIT, brought further savings, resulting from the Institute's part time employment of hospital nurses and the reduced medical demands made of the AIT clinic.

CAMPUS DEVELOPMENT

ACADEMIC BUILDINGS

Outreach Building

Cost: Baht 24 million from the maintenance and construction reserve fund

Location: Behind the Regional Computer Center

Completion date: February 1991

Net rentable area: 1,722 sq.m.

Gross area: 2,175 sq.m.

Computer Science Building

Cost: Baht 17 million from the Royal Thai Government construction grant

Location: Near the Telecommunications Building and connected to it by a 150 sq.m. covered walkway

Start of use: September 1991

Total area: 1,260 sq.m.

Telecommunications Building

Cost: Baht 26 million provided by the Government of Finland

Location: South of the Energy Park

Start of use: May 1991

Total area: 1,500 sq.m.



RESIDENTIAL ACCOMMODATION

ST-1 Staff Housing

Cost: Baht 8.5 million from the Housing Reserve Fund

Completion date: January 1991

Accommodation provided: 24 family units and 18 bachelor's units. The project is located across the Vipphavadi Rangsit highway, thus requiring the provision of new infrastructure, such as a deep well and elevated tank, a flood control system, and a new electrical transformer

IFS Housing

Accommodation provided: 10 terrace houses

Location: North of ST-6

Completion date: July 1991

Funding: Internal loan (general reserve to housing reserve)

AIT Center Extension

Accommodation provided: 36 guest rooms

Location: Next to the AIT Center and linked to it by a footbridge.

Completion date: September 1991

Funding: AIT Center and CEC reserves



Above: ST-1. Left, top and below: The new Telecommunications Building being viewed by faculty from the Telecommunications Division, from left: Prof. A. B. Sharma, Chairman, Mr. Tapio Erke, Technical Manager, and Dr. Michael Hall, Assistant Professor.

RECONSTRUCTION

Repair due to Land Subsidence

Site: Ground floor east end of the north academic building, to commence around March 1991

Funding: Office and academic building reserve of the General Reserve



To improve fire safety AIT has acquired a new fire truck, an International Harvester Mark 2 Pumper, and organized a six-week basic firefighting training.



AIT's fire safety activities were carried out in cooperation with the Metropolitan Fire Brigade of Melbourne, following discussions during the secondment of MFB Superintendent, Mr. John Barrett, as Training Coordinator of the Asian Disaster Preparedness Center in 1989.

Senior staff members from the MFB Training College, Mr. Bruce Kendall and Mr. Ian Hunter, conducted the basic firefighting training at AIT in 1990.

Photo shows Mr. Barrett handing over the keys of the new fire truck to AIT President Alastair North, in the presence of Mr. Hunter and Physical Plant staff.

ALUMNI AFFAIRS

20th Annual Meeting of the GOVERNING BOARD AIT ALUMNI ASSOCIATION

Fund-Raising Activities

Up to Baht 1 million is expected to be raised through the publication of the **AITAA Who's Who**. The publication hopes to feature at least ten percent of the AITAA membership roster. To assist members who wish to participate in the publication, local chapters are urged to raise funds through seminars and to solicit donations from appropriate sources.

To support its current fund-raising programs, AITAA will consider the holding of seminars by local chapters and the provision of assistance to the Continuing Education Center to identify opportunities for training activities. Sports activities will also be conducted.

Based on a proposal from AITAA-Philippines, AITAA will look into ways by which the country chapters could take turns in organizing international conferences on engineering, science and technology. The first proposed activity for 1991 is a national convention/exhibition under the sponsorship of AITAA-Thailand and the AITAA Executive Committee. A similar activity is proposed for 1992 under the sponsorship of AITAA-Philippines.

Other activities being supported by the AITAA are a hymn contest and a fund-raising campaign for the AITAA research grant to support AIT students.

Council of Advisors

The AITAA Council of Advisors proposed at the meeting will be composed of all former Presidents and Executive Secretaries of AITAA. They will be invited to attend meetings of the Governing Board and the Executive Committee and other official AIT functions.

AITAA Chapters

The appointment of permanent liaison officers in the respective national chapters, or key individuals to facilitate communication between the chapters and the AITAA Executive Committee, is under consideration, as a way of encouraging participation of the national chapters in AITAA activities. The possibility of developing additional sources of funding for the national chapters will be further explored.



From left: Prof. Srisakdi with AIT alumni, Mr. Ping Wing Pao (HSD '80) from Hong Kong and Mr. Le Van Minh (HSD '89) of Vietnam.

AITAA Membership

Paid membership in the AITAA was up by 4% from 1989. This could be further increased by encouraging alumni who establish residence outside their home country to associate with the local chapter in their country of residence. The establishment of AITAA sub-chapters will be encouraged on condition that only one chapter will be officially recognized as a national chapter for individual countries.

The annual Governing Board meeting was held from October 21 to 23 in Kathmandu, Nepal.

ANNUAL REPORT

AGSHA NEWS



AGSHA WORKSHOP

The AIT-German Scholarship Holders Association (AGSHA) held a management workshop in February in Kathmandu, marking AGSHA's first activity since its relaunch in 1988. The workshop was sponsored by CDG and DAAD and was held in collaboration with AITAA-Nepal, the School of Management at AIT, and ICIMOD.

Congratulating AGSHA members for their interest "to harness technological change in the true service of mankind," H. E. Dr. Martin Schneller the Ambassador of the Federal Republic of Germany to Nepal, took note of their role "as bridge builders - joining tradition and technology, saving the best of what is old and valuable and marrying it with the new, to create a more self-sufficient and equitable world."

In photo, from right: Resource persons, Dr. F. Swierczek and Mr. R. Soegaard of SOM, Prof. Dr. Schreyogg, and Mr. Hermann Kern of the German Ministry of Economic Cooperation, with AGSHA officers, J. Tolentino and Orasa Suksawang.

AGSHA OFFICERS

The AGSHA President is Surendra Shrestha, who is also President of AITAA-Nepal. The election of officers was held in February 1990.

President
Surendra Shrestha (CS '80)
Secretary General
Romana Malong (HSD '83)
Treasurer
Brahmanand Mohanty (ET '82)
Members
Orasa Suksawang (HSD '82)
U.L.J.S. Perera (IEM '89)
Jay Y. David (CS '88)
Josiebeth Tolentino (CS '88)
Benjamin Handali (SEC '90)
Anthony Jude (ET '89)

Contact persons in AGSHA countries

India: S. M. M. Ismail (AFE '79, '82)
Pakistan: Qaiser Suhail (IEM '83)
Thailand: Orasa Suksawang (HSD '82)
Malaysia: Mah Lok Abdullah (IEM '84)
Singapore: Hee Wee Lee (CS '85)
Philippines: I.R. Santos (HSD '82)
Indonesia: R.W. Wijaya (CS '83)
Chinese Taipei: Li Kan (WRE '80)
RoK: Suh Kwan Se (SEC '76)
Sri Lanka: S. Fernando (ET '82)
Nepal: Madhav Pradhan (IEM '79)



S. Shrestha



R. Malong



B. Mohanty



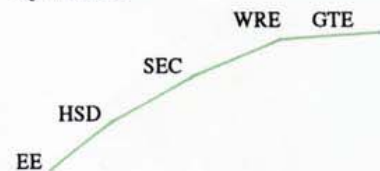
J. David

GRADUATES RECORD 1961-1990

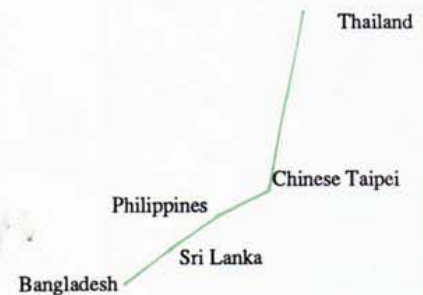
AFE	543
CS	326
EE	600
ET	309
GTE	791
HSD	646
IEM	497
INRDM	15
SEC	698
WRE	789

FIVE LARGEST GROUPS OF ALUMNI 1961-1990

By Division



By Country



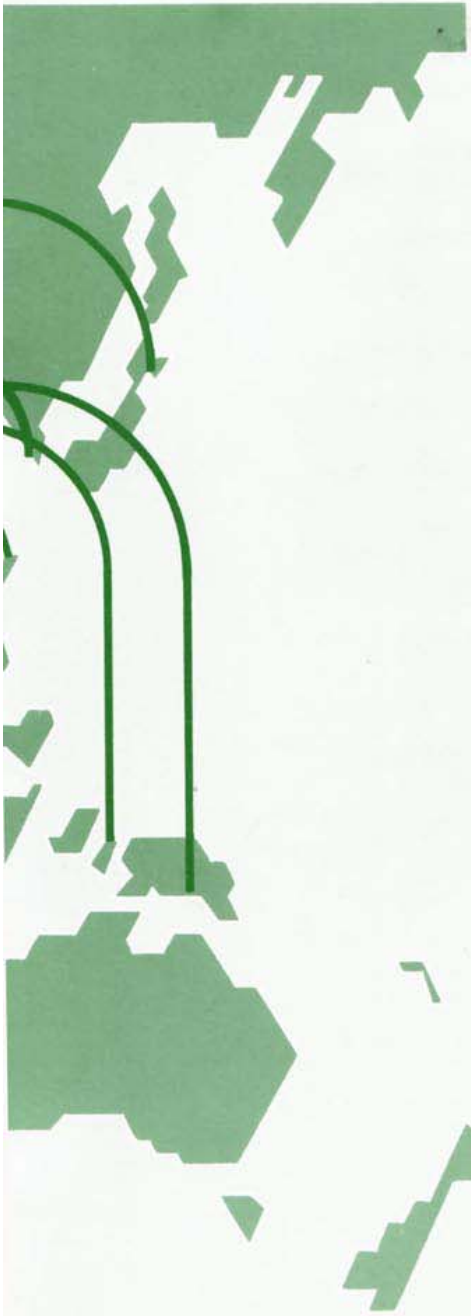
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ASIAN INSTITUTE OF TECHNOLOGY



**AIT ALUMNI
NETWORK**

ANNUAL REPORT



ALUMNI DISTRIBUTION BY COUNTRY 1961-1990

EAST ASIA	
Japan	39
Republic of Korea	82
Chinese Taipei	631
Hong Kong	82
Macau	5
PRC	81
SOUTH EAST ASIA AND THE PACIFIC	
Singapore	28
Malaysia	235
Vietnam	108
Khmer Republic	3
Laos	2
Myanmar	45
Thailand	1283
Philippines	546
Brunei	8
Indonesia	257
Papua New Guinea	5
SOUTH AND WEST ASIA	
Bangladesh	393
Sri Lanka	398
Nepal	209
India	357
Pakistan	355
Afghanistan	19
Iran	12
Turkey	6
NOT SHOWN	
Canada	3
Ethiopia	1
Ghana	2
Honduras	1
Malawi	2
Tanzania	7
UK	2
USA	5
Kenya	1
Fiji	1
TOTAL	5,214

APPENDIX

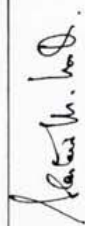
Balance Sheet as at June 30, 1989, 1990	29
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ASIAN INSTITUTE OF TECHNOLOGY BALANCE SHEETS AS AT 30th JUNE, 1990 and 1989

	Note	Unrestricted Current Fund		Restricted Funds		Capital Fund		Sponsored Program Fund		Agency Fund		Total	
		1989		1989		1989		1989		1989		1989	
		BAHT	BAHT	BAHT	BAHT	BAHT	BAHT	BAHT	BAHT	BAHT	BAHT	BAHT	BAHT
ASSETS													
Cash at banks		2,825,144	2,890,877	4,062,943	6,861,490	14,060,218	13,416,834	10,302,308	8,965,838	12,831,489	1,712,692	44,082,102	33,847,731
Investment	2	22,370,306	17,902,429	267,114,403	258,754,291	32,500,428	27,329,192	40,238,235	16,155,824	35,186,591	40,504,096	397,409,963	360,645,832
Advance duties and taxes	3	23,214,369	23,123,612	—	—	—	—	—	—	—	—	23,214,369	23,123,612
Accounts receivable and accrued income		3,122,249	2,945,913	7,600,757	6,502,609	382,206	49,240	2,830,771	2,166,052	529,329	946,340	14,465,312	12,610,154
Deposits		379,013	326,593	735,516	941,181	—	—	—	—	—	—	1,114,529	1,267,774
Inventories		—	—	1,038,353	654,880	—	—	—	—	—	—	1,038,353	654,880
Due from other funds		—	4,996,637	27,502,094	3,158,400	—	—	—	3,744,755	—	—	27,502,094	11,899,792
Fixed assets	4	—	—	—	—	1,070,548,744	1,011,831,074	—	—	—	—	1,070,548,744	1,011,831,074
TOTAL ASSETS		51,911,081	52,186,061	308,054,066	276,872,851	1,117,491,596	1,052,626,340	53,371,314	31,032,469	48,547,409	43,163,128	1,579,375,466	1,455,880,849
LIABILITIES AND FUND BALANCES													
LIABILITIES													
Accounts payable and accrued expenses		1,413,081	1,751,341	2,759,194	2,969,715	2,246,787	2,518,748	342,993	863,516	3,491,852	1,869,759	10,253,907	9,973,079
Deposits		561,680	498,400	582,124	510,637	—	—	—	—	—	—	1,143,804	1,009,037
Due to other funds		—	—	27,502,094	1,284	—	—	—	—	—	11,899,792	27,502,094	11,901,076
TOTAL LIABILITIES		1,974,761	2,249,741	30,843,412	3,481,636	2,246,787	2,518,748	342,993	863,516	3,491,852	13,769,551	38,899,805	22,883,192
FUND BALANCES	6	49,936,320	49,936,320	277,210,654	273,391,215	1,115,244,809	1,050,107,592	53,028,321	30,168,953	45,055,557	29,393,577	1,540,475,661	1,432,997,657
TOTAL LIABILITIES AND FUND BALANCES		51,911,081	52,186,061	308,054,066	276,872,851	1,117,491,596	1,052,626,340	53,371,314	31,032,469	48,547,409	43,163,128	1,579,375,466	1,455,880,849

The accompanying notes are an integral part of the financial statements.

PRESIDENT



ASIAN INSTITUTE OF TECHNOLOGY

STATEMENTS OF CHANGES IN FUND BALANCES

FOR THE YEAR ENDED 30th JUNE, 1990 (WITH COMPARATIVE TOTAL FOR 1989)

	Restricted Fund				Capital Fund				Total					
	Unrestricted Current Fund		General Reserve		Fixed Assets		Liquid Assets		Maintenance and Construction Reserve		Sponsored Program Fund		Agency Fund	
	BAHT	1989	BAHT	1989	BAHT	1989	BAHT	1989	BAHT	1989	BAHT	1989	BAHT	1989
Balances, 1 July 1989 (Note 6)	49,936,320	70,045,342	52,485,045	150,860,828	1,011,831,074	2,269,385	32,019,580	3,987,553	30,168,953	29,393,577	1,432,997,657	1,443,450,879		
Adjustments:														
Disposal of assets	—	—	—	—	(3,327,612)	—	—	—	—	—	(3,327,612)	(55,267,758)		
Additions:														
Excess of revenues over expenditures (expenditures over revenues)	5,452,363	(19,447,635)	—	—	—	—	—	(3,800,000)	22,859,368	15,661,980	20,726,076	(23,927,324)		
Investment income	—	—	1,197,623	16,210,599	—	—	—	—	—	—	17,408,222	14,151,189		
Government grants and appropriations	—	—	779,000	—	—	—	14,989,220	—	—	—	15,768,220	15,934,963		
Gain (loss) on exchange	—	—	(80,000)	(157,602)	—	—	—	—	—	—	(237,602)	539,289		
Miscellaneous income and contributions	—	—	—	—	—	—	—	—	—	—	—	—		
Contributions in kind	—	—	—	—	—	2,935,094	37,230,370	—	—	—	40,165,464	25,852,001		
—Fixed assets	—	—	—	—	—	—	4,056,635	—	—	—	4,056,635	846,751		
	55,388,683	50,597,707	54,381,668	166,913,825	1,008,503,462	5,204,479	88,295,805	187,553	53,028,321	45,055,557	1,527,557,060	1,421,579,900		
Deductions:														
Inter-fund transfer from (to)														
— Unrestricted Current Fund	—	—	—	1,817,454	—	—	1,817,454	1,817,455	—	—	5,452,363	10,153,000		
— Restricted Current Fund	(1,817,454)	—	—	—	—	—	—	—	—	—	(1,817,454)	(3,384,333)		
— General Reserve	—	—	—	—	—	—	—	—	—	—	—	—		
— Liquid Assets, Capital Fund	—	—	—	3,500,000	—	—	—	—	—	—	—	—		
— Allocated	(1,817,454)	—	—	—	—	—	—	—	—	—	1,682,546	(3,384,334)		
— Maintenance and Construction Reserve	(1,817,455)	—	—	—	—	—	—	—	—	—	(1,817,455)	(3,384,333)		
Expenditures for plant facilities	—	—	—	—	—	—	—	—	—	—	—	—		
— Cash	—	—	—	—	62,045,283	—	(9,879,312)	—	—	—	52,165,971	48,461,391		
— Kind	—	—	—	—	—	—	(4,056,635)	—	—	—	(4,056,635)	(846,751)		
Other cost	—	—	—	—	—	(1,523,159)	(37,167,576)	—	—	—	(38,690,735)	(36,196,973)		
	(5,452,363)	—	—	5,317,454	62,045,283	(1,523,159)	(49,286,069)	1,817,455	—	—	12,918,601	11,417,667		
Balances, 30 June 1990 (Note 6)	49,936,320	50,597,707	54,381,668	172,231,279	1,070,548,745	3,681,320	39,009,736	2,005,008	53,028,321	45,055,557	1,540,475,661	1,432,997,657		

The accompanying notes are an integral part of the financial statements.

ASIAN INSTITUTE OF TECHNOLOGY

STATEMENTS OF REVENUES AND EXPENDITURES-UNRESTRICTED CURRENT FUND AND RESTRICTED FUND-GENERAL

FOR THE YEARS ENDED 30th JUNE, 1990 and 1989

	TOTAL		UNRESTRICTED FUND		RESTRICTED FUND			
	1990 BAHT	1989 BAHT	1990 BAHT	1989 BAHT	CASH		KIND	
					1990 BAHT	1989 BAHT	1990 BAHT	1989 BAHT
REVENUES:								
Tuition and fees	150,298,188	143,829,154	150,298,188	143,829,154	—	—	—	—
Cash, gifts and contributions	22,105,726	22,988,783	8,344,015	6,497,000	13,761,711	16,491,783	—	—
Contributions — in kind — services (Note 5)	72,194,251	64,175,458	—	—	—	—	72,194,251	64,175,458
Sales and services	90,814,586	73,086,103	1,361,233	1,016,008	89,453,353	72,070,095	—	—
Contract and grant research	12,641,220	9,331,511	5,480,077	4,488,735	7,161,143	4,842,776	—	—
Sponsored programs	5,084,936	8,413,306	—	—	5,084,936	8,413,306	—	—
Other revenues	46,073,245	50,033,973	18,186,757	20,775,750	27,886,488	29,258,223	—	—
TOTAL REVENUES	399,212,152	371,858,288	183,670,270	176,606,647	143,347,631	131,076,183	72,194,251	64,175,458
EXPENDITURES:								
Salaries and associated costs (Note 5)	189,043,982	167,278,640	112,439,532	96,627,012	4,410,199	6,476,170	72,194,251	64,175,458
Academic related costs	75,914,379	70,171,111	20,737,530	20,339,285	55,176,849	49,831,826	—	—
Student related costs	6,013,220	5,895,239	1,143,558	1,184,666	4,869,662	4,710,573	—	—
Administrative costs	2,521,307	2,714,716	2,518,917	2,529,169	2,390	185,547	—	—
Capital expenditure purchases	31,002,891	14,998,218	7,699,041	9,278,738	23,303,850	5,719,480	—	—
Other costs	33,679,329	36,494,777	33,679,329	36,494,777	—	—	—	—
Sponsored programs	3,404,013	1,229,052	—	—	3,404,013	1,229,052	—	—
Other services	26,562,660	26,000,011	—	—	26,562,660	26,000,011	—	—
Enterprise expenses	45,065,643	29,403,619	—	—	45,065,643	29,403,619	—	—
TOTAL EXPENDITURES	413,207,624	354,185,383	178,217,907	166,453,647	162,795,266	123,556,278	72,194,251	64,175,458
EXCESS OF REVENUES OVER EXPENDITURES/ (EXPENDITURES OVER REVENUES)	(13,995,472)	17,672,905	5,452,363	10,153,000	(19,447,635)	7,519,905	—	—

The accompanying notes are an integral part of the financial statements.

NOTES TO FINANCIAL STATEMENTS

**NOTE 1
SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES**

1.1 Fund accounting

In order to ensure observance of limitations and restrictions placed on the use of the resources available to the Institute, the books of account of the Institute are maintained in accordance with the principles of "fund accounting". This is the procedure by which resources for various purposes are classified for accounting and reporting purposes into funds which are in accordance with activities or objects specified. Within each fund group, fund balances which are restricted by outside sources are so indicated and are distinguished from unrestricted fund allocated to specific purposes by action of the governing board. As for unrestricted fund, the governing board retains full control to use in achieving any of its institutional purposes.

Investment income are recognised as income in the unrestricted current fund except for endowments, general reserve and capital funds which are accounted for in the fund to which it is restricted.

Other unrestricted revenues are recognised as income in the unrestricted current fund.

Restricted contributions, grants, appropriations and other restricted resources are accounted for in the appropriate restricted funds.

1.2 Accrual basis

The financial statements have been prepared on an accrual basis except for depreciation of fixed assets and contributions.

Depreciation of fixed assets is not recorded in accordance with the fund accounting concept.

Contributions are recognised on a cash basis due to the uncertainty in receiving contributions which are at the discretion of the donors.

The statement of revenues and expenditures of unrestricted current fund and restricted general fund is a statement of financial activities of current fund related to the current reporting period. It does not purport to present the results of operations for the period as would an earnings statement.

1.3 Contributions in kind

Contributions in kind are reflected in the financial statements on a fair value basis at the time of receipt.

1.4 Inventories

Inventories are valued at the lower of cost (first-in, first-out basis) and net realisable value.

1.5 Fixed assets

Fixed assets are stated at cost at the time of acquisition or fair value at the

time of donation in the case of contributions in kind.

1.6 Foreign currencies

Exchange rates adopted:—

Foreign currency transactions during the year

— at the rates ruling on the transaction dates.

Assets and liabilities in foreign currency outstanding on the balance sheet date

— at the rates ruling on the balance sheet dates.

Exchange gains and losses are recognised as revenue and expenditure and taken up in the statement of changes in fund balances.

**NOTE 2
INVESTMENTS**

	1990	1989
	BAHT	BAHT
Time deposits with banks	195,324,347	213,810,212
Deposits with finance companies	202,085,616	146,835,620
	397,409,963	360,645,832

The investments of each fund as at 30th June, 1990 and 1989 are as follows:—

	1990	1989
	BAHT	BAHT
Unrestricted current fund	22,370,306	17,902,429
Restricted fund		
General	70,391,202	62,216,034
Endowment	54,165,351	52,377,897
General reserve	142,557,850	144,160,360
	267,114,403	258,754,291
Capital fund		
Liquid assets	30,495,419	23,341,639
Maintenance and construction reserve	2,005,009	3,987,553
	32,500,428	27,329,192
Sponsored program fund	40,238,235	16,155,824
Agency fund	35,186,591	40,504,096
	397,409,963	360,645,832

Time deposits with banks amounting to Baht 1.0 million (1989: Baht 0.9 million) of the restricted general reserve fund has been pledged with a

bank as a collateral against outstanding letter of guarantee issued by the bank (see Note 8).

**NOTE 3
ADVANCE DUTIES AND
TAXES**

This represents advance duties and taxes payments to the Government of Thailand which will be subsequently refunded to the Institute in accordance with the letter of the Office of the Secretary-General to the

Cabinet dated 14th May, 1968. The refund of the advance is however subject to the annual government budget of the Government of Thailand.

The details of advance duties and taxes as at 30th June, 1990 and 1989 are as follows:—

	1990 BAHT	1989 BAHT
Employees personal income tax	16,490,442	15,940,082
Import duty and business tax		
— Automobile	4,751,524	5,011,528
— Wine and spirit	1,948,353	2,125,005
— Other	24,050	46,997
	23,214,369	23,123,612

**NOTE 4
FIXED ASSETS**

	1990 BAHT	1989 BAHT
Campus development	21,127,003	18,934,290
Buildings	444,723,887	444,668,104
Furniture and equipment	499,598,040	471,165,288
Library acquisitions	61,836,260	57,059,661
Construction in progress	43,263,554	20,003,731
	1,070,548,744	1,011,831,074

**NOTE 5
CONTRIBUTIONS IN KIND —
SERVICES**

This represents services donated to the Institute in the form of seconded faculty or staff of which the value is

estimated on a basis in accordance with the approved Institute professional salary scale. The amounts are recognised as revenues and expenditures in the restricted general fund.

**NOTE 6
FUND BALANCES**

	1990 BAHT	1989 BAHT
Restricted fund		
General	50,597,707	70,045,342
Endowment	54,381,668	52,485,045
General reserve	172,231,279	150,860,828
	277,210,654	273,391,215
Capital fund		
Fixed assets	1,070,548,745	1,011,831,074
Liquid assets — Unallocated	3,681,320	2,269,385
Liquid assets — Allocated	39,009,736	32,019,580
Maintenance and construction reserve	2,005,008	3,987,553
	1,115,244,809	1,050,107,592

**NOTE 7
CAPITAL COMMITMENTS**

As at 30th June, 1990, the Institute had capital commitments in respect of building construction amounting to approximately Baht 19.5 million (1989: Baht 17.1 million).

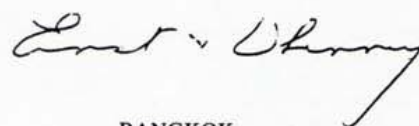
**NOTE 8
BANK GUARANTEES**

As at 30th June, 1990, there were outstanding bank guarantees of approximately Baht 1.0 million (1989: Baht 0.9 million) issued by a bank on behalf of the Institute in respect of certain performance bonds as required in the normal course of business of the Institute.

**To The Board of Trustees of
Asian Institute of Technology**

We have examined the balance sheets of Asian Institute of Technology as at 30th June, 1990 and 1989, the statements of revenues and expenditures of unrestricted current fund and restricted fund-general and the related statements of changes in fund balances for the years then ended. Our examinations were made in accordance with generally accepted auditing standards and accordingly included such tests of the accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion, the aforementioned financial statements present fairly the financial position of Asian Institute of Technology as at 30th June, 1990 and 1989, the revenues and expenditures of unrestricted current fund and restricted fund-general and changes in fund balances for the years then ended, in conformity with generally accepted accounting principles appropriate for non-profit organisation as set out in Note 1 to the financial statements, applied on a consistent basis.



BANGKOK:
2nd November, 1990.

1990 CONTRACT AND GRANT RESEARCH

AGRICULTURAL AND FOOD
ENGINEERING

COMPLETED

Development of a Crop/Livestock/Fish Integrated Farming System for Small-Scale Farmers
Prof. Edwards; ODA (£47,490)

Improvement of Irrigation System Management and Irrigation Efficiency in Southeastern Asia; Dr. Goto; JICA (US\$25,000)

Agroforestry
Prof. Nielsen; DANIDA (US\$5,600)

Integrated Fruit/Paddy Cultivation
Prof. Nielsen; DANIDA (US\$5,600)

Alternative Pest Control
Prof. Nielsen; DANIDA (US\$5,600)

Rainfed Agriculture in Nakon Nayok Province
Dr. Waibel; AIT Grant (Baht 44,000)

Application of Enamel to Improve the Performance of Some Agricultural Implements;
Dr. Salokhe; AIT Grant (Baht 44,000)

Testing and Manufacture of AIT Jab Seeder in Nepal; Prof. Singh, Mr. Pariyar; ICIMOD (US\$6,000)

IN PROGRESS

Design and Development of On-farm Mobile Precooling Unit; Dr. Athapol; Srichai Co., Ltd. and Dept. of Agriculture, RTG (Baht 100,000)

Extension of Pre-cooling Technology for Handling of Fresh Fruits and Vegetables
Dr. Athapol, Dr. Ilangantileke; CIDA/AIT-CUC PP (Baht 75,000)

AIT Aquaculture Outreach : Interactive Field Trials with Farmers in Northeast Thailand
Prof. Edwards; ODA (£654,921)

Assessment of a Low-Cost Fertilization/Supplementary Feeding System for Small-Scale Farmers; Prof. Edwards; ODA (£60,133)

Human Excreta Reuse in Aquaculture
Prof. Edwards; ODA (£9,716)

Feeding Value of Green Fodder for Herbivorous Fish; Prof. Edwards, Dr. Yakupitiyage; ODA (£70,037)

Improving the Performance of Agricultural Vehicles and Implements in Wet Paddy Fields; Prof. Gee-Clough, Dr. Salokhe (co-investigator); EC (US\$128,000)

Farmer Driven Electrostatic Low Volume Sprayer; Prof. Gupta, Prof. Singh; Dr. G. Manor, IIT, Haifa, Israel (co-investigator); USAID (US\$200,000)

Engine Driven Potato Digger with Oscillating Blade for Small Farm Use; Prof. Gupta; Dr. D. Wolf, IIT, Haifa, Israel (co-investigator); USAID (US\$200,000)

Development of a Decision Model for Planning Agro-Industrial Projects in Developing Countries Phases I, II; Dr. Ilangantileke; CIDA (US\$2,750), Phase I; CIDA/AIT-CUC PP (US\$3000), Phase II

Demonstration/Information Dissemination of a Farm Level Chemical Applicator to Control Aflatoxin in Crib Stored Maize; Dr. Ilangantileke; CIDA/AIT-CUC PP (US\$3000)

Modeling Deterioration Behavior of Food Products Using Chemical Kinetics and Statistical Quality Control Techniques
Dr. Ilangantileke, Dr. Nagarur; CIDA/AIT-CUC PP (US\$2000)

Paddy Field Engineering in Asia
Dr. Koga; JICA (US\$1,850)

Pond Dynamics/Aquaculture Collaborative Research Supportive Program
Dr. Kwei Lin, Dr. Knud-Hansen; USAID (US\$108,000)

Introduction and Development of Channel Catfish Culture in the Tropics
Dr. Kwei Lin; Chareon Pokphand Inc., Thailand (Baht 2,836,513)

Feasibility Test of a Shrimp Harvester
Dr. Kwei Lin, Dr. Salokhe; Thai Prawn Culture Center Co. Ltd. (Baht 91,200)

Development of Fry Production and Nursing Strategies for the Nile Tilapia
Dr. Little; ODA (£ 50,676)

Muscovy Ducks
Dr. Little, Prof. Edwards; IDRC (CAD\$111,700)

Use of Leguminous Leaves as Fish Pond Inputs
Dr. Little, Dr. Yakupitiyage, Prof. Edwards; Dr. Lovshin, Auburn University, USA (co-investigator); USAID (Baht 3,624,475)

Study of Selected Environmental Parameters in Large Irrigation Projects Using Geographical Information Systems
Dr. Murty; CIDA (Baht 75,000)

Farm Irrigation System Design Constraints and Improvements in Major Irrigation Projects; Dr. Murty; CIDA (Baht 75,000)

Development of Agricultural Experimentation Station
Prof. Nielsen; DANIDA (US\$11,000)

Fertilization System on Computer
Prof. Nielsen; DANIDA (US\$2,800)

Demonstration and Popularization of Enamel-Coated Bolt-on Plates for Cage Wheels
Dr. Salokhe, Prof. Gee-Clough; CIDA/AIT-CUC PP (Baht 75,000)

Promotion of Jab Seeder (Thailand)
Prof. Singh, Prof. Gee-Clough; IDRC (CAD\$18,094)

Agricultural Equipment (Rice Transplanters) Testing; Prof. Singh; Siamati Limited, Thailand (Baht 100,000)

Expert System to Predict Ballast Load to Achieve Maximum Power from Four-Wheeled Tractors; Dr. Salokhe; AIT Grant (Baht 3,500)

Evaluation of Different Land Formation Systems for Diversified Integrated Farming;
Dr. Upasena; AIT Grant (Baht 50,000)

Economics of Agriculture/Aquaculture Systems in Asia; Dr. Waibel, Prof. Edwards; GTZ (Baht 1,138,000)

Environmental and Social Costs of Pesticide Use in Asian Vegetable Production Systems
Dr. Waibel, Dr. Upasena; GTZ (Baht 1,202,000)

Comparative Protein and Energy Requirement for Maintenance and Maximum Growth of Two Tropical Fish Species with Different Feeding Habits
Dr. Yakupitiyage; AIT Grant (Baht 45,000)

Supplementary Feeding of Fish in a Fertilized Pond Culture System
Dr. Yakupitiyage; IDRC (CAD\$172,000)

Miniproject WECDP Paddy Sowing Machinery
Prof. Nielsen; DANIDA (US\$7,000)

Miniproject WECDP Mechanical Paddy Weeder
Prof. Nielsen; DANIDA (US\$7,000)

ANNUAL REPORT

COMPUTER SCIENCE

COMPLETED

Implementation of an Inventory Status Reporting System; *Dr. Vilas; Bureau of the Budget, RTG (Baht 390,390)*

Microcomputer-Based Medical Expert Systems; *Dr. Vilas; UNU (US\$28,800)*

Development of an Expert System for Banknote Production Control
Dr. Vilas; Bank of Thailand (Baht 191,793)

Computer-Based Thai Sentences Analyser
Miss Ampai; National Electronics and Computer Technology Center (Baht 340,000)

IN PROGRESS

Application of Logic Programming as a Knowledge Representation Scheme
*Dr. Dung; AIT Grant (Baht 50,000) **

ENVIRONMENTAL ENGINEERING

COMPLETED

Simple Sand Gravel Filtration System for Rural Communities Water Supply
Dr. Vigneswaran; CIDA (Baht 150,000)

Applicability of Mobile Bed Filtration for Reuse of Domestic Wastewater in Bangkok
Dr. Vigneswaran; CIDA (Baht 75,000)

Krabi Thermal Plant
Mrs. Samorn; EGAT (Baht 2,114,780)

IN PROGRESS

Total Treatment and Recovery System for Agro-based Industrial Wastewater, Phase I: Technical and Economic Feasibility
Prof. Chongrak; IDRC (CAD\$120,570)

Sewage Purification through Aquatic Plants
Dr. Verink; GTZ (DM233,750)

Domestic Sewage Treatment Using Multi-Stage Reversing Flow Bioreactor (MRB)
Dr. Mino; JICA (Baht 200,000)

Detoxification of Municipal Sludge of Bangkok by Highly Active Bacterial Strains (Heavy Metals Removal); *Dr. Tran, Dr. Couillard, Prof. Chongrak; CIDA (Baht 75,000)*

Rotating Porous Biomass Support System for Treating High-Strength Organic Wastes
Dr. Tran; AIT Grant (Baht 37,500)

Air-lift Biological Contactor for the Removal of Heavy Metals by *Thiobacillus Ferrooxidans*
Dr. Tran, Dr. Couillard, Dr. R.D. Tyagi; CQVB (CAD\$90,000)

High Rate Anaerobic Treatment of Wastewaters by UASB Process
Dr. Harada; JICA (Baht 250,000)

ENERGY TECHNOLOGY

COMPLETED

Energy Design in Buildings: Validation of Softwares and Case Studies; *Dr. Mohanty, Dr. Traisnel; AFME (US\$ 10,000)*

Ageing Test of Different Locally Available Plastic Films as Gas Holders
Mr. Tentscher, Office of the Prime Minister GTZ (a part of US\$ 218,000)

Design and Construction of Hybrid Digester System for Pig Manure
Mr. Tentscher; GTZ (US\$ 5,000)

Feeding Pigs with Digested Slurry; *Mr. Tentscher, Mr. Wen, Shi-Ding, BRTC (co-investigator); GTZ (US\$14,000)*

Biocoal Project; *Dr. Bhattacharya, Dr. Shrestha; GTZ (US\$ 116,644)*

IN PROGRESS

Comparative Studies on Residential Energy Demand in Asian Countries; *Dr. Lapillonne, Dr. Y. Zhai; AFME (FF150,000)*

Information Dissemination on Energy Conservation in Commercial Buildings
Dr. Surapong; AFME (Baht 210,000)

Rational Use of Energy in Industry; *Prof. Mora, Dr. Mohanty; AFME (Baht 1,500,000)*

Energy Park Maintenance; *Mr. Bouix (Park Manager); AFME (Baht 550,000)*

Cooperative Programme on Energy and Development; *Dr. Dang, C.J. Lim, J. Acosta; CEC (US\$365,500), EGAT and the Govt. of Capiz Province, Phil., (in kind), Phase I (US\$182,000)*

Dissemination and Development of Technology for Energy Efficiency
Dr. Dang; CEC (US\$861,000), ASEAN members (in kind), Phase I (US\$445,100)

Environmental Implications of Electric Utility Planning in Selected Asian Countries
Dr. Shrestha; CIDA/AIT-CUC PP (Baht 75,000)

Solar Radiation Station and Instrument Calibration Centre; *Prof. Exell; CIDA/AIT (Baht 70,000)*

Solar Refrigeration Demonstration Project
Prof. Exell; CIDA/AIT (Baht 75,000)

Use of Torrefied Wood for Domestic Cooking; *Dr. Bhattacharya; CIDA/AIT-CUC PP (Baht 75,000)*

Membrane Technology; *Prof. Mora; UA CNRS 192 (Baht 150,000)*

Advanced Soda Process; *Prof. Mora; Midvaleur S.A. Agrosources (Baht 4,750,000)*

Planning for Natural Gas Utilization in Thailand; *Dr. Lapillonne; Mr. T. Lefevre AFME (FF 200,000)*

GEOTECHNICAL AND TRANSPORTATION ENGINEERING

COMPLETED

Traffic Operation and Management
Dr. Kuroda; JICA (Baht 356,984)

Investigation and Improvement of Dispersive Soils in Thailand (Phase I: Exploratory Project); *Dr. Indraratna; CIDA (Baht 70,000)*

Granular Piles for Foundation Treatment of Approach Embankments for Bridges and Viaducts on Soft Ground (Phase I)
Dr. Bergado; CIDA/AIT-CUC PP (Baht 75,000)

Finding Water for Laem Talumpuk Village
Prof. Prinya; CIDA/AIT-CUC PP (Baht 75,000)

Foundation Investigation for Extension of Cement Factory at Tab Kwang, Saraburi
Prof. Prinya, Dr. Noppadol; Siam City Cement Co. Ltd. (Baht 265,783)

Development of Village Water Supply from Groundwater; *Dr. Noppadol; Green Earn Project (Baht 200,000)*

IN PROGRESS

Development of Under-reamed Piling Technique and Equipment for Foundations of Low-Rise Houses/Structures in Low-Lying Marshy Areas Consisting of Organic Clay and Peat Deposits; *Prof. Balasubramaniam, Dr. Bergado; UNDP through UNCHS, Kenya (US\$30,000)*

Welded Wire Reinforced Earth (Mechanically Stabilized) Embankments with Cohesive Backfill on Soft Clays; *Dr. Bergado, Prof. Balasubramaniam; USAID (US\$150,000)*

Impact of Quaternary on Urban Development and Land Use of the Central of Thailand
Prof. Prinya, Dr. Raymond Yong (McGill University, Canada); IDRC (Baht 1,900,260)

A Comprehensive Water Transportation Study in the Bangkok Metropolitan Area
Dr. Yordphol; IDRC (Baht 590,000)

Environmental Geotechnical Engineering Problems in South East Asia
Dr. Honjo; JICA (Baht 212,040)

Test Embankment on Improved Ground by Deep Mixing Method; Dr. Honjo; Takenaka Civil Engineering Co. (Baht 355,160)

Granular Piles for Foundation Treatment of Approach Embankments for Bridges and Viaducts on Soft Ground, Phase 2; Dr. Bergado; CIDA/AIT-CUC PP (Baht 75,000)

An Investigation on Inverse Analysis Procedure of Geotechnical Coupled Analysis
Dr. Honjo; Kiso-Jiban Consultants Co. Ltd. (Baht 320,000)

Transportation Management in Asia
Dr. Mori; JICA (Baht 142,025)

Feasibility Studies on Transportation Projects in Southeast Asia
Dr. Fukuda; JICA (Baht 425,000)

Stabilization of Collapsible Soils in Thailand (Phase 2: Demonstration Project); Dr. Indraratna; CIDA/AIT-CUC PP (Baht 100,000)

Utilization of Fly Ash as Construction Material; Dr. Indraratna, Prof. Yudhbir, Prof. Balasubramaniam; CIDA/AIT-CUC PP Baht 200,000

HUMAN SETTLEMENTS DEVELOPMENT COMPLETED

Training Course Manual on Labour Administration for the Urban Informal Sector
Dr. Amin; AIT-CUC PP (Baht 100,000)

Low-Cost Housing in Bangkok
Dr. Amin; USAID (US\$7,360)

Extended Metropolitan Regions in Asia, Phase I; Prof. Robinson; AIT-CUC PP (CAD \$5,000)

IN PROGRESS

Informal Sector Dissemination/ Demonstration Project
Dr. Amin; AIT-CUC PP (Baht 50,000)

Informal and Formal Self-Help Housing in Urban Indonesia: a Comparative Assessment of Kampung, KIP and Perumnas Housing
Dr. Amin; USAID (US\$7,500)

Regional Analysis of an Emerging Metropolis: Cuttack, Bhubaneswar City Region, Eastern India: A Case Study
Dr. Routray; AIT Grant (Baht 44,000)

Impact of Decentralization on the Rural Poor - Collaborative Research Study (1990-1992)
Dr. Demaine; IDRC (US\$47,000)

Pilot Project for the Development of Ban Khok Kong, Tambol Nong Daeng, Amphur Na Chuak, Changwat Mahasarakham
Dr. Demaine; Green Esarn University Project (Baht 1,200,000)

Configuration of Agents in Multiple Socio-Economic Networks and Network Logit Analysis; Dr. Higuchi; JICA (Baht 220,000)

People's Image of Rural Development
Dr. Setty; CIDA (Baht 75,000)

Developing Entrepreneurship among Farm Women in Rice Based Economies of Asia
Dr. Setty, CIDA (Baht 75,000)

Eviction and Resettlement of Slum Communities in Bangkok; Dr. Yap Kioe-Sheng; AIT Grant (Baht 15,000)

Low-income Rental Housing in Bangkok
Dr. Yap Kioe-Sheng; IDRC/INHA (Baht 2,010,000)

Solid Waste Recovery and Recycling in Bangkok; Dr. Yap Kioe-Sheng; CIDA (Baht 75,000)

Extended Metropolitan Regions in Asia, Phase II; Prof. Robinson; AIT-CUC PP (CAD \$5,000)

INDUSTRIAL ENGINEERING AND MANAGEMENT COMPLETED

Inventory of Scientific and Technological Research Institutions in ASEAN Countries
Dr. Tang; EC (Baht 506,600)

MRP II Project
Mr. Bohez; CIDA (Baht 75,000)

IN PROGRESS

Production Planning for Perishable Products
Dr. Fujiwara; JICA (Baht 132,000)

Reliability Analysis of Flexible Manufacturing Systems
Dr. Nagarur; AIT Grant (Baht 50,000)

Statistical Quality Control Procedures for Food Products
Dr. Nagarur; CIDA (Baht 70,000)

Managerial Policies and Techniques for Public Bus Transit Systems in Asia
Prof. van Oudheusden; RUCA (Baht 4,342,200)

INTER-DISCIPLINARY NATURAL RESOURCES DEVELOPMENT AND MANAGEMENT

IN PROGRESS

Applications of GIS for Agricultural Development in Phattana Nikhom and Chai Badan, Lop Buri Province
HRH Princess Maha Chakri Sirindhorn, Dr. Apisit (Advisor); National Research Council of Thailand (Baht 444,300)

Study of Paddy Land Re-Modelling in Chachoengsao Province; Dr. Apisit; Dept. of Land Development (Baht 512,440)

Development and Management of Natural Resources on Hilly Land, Amphoe Um Phang, Tak Province; Dr. Apisit; Dept. of Land Development (Baht 289,000)

Surface Water Evaluation in Northeast Thailand: A Pilot Project Using Satellite Remote Sensing
Dr. Kaew; NESDB (Baht 7 million)

Survey of the Narcotics Growing Areas Using SPOT Imagery, Phase II; Dr. Galtier; French Government/ONCB (FF 620,000)

Growth of Middle Income Groups in Asian Cities: Environmental Implications
Prof. Webster; CIDA (CAD \$5,000)

STRUCTURAL ENGINEERING AND CONSTRUCTION COMPLETED

Properties of Concrete Using Z/10A and Z/12C Additives; Dr. Pichai, Mr. Chalut; General Engineering Ltd., Thailand (Baht 100,000)

Load Test of Roof Slabs
Dr. Pichai, Mr. Chalut; Kamthorn Panich Co. Ltd., Thailand (Baht 70,000)

Non-destructive Test of BMW's Concrete Transmission Tunnel; Prof. Worsak, Dr. Ueda, Mr. Chalut; BMW (Baht 178,888)

Finite Element Analysis of Rail Tank Wagon Structures; Prof. Worsak, Mr. Somporn; Thai Shell Exploration and Production Co., Ltd. (Baht 95,118)

Fracture Mechanics and NDE for Infrastructures in ASEAN Countries
Dr. Horii; JICA (Baht 202,839)

ANNUAL REPORT

Establishment of Rational Design Method for Concrete Structures and its Introduction to ASEAN; *Dr. Ueda; JICA (Baht 302,200)*

Investigation of Behavior of Steel-Concrete Composite Structures and its Design Method *Dr. Ueda; JICA (Baht 309,200)*

IN PROGRESS

MICRO-ACE Software Development Project Self-supported by income generated through software distribution and from organizing the microcomputer workshops for M/SEAP for practicing structural engineers in the region; *Prof. Worsak, Mr. Somporn; SEC Microcomputer Lab (Baht 565,752 ; July '89 - June '90)*

Finite Element Analysis of 13 Highway Interchange Structures; *Prof. Worsak, Mr. Somporn; Thai Engineering Consultants Co., Ltd. (Baht 249,951)*

Finite Element Analysis of Elevated Highway and Interchanges of Don Muang Tollway; *Prof. Worsak, Mr. Somporn; Thai Engineering Consultants Co., Ltd. (Baht 1,168,500)*

Vibration-Damping Estimation and Control for Infrastructures in ASEAN Countries *Dr. Yamaguchi; JICA (Baht 226,800)*

Durability Design of Concrete Structures for Infrastructures in ASEAN Countries *Dr. Maekawa; JICA (Baht 226,800)*

WATER RESOURCES ENGINEERING

COMPLETED

Low Pa Mong Project - Reservoir Sedimentation, River Degradation and Water Level Fluctuations at Downstream *Prof. Suphat; Interim Committee for Coordination of Investigation of the Lower Mekong Basin, Thailand (US\$ 21,312)*

Method for Short Term Forecast of Streamflow from Ungauged Catchments *Mr. Jensen; DANIDA (US\$ 4,877)*

Comparison Study of the NWS and the Mike 11 Dam Break Model *Mr. Jensen; DANIDA (US\$ 1,760)*

Stochastic Hydrological Modelling of Ungauged Catchments *Mr. Jensen; DANIDA (US\$ 4,877)*

Investigation and Research on Aquatic Environment in ASEAN Countries *Dr. Akiyama; JICA (US\$ 28,900)*

IN PROGRESS

Improved Large Scale Water Resources Development Planning *Prof. Harboe; GTZ (US\$ 100,000)*

Monitoring of Shoreline and Seabed of Map Ta Phut Port *Prof. Suphat; NSR Consulting Group (US\$ 91,417)*

Shoreline Erosion Study of Bang Tao Bay *Prof. Suphat; Thai Wah Co., Ltd. (Baht 1,896,000)*

LIBRARY AND REGIONAL DOCUMENTATION CENTER

IN PROGRESS

Ferrocement Information Network Activities for Rural Development *Mr. Vespry, Mrs. Austriaco; IDRC (US\$148,200)*

ASIAN DISASTER PREPAREDNESS CENTER

COMPLETED

South West Pacific Disaster Mitigation Study *Col. Ward; UNDRO (US\$4,800)*

IN PROGRESS

Regional Study on Disaster Mitigation *ADB (US\$356,000)*

Improving Cyclone Warning Response and Mitigation, a series of eight courses at AIT and selected countries in the region *CEC (ECU537,000)*

JOINT/ INTER-DISCIPLINARY PROJECTS

COMPLETED

Upgrading and Management of Sludge Treatment Facility at North Bangkok Water Treatment Plant; *Prof. Chongrak and Dr. Vigneswaran (EE), Mr. Prida (RRDC); MWA (Baht 1,233,280)*

Needs Assessment Study for the Improvement of Early Warning Systems and Disaster Relief Coordination in Thailand; *ADPC with subcontract to HSD for socio-economic survey of families affected by typhoon Gay in Chumphon and Prachuab Kirikhan; RTG, UNDP (US\$60,533)*

Digestion of Rice Straw/Cow Manure Mixtures and Water Hyacinth in 0.2, 5.0 and 20 cu.m. Hybrid Digester Systems *Mr. Tentscher (ET), Prof. Nielsen (AFE); GTZ (a part of US\$ 218,000)*

Power Production Improvement for the Selabam Mini-Hydropower Station Laos-PDR; *Prof. Suphat and Dr. Preecha (WRE), Mr. Prida (RRDC), Tata Consulting Engineers, India (US\$ 65,418)*

Hydraulic Model Study of Pak Mun Multi-purpose Development Project *Dr. Preecha (WRE), Mr. Prida (RRDC); EGAT (US\$ 79,994)*

Study for the Development of Amphur Nong Song Hong and King Amphur Na Poe, Khon Kaen and Buriram Provinces, derived from the suggestions made by His Majesty King Bhumibol Adulyadej of Thailand *Mr. Prida (RRDC), Dr. Kaew and Dr. Apisit (INRDM), Dr. Athapol (AFE), Dr. Kanchit (CS), Dr. Noppadol (GTE), Prof. Chongrak and Mrs. Samorn (EE), Dr. Pichai (SEC), Dr. Suvit (HSD), Dr. Preecha (WRE), Dr. Prida (ET); NESDB (US\$ 119,022)*

Environmental Impact Study for Bang Pakong Power Plant Extension (Bang Pakong III); *Mr. Prida (RRDC), Dr. Preecha (WRE), Mr. Prawit (KU), Mrs. Samorn (EE); EGAT (US\$ 78,015)*

Impacts of Thermal Discharge and Ash Pond Effluent on the Receiving Water Environment from 75 Mw Lignite Krabi Thermal Power Plant; *Mr. Prida (RRDC), Prof. Tawatchai (WRE), Mrs. Samorn (EE), Mr. Prawit (KU); EGAT (US\$ 83,260)*

Prefabricated Ferrocement Floating House *Dr. Pichai (SEC), Mrs. Austriaco (IFIC), Dr. Yap Kioe-Sheng (HSD); CIDAI/AIT-CUC PP (Baht 125,000)*

IN PROGRESS

AIT Aquaculture Outreach Research Project in Village Fisheries Development, Udorn Thani Province, Northeast Thailand (1988-1992) *Dr. Demaine (HSD), Prof. Edwards, Dr. Little, and Mr. Innes-Taylor (AFE); ODA (Baht 654,000)*

Pilot Development Project for Ban Hua Nong Waeng, Tambol Dorn Du, Amphur Nong Song Hong, Khon Kaen *Dr. Demaine (HSD), RRDC; Ramon Magsaysay Award Foundation (US\$10,000)*

Feasibility Study for Water Supply Facilities for Teacher Training Institute, Dong Dok, Vientiane *Mr. Schroder and Dr. Verink (EE), Prof. Worsak (SEC), Dr. Rantucci (GTE); UNESCO (Baht 174,534)*

Managerial Policies and Techniques for Public Bus Transit System *Prof. van Oudheusden and Mr. Bohez (IEM), Dr. Yordphol (GTE); Govt. of Belgium (Baht 4,000,000)*

Thai Women in Construction *Dr. Ogunlana (SEC), Mrs. Rost (HSD), Mrs. Austriaco (IFIC); CIDAI/AIT-CUC PP (Baht 75,000)*

Improved Operation and Management of Large-Scale Irrigation Systems; *Mr. Loof (WRE), Dr. Paudyal (ALWDP); GTZ (US\$ 136,252)*

Hydraulic Model Study for Final Design of Mae Taeng Hydroelectric Project *Mr. Prida (RRDC); Norconsult International AIS (Baht 1,547,000)*

ASEAN-EC Cogen Program *Mr. Bouix (ET, Project Manager), P. Girard, L. Lacrosse, Mr. Prida (RRDC); EC (ECU 430,000)*

Hybrid Digester System and Fertilizer Studies with Digested Slurry *Mr. Tentscher (ET), Prof. Nielsen (AFE); GTZ (Baht 140,000)*

International Program for Scientific Cooperation - Energy and Environment: Membrane Technology *Prof. Mora (ET); Mrs. Samorn and Dr. Sompol (EE); CNRS (Baht 350,000)*

Ozone and Granular Activated Carbon *Dr. Harada (EE), Prof. Mora (ET); Lyonnaise des Eaux Dumez and SAA Macau (US\$8,000)*

Investigation on Effects of Traffic Induced Vibrations and Soil Creep on Settlements of Reclining Buddha Image of Wat Po, Bangkok *Prof. Pisidhi (SEC), Dr. Noppadol, Dr. Bergado and Dr. Honjo (GTE); Fine Arts Dept., RTG, and AIT (Baht 580,000)*

ANNUAL REPORT

1990 CONTINUING EDUCATION ACTIVITIES

Agricultural and Food Engineering Division

- 10 July - 9 Aug Farm Mechanization (for three Vietnamese) / *FAO*
17 Sept - 9 Nov Aquaculture / *U.S. Peace Corp*
19-22 Nov Asian Farming Systems Research and Extension
/ *FORD, Rockefeller, UPWARD (CIP), ASEAN-CANADA, IDRC, AIT*
3-6 Dec International Agricultural Engineering / *AIT, IRRI, GTZ, CIDA*

Computer Science Division

- 21-23 Nov Computer Graphics and Its Applications / *NAFEN, AIT*
6-19 Dec Fifth Asian School on Computer Science: Foundations of Computer Graphics
/ *French Government, INRIA, CEC*

Environmental Engineering Division

- 5-6 Feb Biotechnology for Agro-Industrial Waste Management / *AIT, GTZ, IWD, STDB, UNESCO*
29-31 Aug Wastewater Treatment in Ponds / *IHE, Delft*
7-8 Nov Wastewater Management of Bangkok Metropolitan Region with Reference to Chao Phraya River
/ *AIT, CEFIGRE, Thai Organizations*

Energy Technology Division

- 17-26 Jan 7th Asian School on Energy: Industrial and Rural Power Production / *CEC, AFME, UNESCO*
7-8 Feb Energy Conscious Design / *ECCT*
22-29 Mar Energy in Industrial Processes Seminar / *INPL France*
28 Mar Energy and Economic Optimization of Industrial Processes Seminar / *ECCT*
25-29 June Sectoral Energy Demand / *ESCAP*
9-21 July Solar Refrigerator Repair and Maintenance / *WHO*
12-16 Nov Energy Efficient Training Program: Phase I, Building Energy Conservation / *IIEC*
19-22 Nov Second Acid Rain Workshop / *WB, UNEP*

Geotechnical and Transportation Engineering Division

- 7-8 May Mechanically Stabilized Earth and Other Ground Improvement Techniques / *CEC, Brunei Govt*
22-24 Aug Ground Improvement: Mechanically Stabilized Earth and Its Application
/ *CIDA, AIT, Christian University, Indonesia*
27-28 Aug Mechanically Stabilized Earth (MSE) and Its Applications
/ *CIDA, AIT, Phil. Institute of Civil Engineering*
26-28 Nov Developments in Laboratory and Field Tests in Geotechnical Engineering Practice / *SEAGS*
12-15 Nov Urban Development and Transportation in Asian Metropolises / *UNCRD, BMA, ERTAT, AIT*
16 Nov Urban Development and Transportation in Bangkok / *UNCRD, BMA, ERTAT, AIT*

Human Settlements Development Division

- 1-4 Aug Labour Administration for Urban Informal Sector in Indonesia (Ciloto, West Java)
/ *ILO/ARPLA, Dept. of Manpower, Indonesia*

Industrial Engineering and Management Division

- 6 Mar Preparation, Monitoring and Evaluation of Agricultural and Rural Development Projects / *CEC*
1-6 Apr Japanese Management System Workshop / *IDC-Japan*
7 May - 24 July Information Technology and Computerized Library Services / *LRDC*
4 June - 13 July Project Management / *CEC*
25 June - 20 July Project Monitoring and Evaluation / *CEC, AFE, HSD, CS, SEC*
16 July - 24 Aug Management of Training Center / *CEC, Advertised Course*
July System Dynamics / *INRDM*
13-24 Aug AIT-CUC Berkeley Executive Management / *CEC*
1-26 Oct Road Maintenance Management / *CEC*
2 Oct - Nov Ferrocement Technology for the Construction Industry / *LRDC*
8 Oct - 14 Dec Applied Remote Sensing / *INRDM*
2 Oct - 14 Dec Microcomputer Application in Water Resources Management / *CEC*
Nov System Dynamics / *INRDM*

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Inter-disciplinary Natural Resources Development and Management Program

- 8 Jan - 16 Apr Applied Remote Sensing
/ *Advertised Course, includes individuals sponsored by Govt of France, ADB, EC, AIT, Swiss Govt, US-ASEAN, IRRI, AIFM*
- 4-14 Feb Regional Center for Settlements and Resources Development - Colombo and Kandy, Sri Lanka
/ *CIDA, Govt of Sri Lanka*
- 9-17 Apr Three Dimension Technology from Space Imagery
/ *Govt of France, French Space Agency, UN ESCAP*
- 18-25 Apr Remote Sensing of Environment, co-hosted by AIT and INRIA / *Environmental Research Institute of Michigan, et al*
- 30 Apr - 4 Aug Natural Resources Information Management
/ *UNEP-GRID, Swiss Govt, Fiji Govt, WB, US-ASEAN*
- 3-18 May Remote Sensing Applied to Forest Survey
/ *French Govt, SEAMEO*
- 11-12 June ERS-1/SPOT Applications: A Complimentary Approach
/ *Govt of France, European Space Agency*
- 8-15 Aug Geology, Coastal Studies, and Image Processing (concurrent courses held in Jakarta)
/ *Govt of France and Office for Assessment of Technology, Indonesia*
- 16 Aug SPOT Applications Seminar, Jakarta / *French Govt and Office for Assessment of Technology, Indonesia*
- 6-24 Aug Microcomputers for GIS
/ *Advertised course, includes individuals sponsored by ICRISAT, CRSC, GTZ, FAO, ICIMOD, UNEP-GRID, AIT*
- 3 Sept - 14 Dec Applied Remote Sensing / *CDG*

Structural Engineering and Construction Division

- 25-28 May 6th Microcomputer Workshop for Structural Engineering Applications and Practice
/ *AIT, Engineering Institute of Thailand under H.M. the King's Patronage*

Water Resources Engineering Division

- 12 Sept Irrigation Management Game / *GTZ*
- 5-7 Nov Groundwater Resources Management / *IWRA, DMR (RTG), CIDA, GTZ, UNEP, UNESCO*

Continuing Education Center

- 29 Jan-23 Mar Preparation, Monitoring and Evaluation of Agricultural and Rural Development Projects for Indonesian Officials / *FAO, IEM, AFE, HSD*
- 26 Feb-20 Apr Urban Drainage and Flood Control for Indonesian Officials / *OECD, WRE*
- 14 May-8 June Marine Oil Pollution Prevention and Abatement for Developing Countries / *USAID, ASEAN, EE*
- 15 May Improvement of Teaching Strategies and Evaluation of Instructional System / *CIDA*
- 30 May-17 June Enterprise Management in Thailand and Malaysia for Vietnamese Officials, a Study Visit / *SIDA, SOM*
- 4-22 June Dam Safety / *FINNIDA, WRE, GTE*
- 6-19 June Fruits and Vegetables Farming / *Advertised Course*
- 11-22 June Monitoring and Evaluation of Agricultural and Rural Development Projects for Philippine Officials / *USAID*
- 27 June - 11 July Human Resource Management / *SOM*
- 2 July - 24 Aug Irrigation System Management / *WRE, ALWDP, IEM*
- 2 July - 24 Aug Irrigation System Management (Myanmar) / *WRE, ALWDP*
- 2 July - 24 Aug Microcomputer Application in Water Irrigation Management / *CS, WRE, ALWDP*
- 23 July - 24 Aug Irrigation Project Rehabilitation and Management / *WRE, ALWDP, CS*
- 6 Aug - 28 Sept Design, Construction, Operation and Maintenance of Small Scale Irrigation Systems for Bangladeshi Officials / *CIDA, WRE, ALWDP, IEM*
- 20 Aug - 14 Sept Managing Rural Development / *HSD, INRDM, IEM*
- 20 Aug - 14 Sept Regional Development Management for Indonesian Officials / *WB, HSD, INRDM*
- 27 Aug - 15 Sept Study Tour Program for Officials and Farmers Representatives from Sri Lanka / *USAID, WB, AFE*
- 27 Aug - 15 Sept Planning and Design of Small Scale Irrigation Project for Bangladeshi Officials / *ADB, WRE, ALWDP, CS*

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30 Aug - 7 Dec	Special Program in Energy Planning for Myanmar Officials / <i>ADB, UNDP, ET</i>
3-28 Sept	Small Business Management / <i>HSD</i>
13-21 Sept	Computer Educational Software Development, Evaluation and Dissemination (APEID) / <i>UNESCO, CS</i>
1-20 Oct	Current Trend on Irrigation Project Rehabilitation and Management in Thailand for Sri Lankan Officials / <i>USAID, AFE</i>
1-26 Oct	Road Maintenance Management for Pakistani Officials / <i>USAID, CS, GTE, IEM</i>
22 Oct - 14 Dec	Microcomputer Application in Irrigation Water Management for Bangladeshi Officials / <i>ADB, WRE, ALWDP, CS</i>
22 Oct - 1 Dec	Rice Breeding and Cropping System for Bangladeshi Officials / <i>ADB, AFE, WRE, ALWDP</i>
4 Nov - 29 Dec	Operation and Maintenance Management of Irrigation System Projects for Philippine Officials / <i>USAID</i>
5-16 Nov	Women and Water Study Tour for Nepalese Officials / <i>SNV</i>
5-30 Nov	Environmental Impact Assessment and Reviews / <i>EE, INRDM</i>
23-30 Nov	Integrated Agriculture in Thailand for Philippine Officials / <i>USAID, AFE</i>
26-30 Nov	Management of Hi-Tech Telecom Systems and Networks / <i>FINNIDA, ITU, NOKIA, TC, IEM</i>
3-21 Dec	Seminar Cum Study Visit for Fiji Officials / <i>ADB, WRE, ALWDP</i>
6-19 Dec	Fifth Asian School on Computer Science / <i>INRIA</i>

Some CEC activities are listed under the co-organizing academic divisions or centers.

Library and Regional Documentation Center

15 Jan - 16 Feb	Information Repackaging and Consolidation / <i>AGE, IDRC</i>
12-14 Feb	First International ENSICNET Workshop (Pakistan) / <i>ENSIC, ADB</i>
19 Feb - 23 Mar	Ferrocement / <i>IFIC, HIVOS</i>
19 Feb - 12 April	Concrete and Ferrocement / <i>IFIC, UNCHS/Habitat</i>
23-25 Apr	Second International ENSICNET Workshop (Philippines) / <i>ENSIC, ADB</i>
26-27 Apr	ENSICNET Network Meeting (AIT, Bangkok) / <i>ENSIC, ADB</i>
7 May - 27 July	New Information Technologies and Computerized Library Services / <i>UNIDO, IDRC, DSE, CFTC, WHO, ----</i> <i>USAID-ASEAN, Govt of France, ASEAN-CANADA, Asia Foundation,</i> <i>University Consortium on the Environment (Canada)</i>
17 - 19 July	Third International ENSICNET Workshop (Indonesia) / <i>ENSIC, ADB</i>
31 July - 4 Aug	Information on Water Supply and Sanitation / <i>ENSIC, ADB</i>
9 - 15 Sept	Second FIN Coordinators' Workshop and Study-Visit / <i>IFIC, IDRC</i>
1 - 12 Oct	Mini/Micro CDS/ISIS for Advanced Users / <i>LRDC (Systems), UNESCO, ICDDR-B</i>
15 Oct - 16 Nov	Ferrocement Technology for the Construction Industry: Its Applications and Management / <i>IFIC, USAID-ASEAN</i>
24 -27 Oct	Fourth International ENSICNET Workshop (PRC) / <i>ENSIC, ADB</i>
24 Oct-4 Dec	Information Technologies for Vietnamese Building Materials Technologists / <i>IFIC, UNCHS / Habitat</i>
13-16 Nov	Study Visit on Regional Information and Documentation Center Operations for PASTIC Deputy Director-General, Documentation in Islamabad / <i>ENSIC, UNESCO</i>
19-30 Nov	Mini/Micro CDS/ISIS for Advanced Users / <i>LRDC (Systems), PNUD, Bank of Ceylon, Tilleke & Gibbins</i>
26-30 Nov	Desktop Publishing / <i>REMIC</i>

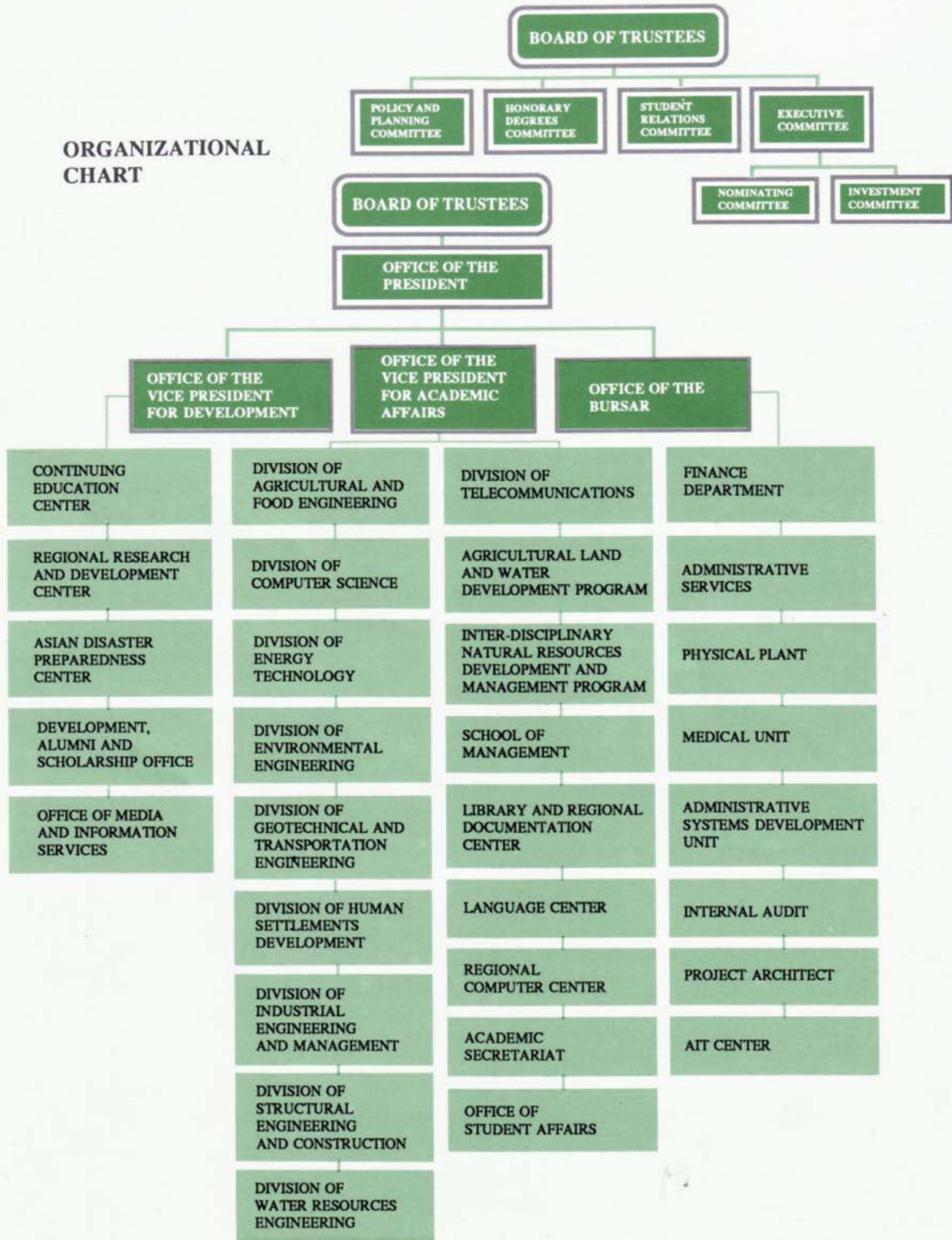
Asian Disaster Preparedness Center

3 - 16 Mar	Support to Third Philippine National Disaster Management Workshop in Manila / <i>UNDP, UNDRO</i>
10 - 11 Apr	Inception Workshop on ADB Study on Disaster Mitigation / <i>ADB</i>
16 Apr - 25 May	Disaster Management Course (DMC 9) / <i>UNDP, ODA, US-ASEAN,</i> <i>various NGOs, Advertised Course</i>
16 - 27 July	Improving Cyclone Warning Response and Mitigation / <i>CEC, Advertised Course</i>
1- 5 Oct	Regional Seminar on Disaster Mitigation / <i>ADB</i>
15 Oct - 23 Nov	Disaster Management Course (DMC 10) / <i>UNDP, ODA, US-ASEAN,</i> <i>various NGOs, Advertised Course</i>
25 Nov - 7 Dec	Support to Disaster Management Course for Sri Lankan Officials in collaboration with Ministry of Rehabilitation and Social Welfare and UNDP (Sri Lanka) / <i>UNDP</i>

Legend: Date, Topic of continuing education activity / sponsors and co-organizers

ASIAN INSTITUTE OF TECHNOLOGY

ORGANIZATIONAL CHART



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INSTITUTE ADMINISTRATION

SENIOR ADMINISTRATIVE OFFICERS

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 Vice President for Academic Affairs
 Vice President for Development
 Bursar
 Academic Secretary

Prof. Alastair M. North
 Prof. Helmut Eggers
 Prof. Ricardo P. Pama
 Mr. Edward Mayer
 Dr. Roger Hawkey

DIVISION CHAIRMEN

Division of Agricultural and Food Engineering
 Division of Computer Science
 Division of Energy Technology
 Division of Environmental Engineering
 Division of Geotechnical and Transportation Engineering
 Division of Human Settlements Development
 Division of Industrial Engineering and Management
 Division of Structural Engineering and Construction
 Division of Telecommunications
 Division of Water Resources Engineering

Dr. Sarath Ilangantileke
 Dr. Vilas Wuwongse
 Prof. J.C. Mora
 Dr. Takashi Mino
 Dr. Yusuke Honjo

Dr. Yap Kioe-Sheng

Prof. Prem Vrat

Prof. Worsak Kanok-Nukulchai

Prof. A.B. Sharma

Prof. Ashim Das Gupta

School of Management

Dr. Georges Hirsch (Director)

COORDINATORS OF INTER-DISCIPLINARY PROGRAMS

Agricultural Land and Water Development
 Natural Resources Development and Management

Dr. G.N. Paudyal
 Dr. John Lukens

CENTER DIRECTORS

Asian Disaster Preparedness Center
 Continuing Education Center
 Language Center
 Library and Regional Documentation Center
 Regional Computer Center
 Regional Research and Development Center

Lt. Col. Brian Ward (Ret).
 Dr. Nicanor C. Austriaco
 Mr. David Hall
 Mr. Arthur Vespry
 Dr. Charoon Chirapaisarnkul
 Mr. Prida Thimakorn

STUDENT AFFAIRS

Dean of Student Affairs
 Student Union President

Prof. R.B. Exell
 Mr. Wudhipong Kittitanasuan
 Mr. Tadatsugu Tamaki

Academic Divisions:

Dr. Vilas (succeeding Dr. H.N. Phien) was appointed in September 1990;
 Dr. Mino (succeeding Dr. S. Vigneswaran) was appointed in July 1990.

Academic Center:

Dr. Charoon (succeeding Mr. R. Gonzales, Acting RCC Director) was appointed in February 1990.

Student Affairs:

Mr. Wudhipong (succeeding Ms. Naruemon Pinniam) served as SU President from September 1989 to April 1990;
 Mr. Tamaki (succeeding Mr. Wudhipong) served his term of office from May 1990 to December 1990.

MEMBERSHIP OF THE BOARD OF TRUSTEES 1990

- Mr. Benjamin Bassin** (1991)
Director General
Finnish International Development
Agency (FINNIDA)
Ministry of Foreign Affairs
Helsinki, Finland
- Prof. M.Y. Bernard** (1991)
Professor Titular in Electronics
Conservatoire National des Arts et
Metiers
Paris, France
- Mr. Robert C. Bodden** (1992)
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J.P. Rooney & Associates Ltd.
USA
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Plenipotentiary
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- Sr **Prof. Khunyong Nongyao Chaiseri** (1993)
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Thai National Assembly
Royal Thai Government
Bangkok, Thailand
- Ex **Prof. Ashoka Chandra** (1993)
Sr Director
Institute of Applied Manpower
Research
New Delhi, India
- Pc **Prof. Srisakdi Charmonman**
President, AITAA
Bangkok, Thailand
- Mr. Arthur Y. Chen** (1993)
President
Ret-Ser Engineering Agency
Chinese Taipei
- The Hon. Cheng Hon-Kwan** (1993)
Director
H.K. Cheng and Partners Ltd.
Consulting Engineers
Hong Kong
- Ex **Mr. Chow Chowkwanyun** (1992)
Founder
Education and Public Welfare
Foundation
Bangkok, Thailand
- H.E. Mr. Johan H. Dahl** (1992)
Ambassador Extraordinary and
Plenipotentiary
The Royal Norwegian Embassy
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- # Life member
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- + Elected from the Faculty
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ANNUAL REPORT

ABBREVIATIONS

ADB	Asian Development Bank	ITU	International Telecommunications Union
AFME	French Agency for Energy Management	IWD	Industrial Works Department, Thailand
AIDAB	Australian International Development Assistance Bureau	IWRA	International Water Research Association
		JICA	Japan International Cooperation Agency
AIFM	ASEAN Institute of Forest Management	KEIDANREN	Federation of Economic Organizations, Japan
ASEAN	Association of Southeast Asian Nations	KU	Kasetsart University, Thailand
ARPLA	Asian and Pacific Regional Center for Labour Administration	MWA	Metropolitan Waterworks Authority, Thailand
		NAFEN	National Foundation of Indian Engineers
BMA	Bangkok Metropolitan Administration	NESDB	National Economic and Social Development Board, Thailand
BMWA	Bangkok Metropolitan Waterworks Authority		
BRTC	Biogas Research and Training Center for Asia and the Pacific	NHA	National Housing Authority, Thailand
		ODA	Overseas Development Administration, UK
CDG	Carl Duisberg Gesellschaft	OECF	Overseas Economic Cooperation Fund
CEC	Commission of the European Communities	PNUD	Programme des Nations Unies pour le Development, Vientiane, Lao PDR
CEFIGRE	Centre de Formation Internationale a la Gestion des Ressources en Eau		
		RTG	Royal Thai Government
CFTC	Commonwealth Fund for Technical Cooperation	RUCA	State University of Antwerp
CIDA	Canadian International Development Agency	SEAGS	Southeast Asian Geotechnical Society
CNES	Centre National D'Etudes Spatiales	SEAMEO	Southeast Asian Ministers of Education Organization
CNRS	Centre National pour La Recherche Scientifique	SIDA	Swedish International Development Authority
CQVB	Center Quebec Valorisation Biomass	SNV	Netherlands Development Organization
CRSC	Iranian Remote Sensing Center	STDB	Science and Technology Development Board
CUC/PP	Canadian University Consortium/Partnership Project	UNCHS	United Nations Commission for Human Settlements
DAAD	German Academic Exchange Service	UNCRD	United Nations Center for Regional Development
DANIDA	Danish International Development Agency	UNIDO	United Nations Industrial Development Organization
DMR	Department of Mineral Resources, Thailand	UNDP	United Nations Development Program
DSE	German Foundation for International Development	UNDRO	United Nations Disaster Relief Organization
DTEC	Department of Technical and Economic Cooperation, Thailand	UNEP	United Nations Environment Programme
		UNESCO	United Nations Educational, Scientific and Cultural Organization
EASEC - 2	Second East-Asia Pacific Conference on Structural Engineering and Construction	UNHCR	United Nations High Commissioner for Refugees
		UNICEF	United Nations Children's Fund
EC	European Community	UPWARD (CIP)	User's Perspective with Agricultural Research and Development (International Potato Center)
ECCT	Energy Conservation Center of Thailand		
EGAT	Electricity Generating Authority of Thailand	USAID	United States Agency for International Development
EIT	Engineering Institute of Thailand	WB	World Bank
ERTAT	Expressway and Rapid Transit Authority of Thailand	WHO	World Health Organization
ESCAP	Economic and Social Commission for Asia and the Pacific, UN	WMO	World Meteorological Organization
FAO	Food and Agriculture Organization, UN		
FINNIDA	Finnish International Development Agency		
GRID	Global Resources Information Database		
GTZ	German Agency for Technical Cooperation		
HEVOS	Humanistic Institute for Cooperation with Developing Countries, Holland		
ICDDR	International Center for Diarrhoeal Disease Research, Bangladesh		
ICMOD	International Centre for Integrated Mountain Development		
ICLARM	International Center for Living Aquatic Resources Management		
ICRISAT	International Crop Research Institute for Semi-Arid Tropics		
IDC	International Development Center, Japan		
IDRC	International Development and Research Center, Canada		
IIE	International Institute for Hydraulic and Environmental Engineering		
IIP/OHP	International Hydrological Program/Operation Hydrological Program, Germany		
IIEC	International Institute for Energy Conservation		
IIIT	Indian Institute of Technology		
IIT	Israel Institute of Technology		
ILO	International Labour Organization		
INPL	Institut National Polytechnique Lorraine		
INRIA	National Institute of Research in Computer Science and Automation, France		
IIRI	International Rice Research Institute		

OFFICES IN THE INSTITUTE

Divisions and Programs

AFE	Agricultural and Food Engineering
CS	Computer Science
EE	Environmental Engineering
ET	Energy Technology
GTE	Geotechnical and Transportation Engineering
HSD	Human Settlements Development
IEM	Industrial Engineering and Management
SEC	Structural Engineering and Construction
WRE	Water Resources Engineering
SOM	School of Management
TC	Telecommunications
ALWDP	Agricultural Land and Water Development Program
INRDM	Inter-disciplinary Natural Resources Development and Management

Centers

ADPC	Asian Disaster Preparedness Center
CEC	Continuing Education Center
RCC	Regional Computer Center
LRDC	Library and Regional Documentation Center
LC	Language Center
RRDC	Regional Research and Development Center
RERIC	Regional Energy Resources Information Center
ENSIC	Environmental Sanitation Information Center
IFIC	International Ferrocement Information Center
AGE	Asian Geotechnical Engineering Information Center

**The 1990 Annual Report of the Asian Institute of Technology
has been prepared by the Office of Media and Information Services.**

Released April 1991

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