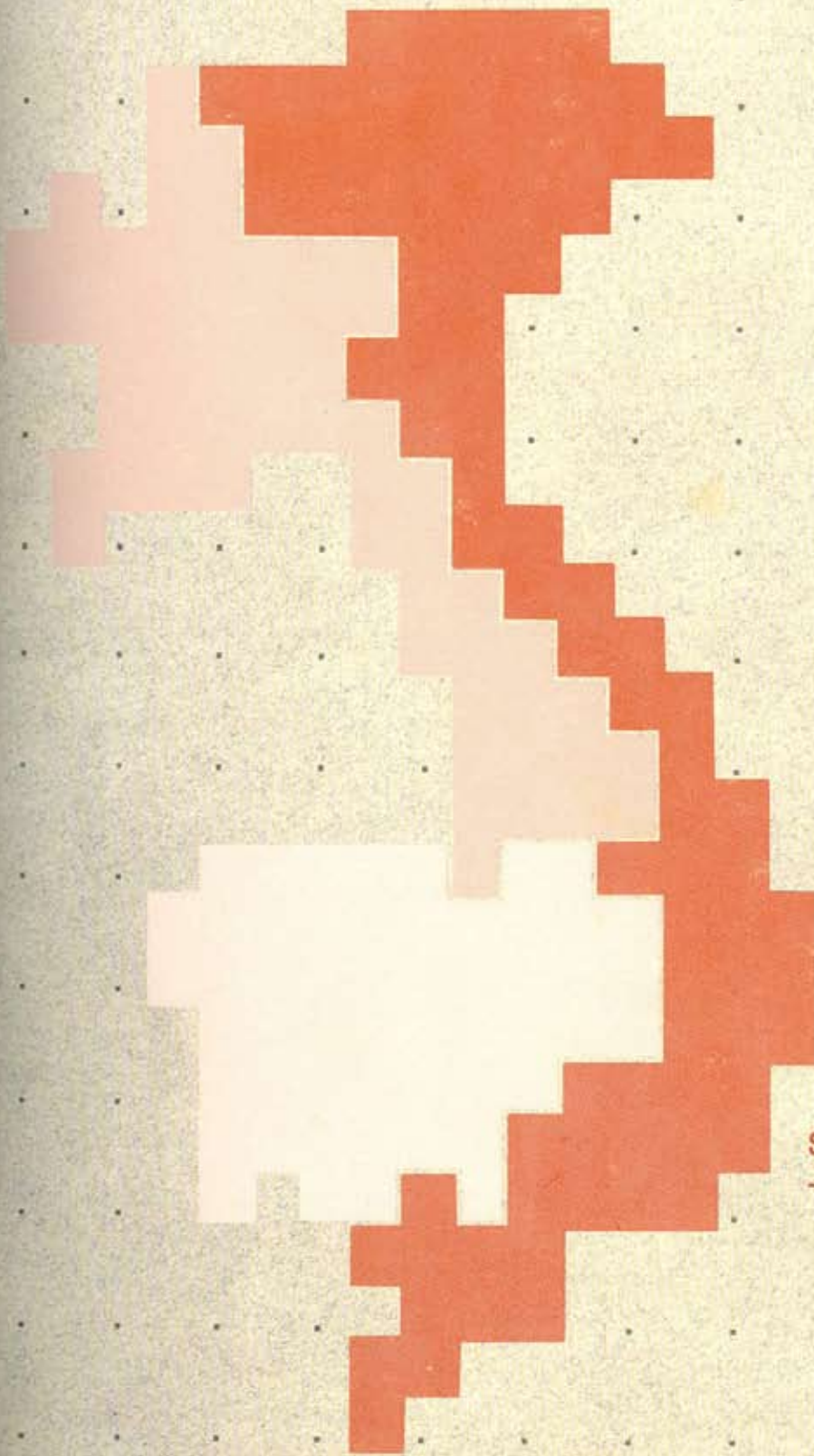


1991 Annual Report



Service to Vietnam, Laos and Cambodia
- an Institute initiative for the 1990s

CONTENTS:

| | |
|---|----|
| 1991 Membership of the Board of Trustees | 2 |
| Researching for Asia | 4 |
| President's Message | 6 |
| Academic Affairs | 8 |
| Outreach | 13 |
| Resource Generation | 16 |
| Central Administration | 22 |
| Alumni Relations | 24 |
| Appendix | 30 |
| 1991 Portfolio of Contract and Grant Research | |
| 1991 Continuing Education Activities | |
| List of Faculty | |
| Institute Administration | |
| Organizational Chart | |
| Financial Statements | |
| Abbreviations | |

COVER:

Service to Vietnam, Laos, and Cambodia

During the year, plans to establish an Institute presence in Vietnam, Laos, and Cambodia gained ground.

The first AIT branch will be set up in Vietnam, with the immediate task of conducting intensive short courses in market economy management as well as management of technology and technological industries.

Further expansion of training to be provided by the AIT center in Vietnam is expected to cover manufacturing systems engineering to modernize industry, and agricultural engineering to increase the efficacy of the country's agricultural base.

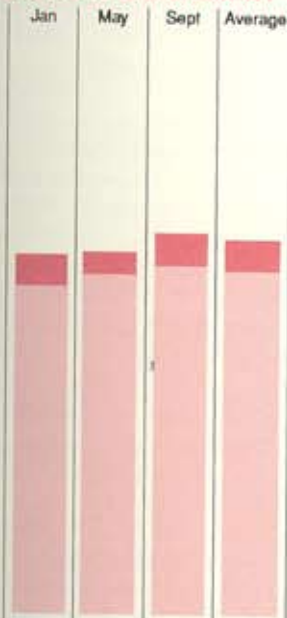
In Cambodia and Laos, Memoranda of Understanding signed with the Ministry of Education in Phnom Penh and the Ministry of Science and Technology in Vientiane provide the basis for Institute activities.

Priority will be given to strengthening the capability of selected educational institutions - the Polytechnic Institute in Vientiane, and in Cambodia, the Phnom Penh University, the Khmer Soviet Friendship University of High Technology and the Institute of Economics in Phnom Penh. The Institute's program of assistance will involve the provision of specialized short courses, the introduction of suitable "bridging" courses to meet the needs of Laotian and Cambodian students and enable their admission into the regular degree programs at the Institute, the rebuilding of library and information services, and the initiation of appropriate in-country research.



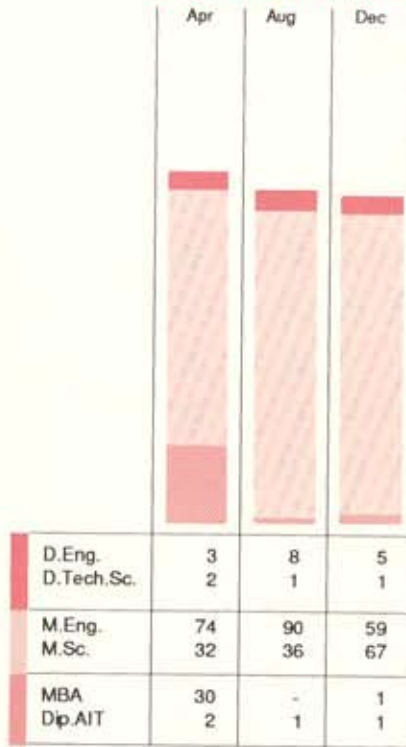
1991 IN BRIEF

STUDENT ENROLMENT

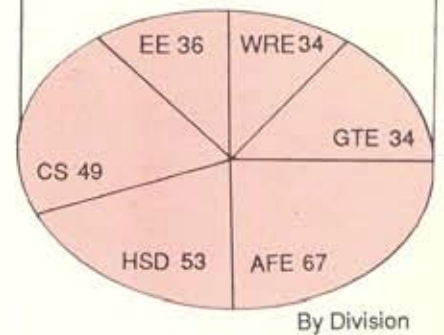
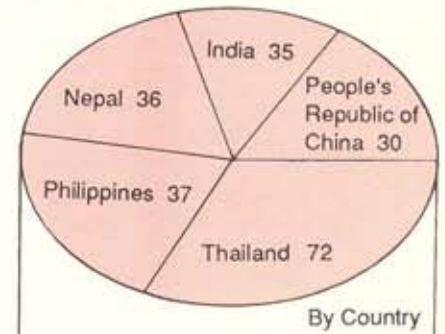


| | | | | |
|-------------|-----|-----|-----|-----|
| * Centers | 85 | 50 | 80 | 72 |
| Div./School | 805 | 851 | 869 | 842 |
| Total | 890 | 901 | 949 | 913 |

DEGREES AWARDED



FIVE LARGEST GROUPS OF GRADUATES



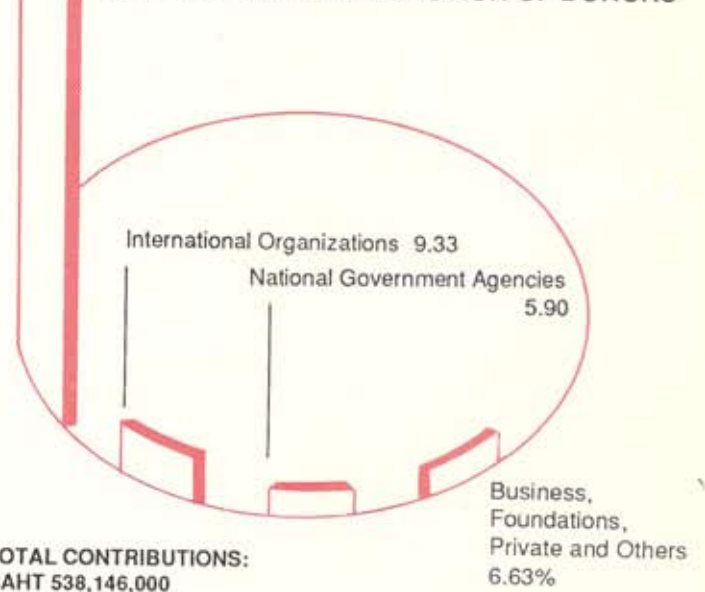
* Programs in Computer Application Development, Remote Sensing Training, and Talkbase.

FIVE LARGEST GROUPS OF ALUMNI 1961-91



Governments 78.15

PERCENTAGE CONTRIBUTION OF DONORS

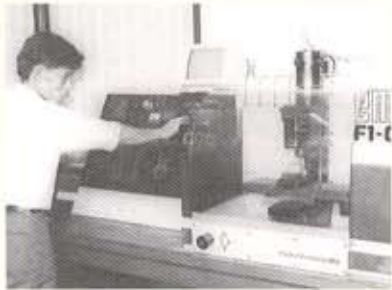


MEMBERSHIP OF THE BOARD OF TRUSTEES 1991

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Professor Titular in Electronics
Conservatoire National des
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- Mr. Robert C. Bodden** (1992)
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USA
- Ex **H.E. Mr. Richard Butler, AM** (1992)
Pc Ambassador Extraordinary and
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- Sr **Prof. Khunying Nongyao Chaiseri**
(1993)
Faculty of Commerce and Accountancy
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Ambassador Extraordinary and
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Former US Ambassador to Thailand
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Pc Vice President for Academic Affairs
Sr Asian Institute of Technology
- H.E. Mr. Gerard Fonjallaz** (1993)
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USA
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Ambassador Extraordinary and
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Dhaka, Bangladesh
- Ex **Dr. Thanat Khoman** (1993), *Chairman*
Sr Former Deputy Prime Minister
Royal Thai Government
Bangkok, Thailand
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Advisor
Matsushita Electric Industrial Co. Ltd.
Tokyo, Japan
- Dr. Jeffrey L. S. Koo** (1992)
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China Trust Co. Ltd.
Chinese Taipei
- Ex **Prof. Ir. B. Krol** (1994)
Pc Professor
Sr Faculty of Veterinary Medicine
Utrecht University
The Netherlands
- Sr **Prof. Dina M. Lavoie** (1994)
Director, Assumption
Management Chair, Administration
Faculty
Moncton University
New Brunswick, Canada
- Dr. Sang-Soo Lee** (1993)
Professor Emeritus
Department of Physics
Korea Advanced Institute of
Science and Technology
Seoul, Republic of Korea
- Mr. Barry B. Lennon** (1992)
General Manager, ASEAN Region
IBM World Trade Asia Corporation
Singapore
- H.E. Mr. Albert Maes** (1994)
Head of Delegation
Delegation of the Commission of the
European Communities for
South-East Asia
Bangkok, Thailand
- Dato Dr. Mohd. Mansor Salleh** (1994)
Director and Associate Professor
MARIA Institute of Technology
Selangor, Malaysia

| | | |
|---|---|---|
| Dr. Oscar B. Mapua # President Mapua Institute of Technology Manila, Philippines | Prof. Ratna S. J. B. Rana (1993) Member Center for Economics Development and Administration Tribuvan University Katmandu, Nepal | H.E. Mr. Giorgio Vecchi (1992) Ambassador Extraordinary and Plenipotentiary Italian Embassy Bangkok, Thailand |
| Ex Pc H.E. Mr. M. Ramsay Melhuish, CMG (1993) Ambassador Extraordinary and Plenipotentiary British Embassy Bangkok, Thailand | Ex Pc Sr Prof. Hiroyoshi Shi-igai (1992) Chairman Institute of Engineering Mechanics University of Tsukuba Tsukuba City, Japan | Mr. R. D. Verdoorn (1992) Vice President and General Manager Seagate Technology Thailand Pathumthanee, Thailand |
| H.E. Mr. Pierre de Muelenaere (1992) Ambassador Extraordinary and Plenipotentiary Royal Belgian Embassy Bangkok, Thailand | Sr Dr. Soedjatmiko (1993) Director Institute of Agricultural Engineering Ministry of Agriculture Jakarta, Indonesia | Ex H.E. Mr. Georges-Emile Vinson (1993) Ambassador Extraordinary and Plenipotentiary French Embassy Bangkok, Thailand |
| Ex Pc Prof. Alastair M. North President Asian Institute of Technology | Pc Prof. Charas Suwanwela (1992) President Chulalongkorn University Bangkok, Thailand | Ex H.E. Baron Berthold von Pletten- Arnbach (1994) Ambassador Extraordinary and Plenipotentiary German Embassy Bangkok, Thailand |
| Ex H.E. Mr. Hisahiko Okazaki (1992) Ambassador Extraordinary and Plenipotentiary Embassy of Japan Bangkok, Thailand | H.E. Mr. Olov Ternstrom (1994) Ambassador Extraordinary and Plenipotentiary Embassy of Sweden Bangkok, Thailand | Ex Pc Prof. Suphat Vongvisessomjai + Faculty Representative Asian Institute of Technology |
| Ex H.E. Mr. Anand Panyarachun (1993) Prime Minister Royal Thai Government Bangkok, Thailand | H.E. Dr. Phaichitr Uathavikul (1994) Minister of the Prime Minister's Office Royal Thai Government Bangkok, Thailand | Prof. Zhong Lie Wang (1994) Director, Office of the ADCC State Education Commission Beijing, People's Republic of China |
| Ex Pc H.E. Mr. Arthur C. Perron (1994) Ambassador Extraordinary and Plenipotentiary Canadian Embassy Bangkok, Thailand | Ex H.E. Dr. Snoh Unakul (1994) Deputy Prime Minister Royal Thai Government Bangkok, Thailand | Mr. Haydn Williams (1992) Former President Asia Foundation USA |
| Ex Dr. Panom Pongpaibool (1994) Secretary-General Office of the National Education Commission Bangkok, Thailand | Dr. Puey Ungphakorn # Former Governor Bank of Thailand London, UK | Secretary: Emilie Ketudat (Mrs.) Asian Institute of Technology |
| Pc Dr. Wolf Preuss (1992) Deputy Director General (Asia) Federal Ministry for Economic Cooperation Bonn, Germany | NOTES: | |
| Dr. S. M. Qureshi (1992) Federal Secretary Youth Affairs Division Government of Pakistan Islamabad, Pakistan | ● Ex Officio Member: President, Vice-President for Academic Affairs President of the AIT Alumni Association | |
| | # Life member In all other cases, the period of appointment terminates in the year shown in brackets, normally after the January Board meeting. | |
| | + Elected from the Faculty | |
| | Ex Member of the Executive Committee | |
| | Pc Member of the Policy and Planning Committee | |
| | Sr Member of the Student Relations Committee | |

RESEARCHING



The computer integrated manufacturing laboratory supports teaching and research in manufacturing systems engineering, which covers different aspects of real life manufacturing including computer aided design, robotics, automation, artificial intelligence and flexible manufacturing systems.

Top photo, an educational milling machine, one of the EMCO CNC systems found in the CIM laboratory. Above, an LVD CEC press brake for sheet metal work.



The agricultural and food engineering laboratories provide facilities for research in machinery, food processing, instrumentation, soil physics and the analysis of soil, water, feeds and biological materials. Aquaria and accessories for the nutritional and physiological study of fish are found in the wet laboratory.

Above, soil tillage in a laboratory soil bin and the spray drying of coconut milk are topics of two on-going research projects.

The founding principles of relevance, service and excellence continue to inspire the work of the Institute. Its ceaseless quest for innovation and its commitment to remain on the cutting edge of technological progress in our dynamic region demonstrate the value placed on research in the development of Asia.

From the beginning the Institute has dedicated itself to high research standards. In the first two years of operation as the SEATO Graduate School of Engineering, efforts to organize research were concentrated on equipping the civil engineering laboratories. The first projects were, of course, for student thesis work. Later, the research facilities and staff services of the School were offered to government agencies and private companies.

By April 1962, the first "List of Research Studies" was published. It contained 55 projects, most of

which were student thesis projects.

From an initial focus on civil engineering, the Institute's unrelenting efforts to stimulate research are currently targeted on four major areas of specialization: infrastructure engineering, agricultural and natural resources engineering, manufacturing systems engineering, and management and planning.

Since those early SEATO years, the growth of research carried out at the Institute has been considerable. Statistics on 1991 research activities indicate a total of 232 sponsored research projects conducted by the academic units and over 400 student thesis projects carried out by Master's and Doctoral graduates, as part of their degree requirement. Student research may be fundamental or applied, but is always related to the solution of problems in the region.



The telecommunications laboratories contain the most up-to-date, yet appropriate, transmission systems, exchanges, instrumentation for measurements and other support equipment. The largest switching system in the laboratories is the DX 200.

Students study the behavior of signals and noise during transmission (above) and familiarize themselves with the DX 200 (above, right).



Above, students compare the quality of video-telephone connection through an ISDN switching system.

FOR ASIA

Then, there is the sponsored and contract research performed by the Institute. This clearly assists in the achievement of the Institute's mission objectives and strengthens its regional research role. Sponsored and contract research also encourages collaborative research activity, on campus and off, with a wide range of institutions, organizations and enterprises. It demonstrates the key role played by the Faculty as principal investigators, often assisted by colleagues across several academic units, with current students as well as alumni research associates contributing as they learn on-project. This has long proved an excellent means of both optimizing the balance between teaching and research at the Institute, and providing cost- and value-effective research for the sponsor.

In 1991 the Institute introduced a significant quality-control initiative through the establishment of a Research Steering Group. The twin thrusts of this exercise - the survey of faculty interests, experience, and attitudes, and a historical comparative analysis of research over the past twelve years - are essential steps towards the establishment of a more coherent policy on research and consultancy at the Institute.

The Group's activities are further reported on pages 6, 8 and 13.

The growth of research in the Institute is evidenced by the expansion of facilities for research and experimentation. Facilities opened in 1991 are featured in these pages together with others that became a part of AIT in recent years.



The largest of several sections in the hydraulics laboratory is used for experimental work on open channel, sediment transport, wave motion, river and estuary models, and hydraulic structure. A large wave basin provides facilities for studying coastal processes.

Above, a mobile-bed hydraulic model for the Sunsari Morang Irrigation II Project, Nepal.



The remote sensing laboratory comprises three mutually-supporting facilities: visual analysis, digital analysis, and photographic processing.

Image interpretation is carried out using satellite pictures produced by the remote sensing laboratory (top photo).

Above, laboratory facilities for digital image processing cover a wide range of sophistication and power.



Research in geotechnical and transportation engineering covers different aspects of civil engineering and resource development. Facilities to support investigations in soil engineering, engineering geology, geophysics, rock mechanics, airphoto interpretation, traffic engineering, and highway materials are found in the geotechnical and transportation engineering laboratories.

Students conduct a constant volume direct shear test on residual soil sample (above), and a consolidation test on soft clay sample using a Rowe Oedometer (above, right).

Research in environmental engineering is carried out in the main laboratory, the ambient laboratory, the environmental research station which provides pilot facilities for industrial and hazardous waste control, and the mobile laboratory, which is used for water and wastewater analysis.

Right: An airlift bioreactor coupled with polyurethane biomass support system (SPSS) in a biocontactor is used to remove heavy metals from anaerobically digested sludge (using *Thiobacillus Ferrooxidans*).



PRESIDENT'S MESSAGE

In my annual report to the Board of Trustees, I described 1991 as a year of "academic planning implemented and longer range strategic planning initiated".

Consistent with the Institute's cautious movement towards new technologies, the degree program in Telecommunications admitted its first students and took up residence in a brand new building generously provided by the Government of Finland. During the year too, a similar building for Computer Science, funded by the Royal Thai Government, was opened to complete the north frontage of an "academic avenue", stretching from the Agricultural and Food Engineering Building in the west to the Energy Technology Buildings in the east. A new Computer Integrated Manufacturing Laboratory, funded by the Governments of Austria and Belgium, was also opened. It is now providing high technology instruction to students in the new Manufacturing Systems Engineering Program.

These exciting new academic ventures were initiated without subtracting resources or energies from existing academic activities of the Institute. As a result the number of students registered on the degree and related programs of the Institute exceeded the 900 mark for the first time, and the level of faculty involvement in teaching and research stood at an all time high. Clearly distinguishable in all this activity was, over the year, a marked increase in short course endeavors aimed particularly at upgrading professional persons already in employment. Such increases were reflected in the activities carried out by the Centers (Continuing Education, Asian Disaster Preparedness, Regional Computer, and Library and Regional Documentation), as well as by the Academic Divisions and the School of Management. Outreach programs are now seen as being a fundamental component in the "mission" of the Institute.

Consideration of the mission, objectives and activities of the Institute brings me to a major Strategy Study conducted over 1991.

It is very clear that the Institute stands at a crossroad in terms of funding and regional service. How can AIT continue to be of service to both the highly developed and the least developed countries of



Her Royal Highness Princess Maha Chakri Sirindhorn of Thailand graciously presided over the opening of the Computer Science Building on December 12. The Baht 17 million building is a gift from the Royal Thai Government.



The Government of Finland funded the construction of the Telecommunications Building and provided laboratory equipment. Dr. Thanat Khoman, Chairman of the AIT Board of Trustees, is photographed with H. E. Mr. Eero Salovaara, the Ambassador of Finland to Thailand, at the building's official opening in May.



The Computer Integrated Manufacturing laboratory was officially opened on September 23. H. E. Mr. Erich Binder, the Ambassador of Austria to Thailand, and H. E. Mr. Pierre de Meulenaere, the Ambassador of Belgium to Thailand, jointly presided over the inauguration ceremony.



Asia? Should it opt for one group rather than the other? How can AIT establish a stable long term future, while developed country aid donations to Asia taper off (due to recession at home, re-oriented aid priorities, increasing Asian prosperity, and so on)?

A very detailed examination of these questions resulted in a strategic policy recommendation to the Board of Trustees that the Institute re-define its mission, and promote this in such a way that a progressively greater share of financial support of the Institute can be taken by the Asian countries themselves. Suggestions on implementing this strategy will be formulated during 1992.



Looking at the countries of the region, a significant development in 1991 was the growth of service to Cambodia, Laos and Vietnam. A number of delegations visited these countries over the year, and projects are now under way to strengthen educational institutions in each country as well as to upgrade library information services and related academic support activities.

As I reported last year, academic growth continues to place a strain on residential accommodation on campus. The opening in 1992 of new student dormitory blocks, providing a total of 180 rooms, will be of particular benefit to short course activities, where many possible programs have not been implemented because of the shortage of suitable accommodation for attendees. Another critical problem has been brought about by the increasing number of faculty and staff who now wish to move out of Bangkok and to live on campus.

The original campus design considered that only a small minority of senior personnel would wish to live

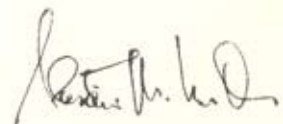


His Royal Highness The Prince Philip, Duke of Edinburgh, was conferred the Honorary Degree of Doctor of Technology, at a ceremony held on November 1, in recognition of his work in the protection, preservation and conservation of the environment and of wildlife worldwide.

on campus, but almost without exception all new arrivals to the Institute expect to be so accommodated. 1992 will see some urgent construction in an attempt to alleviate this difficulty.

A major ceremonial event during the year was the award of an honorary degree to His Royal Highness The Prince Philip, Duke of Edinburgh, in recognition of his services to the protection of the natural environment. The degree was conferred during a special graduation ceremony, and the proceedings very effectively focussed the attention of the Institute on environmental matters, as indeed it called attention in Thailand and the UK, on AIT's concern for such issues. It was an exciting and satisfying event in every way and the Institute is honored by, and grateful for, His Royal Highness' support.

The year ended on a satisfying academic, ceremonial and financial note. As this report details, the Institute was able to add to its Reserve Funds. We look to the future, therefore, with renewed confidence and excitement, made possible by the wonderful efforts and dedicated service of Trustees, Alumni, Faculty and Staff. To all of them I extend my warmest thanks and appreciation.



Alastair North

ACADEMIC AFFAIRS

Far-reaching changes are in process opening an extraordinary range of opportunities for the Institute in the long term.

Strategic Direction for the Institute

Detailed analyses of the Asian region's development pattern, and the consequent opportunities and problems posed to the Institute, provide the bases for recommendations put forward by the AIT Strategy Study Group. The Group's study, which was carried out in 1991 with funding support from Germany, stresses the urgent need for AIT "to develop a clear, coherent and unique educational, research and service role in the region. Such a role would allow AIT to capitalize on its present and potential strengths and competitive advantage, and to have maximum development impact."

Relevant measures are being discussed to enable AIT to respond to this role.

AIT Center in Vietnam

Planning for a non-degree center in Vietnam moved ahead under the cautious guidelines issued by the Board of Trustees. The underlying goal is to improve support for Vietnam, particularly in developing management and industrial engineering skills to assist the country's move to a market economy.

A parallel move involves the design and development of post-graduate degree programs, which will complement the kind of training that the Institute plans to carry out in disadvantaged countries, including Vietnam.

ENROLMENT TRENDS

Full-time Enrolment

The full-time enrolment, which includes regular academic programs and courses in remote sensing and PCAD (Program in Computer Applications Development), rose by 10 per cent over the previous year.

Much of the growth in the degree student population was accounted for by the Master's program.

Constrained by the difficulty of obtaining scholarship support for Doctoral candidates, the Institute made little progress towards the objective of reaching a Doctoral student enrolment of 20 per cent of the total degree student population.

In spite of the limited availability of grants for the Doctoral program, however, the demand for admission was high as evidenced by initial response to a joint cooperation program for human resources development, signed by the Institute

1991 Student Enrolment

| Term | Divisions/ School* | Centers** | Total |
|---------|-----------------------|-----------|-------|
| Jan | 805 | 85 | 890 |
| May | 851 | 50 | 901 |
| Sept | 869 | 80 | 949 |
| Average | 842 | 72 | 913 |

* All Programs

**PCAD,RS,Talkbase

with the Royal Thai Government. For every three students admitted into the joint program, two will be supported by the Thai Government and one by AIT. The program has generated wide interest among potential candidates, demonstrating that the demand for Doctoral studies is there and that funding sources/mechanisms for the Doctoral program are waiting to be tapped.



Female students accounted for 20 per cent of the total enrolment in 1991. There was also a good number of students from North America and Europe.



Country Representation

The pattern of enrolment showed an evident trend towards higher representation for less developed countries, as seen in the growing proportion of Vietnamese students (increasing from two to seven per cent) and of Nepalese students (increasing from four to seven per cent). Increased enrolment was also noted for Laos, Myanmar and the People's Republic of China.

However, the proportion of students from the more developed countries dropped or remained static, as seen in the enrolment figures for Japanese, Korean and Malaysian students. Enrolment from Chinese Taipei dropped from 10 per cent of the student population in 1986, to five per cent in September 1991.



In 1991 the Institute experienced a notable increase in the number of students from Vietnam and Nepal.

1991 Student Enrolment By Country

| | Jan | May | Sept |
|----------------------------|------------|------------|------------|
| Australia | 1 | | |
| Bangladesh | 36 | 41 | 43 |
| Belgium | 1 | 1 | 3 |
| Bhutan | 6 | 2 | 4 |
| Brunei | 5 | 16 | 9 |
| Cambodia | | | 3 |
| Canada | 3 | 8 | 2 |
| People's Republic of China | 64 | 59 | 67 |
| Chinese Taipei | 54 | 40 | 46 |
| Egypt | 1 | | |
| Finland | | | 1 |
| France | 7 | 6 | 5 |
| Germany | 1 | 1 | |
| Hong Kong | 2 | 1 | 1 |
| India | 60 | 69 | 64 |
| Indonesia | 37 | 42 | 74 |
| Japan | 9 | 7 | 8 |
| Kenya | 2 | 4 | 1 |
| Republic of Korea | 15 | 8 | 11 |
| Laos | 9 | 17 | 9 |
| Macao | | | 2 |
| Maldives | 1 | 1 | 1 |
| Malaysia | 25 | 21 | 27 |
| Myanmar | 43 | 45 | 45 |
| Nepal | 75 | 79 | 68 |
| Netherlands | 1 | 1 | 2 |
| Pakistan | 54 | 57 | 64 |
| Papua New Guinea | 2 | 1 | 4 |
| Philippines | 73 | 84 | 79 |
| Singapore | 4 | 1 | |
| Sri Lanka | 55 | 57 | 61 |
| Sweden | 1 | 1 | |
| Switzerland | 2 | 1 | 1 |
| Tanzania | 1 | 1 | 1 |
| Thailand | 163 | 146 | 170 |
| United States of America | 1 | 3 | 3 |
| Vietnam | 76 | 79 | 68 |
| Zimbabwe | | 1 | 2 |
| Total | 890 | 901 | 949 |

Annual Average 913

Enrolment of Women

In line with the Institute's policy to assist women, to enable them to play their full role in the development of the Asian region, female enrolment is carefully monitored and more strongly targeted by donors. In 1991, female students accounted for 20 per cent of the total enrolment. As with the previous year, however, the female student population was mostly confined to certain fields and represented relatively few nationality groups.



Self-supporting Students

As part of the Institute's continuing efforts to encourage students to contribute to their study costs and to reduce their dependence on traditional, general-purpose scholarship grants, the financial background of candidates who qualify for admission are rigorously evaluated, to help determine their real need for scholarship support. The academic units are encouraged to offer a greater number of partial scholarships, requiring the entrants to pay for one or more of the cost elements of their study period. In 1991 the number of applicants seeking financial aid remained high, with 95 per cent of the more than 3,000 applications received requesting AIT financial aid.

GRADUATE RECORD

By Degree

| | Apr | Aug | Dec | Total |
|--------------|------------|------------|------------|------------|
| D. Eng. | 3 | 8 | 5 | 16 |
| D. Tech. Sc. | 2 | 1 | 1 | 4 |
| M. Eng. | 74 | 90 | 59 | 223 |
| M. Sc. | 32 | 36 | 67 | 135 |
| MBA | 30 | 1 | 1 | 31 |
| Dip. AIT | 2 | 1 | 1 | 4 |
| Total | 143 | 136 | 134 | 413 |



By Country

| | | | | | | | |
|----------------------------|---|---|----|----|---|---|----|
| Bangladesh | | | 10 | 3 | 2 | 1 | 16 |
| Bhutan | | | 1 | | | | 1 |
| Canada | | | | 1 | | | 1 |
| People's Republic of China | 2 | 1 | 15 | 9 | 3 | | 30 |
| Chinese Taipei | | | 16 | 6 | 6 | | 28 |
| Egypt | | | | 1 | | | 1 |
| France | | | | 1 | 1 | | 2 |
| Germany | | | | 1 | | | 1 |
| Hong Kong | | | 2 | | | | 2 |
| India | 5 | | 19 | 8 | 2 | 1 | 35 |
| Indonesia | | 1 | 8 | 6 | | | 15 |
| Japan | | | 5 | 2 | | | 7 |
| Korea | 1 | | 6 | | 1 | | 8 |
| Laos | | | 2 | 1 | | | 3 |
| Myanmar | | | 14 | 9 | | | 23 |
| Malaysia | | | 7 | 3 | 2 | | 12 |
| Nepal | 3 | | 19 | 12 | 2 | | 36 |
| Papua New Guinea | | | | 1 | | | 1 |
| Philippines | 1 | | 19 | 14 | 3 | | 37 |
| Pakistan | | | 17 | 7 | 1 | | 25 |
| Sri Lanka | | | 17 | 8 | 2 | 1 | 28 |
| Sweden | | | | 1 | | | 1 |
| Thailand | 3 | 2 | 35 | 26 | 6 | | 72 |
| Vietnam | 1 | | 10 | 15 | | 1 | 27 |
| Stateless | | | 1 | | | | 1 |

| | | | |
|--------------|--|----------|--|
| D. Eng. | | MBA | |
| D. Tech. Sc. | | Dip. AIT | |
| M. Eng. | | Total | |
| M. Sc. | | | |

By Division

| | | | | | | | |
|-------|---|---|----|----|----|---|----|
| AFE | 3 | | 33 | 30 | | 1 | 67 |
| CS | 2 | | 28 | 18 | | 1 | 49 |
| ET | 1 | 1 | 27 | 2 | | | 31 |
| EE | 2 | 1 | 25 | 8 | | | 38 |
| GTE | 2 | 1 | 23 | 8 | | | 34 |
| HSD | 1 | | | 51 | | 1 | 53 |
| IEM | | 1 | 29 | 2 | | | 32 |
| INRDM | | | 1 | 15 | | 1 | 17 |
| SEC | | | 28 | 1 | | | 29 |
| SOM | | | | | 31 | | 31 |
| WRE | 5 | | 29 | | | | 34 |

| | | | |
|--------------|--|----------|--|
| D. Eng. | | MBA | |
| D. Tech. Sc. | | Dip. AIT | |
| M. Eng. | | Total | |
| M. Sc. | | | |

GRADUATION AWARDS

April

August

December

HISAMATSU PRIZE

Given from funds provided in 1982 by Prof. Yoshihiro Hisamatsu, former Dean of the Faculty of Engineering, University of Tokyo, and at present Adviser in Technology for Nisshin Steel Co. Ltd., Japan.

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 (1971-81).

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 (1967-88).

MAHESH VARMA PRIZE

Established from funds provided by Prof. Mahesh Varma, in recognition of the most outstanding graduate in structural engineering and construction.

NORSK DATA PRIZE

Given from funds provided by Norsk Data, Norway.

CHIN FUNG KEE PRIZE

Awarded from funds contributed in 1990 by the distinguished students of the late Professor Chin Fung Kee, former Vice-Chancellor, University of Malaya, and past President of the Southeast Asian Geotechnical Society.

KEIDANREN AWARD

Established in 1990 with funding support from KEIDANREN, this award is presented to a female graduate in recognition of her outstanding academic performance.

The KEIDANREN Award was presented in April as the **YOHEI MIMURA PRIZE**.

The KEIDANREN Award was presented in August as the **YOHEI MIMURA PRIZE**.

The KEIDANREN Award was presented in December as the **ESHIRO SAITO PRIZE**

Mr. Arumugam Sathasivan (EE), Sri Lanka
Adviser: Dr. T. Mino

Mr. Joseph Paul C. Sianghio (SOM), Philippines
Adviser: Dr. G. Hirsch

Mr. Pruettha Nanakorn (SEC), Thailand
Adviser: Prof. Worsak Kanok-Nukulchai

Miss A.M.P. Ratnayake (GTE), Sri Lanka
Advisers: Prof. A.S. Balasubramaniam/
Dr. B. Indraratna

Mrs. Nguyen Thi Kim Oanh (EE), Vietnam
Adviser: Dr. J. Verink

Mr. Romualdo Cadiante Martinez (AFE), Philippines
Adviser:
Prof. V.K. Jindal

Mr. Aung Kyaw Than (ET), Burma
Adviser:
Dr. S.C. Bhattacharya

Mr. Winyu Rattanapitikorn (WRE), Thailand
Adviser:
Prof. Tawatchai Tingsanchali

Miss Thitima Songsakul (AFE), Thailand
Adviser: Dr. Suthad Setboonsarng

Mr. Nirmal Kumar Baid (IEM), India
Adviser:
Dr. N.N. Nagarur

Miss Kyoko Kusakabe (HSD), Japan
Adviser: Dr. Y. Higuchi

Mr. Ngo Huu Liem (CS), Vietnam
Adviser: Dr. Phan Minh Dung

Mrs. Mona Shrestha Joshi (HSD), Nepal
Adviser:
Prof. K. E. Weber

CURRICULAR DEVELOPMENTS

Fields of Study and Academic Courses

Major changes in various fields of study and academic courses were introduced during the 1991 academic year.

The new field of study in Manufacturing Systems Engineering, approved in 1990, enrolled its first intake in the May 1991 term.

The interdivisional Agricultural Land and Water Development Program was renamed Irrigation Engineering and Management Program, to reflect the Program's modified orientation.

The Division of Structural Engineering and Construction introduced new courses, particularly in the field of construction management.

The Women in Development Program under the Division of Human Settlements Development was renamed Gender and Development Studies.

FACULTY AND ACADEMIC STAFF

Faculty Strength

The recruitment and long-term employment of good faculty are a continuing challenge for the Institute, as it has to compete with other academic institutions and business entities which also have a high demand for qualified science and technology experts. This is particularly evident in certain areas of specialization, such as environmental engineering and computer science.

In 1991, the Institute had a faculty strength of some 155 members of all categories. Of the 118 full-time faculty with contracts lasting one year or longer, 58 per cent were directly hired by the Institute, while 42 per cent were seconded.

Institute Ventures

SPRING

The joint AIT/University of Dortmund M. Sc. program in Spatial Planning for Regions in Growing Economies (SPRING) successfully graduated its first student intake in 1991. In the same year, it enrolled the first group of students on the modified program, under which students spend the first complete year in Dortmund, and the second at AIT.

AIT-CUC Partnership Project

The AIT-Canadian University Consortium (CUC) Partnership Project, which is supported by CIDA, achieved remarkable progress. The project's continued effectiveness was attributed largely to its balanced package of support - a combination of targeted scholarship support, short and long term faculty secondment, and joint research projects.

Partnership with the Frank Hawkins Kenan Institute of Private Enterprise

At the year's end, the developing partnership between AIT (specifically the School of Management) and the Frank Hawkins Kenan Institute of Private Enterprise at the University of North Carolina looked most interesting. The initial joint activity is a professional development course. This could typically develop into exchange programs and possibly a new field of study in the Institute, at a much later state.

Bioprocess Technology Program

Efforts to introduce a new program in Bioprocess Technology continued through 1991. The proposals on curricula and infrastructure for the new field of study have been presented to donors and are awaiting sponsorship.



Staff members of the Gender and Development Studies (GenDev), formerly the Women in Development Program.



Fifty-eight per cent of the AIT faculty are directly hired by the Institute. The rest are seconded by donor governments from Asia, Europe, and North America.

OUTREACH

Established linkages with various government ministries, training and research institutions, non-governmental agencies and international organizations give the Institute a distinct advantage in its pursuit of outreach activities. Some provide funding support, others extend technical assistance.

The Institute's outreach activities include a wide range of training courses, research projects, information dissemination activities, and technical consultancies. The majority are carried out by the Institute's outreach centers - often with the involvement of outside agencies or in collaboration with the Institute's academic centers.

The Institute's outreach activities have proved effective in upgrading the skills and technical knowledge of professionals in employment and in advancing public knowledge and understanding of scientific and technological issues. It is gratifying, therefore, to note that for yet another year, the Institute has achieved a significant increase in its outreach activities.

The number of countries reached has also grown, with further increases expected as plans for an Institute presence in Vietnam, Laos and Cambodia proceed.

Training and research are the two principal components of the Institute's expansion to these three countries. Innovative outreach strategies and structures suited to their needs, including distance learning, are now being developed.

RESEARCH

Research is one of the most important areas of growth at the Institute. As relevant sections in this Report indicate, there has been an increase in the volume of research undertaken in 1991, based on the total income derived from sponsored research projects and the range of topics dealt with.

The expansion of research services is a continuing activity. Plans to improve structures and processes for research are underway, based on an in-depth study carried out by a Research Steering Group in 1991.

Working with the office of the Vice President for Academic Affairs, the Group developed a database on twelve years of sponsored research,

identifying key characteristics and trends in the Institute's project research. Through a questionnaire survey, the Group obtained data on faculty involvement in and attitudes to research of all kinds, particularly collaborative projects. Data on future demand areas to match Institute strengths and regional needs were also derived from the survey.

The Institute's 1991 portfolio of research is found in the Appendix. It lists projects that were completed during the year, as well as those in progress.

The tables below summarize the Institute's sponsored research projects during 1991.

Summary of Sponsored Research During 1991

| Academic Unit | Completed | In Progress | Total |
|---------------|-----------|-------------|------------|
| AFE | 12 | 30 | 42 |
| CS | 2 | 1 | 3 |
| ET | 17 | 31 | 48 |
| EE | 7 | 13 | 20 |
| GTE | 9 | 11 | 20 |
| HSD | 22 | 25 | 47 |
| IEM | 3 | 6 | 9 |
| SEC | 12 | 6 | 18 |
| WRE | 5 | 7 | 12 |
| SOM | | 2 | 2 |
| INRDM | 3 | 5 | 8 |
| LC | | 2 | 2 |
| LRDC | | 1 | 1 |
| Total | 92 | 140 | 232 |

Regional Research and Development Center

The Regional Research and Development Center assists in the identification of suitable research and consultancy opportunities, for placement in the academic divisions and centers. The region-wide coverage of RRDC's promotional efforts is reflected in the range of research projects which it secured in

1991. Of two RRDC projects dealing with modeling studies for design purposes, one is being undertaken for the Government of Nepal. A project on technology transfer for energy conservation from biomass involves the ASEAN countries. Two RRDC projects serve as AIT's contribution to the Royal Thai Army's "Greening of the Northeast" program for rural development.

CONTINUING EDUCATION

Library and Regional Documentation Center

Training programs conducted by the Library and Regional Documentation Center focus on information management and the application of technology in information repackaging and consolidation.

These programs gained further momentum in 1991, and as a result certain courses will be offered more frequently starting next year. The most important of these is the three-month training, *New Information Technology and Library Services*, which will be conducted twice-yearly starting in 1992.

The IDRC-supported training course, *Repackaging and Consolidation of Information*, continues to prove useful in developing the capability and self-sustainability of small information centers. LRDC hopes to be able to continue this program after IDRC support ends in 1992.

An awareness of the value of information increases among governments, industries and businesses, the need to broaden the training of information professionals - encompassing not only computer literacy but also the methods of electronically collecting and managing information - has magnified.

LRDC training programs are aimed at improving the knowledge and skills of faculty members of library schools, librarians, information officers, and computer personnel tasked with managing an information facility.



Information managers undergo training in the application of technology to repackage and consolidate information.

Asian Disaster Preparedness Center

With the current observance of International Decade for Natural Disaster Reductions (IDNDR), the Asian Disaster Preparedness Center, established five years ago, has become an important regional focal point for the promotion of disaster management. Challenging prospects lie ahead as plans to expand the Center's general, technical and information programs get underway.

The first of these is the inclusion of emergency health, the economic and financial aspects of disasters and training curriculum development, as new topics in its general programs.

Starting in 1992, ADPC will introduce a series of courses on the technical aspects of hazard mitigation, and two new programs namely, urban development and shelter and technological hazards.

In its information program, ADPC is placing high priority in the development of a disaster related database.

The introduction of new activities reflects a broadening of ADPC's role in the promotion of disaster management in Asia.

Special mention should be made of the Core Shelter Project, which won the 1990 World Habitat Award. The project, which is being undertaken by the Department of Social Welfare and Development in the Philippines with technical assistance from ADPC, provides for the construction of low-cost, typhoon-resistant housing. To date approximately 17,000 core shelters, capable of withstanding windspeeds of up to 180 kph, have been constructed.



The Core Shelter Project in the Philippines.

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. This is delivered in Thailand or on-site in the client's country. In 1991 CEC conducted training courses for China and Myanmar, breaking new ground for CEC activities in the Asian region. Among the Center's regular clientele are government agencies in Indonesia, Bangladesh, Pakistan, and Sri Lanka.

An in-house expertise on instructional system technology and distance learning is being developed.

The Center's program specialists in human resource development, instructional system design, development and evaluation of HRD programs, and in specific technological areas, provide the core expertise in the delivery of CEC programs. Expert resources are also drawn from AIT, consulting firms, government agencies and other educational institutions.

CEC provides consultancy services in developing training/HRD plans, programs and system planning, organizational development and other topics.

Continuing education activities carried out by the Outreach Centers and the Academic Divisions in 1991 are listed in the Appendix.

INFORMATION DISSEMINATION

ENSICNET

The first phase of ENSICNET, which is supported by the Asian Development Bank as a technical assistance outreach project with the Environmental Sanitation Information Center, entered its third and final year in 1991.

ENSICNET conducted eight local training programs during the year, one each in the six network centers, one in Hanoi and another in Ho Chi Minh City. A total of 260 participants attended the programs. The two largest were the sessions in Ho Chi Minh which had 71 participants and in Chanchun, China with 60 participants.

The China network now has a total of 42 sub-networks with several hundred members.

The publication of the ENSICNET Bibliography in 1991 was well supported by the network members, with 777 of the 1,349 records coming from China. The Bibliography generated some 150 requests, with up to 110 sent by users from various Asian countries and some from as far as Finland.

A new two-year network project with ADB, starting in February 1992, will enable ENSICNET to continue the work carried out in Phase 1. Emphasis will be placed on environmental impact assessment (EIA) and sustainability.

Ferrocement Information Network

The Ferrocement Information Network (FIN), established by the International Ferrocement Information Center, has 14 member countries - eight in Asia (Bangladesh, China, India, Indonesia, Malaysia, Pakistan, Philippines, and Vietnam), one in the Middle East (Saudi Arabia), one in Europe (the United Kingdom) and four in Latin American and the Caribbean (Cuba, Mexico, Trinidad and Tobago and the Virgin Islands).

FIN members conduct various information dissemination activities to suit the needs of their respective target groups, ranging from village communities using ferrocement technology, to technologists who are engaged in ferrocement R&D.

The support given by FIN to ferrocement research is a marked expansion of its activities. These have traditionally included seminars, training programs and technical demonstrations.

ENGLISH LANGUAGE TEACHING

In 1991 the Language Center conducted two special-purpose programs for Thai workers on the ODA-funded AIT Aquaculture Outreach Project in Udorn Thani and Maha Sarakham provinces in northeast Thailand. Following the TALKBASE approach, the workers' training focussed on the development of job-related language skills. They produced videos about their work on the project and established the beginnings of an on-site learning center.

The Language Center is exploring other opportunities for direct collaboration with other projects.

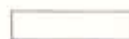





The TALKBASE eight-week programs continue to be held on campus for participants from various backgrounds and as an effective Pre-Master's course for incoming AIT students.



An outreach project of the Language Center in Maha Sarakham province, northeast Thailand, enabled workers on an AIT aquaculture project to learn special-purpose English.

Summary of Faculty Publications During 1991

| | | | | | | |
|-------|-----|-----|----|----|-----|----|
| AFE | 40 | 45 | 1 | 2 | 88 | 3 |
| CS | 5 | 20 | | 5 | 30 | 2 |
| ET | 19 | 28 | 1 | 1 | 49 | 15 |
| EE | 16 | 26 | 2 | 1 | 45 | 5 |
| GTE | 25 | 29 | | 4 | 58 | 6 |
| HSD | 40 | 48 | | 3 | 91 | 21 |
| IEM | 15 | 16 | | 4 | 35 | 21 |
| SEC | 25 | 48 | | 2 | 75 | |
| WRE | 4 | 12 | | | 16 | 3 |
| SOM | 5 | 10 | | 3 | 18 | 3 |
| ALWDP | 10 | 8 | 1 | | 19 | 1 |
| INRDM | 3 | 16 | 6 | | 25 | |
| LC | | 2 | | | 2 | 1 |
| LRDC | 2 | 4 | | | 6 | 18 |
| Total | 209 | 312 | 11 | 25 | 557 | 99 |

| | |
|--|---|
|  | Journal Paper |
|  | Conference Paper/Proceedings |
|  | AIT Research Report |
|  | Book/Chapter in a Book |
|  | Total |
|  | Others (monographs, working papers, reports, newsletters, etc.) |

RESOURCE GENERATION

ACHIEVEMENTS

The need to sustain the Institute's growth and institutional strength continues to be the principal objective of all resource generation activities. A current focus of these activities is the need to obtain increased support from beneficiary Asian countries and from the private sector.

To enable such support to reach levels comparable to those provided by the developed countries, innovative strategies are being pursued to generate scholarship and other forms of assistance from various Asian governments, the business sector in East Asian countries, as well as from the alumni body.

During Fiscal Year 1990-91 the Institute received cash and in-kind contributions totalling Baht 538,146,000, the highest in 32 years. The FY 1990-91 total, representing an increase of 23 per cent from the previous fiscal year, brought the total contributions to the Institute since FY 1959-60 to Baht 5,582,557,000.

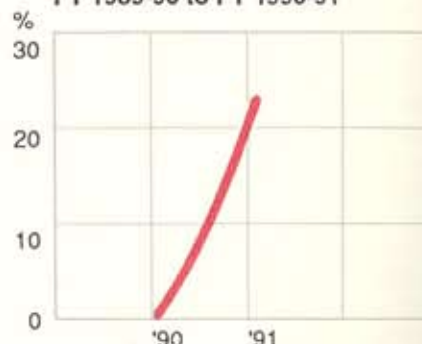
AIT/Industry Cooperation

In 1991 growing cooperation between AIT and industry was reflected in the increased support provided by the business sector to various Institute activities. Of the total number of scholarships utilized last year, for instance, eight were new corporate-sponsored scholarships. Scholarships presented by Siam Cement Inc. and Chinese Taipei-based firms accounted for the bulk of scholarship support received from the corporate sector.

In overall terms, research and continuing education were the prime targets of support received from the corporate sector.

Efforts to generate scholarship support from large Western multinational companies and Japanese corporations continued and are

Per cent Increase of Contributions
FY 1989-90 to FY 1990-91



expected to yield favorable results in the coming years. Major equipment donations are also expected in the next fiscal year.

Support from corporate donors in the United States is being tapped mainly through the AIT Foundation Inc. Created in 1969, the Foundation is a charitable, tax-exempt corporation dedicated to fostering the educational, technological and capital development of AIT.

The Foundation is now headed by AIT Trustee Mr. Robert Bodden.



COOPERATIVE PROGRAMS ESTABLISHED IN FY 1990-91

NEW AGREEMENTS

Sweden signed a two-year Cooperative Environment Program.

Thailand funded the construction of the Computer Science Building.

Switzerland agreed to support a management development program for Vietnam.

Finland provided continuing support for Telecommunications and agreed to assist in the establishment

of an AIT branch in Vietnam.

AEON Foundation established a professorial chair, supported by a four-year grant.

IUCN supported a forum on coastal zone management.

RENEWED ANNUAL AGREEMENTS

Renewed annual agreements with France, Japan, Spain and the Philippines, provided scholarships,

faculty secondments, equipment and other forms of support.

INSTITUTIONAL COOPERATION

AIT signed a three-year agreement with CDG, to support the training of resource planners and managers, and with UNEP-GRID, to support a GRID-compatible center in AIT.

TRENDS

HIGHLIGHTS OF FINANCIAL PERFORMANCE

- Grants and fees received from FY 1959-60 to FY 1990-91 now total Baht 5,582,557,000.
- Cash income from operations amounted to Baht 220,349,000, derived from six areas.

Cash Income from Operations 1990 - 91 (Baht '000)

| Income | Amount Received | % of Total |
|-----------------------------|-----------------|------------|
| Tuition and Fees | 166,141 | 75 |
| Government Grants | 8,639 | 4 |
| Contract and Grant Research | 9,117 | 4 |
| Regional Computer Center | 8,868 | 4 |
| Investment Income* | 25,243 | 11 |
| Other Income | 2,341 | 1 |
| TOTAL** | 220,349 | 100 |

* Increased by 2% from FY 1989-90

** Increased by nearly 20% from FY 1989-90

- Expenditures totalled Baht 202,185,000, or 92 per cent of operating income.

- The value of the Institute's facilities, equipment, and books at the end of Fiscal Year 1990-91 was Baht 1,181,026,000, increasing by 10 per cent from the 1989-90 value.

Over the year, emerging trends in development policies, at the global and regional levels, guided the Institute's efforts to set up new mechanisms to broaden its donor base. These efforts led to the introduction of two new mechanisms for scholarship support.

Joint Staff Development Support Program

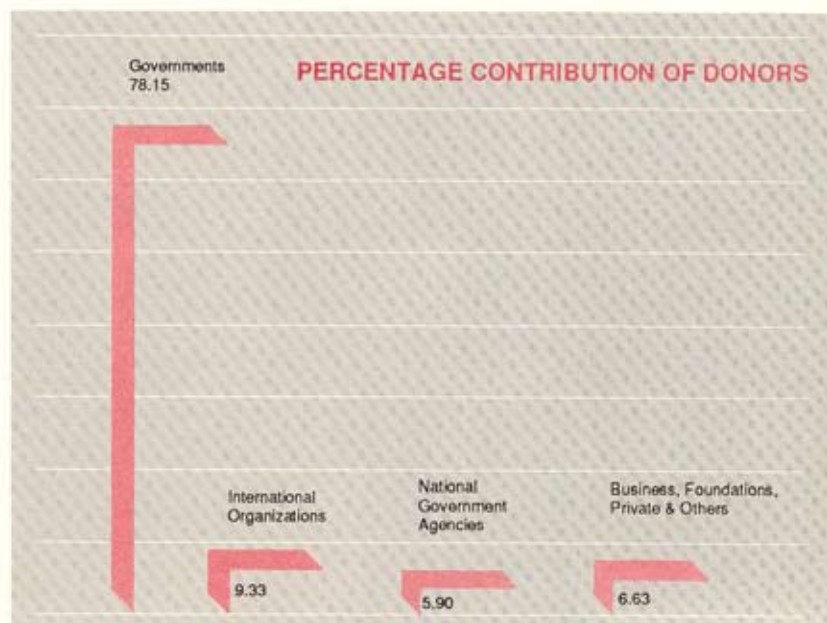
This program is carried out by AIT with different partner governments from Asia. For every three students admitted to the Institute under this program, AIT will support one and the partner government two. The governments of Thailand, Pakistan, Indonesia, and the Philippines are participating in this program.



Ms. Suppatra Buppondom, a student in the School of Management, receiving her scholarship grant from Mr. Joseph Chua, P&G (Thailand) Operations Director, in the presence of Prof. Ricardo P. Pama, AIT Vice President for Development.

Corporate-Sponsored Scholarships

Corporate-sponsored scholarships fall under three types: for personnel from the sponsoring company; for organizations selected by the sponsor; and named scholarships for general application. These schemes provided the bases for scholarships received from Procter & Gamble (Thailand), Nokia and Ericsson.



**TOTAL GRANTS AND FEES RECEIVED 1990-91
CASH AND IN-KIND (BAHT '000)**

| | Cash | In-Kind | Total | % Increase 1989-90 |
|--------------------------|----------------|---------------|----------------|-----------------------|
| Scholarship | 237,640 | | 237,640 | 15 |
| Research Projects | 78,485 | | 78,485 | 28 |
| Continuing Education | 84,296 | | 84,296 | 48 |
| Capital Grant | 16,295 | | 16,295 | 143* |
| Equipment and Books | 12,708 | 5,445 | 18,153 | 23 |
| Endowment Fund | 2,075 | | 2,075 | 166** |
| Faculty/Staff Secondment | 32,956 | 52,877 | 85,833 | 12 |
| Operating Grant | 14,916 | | 14,916 | 10 |
| Local Currency Grant | 453 | | 453 | - 15 |
| TOTAL | 479,824 | 58,322 | 538,146 | 23 |

* Due to grants from the Finnish and Thai Governments for the Telecommunications and Computer Science Buildings.

** Due to contributions from the Philippine Government and the Education and Public Welfare Foundation.

Cooperation Programs with Laos and Cambodia



Close collaboration with Laos and Cambodia in the provision of continuing education is provided in memoranda of understanding signed on behalf of the Laotian Government by Prof. Souli Nanthavong, Minister of Science and Technology (left photo), and by Mr. Mom Chim Huy, Vice Minister of the Cambodian Ministry of Education.

Campus Development



Clockwise: The CUC-University of Hawaii student/faculty guesthouse was officially opened by the Canadian Ambassador to Thailand, H. E. Mr. Arthur Perron, seen being assisted by AIT President Alastair North.

A donation from the Thai Farmers Bank, to help fund the construction of a biotechnology research building, was presented by Mr. Chana Rungsang (right), Executive Vice President of the bank.

Mr. Mushtaq Haider Razvi, Charge d' Affaires of the Embassy of the Islamic Republic of Pakistan, presented his Government's donation to help construct AIT's first squash court.

**TOTAL CASH AND IN-KIND CONTRIBUTIONS
FY 1959-60 TO 1990-91 (BAHT '000)**

| Governments | % Contribution |
|--|----------------|
| Australia | 5.52 |
| Austria | 0.12 |
| Bangladesh | 0.02 |
| Canada | 5.65 |
| People's Republic of China | 0.10 |
| Chinese Taipei | 2.94 |
| Denmark | 1.34 |
| Finland | 0.75 |
| India | 0.28 |
| Indonesia | 0.11 |
| Israel | 0.04 |
| Japan | 10.77 |
| Korea | 0.29 |
| Nepal | 0.03 |
| New Zealand | 0.73 |
| Norway | 2.01 |
| Pakistan | 0.17 |
| Philippines | 0.18 |
| Sri Lanka | 0.02 |
| Spain | 0.05 |
| Sweden | 0.25 |
| Switzerland | 0.92 |
| Thailand | 11.69 |
| United States of America | 11.17 |
| Vietnam | 0.01 |
| European Economic Community | |
| Belgium | 1.04 |
| Commission of the European Communities | 1.94 |
| Germany | 9.01 |
| France | 3.33 |
| Italy | 0.29 |
| Netherlands | 3.40 |
| United Kingdom | 3.94 |
| International Organizations | 4.51 |
| National Government Agencies | 5.76 |
| Business, Foundations, Private and Others | 11.62 |
| TOTAL | 100.00 |

FACULTY/ STAFF SECONDMENTS 1990-91

| Country/Organization | Man Months |
|--|--------------|
| Australia | 25.5 |
| Bulgaria | 3.5 |
| Canada | 73.5 |
| People's Republic of China | 30.0 |
| Finland | 44.0 |
| India | 13.5 |
| Japan | 162.5 |
| Korea | 21.5 |
| Norway | 24.0 |
| Sweden | 16.0 |
| Switzerland | 14.0 |
| United States of America | 24.0 |
| European Economic Community | 435.0 |
| Commission of the European Communities | 31.0 |
| Belgium | 39.0 |
| Denmark | 24.5 |
| France | 101.5 |
| Germany | 140.0 |
| Netherlands | 12.0 |
| United Kingdom | 87.0 |
| Charoen Pokaphan Co., Ltd. | 11.0 |
| Others | 6.0 |
| TOTAL | 904.0 |



1991 Donor Presentations from EC Countries

From top: In January, H. E. Mr. Thomas M. T. M. Kasteel, the Ambassador of the Netherlands to Thailand, signed a memorandum of understanding, providing support for scholarships and institutional and human resources development activities at the Institute.

A memorandum of understanding, signed by H. E. Mr. Ramsay Melhuish, CMG, the Ambassador of the United Kingdom to Thailand, covers British Government support for the agricultural and food engineering program and English language training courses, for the period 1990-93.

H. E. Baron Berthold von Pfitzen-Arnach, the Ambassador of Germany to Thailand, is seen with Institute officials and an AIT student delegation following his presentation of DAAD scholarship grants.

From top: French scholarships for the Master's program as well as for short-term training courses were presented by H. E. Mr. George-Emile Vinson (fourth from left), the French Ambassador to Thailand, in photo with some of the scholarship recipients accompanied by AIT President Alastair North.

H. E. Mr. Mogens Knud Isaksen, the Ambassador of Denmark to Thailand, presented scholarship grants from his Government. These were received on behalf of the Institute by AIT Vice President for Development, Prof. Ricardo P. Pama.

Belgium equipped the newly opened computer integrated manufacturing with latest hardware. H. E. Mr. Pierre de Muelenaere, the Ambassador of Belgium to Thailand, presided over the laboratory's inauguration in September.

SUMMARY OF CONTRIBUTIONS RECEIVED FY 1990-91 IN CASH AND IN KIND (%)

GOVERNMENTS

| | |
|--------------------------------------|-------|
| Australia | 6.18 |
| Austria | 1.05 |
| Brunei | 0.03 |
| Bulgaria | 0.04 |
| Canada | 7.46 |
| People's Republic of China | 0.36 |
| Chinese Taipei | 1.06 |
| Finland | 4.04 |
| India | 0.25 |
| Japan | 9.05 |
| Republic of Korea | 0.18 |
| New Zealand | 0.36 |
| Norway | 2.89 |
| Pakistan | 0.23 |
| Philippines | 0.11 |
| Spain | 0.49 |
| Sri Lanka | 0.01 |
| Sweden | 1.53 |
| Switzerland | 2.00 |
| Thailand | 8.80 |
| United States of America | 7.77 |
| European Economic Community | |
| - Commission of European Communities | 3.10 |
| - Belgium | 0.36 |
| - Denmark | 0.42 |
| - France | 4.69 |
| - Germany | 10.09 |
| - Italy* | |
| - Netherlands | 1.20 |
| - United Kingdom | 4.40 |

Sub-total 78.15%

INTERNATIONAL ORGANIZATIONS

| | |
|--------------------------|------|
| ADB | 3.57 |
| Commonwealth Secretariat | 0.21 |
| ESCAP | 1.06 |
| FAO | 0.21 |
| ICIMOD* | |
| ILO | 0.15 |
| IMO | 0.04 |
| IRRI | 0.01 |
| ITU | 0.02 |
| IUCN | 0.03 |
| Mekong Secretariat | 0.17 |
| UN - Habitat/OSRSG | 0.11 |
| UNCHS | 0.28 |
| UNCRD | 0.01 |
| UNCTAD | 0.02 |
| UNDP | 1.53 |
| UNDP - OPS | 0.14 |
| UNEP | 0.07 |
| UNEP - GRID | 0.79 |
| UNESCO | 0.30 |
| UNDRO | 0.16 |
| UNICEF | 0.06 |
| UNITAR | 0.12 |
| UN University | 0.02 |
| WHO | 0.14 |
| World Bank | 0.11 |

Sub-total 9.33%

* less than 0.01

NATIONAL GOVERNMENT AGENCIES

| | |
|--|------|
| Australia | |
| James Cook University * | |
| Bangladesh | |
| Bangladesh Water Development Board | 0.20 |
| ICDDR * | |
| Belgium | |
| University of Antwerp | 0.18 |
| Botswana | |
| Botswana Technology Center | 0.02 |
| Canada | |
| Canadian University Consortium | 0.01 |
| Dalhousie University | 0.09 |
| IDRC | 1.41 |
| Simon Fraser University | 0.04 |
| Cambodia | |
| Cambodia Development Research Institute | 0.08 |
| Ethiopia | |
| International Livestock Center for Africa | 0.02 |
| Finland | |
| Finnida Telecommunications Project | 0.17 |
| Germany | |
| Dortmund University | 0.06 |
| German Policy Forum | 0.02 |
| Hong Kong | |
| Auxiliary Medical Services | 0.02 |
| Indonesia | |
| Department of Education and Culture | 0.01 |
| Eastern Indonesian University | 0.01 |
| Directorate General of Estates | 0.12 |
| Interforest Baibang | 0.09 |
| Institut Teknologi Mara | 0.01 |
| Ministry of Forestry | 0.04 |
| Ministry of Public Works | 0.19 |
| Ministry of Transmigration | 0.18 |
| National Agricultural Extension Project | 0.09 |
| Petra Christian University | 0.04 |
| Provincial Coordinating Committee | 0.03 |
| Japan | |
| Japan Scholarship Fund for Asean Youth | 0.02 |
| Japan Society of Soil Mechanics and Foundation Engineering | 0.08 |
| International Development Center of Japan | 0.01 |
| Kenya | |
| African Regional Organization for Standardization | 0.02 |

Lao PDR

Department of Forestry and Environment 0.10

Malaysia

Ministry of Education 0.08

Nepal

K-Bird Project 0.06

HMG/NIS SNV 0.05

Netherlands

IHE DELFT*

New Zealand

University of Canterbury*

Papua New Guinea

Department of Finance and Planning 0.02

Department of Works 0.01

Philippines

International Potato Center 0.01

National Economic Development Authority 0.01

Sri Lanka

Agricultural Research Project 0.01

Ceylon Institute of Science and Industrial Research 0.02

Sri Lanka Export Development Board 0.02

Integrated Rural Development Project 0.11

Irrigation Management Department 0.03

Ministry of Lands, Irrigation and Mahaweli Dept. 0.02

National Water Supply and Drainage Board 0.04

Sweden

Hifab International AS 0.02

The Royal Institute of Technology 0.04

Thailand

Communications Authority of Thailand 0.03

Department of Land Development 0.05

Department of Mineral Resources 0.01

Department of Technical and Economic Cooperation 0.08

Electricity Generating Authority of Thailand 0.21

Fine Arts Department 0.03

Metropolitan Waterworks Authority 0.18

Ministry of Science, Technology and Energy 0.32

National Energy Authority 0.01

National Inland Fisheries Institute 0.01

Sub-total 5.90%



A professorial chair in environmental engineering was established with the support of the AEON Group Environment Foundation. Signing on behalf of AEON was Mr. Takuya Okada, AEON Chairman.

BUSINESS, FOUNDATIONS, PRIVATE AND OTHERS

| | | | | | |
|--|------|--|------|---|--------------|
| Enertech, Inc. Philippines | 0.01 | Smith Bell Co. Ltd., Philippines | 0.01 | Winrock International | 0.01 |
| Ericsson Telecommunications Corp. Far East | 0.02 | Spot Image S.A., France | 0.02 | Asean-Canada Forest Tree Seed Center | 0.10 |
| Fudo Construction Co., Ltd., Japan | 0.09 | Syarikat Telekom Malaysia, BHD. | 0.05 | Asean-EEC Aquaculture Development and Coordination Program | 0.01 |
| IBM Thailand Co., Ltd. | 0.03 | Takenaka Civil and Construction Co., Ltd. | 0.05 | Bangladesh-German Technical Cooperation Project | 0.04 |
| Index International Group Co., Ltd. | 0.02 | Taiwan Cement Corp. | 0.08 | Care, Bangkok | 0.03 |
| Kiso Jiban Consultants Co. | 0.04 | Taiwan Power Co. | 0.22 | Care, Bangladesh | 0.01 |
| Komatsu Co., Ltd. Japan | 0.06 | Team Consulting Engineering Co., Ltd. | 0.04 | Canada-Asean Center | 0.10 |
| KSS Mechanics and Equipment Co., Ltd. | 0.01 | Tektronix, Inc. | 0.03 | Dr. Chan Sin Fatt | 0.04 |
| Loon Hua Seng Parboiled Rice Co. Ltd. | 0.02 | Telecom Oy, Finland * | 0.06 | Christian Children Fund, Inc. | 0.01 |
| Louis Berger International Inc. | 0.03 | Thai CRT Co., Ltd. | 0.13 | Dr. Parapat & Associates, Indonesia | 0.02 |
| Lynnaise Des Eaux, France | 0.04 | Thai Engineering Consultant Co., Ltd. | 0.13 | Foster Parent Plan International, Inc. | 0.01 |
| Midvaleur S.A., France | 0.11 | Thai Nishimatsu Construction | 0.01 | International Education and Medical Alliance of New England, Inc. * | |
| Muang Roong Ltd., Thai | 0.02 | Thai Paper Co., Ltd. * | | International Training Center for Energy Policy, France | 0.03 |
| Nokia Telecommunications Public Networks | 0.15 | Thai Plastic and Chemical Co. Ltd. | 0.01 | Kenya-Canada Energy Advisory | 0.05 |
| Norconsult International A.S. | 0.11 | Thai Wah Co., Ltd. | 0.18 | Laos-Swedish Forestry Project | 0.04 |
| Northwest HYD. Consultants, Inc. | 0.28 | Tilleke & Gibbins. R.O.P. | 0.01 | Mennonite Central Committee | 0.01 |
| NSR Consultants Group, Thailand | 0.22 | Tokyu Construction Co. Ltd. | 0.01 | Nepal-Netherlands Development Organization | 0.02 |
| Obayashi Corp., Japan | 0.17 | Aeon Group Environmental Foundation, Japan | 0.06 | Save the Children Fund | 0.10 |
| P.T. Konservasi Energi | 0.03 | AIT Foundation, Inc./Starr Foundation | 0.10 | Spec Forum Secretariat, NZ | 0.03 |
| Pacific Management Resource Co., Ltd. | 0.04 | Asia Foundation | 0.06 | Sweroad-Lao PDR | 0.03 |
| Pakistan International Airline Corp. | 0.02 | Education and Public Welfare Foundation | 0.19 | System Dynamics Society, USA | 0.04 |
| Pathana Burraphaket Co., Ltd. | 0.01 | Ford Foundation, Inc. | 0.41 | Thai/Australia Project - HASD | 0.01 |
| Petroliam Nasional Bhd., Malaysia | 0.01 | Keidanren | 0.34 | Prof. Yoshihiro Hisamatsu | 0.05 |
| Shell International Petroleum Co. | 0.05 | John F. Kennedy Foundation of Thailand | 0.81 | World Council of Churches | 0.05 |
| Siam-Agro. Industry (Pineapple) Co. * | | Ramon Magsaysay Award Foundation | 0.05 | Others | 0.10 |
| Siam Cement Co., Ltd. | 0.15 | Rockefeller Brothers Fund, Inc. | 0.21 | | |
| Siam City Cement Co., Ltd. | 0.05 | Rockefeller Foundation, Inc. | 0.07 | | |
| Siew-National Sales and Services Co., Ltd. | 0.05 | Stromme Memorial Foundation | 0.01 | | |
| | | TDRI Foundation * | | | |
| | | | | Sub-total | 6.63% |
| | | | | TOTAL | 100% |



A cooperative environment program between AIT and SIDA, to improve education and research concerning the environment, was launched at a ceremony presided over by H. E. Mr. Olov Ternstrom, the Swedish Ambassador to Thailand.



The Women in Development (WID) Program, now known as the Gender and Development Studies, is being supported by the Norwegian Government. Thanking the Norwegian Ambassador to Thailand, H. E. Mr. Johan H. Dahl (left), for his Government's support to the program are AIT President Alastair North and AIT Trustee, Prof. Dina Lavoie.



UNEP's support for GRID (Bangkok) and the development of a regional program in environment information systems and networks, is contained in a memorandum of understanding signed by Dr. Gary E. Johnson, Director of GRID (Bangkok).

CENTRAL ADMINISTRATION

Surveys conducted in 1991 indicated an improvement in the quality of service provided by offices under Central Administration, in spite of moves to contain operating and personnel costs in the department.

Further work in the computerization of major Central Administration operations was carried out during the year.

Cost Savings

In line with the goal of keeping the Institute's administrative staffing fairly lean compared with other international universities, Central Administration introduced various cost-saving measures, particularly in the recruitment of personnel. These included the recruitment of international staff at lower levels in the Physical Plant and the hold placed on the recruitment of centrally-funded international staff in Central Administration. Extended international staff vacancies in the Administrative Systems Development Unit also helped reduce personnel costs.

Rating

Administrative Services

An annual survey of the quality of administrative services was conducted among faculty and unit heads. The Physical Plant, particularly the Motor Pool, was given the highest rating for improved services.

The AIT Cafeteria, on the other hand, received the lowest service rating. Measures to improve the kitchens and other strategic areas were carried out.

In general terms, the survey results reflected the fact that efforts by capital-intensive services to undertake any improvement are constrained by the limited funds allocated for non-academic capital infrastructure.



HAIL AND FAREWELL

Mrs. Nuallaong Juntrasook (above, center) was appointed Acting Director for one year starting from July 1991, while continuing to hold her post as Deputy Director. She replaced Mr. Pongsagdi A. Vejjajiva (right), who retired in June 1991 after 27 years of service.



Computerization of Central Administration Functions

The new payroll and tax systems are expected to be in parallel run starting in January 1992. They will be linked with the personnel management information system.

In 1991 computer programs for scholarship statements and research project listings went on line.

A computerized cash register system completed in 1991 is awaiting modifications to improve its efficiency.



Physical Plant operations received the highest rating for efficient service in an Institute-wide survey.



Above: AIT Center Annex
 Middle: Dormitory Blocks O-P-Q
 Right: 10-Unit Townhouse



CAMPUS DEVELOPMENT

Projects Completed in 1991

Complementing the expansion of academic activities, the Institute opened the Telecommunications, Computer Science and Outreach Buildings and the Computer Integrated Manufacturing Laboratory. These buildings are on the northerly road running from the Agricultural and Food Engineering Building in the west to the Energy Technology Buildings and the Regional Computer Center in the east.

A small guesthouse, funded by a grant from Canada and the University of Hawaii, was opened in the student village area. This will provide accommodation for Canadian students and short term secondees.



Students and staff members sign up for on-campus accommodation at the Housing office.

Construction Projects In Progress

AIT Center Annex

The new wing of the AIT Conference Center will provide 35 guestrooms and two suites on the ground floor. It will be linked to the existing facilities by a footbridge on the second floor.

Construction is expected to be completed within nine months and the annex will be ready for occupancy by the end of March 1992.

Funding: Approximately Baht 27,500,000 (from AIT Center and CEC reserves).

Contractor: Sawaeng and Sons Construction Co., Ltd.

Dormitory Blocks O-P-Q

These three dormitory blocks will be erected next to the existing L-M-N blocks and will provide a total of 180 rooms. The first block of 68 units is expected to be completed in January 1992, and the two other blocks in February/March 1992.

Two blocks will be allocated for short-term trainees and regular students, while the last block of 44 rooms will house research associates and married students.

Funding: Baht 35,000,000 (from the AIT construction reserves)

Contractor: T&S Development Co., Ltd.

10-Unit Townhouse

Construction of this housing project started in late 1991. The units are expected to be ready by February 1992.

Funding: Baht 12,000,000 (from an internal loan from the general reserve to the housing reserve).

Contractor: Suthat Pattanakarn Ltd., Part.

GTE Laboratory Subsidence Reconstruction

Remedial work due to land subsidence on the east end of the Academic Building North was started in 1991. Laboratory activities are expected to resume in March 1992.

Funding: Office and academic building reserve of the general reserve.

Proposed Construction Projects

New offices and laboratories for the Division of Water Resources Engineering have been proposed as the next project for the Royal Thai Government construction grant.

ALUMNI RELATIONS

Complementing the Institute's mission of building a corps of skilled Asians are the AIT Alumni Association's continuing efforts to assist the career development and professional advancement of all alumni.

The Association is planning to expand its career planning services through the proposed establishment of an AITAA career service, to be based at the Institute.

The proposed AITAA career service will set up a credential file for all alumni and a mechanism by which graduating students and alumni can be informed of career opportunities and job vacancies in their respective countries. On-campus job interviews with prospective employers are now being organized for graduating students.

Valuable inputs into the proposed AITAA career service are being provided by graduating students, who are invited to participate in surveys conducted during the termly AITAA induction ceremonies.

The career development of alumni is, of course, determined to a great extent by their academic performance as students. AITAA's donation of research grants, to supplement the scholarship research fund provided by the Institute to students, is a clear expression of the Association's support for the full development of the AIT alumni.

ADVANCING THE CAREER OF AIT ALUMNI

AITAA Research Grant

The AITAA research grants, each valued at US\$600, are intended to enable the recipients to return to their home countries, to conduct thesis research on problems of national/regional interest. In 1991 AITAA awarded research grants to four students - one each from Indonesia, Burma, China and Vietnam.



The AITAA grant will support the following students in carrying out their thesis research.

Above: Nguyen Luang Bach (IEM Division). Thesis: Food Production Systems in Selected Asian Countries.

Left: San San Win (GTE Division). Thesis: Urban Geology and Landuse Planning of Yangon City, Myanmar.

Below left: Tajuddin Bantacut (EE Division). Thesis: Environmental Impact of Agricultural Intensification in Indonesia.

Below: Liang Xin (GTE Division). Thesis: Investigation of Seismic Safety and Seismic Hazard Preparedness for Kunming City, China.



Career Planning Workshops

In 1991 AITAA collaborated with the Gender and Development Studies (formerly the Women in Development Program) under the Division of Human Settlements Development, in organizing and video taping two career planning workshops: *How to Apply For*

A Job And Get It, and *Career Planning and Development*. The workshops were open to graduating students and all AIT staff. To ensure maximum benefit from the workshops, video tapes of the sessions will be shown to the graduating class each term.

AITAA PROJECTS

AITAA Membership Campaign

Over 60 per cent of all AIT graduates are lifetime members of AITAA. Efforts to reach non-member alumni are continuing. These are expected to yield further increases, leading to the short-term target of having 70 per cent of all AIT graduates registered as AITAA members.

The membership of graduating students into the Alumni Association is formalized at an induction ceremony, which is usually held a day before graduation day, on the months of April, August and December.

New

AITAA National Chapters

The number of AITAA national chapters increased from 16 to 17 with the establishment of AITAA-Australia in May 1991. A core group of 50 alumni founded the Chapter. Its establishment was formalized at an AITAA Executive Committee held later in November.

The establishment of a chapter in Vietnam is underway.

AITAA-Philippines, among the most active in the AITAA family, organized a variety of activities in 1991. These included orientation programs, reunions, and seminars.

Fund-Raising Activities

Fund-raising activities are underway to support various AITAA activities, including the AITAA Endowment Fund.

The first donor faculty to the AITAA Endowment Fund was Dr. Hideki Harada, formerly with the Division of Environmental Engineering.

Funds raised from a golf tournament organized by AITAA in December 1991 will be used at the Governing Board Meeting in 1992.

AITAA's fund-raising activities aim to generate support from all alumni and honorary degree holders, and current and former members of the faculty and staff.

1991 Alumni Directory and Database

The 1991 Alumni Directory published by AITAA provides information on 5,500 alumni, classified by country and listed alphabetically by family name. The main alumni listing is based on the year of graduation, with additional information provided on the professional affiliation, business address and home address of individual alumni.

The AIT alumni database has been revised to facilitate upcoming fund-raising activities. Members are categorized by level of position. The database has been downloaded to networked PCs to assist access and ease of use.



Dr. Harada is seen receiving a certificate as "Friend of AITAA" from Mrs. Lilia R. Austriaco, AITAA Executive Secretary, in the presence of Mr. John Brubaker, Coordinator for Alumni Affairs.

AITAA NEWS

21st AITAA Governing Board Meeting

The 21st Governing Board Meeting of AITAA will be held from 13-17 March 1992 in Japan. Mr. Naoki Tanaka, President of AITAA-Japan, will lead the Japanese alumni in hosting the event. Some 30 alumni from different AITAA national chapters have signed up to attend.

AITAA Reunion

Twenty three alumni from five countries and one former faculty participated attended the first ever reunion organized by AITAA. The reunion, which was held on July 4, 1991, was for members of class 1961-1970. It was organized in collaboration with AIT, the AITAA Thai Chapter, and the AIT Student Union. Dr. Anant Arbhahirama (WRE '62), Minister of Agriculture and Cooperatives of the Royal Thai Government, was the guest of honor.

A convocation to honor the 23 returning alumni and a seminar on the theme, "AIT in the year 2000: Alumni Perspective", were held as part of the reunion.

Two technical seminars were organized in collaboration with the Division of Structural Engineering and

Construction. Dr. Jesus E. Basas (SEC '68) of Rockwell International presented a paper on finite element applications in design. A returning faculty, Dr. William J. Vebuti of the San Jose State University, spoke on the design and construction of prestressed concrete breakwater.



AITAA President, Prof. Srisakdi, welcoming alumni and their guests to the reunion.



**ALUMNI
DISTRIBUTION
BY COUNTRY
1961-1991**

| | |
|--|------|
| South East Asia and Pacific (48.2%) | |
| Bhutan | 1 |
| Brunei | 9 |
| Cambodia | 3 |
| Fiji | 1 |
| Indonesia | 272 |
| Laos | 5 |
| Malaysia | 245 |
| Myanmar | 70 |
| Papua New Guinea | 6 |
| Philippines | 583 |
| Singapore | 28 |
| Thailand | 1355 |
| Vietnam | 135 |

| | |
|---|-----|
| South Asia and West Asia (33.6%) | |
| Afghanistan | 19 |
| Bangladesh | 409 |
| Egypt | 1 |
| India | 392 |
| Iran | 12 |
| Nepal | 245 |
| Pakistan | 379 |
| Sri Lanka | 426 |
| Turkey | 6 |

| | |
|-------------------------------|-----|
| East Asia (17.7%) | |
| People's Republic of China | 111 |
| Chinese Taipei | 660 |
| Hong Kong | 84 |
| Japan | 46 |
| Republic of Korea | 90 |
| Macao | 5 |

| | |
|--|--|
| North America, Europe and Africa (0.5%) | |
| Canada | |
| France | |
| Ethiopia | |
| Ghana | |
| Honduras | |
| Kenya | |
| Malawi | |
| Sweden | |
| Tanzania | |
| United Kingdom | |
| United States | |
| Germany | |

Total 5627



1990 ALUMNI TRACER STUDY

This study is the latest in a series of exercises conducted in 1973, 1976 and repeated every three years since 1981. The 1990 findings are based on 2,047 completed questionnaires that were returned to AIT (out of a total of 4,795 questionnaires that were mailed).

Some highlights of the study:

Current Residence Nearly 75 per cent of all respondents are currently residing in their home country, while 9.5 per cent are living in another Asian country. Of the 15.8 per cent not residing in Asia, 8.7 per cent are in North America, 4.8 per cent in Australia or New Zealand, 1.3 per cent in Africa, South America or OPEC countries, and 1.0 per cent in Europe.

Various reasons were given for residing outside Asia: employment or secondment (11%), pursuit of post-graduate studies (4%), and various other

factors: such as cross-cultural marriage, adverse political conditions and personal reasons.

Sector of Employment There is a perceptible shift from employment in government to the private sector, with most respondents joining the private sector after graduation. Nearly 6 per cent are now self-employed. Those with no previous work experience enter mainly the private and education sectors. Some respondents are continuing their studies (4.4%) and a similar percentage (4.0%) are employed by international or non-profit organizations.

Level of Position Of those who graduated from AIT 20 or more years ago, nearly 60 per cent report employment at a senior management level with titles such as Director, General Manager, Head or Professor. In general, respondents who graduated in the past

five years are awaiting a significant change in their occupational status.

Further Studies Nearly 30 per cent of the 2,047 respondents obtained an additional academic degree after receiving their first degree from AIT, or are currently studying for one.

The majority received Doctoral degrees in North America (44%), with close to 13 per cent attending universities in Europe and other Asian countries. Nearly 12 per cent elected to pursue Doctoral studies at AIT, with the remainder opting to study in Australia/New Zealand or their home country.

Respondents currently studying for higher degrees are concentrated in North America (51%), with a substantial portion studying in universities in an Asian country other than their home country (18%).



AIT ALUMNI ASSOCIATION

1991-1993 AITAA Executive Committee

Heading the 1991-1993 Executive Committee of the AIT Alumni Association are the re-elected association President, Prof. Srisakdi Charonman (WRE '61), and the newly-elected Executive Secretary, Mrs. Lilia Robles Austriaco (SEC '65). Also serving on the Committee are Dr. Dennes Bergado (GTE '76), Auditing Secretary; Mr. Chainarong na Lampoon (WRE '80), Business Secretary; Dr. Vilas Salokhe (AFE '86), Finance Secretary; and Mrs. Ranja Jindal (EE '82), Press Secretary.

Prof. Srisakdi is Director, AI & SW Center, King Mongkut's Institute of Technology (Ladkrabang).

Mrs. Austriaco is Senior Information Scientist at AIT's Library and Regional Documentation Center. She has been managing IFIC since 1980 and AGE since 1987.

Dr. Bergado and Dr. Salokhe, both holding the rank of Associate Professor, are teaching at the GTE and AFE Divisions, respectively.

Mr. Chainarong is Managing Director of Index International Group Co.

Mrs. Jindal takes an active interest in environmental issues and is assisting in some environmental research projects at AIT.



Prof. Srisakdi



Mrs. Austriaco



Dr. Bergado



Dr. Salokhe



Mr. Chainarong



Mrs. Jindal

AITAA CHAPTER PRESIDENTS

AUSTRALIA

Victor A. Pulmano (SEC '62)
School of Civil Engineering
University of New South Wales
Australia

BANGLADESH

Mr. Karimul Haque Talukdar (WRE '71)
Project Officer, Resident Office
Asian Development Bank
Dhaka, Bangladesh

BRUNEI

Mr. Yong Foh Fui (EE '75)
District Water Engineer
Water Section
Public Works Department
B.S. Begawan Brunei Darussalam

CHINESE TAIPEI

Mr. Chung-Yih Lin (WRE '75)
Director
Special Project Department
Ret-Ser Engineering Agency
Taipei, Taiwan

HONG KONG/MACAO

Mr. Ted T.C. Chan (CRD '76)
Town Planning Division
Land Department
Hong Kong

INDIA

Dr. Ashok Kumar Gupta (CRD '71)
Professor and Coordinator
Center of Transportation
Engineering
University of Roorkee

INDONESIA

Mr. Achmad Lanti (WRE '83)
Regional Public Works
Jakarta Metro City

JAPAN

Mr. Naoki Tanaka (GTE '85)
Project Engineer
Japanese Highway Department

REPUBLIC OF KOREA

Dr. Seung-Hwan Lee (IEM '75)
Professor of Industrial Engineering
Ajou University

MALAYSIA

Mr. Mah Lok Abdullah (IEM '84)
Assistant Director
National Productivity Center

NEPAL

Mr. Surendra Man Shrestha (CS '80)
Chief Administrator and Coordinator
Mountain Environment and Natural
Resources Information
System (MENRIS) ICIMOD
Kathmandu

PAKISTAN

Mr. Iqtidar A. Chaudhri (WRE '64)
Managing Director
Delta Tyre and Rubber Co., Ltd.
Islamabad

PHILIPPINES

Ms. Maria Fe Nuestro-Ferriols (CS '82)
General Manager
Strategic Systems Integrators Inc.
Makati

SINGAPORE

Mr. Ho Siew-Koon (WRE '71)
Senior Principal Engineer
Housing and Development Board

SRI LANKA

Mr. W.J.S. Fernando (ET '82)
Station Manager
Sapugaskanda Power Station
Heiyantuduwa

THAILAND

Ms. Chuanpit Dhamasiri (EE '68)
Deputy Governor (Engineering)
Metropolitan Waterworks Authority
Bangkok

USA

Dr. Rakesh Sarman (GTE '80)
Consulting Engineer, Geologist/
Geophysicist
DUNN Geoscience Corp.
Illinois

1991 Portfolio of Sponsored and Contract Research

COMPLETED

AGRICULTURAL AND FOOD ENGINEERING

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

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)

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

Development of a Decision Model for Planning Agro-Industrial Projects in Developing Countries - Phase II
Dr. Ilangantileke; CIDA/AIT-CUC PP (US\$3,000)

Demonstration and Information Dissemination of a Farm Level Chemical Applicator to Control Aflatoxin in Crib Stored Maize
Dr. Ilangantileke; CIDA/AIT-CUC PP (US\$3,000)

Study of Selected Environmental Parameters in Large Irrigation Projects Using GIS
Dr. Murty; CIDA/AIT-CUC PP (Baht 75,000)

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

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

Demonstration and Popularization of Use of Enamel-Coated Bolt-on Plates for Cage Wheels - Phase I
Dr. Salokhe, Prof. Gee-Clough; CIDA/AIT-CUC PP (Baht 95,000)

Expert System to Predict Ballast Load to Achieve Maximum Power from Four-Wheeled Tractors
Dr. Salokhe; AIT Research Initiation Grant (Baht 35,000)

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

COMPUTER SCIENCE

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

Dictorial Programming System Supporting CAD
Dr. Zhao; AIT Research Initiation Grant (Baht 60,000)

ENERGY TECHNOLOGY

Dissemination of Information on Energy in Commercial Buildings
Dr. Surapong; AFME (US\$10,000)

Study for the Establishment of Energy Performance Standard for Buildings in Thailand
Dr. Surapong, Dr. Supachart; NEA (US\$40,000)

Rational Use of Energy (Phase II)
Prof. Mora, Dr. Mohanty; AFME (US\$60,000)

Energy Park Maintenance (1990-1991)
Mr. Bouix; AFME (US\$22,000)

Ozone Uses and Production
Prof. Mora; DEGREMONT (US\$8,000)

Testing of Vestfrost Vaccine Refrigerator Using Solar PV Power
Dr. Supachart, Mr. Bouix; VESTFROST A/S, Denmark (US\$2,500)

Testing of Vaccine Cold Boxes
Dr. Supachart; WHO/SEARO (US\$4,500)

Long-term Performance Testing of Dansol KPV Solar Water Heater
Dr. Supachart, Mr. Bouix; Thai-Danish Solar Co. Ltd. (US\$2,400)

Comparative Study on Residential Energy Demand in Asian Countries
Dr. Zhai, Prof. Lefevre; AFME (FF 150,000)

AIT Energy Week '91
Prof. Lefevre, Dr. Mohanty, Mr. Bouix; MOFA (FF 150,000) and AFME (FF 50,000)

Energy Planning Training for Nepal
Prof. Lefevre, Dr. Zhai, Dr. Hua, Mr. Arsegianto; CIDA (US\$9,000)

Energy Planning Training for Union of Myanmar
Prof. Lefevre, Dr. Zhai, Mrs. Hua, Mr. Arsegianto, Mr. Sushil; ADB (US\$4,500)

Boiler Energy Analysis and Heat Exchanger Design
Dr. Mohanty, Mr. Manandhar; AFME (US\$10,000)

Research on Barriers and Opportunities for Energy Technology Transfer
Dr. Dang; EC (US\$456,000)

Research on Electric Power Systems Future Development
Dr. Dang; EC (US\$60,000)

ENVIRONMENTAL ENGINEERING

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

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

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

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 Research Initiation Grant (Baht 37,500)

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

GEOTECHNICAL AND TRANSPORTATION ENGINEERING

Test Embankment on Improved Ground by Deep Mixing Method

Dr. Honjo; Takenaka Civil Engineering Co. (Baht 355,160)

Investigation on Inverse Analysis Procedure of Geotechnical Coupled Analysis (Phase I)

Dr. Honjo; Kiso-Jiban Consultants Co., Ltd. Japan (Baht 320,000)

Investigation on Effects of Traffic Induced Vibrations and Soil Creep on Settlements of the Reclining Image of Wat Po, Bangkok

Dr. Noppadol, Dr. Bergado, Dr. Honjo; Fine Arts Department, RTG (Baht 380,000)

Impact of Quaternary on Urban Development and Land Use of the Central Plains of Thailand

Prof. Prinya, Dr. Yong; IDRC (Baht 1,900,260)

Welded Wire Reinforced Earth (Mechanically Stabilized) Embankments with Cohesive Backfill on Soft Clays

Dr. Bergado, Prof. Balasubramaniam; USAID (US\$150,000)

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)

Comprehensive Water Transportation Study in the Bangkok Metropolitan Area

Dr. Yordphol; IDRC (Baht 590,000)

Sand Compaction Project - Phase II

Dr. Bergado; CIDA/AIT-CUC PP (Baht 75,000)

MSE - Seminar/Workshop - Phase II

Dr. Bergado; CIDA/AIT-CUC PP (Baht 75,000)

HUMAN SETTLEMENTS DEVELOPMENT

Developing the Conceptual Framework for District Level Database for Planning

Prof. Dias, Dr. Poudyal; GTZ (SPRING) (Baht 80,000)

Development of a Multiple Network Logit Configuration Method and Its Application to the Analysis of Rural Village Socio-Economic Structure

Dr. Higuchi; JICA (Baht 211,000)

AIT Students: Gender Analysis

Dr. Kelkar, Ms. Rost, Dr. Warren, Ms. Yunxian; CIDA/AIT-CUC PP (Baht 75,000)

Women in Management

Dr. Kelkar, Ms. Rost, Dr. Swierczok; CIDA/AIT-CUC PP (Baht 75,000)

Community Construction of Infrastructure in Colombo

Dr. Yap; CIDA/AIT-CUC PP (Baht 75,000)

INDUSTRIAL ENGINEERING AND MANAGEMENT

MRP II System for CIM Laboratory

Mr. Bohez; CIDA (Baht 85,000)

Production Planning for Perishable Products

Dr. Fujiwara; JICA (Baht 132,000)

Statistical Quality Control Procedures for Food Products

Dr. Nagarur; CIDA (Baht 70,000)

STRUCTURAL ENGINEERING AND CONSTRUCTION

Database Development and Commercial Feasibility Analysis for Estimating System Selection Expert

Dr. Arditi; Technology Commercialization Center, Illinois, USA

Durability Design of Concrete Structures for Infrastructures in ASEAN Countries

Dr. Maekawa; JICA (Baht 216,456)

Estimating System Selection Expert

Dr. Arditi; Technology Commercialization Center, Illinois, USA

Finite Element Analysis of 13 Highway Interchange Structures

Prof. Worsak, Mr. Somporn; Dept. of Highway, RTG, through Thai Engineering Consultants Co., Ltd., (Baht 249,951)

High Strength Concrete Using Additives

Dr. Pichai, Mr. Chalut; Muang Roong Limited, Thailand (Baht 200,000)

Investigation on Effects of Traffic Induced Vibrations and Soil Creep on Settlement of the Reclining Buddha Image of Wat Po, Bangkok Project

Prof. Pisidhi; Fine Arts Department, RTG (Baht 195,600)

Knowledge Acquisition for ESSEX

Dr. Arditi; Technology Commercialization Center, Illinois, USA

Temperature Measurement of Concrete in Pile Caps of Rama VI Bridge, Bangkok

Dr. Pichai, Mr. Chalut; Ohbayashi Corp., Sumitomo Construction Co., Ltd., Thai Ohbayashi Corp., Joint Venture (Baht 50,000)

Training Course on Building Materials Quality Control

Dr. Pichai; UNCHS Habitat (Baht 210,000)

Training Course on Laboratory Research Methodology

Dr. Pichai; UNCHS Habitat (Baht 420,000)

Vibration-Damping Estimation and Control for Infrastructures in ASEAN Countries

Dr. Yamaguchi; JICA (Baht 216,456)

WATER RESOURCES ENGINEERING

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 (Baht 532,800)

Hydraulic Model Study for Final Design of Mae Taeng Hydroelectric Project

Mr. Prida (RRDC); Norconsult International A/S of Norway (Baht 1,574,000)

Impact of Global Warming on Tropical Water Resources Management and Development

Prof. Harboe, Dr. Gan, Dr. Nophadol, Mr. Ahmad; CIDA (Baht 76,000)

Improved Large Scale Water Resources Development Planning

Prof. Harboe; GTZ (Baht 2,500,000)

IRRIGATION ENGINEERING AND MANAGEMENT PROGRAM

Study of Selected Environmental Parameters in Large Irrigation Projects Using Geographical Information Systems

Dr. Murty; CIDA/AIT-CUC PP (Baht 75,000)

INTERDISCIPLINARY NATURAL RESOURCES DEVELOPMENT AND MANAGEMENT PROGRAM

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

Preliminary Study of Paddy Land Remodelling in Chachoengsao
Dr. Apisit; Dept. of Land Development, RTG (Baht 512,440)

Surface Water Evaluation in Northeast Thailand : A Pilot Project Using Satellite Remote Sensing
Dr. Kaew; NESDB (Baht 7,000,000)

ASIAN DISASTER PREPAREDNESS CENTER

Support to Disaster Management Round Table Meeting, Philippines
DSE(US\$4,186)

Disaster Management Training
UNDP/UNDRO (US\$50,000)

Technical Support to Core Shelter Project, Philippines
UNDP/UNDRO (US\$24,584)

Assistance in UNDRO Regional Seminar on Strengthening Disaster Management in the South Pacific
UNDRO (US\$4,800)

Assistance to UNDP Resident Representative in Cambodia Flood Damage Assessment
UNDRO (US\$3,000)

Assistance to UNDP Resident Representative (Philippines) in the Mt Pinatubo Relief Operation
UNDP (US\$3,250)

Relief Management Workshop in Phnom Penh, Cambodia
Cambodian Development Resource Institute (US\$23,000)

Earthquake Resistant School Buildings
CIDA/AIT-CUC PP (US\$3,000)

JOINT

Ozone-Granular Active
Prof. Mora (ET), Dr. Harada (EE); LED-SAAM (US\$20,000)

Membrane Technology at Bangkok Water Plant
Mrs. Samorn (EE), Dr. Sompol (EE), Prof. Mora (ET); CIDA/AIT-CUC PP (US\$10,000)

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

Final Evaluation of Tam Phuong Water Control Project
Dr. Demaine (HSD), Prof. Suphat; (WRE) Mekong Secretariat (US\$11,500)

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

Study on Impacts of Thermal Discharge and Ash Pond Effluent on the Receiving Water Environment from 75MW Lignite Krabi Thermal Power Plant
Mr. Prida (RRDC), Prof. Tawatchai (WRE), Mrs. Samorn (EE), Mr. Prawit (KU); EGAT (Baht 2,372,080)

IN PROGRESS

AGRICULTURAL AND FOOD ENGINEERING

Dehydration of Tropical Fruits and Vegetables Using a Refrigeration System
Dr. Athapol; AIT Research Initiation Grant (Baht 45,000)

Demonstration Project for Extension of Cashewnut Processing at Farm Level
Dr. Athapol; 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 (£39,716)

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; EC (US\$128,000)

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

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

Modeling Deterioration Behavior of Food Products Using Chemical Kinetics and Statistical Quality Control Techniques
Dr. Ilangantileke, Dr. Nagarur; CIDA/AIT-CUC PP (US\$2,000)

PC-Based Decision Support System for Aeration and In-Store Drying of Grains
Prof. Jindal; CIDA/AIT-CUC PP (Baht 95,000)

Paddy Field Engineering in Asia
Dr. Koga; JICA, Japan (US\$9,600)

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

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

Development of Fry Production and Nursing Strategies for the Nile Tilapia (*Oreochromis niloticus*)
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; USAID (Baht 3,624,475)

Evaluation and Selection of Agricultural Engineering Inputs for Rural Development in Asian Developing Countries

Prof. Wang; AIT Research Initiation Grant (Baht 60,000)

Farm Irrigation System Design Constraints and Improvement in Major Irrigation Projects

Dr. Murty; CIDA/AIT-CUC PP (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 Use of Enamel Coated Bolt-on Plates for Cage Wheels - Phase II

Dr. Salokhe, Prof. Gee-Clough; CIDA/AIT-CUC PP (Baht 75,000)

Improving the Performance of Hand-tools and Equipment Used by Women in Agriculture - Exploratory Phase

Dr. Salokhe; CIDA/AIT-CUC PP (Baht 75,000)

Improving the Performance of Hand-tools and Equipment Used by Women in Agriculture - Demonstration Phase

Dr. Salokhe; 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)

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 Research Initiation Grant (Baht 45,000)

Fish Nutrition

Dr. Yakupitiyage; IDRC (CAD\$172,000)

COMPUTER SCIENCE

Transformation of Logic Programs

Mrs. Kanchana, Dr. Dung; AIT Research Initiation Grant (Baht 60,000)

ENERGY TECHNOLOGY

Impact of Thermal Energy Storage on Utility Operation (EGAT)

Dr. Surapong; EGAT (US\$200,000)

Membrane Technology

Prof. Mora; VA CNRS 192 (US\$6,000)

Energy and Environment (PICS)

Prof. Mora; CNRS (US\$14,000)

Advanced Soda Pulping

Prof. Mora; Midivaleur Co. (US\$190,000)

Clean Combustion

Dr. Bhattacharya, Prof. Mora; French Embassy, Manila (US\$5,000)

Water Supply Network

Prof. Mora; LED-SAAM (US\$20,000)

Rational Use of Energy

Prof. Mora, Dr. Mohanty; AFME (US\$50,000)

Energy Park Maintenance (1991-92)

Mr. Bouix; AFME (US\$20,000)

Energy and Environment, Corp. with Canadian Industrialists

Prof. Mora, Dr. Mohanty; CIDA (US\$10,000)

Environmental Implications of Electricity Planning

Dr. Shrestha; CIDA/AIT-CUC PP (Baht 75,000)

Test of High Efficiency Lamps

Mr. Bouix, Dr. Supachart; METROL Co., France (US\$2,000)

Test of Pumps for Rural Applications

Mr. Bouix, Dr. Supachart; VERGNET S.A., France (US\$2,000)

Test of Vestfrost Vaccine Refrigerator in an Environmentally Controlled Chamber

Dr. Supachart; VESTFROST A/S, Denmark (US\$3,000)

Performance of Hybrid System Pilot Plant for Anaerobic Digestion of Pig Manure

Mr. Tentscher, Dr. Somchai, Mr. Adul; GTZ/KU (US\$35,000)

Use of Torrefied Wood for Domestic Cooking

Dr. Bhattacharya; CIDA/AIT-CUC PP (Baht 75,000)

Fluidized Bed Black Liquor Combustion

Dr. Bhattacharya; AFME (US\$110,000)

Comparison of Various Waste Energy Upgrading Systems

Dr. Mohanty; AFME (US\$6,000)

Effective Utilization of Low Temperature Geothermal Heat at Fang

Dr. Mohanty, Mr. Paloso; EGAT/AFME (US\$6,000)

REDP Project P1 (Sectoral Energy Demand Analysis)

Prof. Lefevre, Dr. Zhai, Mrs. Hua; MOFA (US\$68,186) and UNDP/ESCAP (US\$76,000)

Energy Demand 1991

Prof. Lefevre, Dr. Zhai, Mrs. Hua, Mr. Arsegianto, Mr. Sushil; MOFA/AFME (FF 300,000)

Planning for Natural Gas Utilization in Thailand

Prof. Lefevre, Mr. Delafosse; AFME (FF 200,000)

ADB/AIT Cooperation

Prof. Lefevre, Dr. Zhai; ADB (US\$10,000)

Asian Energy News

Prof. Lefevre, Dr. Zhai, Mrs. Hua; AFME/MOFA (FF 70,000)

Energy Demand Forecast Model - Medee-s

Prof. Lefevre; MOFA (FF 20,000), AIT (Baht 35,000)

Solar Radiation Calibration Center

Prof. Exell; CIDA /AIT-CUC PP (Baht 70,000 and Baht 2,800)

Solar Refrigerator Demonstration

Prof. Exell; CIDA/AIT-CUC PP (Baht 100,000 and Baht 4,000)

Research on the Regulatory Aspects and Institutional Structure of Thai Power System

Dr. Dang; EC (US\$35,000)

Research on Energy Markets in the ASEAN Region

Dr. Dang; EC (US\$13,000)

Research on Technology Dissemination ASEAN-EC

Dr. Dang; EC (US\$213,000)

Research on Energy Environment Policies

Dr. Dang; France (US\$51,000)

ENVIRONMENTAL ENGINEERING

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

Upgrading of Advanced Anaerobic Bioreactors for Treatment of Low to High Strength Wastewaters
Dr. Harada, Dr. Fujii; ARRA, Japan (J¥ 5,000,000)

Thermophilic Treatment of High Strength Wastewaters by Modified Up-flow Anaerobic Sludge Blanket Reactor
Dr. Harada, Dr. Fujii; KOMATSU, Japan (Baht 349,440)

Biological Detoxification of Hazardous Wastes
Prof. Chongrak; AEON Group Environment Foundation, Japan (J¥ 44,000,000)

Valuable By-products Recovery from Tannery Wastes
Dr. Zhuang, Dr. Nagarur; CDG (Baht 250,000)

Demonstration Project for the Improvement of Hygiene and Personal Habits through Children's Education in Slum Areas of Bangkok
Dr. Tran; CIDA/AIT-CUC PP (Baht 175,000)

Application of Floto-Filter Unit for Contact-Flocculation Filtration of Surface Waters and Biological Filtration of Wastewaters
Dr. Visvanathan; AIT Research Initiation Grant (Baht 60,000)

Photocatalytic and Anaerobic Degradation of Halogenated Hydrocarbons
Dr. Tanaka; JICA (Baht 200,000)

GEOTECHNICAL AND TRANSPORTATION ENGINEERING

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)

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

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

Transportation Management in Asia
Dr. Mori; JICA (Baht 325,205)

Stability and Ground Movements in Excavation Works in Soft Bangkok Clay
Dr. Noppadol; AIT Research Initiation Grant (Baht 55,000)

Investigation of Landslides and Potential Protective Measures for Southern Thailand
Dr. Noppadol; CIDA/AIT-CUC PP (Baht 100,000)

Present and Future of Transportation Networks in the Developing Economies
Dr. Mori; Mitsubishi Research Institute, Inc. (Baht 360,000)

Artificial Recharge as a Bangkok Land Subsidence Control
Prof. Prinya, Dr. Noppadol; IDRC (Baht 3,979,800)

Development of Transportation Planning Methods for Developing Countries, Based on an Analysis of Transportation Systems in Asian Countries
Dr. Shimazaki; JICA (Baht 100,000)

Use of Inextensible and Extensible Reinforcement for Mekong River Bank Stabilization
Dr. Bergado; CIDA/AIT-CUC PP (Baht 75,000)

Sand Compaction Piles on Soft Bangkok Clay Using Locally Available and Low-Quality Soils
Dr. Bergado, Dr. Honjo, Prof. Balasubramaniam; Fudo Construction Co., Tokyo (Baht 912,000)

HUMAN SETTLEMENTS DEVELOPMENT

Role of the Urban Informal Sector in Sustainable Urban Development
Dr. Amin; CIDA/AIT-CUC PP (Baht 125,000)

Management and Accommodation of Urban Informal Sector
Dr. Amin; CIDA/AIT-CUC PP (Baht 256,000)

Land Management for South Asian Cities
Mr. Archer; CIDA/AIT-CUC PP (Baht 75,000)

Urban Land Pooling/Readjustment in Asia-Pacific Countries
Mr. Archer; Metropolitan Research Trust and Others (Baht 50,000)

Land and Housing Development in Bangkok
Mr. Archer; Metropolitan Research Trust and Others (Baht 50,000)

Agricultural and Rural Development in Northeast Thailand
Dr. Demaine; CIDA/AIT-CUC PP (Baht 75,000)

Development of Ban Puay, Puay Noi Minor District, Khon Kaen
Dr. Demaine; Ramon Magsaysay Foundation (US\$10,000)

Preparation of Manual on Information Systems for Decentralized Multi-Sectoral Planning
Prof. Dias, Prof. Gupta; IDRC (CAD\$58,791)

Planning and Building Legislation - ASEAN Countries
Mr. Kammeier; IDRC (US\$100,000)

"SILP2": Microcomputer Software Development
Mr. Kammeier; UN Habitat (US\$20,000)

District Planning in Thailand (Demonstration Project No. 716)
Mr. Kammeier; CIDA/AIT-CUC PP (Baht 525,000)

AIT Women Graduate Tracer Study
Ms. Rost, Ms. Mishra; NORAD (Baht 150,000)

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

People's Image of Rural Development
Dr. Setty, Mr. Gangajje; CIDA/AIT-CUC PP (Baht 75,000)

Developing Entrepreneurship Among Women in Rice-Based Economies
Dr. Setty, Mr. Gangajje; CIDA/AIT-CUC PP (Baht 75,000)

AIT Alumni 1961-1990 Employer Study
Prof. Weber, Dr. Miah; GTZ (Baht 150,000)

Women in Development
Prof. Weber, Ms. Rost; NORAD (Baht 2,087,500)

Strategy for Enabling Women to Strengthen Their Role in Development
Prof. Weber, Ms. Rost, Mrs. Pongquan; CIDA/AIT-CUC PP (Baht 150,000)

Agricultural Production Promotion and Farming System Analysis in Lam Dom Noi Self-Help Land Settlement, Northeastern Thailand
Prof. Weber; GTZ (DM 65,000)

Adaptation of Technology for Rural Transport in Thailand
Dr. Wickramanayake; AIT Research Initiation Grant (Baht 45,000)

Economics of Using Non-Metallic Products for Construction of Rural House in Thailand
Dr. Wickramanayake; CIDA/AIT-CUC PP (Baht 63,000)

Low-Income Rental Housing in Bangkok
Dr. Yap; CIDA/AIT-CUC PP/IDRC/NHA (Baht 2,019,250)

Housing in Vietnam
Dr. Yap; CIDA/AIT-CUC PP (Baht 100,000)

Case Study of a Low-Cost Condominium Estate in the Northern Corridor of Bangkok
Dr. Seik; CIDA/AIT-CUC PP (Baht 150,000)

INDUSTRIAL ENGINEERING AND MANAGEMENT

Speech Recognition Using Fractals
Mr. Bohez; AIT Research Initiation Grant (Baht 50,000)

Production Planning and Inventory Control Modelling
Dr. Fujiwara; JICA (Baht 150,000)

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

Industrial Pollution Control and Applications
Dr. Nagarur; CDG (Baht 1,200,000)

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

STRUCTURAL ENGINEERING AND CONSTRUCTION

Active Control of Earthquake- and Wind-Induced Vibrations in Civil Engineering Structures
Dr. Yamaguchi; JICA (Baht 245,000)

Development of Rational Design of Concrete LNG Storage Tanks
Dr. Maekawa; Ohbayashi Corp. Tokyo (Baht 237,500)

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

MICRO-ACE Software Development Self-supported by income from software distribution and the Microcomputer Workshops for Structural Engineering Applications and Practice (M/SEAP)
Prof. Worsak, Mr. Somporn; SEC Microcomputer Laboratory (Baht 407,430)

Rational Design of Concrete Structures for Infrastructures in ASEAN Countries
Dr. Maekawa; JICA (Baht 245,000)

WATER RESOURCES ENGINEERING

Improved Operation and Management of Large Scale Irrigation Systems
Mr. Loof, Dr. Paudyal; GTZ (Baht 3,406,305)

Monitoring of Shoreline and Seabed of Map Ta Phut Port
Prof. Suphat; NSR Consulting Group (Baht 2,322,000)

Investigation and Research of Aquatic Environment in ASEAN Countries
Dr. Tanaka; JICA (Baht 232,249)

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

Simulation Study of Bangkok Aquifer System (1991)
Prof. Gupta, Dr. Onta; Dept. of Mineral Resources, RTG (Baht 209,884)

Operation of Complex Reservoir Systems
Prof. Harboe; GTZ (Baht 2,340,000)

Scale Model Investigation of Water Intake Sunsari Morang Irrigation II Project
Mr. Prida, Dr. Thuc; Dept. of Irrigation, Ministry of Water Resources, His Majesty's Government of Nepal, and Delft Hydraulics and NEDECO (Baht 2,941,125)

SCHOOL OF MANAGEMENT

Enhancing Technological Capability Through Learning: An International Comparison of the Telecommunications Industry
Dr. Ramanathan; EC, Paris Graduate School of Management, Antwerp Univ., KIST, AIT

IRRIGATION ENGINEERING AND MANAGEMENT PROGRAM

Farm Irrigation System Design Constraints and Improvement in Major Irrigation Projects
Dr. Murty; CIDA/AIT-CUC PP (Baht 75,000)

INTERDISCIPLINARY NATURAL RESOURCES DEVELOPMENT AND MANAGEMENT PROGRAM

Bioaccumulation of Contaminants in Lake Songkhla Basin
Dr. Daugherty; CIDA/AIT-CUC PP, AIT Research Initiation Grant, SIDA (Baht 330,000)

Management Plan for Thale Noi Non-Hunting Area, Thailand; Dr. Daugherty; Wildlife Conservation Division, Royal Forestry Dept., RTG (US\$30,000)

Agro-Ecological Zonation of Khwae Noi Valley, Upper Mae Klong Area, Kancharaburi Province
Dr. Motti; RSL/NRP and DORAS, KU

Application of GIS for Agricultural Development in Amphoes Phattana Nikom and Chai Badan, Lopburi
H.R.H. Princess Maha Chakri Sirindhorn; National Research Council, Thailand (Baht 444,300)

Middle Income Urban Environmental Research Survey
Prof. Webster; CIDA/AIT-CUC PP (CAD\$24,500)

Economic and Environmental Roles of Urban Middle Class in Pakistan
Dr. Saeed, Prof. Webster; CIDA/AIT-CUC PP (Baht 145,000)

LANGUAGE CENTER

Language Program Development: ASEAN-Canada Forest Tree Seed Center
LC Faculty; CIDA (Baht 250,000)

Language Program Development: AIT Aquaculture Outreach Project;
Mr. Savage, Mr. Storer; ODA (Baht 84,000)

LIBRARY AND REGIONAL DOCUMENTATION CENTER

Ferrocement Information Network Activities for Rural Development
Mrs. Austriaco, Mr. Vespry; IDRC (Baht 3,757,550)

ASIAN DISASTER PREPAREDNESS CENTER

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**
EC (ECU 537,000)

Assistance to UNDP MAC 5
UNDP (US\$5,000)

**Strengthening Disaster Preparedness
Response Efforts in the Philippines**
ODA (US\$33,052)

**Strengthening Disaster Preparedness
and Response in Asia and the Pacific**
ODA (US\$65,483)

**Urban Development and Shelter
Program**
*USAID/Regional Housing and Urban
Development Office (US\$408,600)*

**Strengthening Disaster Related
Activities in Asia and the Pacific**
USAID/OFDA (US\$250,000)

DISPELL (Private Sector Program)
USAID/OFDA (US\$197,000)

**Support to Disaster Programs in
Asia and South Pacific**
AIDAB (US\$36,000)

JOINT

**Integrated Technique for Sludge
Handling in Water Treatment Plants**
*Mrs. Samorn (EE), Mr. Sompol (EE),
Prof. Mora (ET);
CIDA/AIT-CUC PP (US\$10,000)*

**Use of Membrane Technology in Treat-
ing Backwash Wastewater Produced at
Bangkhen Water Treatment Plant**
*Mrs. Samorn (EE), Prof. Mora (ET);
CIDA/AIT-CUC PP (Baht 75,000)*

**Membrane Technology and
Ozone Research Project**
*Mrs. Samorn (EE), Prof. Mora (ET);
CIDA/AIT-CUC PP (Baht 120,000)*

**Integrated Technique for
Sludge Handling**
*Mrs. Samorn (EE), Prof. Mora (ET);
CIDA/AIT-CUC PP (Baht 75,000)*

**Assessment of Insecticides in
Vegetable Production Systems:
Maximum Residue Levels**
*Dr. Verink (EE), Dr. Waibel (AFE);
GTZ (Baht 372,000)*

**Biological Contamination of Waterfowl
in the Lake Songkla Basin, Thailand**
*Dr. Reutergardh (EE), Dr. Daugherty and
Dr. Bengtsson (INRDM); AIT Research
Initiation Grant (Baht 140,000)*

**Study of AIT's Research Record,
Needs and Constraints**
*Prof. Edwards (AFE), Dr. Demaine (HSD),
Dr. Hawkey, Mr. Prida (RRDC) - Work of
Research Steering Group; AIT*

AIT Aquaculture Research Project
*Prof. Edwards (AFE), Dr. Demaine (HSD)
Dr. Little (AFE), Mr. Taylor;
ODA (£ 654,000)*

**Review of Fisheries Sector
in the Lower Mekong Basin**
*Prof. Edwards (AFE), Dr. Demaine (HSD),
Dr. Phillips; Mekong Secretariat and
DANIDA (US\$268,000)*

**Development of Ban Khok Kong,
Na Chuak District, Mahasarakham**
*Dr. Demaine (HSD), Mr. Prida (RRDC);
RTG Green Isan Project (Baht 1,250,000)*

**Improvement of Early Warning System
and Disaster Relief Coordination,
Thailand**
*Dr. Demaine (HSD), Lt. Col. Ward (ADPC),
Prof. Weber (HSD);
CIDA/AIT-CUC PP (Baht 160,000)*

**Sustainable Development of Water
Resources, Examples from
H.M. the King of Thailand's Work**
*Dr. Demaine (HSD), Prof. Suphat (WRE),
Dr. Kasem, Dr. Surin; UNEP
(Baht 100,000)*

Women in Thai Construction Industry
*Dr. Kelkar (HSD), Ms. Rost (HSD),
Dr. Ogunlana (SEC), Mrs. Austriaco (IFIC);
CIDA/AIT-CUC PP (Baht 150,000)*

**Post-Disaster Assessment of
Physical and Socio-Economic Impacts**
*Prof. Weber (HSD), Lt. Col. Ward (ADPC),
Dr. Demaine (HSD);
CIDA/AIT-CUC PP (Baht 170,000)*

**GTZ/AIT Joint Study on Strategic and
Development Planning for the Asian
Institute of Technology**
*Prof. Weber (HSD), Prof. Sharif (SOM);
GTZ (DM 550,000)*

Solid Waste Management in Bangkok
*Dr. Yap (HSD), Mrs. Samorn (EE),
Dr. Visvanathan (EE);
CIDA/AIT-CUC PP/UNCHS
(Baht 75,000 and US\$10,000)*

Continuing Education Activities During 1991

| DATE | ACADEMIC UNIT AT AIT | TOPIC OF SHORT-TERM TRAINING COURSE, SEMINAR OR WORKSHOP (Followed by sponsor/co-organizer) |
|---------------------------|----------------------|---|
| 4 - 6 Jan | LC | Thal TESOL 12th Annual Convention Srinakarinwirote Univ. |
| 4 Jan - 5 Apr | CEC | Energy Planning ADB/UNDP |
| 7 - 11 Jan | GTE | First Young Asian Geotechnical Engineering Conference JSSMFE/SEAGS/AIT |
| 7 Jan - 11 Apr | INRDM | Applied Remote Sensing |
| 7 Jan - 27 Feb | RCC | Maintenance of Microcomputers |
| 7 Jan - 30 Mar | RCC | PCAD Courses |
| 11 Jan | EE | Marine Natural Products: Potential and Advantages |
| 14 Jan - 8 Mar | CEC | Rural Physical Infrastructure Development UNDP/ILO |
| 27 Jan - 6 Feb | CEC | Seminar Cum Study Visit for Irrigation Management Trainers USAID |
| 29 - 30 Jan | ET/EE | Membrane Technology APE/AFME/CNRS/CIDA/UNESCO |
| 4 - 8 Feb | HSD | Labor Administration for the Urban Informal Sector ILO/ARPLA, ILO (Turin Center) |
| 4 Feb - 1 Mar | CEC | Agricultural Technology for Export Development ADB |
| 4 Feb - 8 Mar | LRDC (AGE) | Information Repackaging and Consolidation IDRC |
| 4 Feb - 22 Mar | RCC | FARM Analysis Package FAO |
| 11 Feb - 16 Apr | LRDC | ASEAN-Canada Forest Tree Seed Center In-Service Training ACFTSC |
| 18 - 22 Feb | LRDC | Marketing/Sustainability of Information Centers UNESCO/INNERTAP |
| 18 Feb - 15 Mar | CEC | Application of Clean Technologies in Industrial Waste Management US-ASEAN |
| 22 Feb | EE | Sulfur Dioxide Control with a Circulating Fluidized Bed Absorber |
| 22 Feb | SEC | Development of Reinforced Concrete Structural Designers' Desktop System |
| 25 Feb - 8 Mar | ADPC | Flood Loss Mitigation (Thailand) ASEAN/Canada |
| 6 Mar | SOM | Industrial Risk Management |
| 6 - 8 Mar | HSD | Housing Development: Moving from State Subsidies to Enabling Strategies |
| 7 Mar | SEC | Technical and Management Aspects of Laem Chabang Port |
| 11 - 13 Mar | LC | Language Program Planning and Evaluation Mahidol University |
| 11 - 15 Mar | LRDC (RERIC) | Desktop Publishing UNFPA |
| 11 - 27 Mar | RCC | Computer Center Management |
| 11 Mar - 5 Apr | CEC/IEM | Computer Integrated Manufacturing US-ASEAN |
| 18 - 29 Mar | SOM | Management of Technology in Asia |
| 22 Mar | EE | Control of Eutrophication in Lakes and Reservoirs in Japan |
| 22 Mar - 10 Apr | RCC | Computer Applications in Education US-ASEAN |
| 25 Mar - 5 Apr | CEC | Management of Conflict and Change US-ASEAN |
| 8 Apr - 3 May | RCC | Computer Applications in Education US-ASEAN |
| 8 Apr - 3 May | RCC | Computer Administrative Applications (Analysis and Design) US-ASEAN |
| 9 - 12 Apr | HSD | District and Provincial Planning in Thailand (SPRING Forum) |
| 10 Apr | EE | Industrial Emissions, Acid Rain and Their Effects on the Environment |
| 22 - 25 Apr | CEC/ET | Electrical Load Management AFME/MOFA |
| 22 - 26 Apr | CEC/ET | Building Energy Management UNCHS/AFME/RCEHMT |
| 22 - 26 Apr | INRDM | Conservation and Sustainable Development ESCAP/RRSP/CUC-AIT PP/Winrock |
| 22 Apr - 3 May | CEC | Managing Rural Development SIDA |
| 26 Apr | ET | Education/Training Requirements and Programs for Asia's Power Sector ET/AFME/MOFA 29 |
| Apr - 3 May | ADPC | Disaster Management Round Table Meeting (Philippines) DSE, Germany |
| 29 Apr - 24 May | RCC | Computer Applications in Science and Technology Assessment LIPI/Indonesia |
| 2 May - 2 Aug | INRDM | Natural Resources Information and Management Mekong Secretariat/SAREC/Royal Netherlands Govt./US-ASEAN |
| 6 May '90 - 31 May '91 | AFE | Integrated Aquaculture in Asia Mekong Committee/FAO/ODA/NORAD |
| 6 May - 26 Jul | LRDC | New Information Technologies and Computerized Library Services Various Sponsors |
| 6 May - 26 Jul | CEC | Energy Planning ADB |
| 6 May - 29 Jul | RCC | PCAD Courses |
| 6 May - 28 Jun | RCC | Maintenance on Microcomputer |
| 6 May - 26 Jul | RCC | Basic Tools and Techniques in Computer Applications and Development |
| 13 May - 7 Jun | CEC/IEM | Quality Management in Food Industry US-ASEAN |
| 13 May - 21 Jun | CEC | Integrated Farming System WB/ADB |
| 13 May - 21 Jun | ADPC | Disaster Management Course (DMC 11) Various Sponsors |
| 13 May - 5 Jul | CEC | Computer-Assisted Instruction Development SIDA/USAID-ASEAN |
| 17 May | LC | Critical Analysis of Text for Bibliographers |
| 20 May | SEC | Col-Formed Steel Structures in the USA |
| 20 May - 14 Jun | RCC | Computer Applications in Science and Technology Assessment LIPI/Indonesia |
| 27 May | EE | Flexibility in Environmental Quality Management |

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| 29 May - 27 Jun 30 - 31 May | ET SEC | Solar PV Refrigerator Repair and Maintenance WHO Selecting Software for Scheduling and Costing of Construction |
| 3 Jun - 12 Jul 4 Jun | CEC/IEM HSD | Project Management SIDA Microcomputer Course for Department of Town and Country Planning |
| 4 Jun - 4 Jul | INRDM | Soil Classification, Mapping and Land Evaluation FAO |
| 6 - 28 Jun | RCC | Computer Applications in Education US-ASEAN |
| 10 - 21 Jun | INRDM | Marine Applications of ERS-1 Data European Space Agency |
| 17 Jun '90 - 13 Jun '91 | AFE | Techniques for Mass Fry Production and Growout Mekong Committee/FAO/ODA/NORAD |
| 15 - 16 Jun | GTE | Conservation of Natural Resources and Environment in Thailand Various Sponsors |
| 17 - 21 Jun | RCC | PC Local Area Network Australian Embassy |
| 21 Jun | ET | Circulating Fluidized Bed Combustion |
| 23 Jun | SEC | Expert Systems Applications in Construction Contract Law |
| 24 Jun - 19 Jul | CEC | Project Monitoring and Evaluation SIDA |
| 26 Jun - 10 Jul | CEC | Human Resource Management US-ASEAN |
| 1 Jul - 2 Aug 1 Jul | RCC SOM | Improvement of Social Security Planning and Administration ILO New Technologies in Financial Services |
| 1 Jul - 23 Aug | CEC/IEM | Irrigation System Management SIDA/USAID/ADB |
| 2 Jul | LC | Examinations Skills Chulachomkiao Univ. |
| 2 - 4 Jul | SOM | Multi-Cultural Management EC |
| 3 Jul | EE | Industrial Pollution in Nepal, Strategies for Control and Abatement |
| 4 - 31 Jul | RCC | Computer Applications in Education US-ASEAN |
| 7 - 12 Jul | INRDM | Coastal Zone Management Forum CUC-AIT PP/IUCN/SIDA |
| 8 Jul | SEC | Design and Construction of Prestressed Breakwaters |
| 8 Jul | SEC | Finite Element (Computer Application) |
| 8 - 12 Jul | CEC/IEM | Industrial Robotics |
| 9 - 11 Jul | SOM | International Trade and Marketing EC |
| 15 Jul | ET | Renewable Energy |
| 15 Jul - 23 Aug | CEC | Management of Training Centers SIDA/US-ASEAN |
| 16 Jul - 6 Sep | CEC | Planning and Design of Small Scale Water Development Project CIDA |
| 29 Jul - 9 Aug | LRDC | Micro CDS/ISIS for Advanced Users Various Sponsors |
| 1 - 28 Aug 2 - 23 Aug | RCC CEC | Administrative Applications Development US-ASEAN Advanced Management Program for Asia-Pacific Managers USAID-ASEAN/SIDA |
| 5 - 23 Aug | INRDM | GIS Workshop |
| 7 - 20 Aug | CEC | Irrigation System Management ADB/USAID/Integrated Rural Dev. Proj., Sri Lanka/FAO |
| 8 Aug | LC | Implications of the Task-based Approach for Teacher Training KMIT-Thonburi |
| 12 - 14 Aug | HSD | Technology for Rural Development Ministry of Sci., Tech. and Environment, Malaysia |
| 12 - 23 Aug | LRDC | Telecommunications Course for Information Managers |
| 15-28 Aug | RCC | Computer Audit and Control US-ASEAN/ Private Sector |
| 19 - 30 Aug | CEC | Planning and Design of Pumping Works USAID/EBARA Corp., Japan |
| 19 Aug - 13 Sep | CEC | Managing Rural Development SIDA |
| 23 Aug | LC | TALKBASE Methodology KMIT/ AIT |
| 26 Aug | CEC | Formal Methods in Software Development and Their Role in Industry |
| 27 - 30 Aug | IEM | System Dynamics CIDA/Takahashi Foundation/IBM Japan/SD Society |
| 29 Aug - 12 Dec Aug | INRDM HSD | Coastal Zone Environmental Planning CDG Women and Development/Women's Movement AIT Women Study Circle |
| 2 - 6 Sep | RCC | Developing Expert System - A Practical Approach ADB |
| 2 - 27 Sep | CEC | Small Business Management/Managing Small Scale Entrepreneurship Development SIDA/US-ASEAN |
| 2 - 27 Sep | CEC | Industrial Project Evaluation US-ASEAN |
| 2 - 27 Sep | CEC | EIA Training Workshop for PRC ADB |
| 5 Sep | IEM | MRP II CIDA |
| 9 Sep - 1 Nov | AFE | Aquaculture Training US Peace Corps |
| 9 Sep - 18 Aug | RCC | Repair and Maintenance of Micro-computers |
| 9 - 10 Sep | SOM | Team Development for Organizational Effectiveness |
| 9 Sep - 11 Oct | LRDC | Ferrocement Technology for the Construction Industry: Its Applications and Management |
| 9 Sep - 8 Nov | RCC | Data Communications and Computer Networking |
| 9 Sep - 29 Nov | RCC | PCAD Courses |
| 11 - 13 Sep | IEM | 6th International Forum on CAD EC |
| 12 - 13 Sep | SEC | Construction Claims Management: Avoidance and Resolution |
| 13 Sep | EE | New Learning Methods and Theories - How They Work and What It Takes |
| 15 - 19 Sep | HSD | Impact of Decentralization on the Rural Poor AIT/CIRDAP |
| 16 - 20 Sep | HSD | Impact of Decentralization on Rural Poverty AIT/CIRDAP |
| 16 - 20 Sep | LRDC | Information Center Funding: Project Formulation and Proposal Preparation |
| 16 Sep - 8 Nov | CEC | Extension Methodology for Livestock Development ADB |

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| 23 - 28 Sep | LRDC | Technology Information System Workshop for METI APCTT |
| 23 Sep - 18 Oct | CEC/IEM | Industrial and Infrastructure Development and Management US-ASEAN |
| 30 Sep | CEC | Entrepreneurship and Management Development UNIDO |
| 30 Sep - 20 Oct | CEC | Study Visit of 22 Sri Lankan Farmers' Representatives and Officials ADB/USAID/WB |
| 3 - 4 Oct | LRDC | UNICEF-Dhaka Staff Study UNICEF-Dhaka |
| 7 Oct | EE | Computer Simulation and Visualization Techniques in Coastal Areas and Water Resources Engineering |
| 7 - 18 Oct | LRDC | Micro CDS/ISIS for Advanced Users UNICEF-Sri Lanka/Bangkok Bank |
| 8 Oct | EE | Environmental Economics and Regulation |
| 14 Oct - 22 Nov | ADPC | Disaster Management Course (DMC 12) Various Sponsors |
| 15 Oct | EE | Agro-based Wastewater Treatment and Recovery Systems AIT/IDRC/CP Group, Thailand |
| 18 Oct | SOM | New Technologies in Financial Services |
| 21 Oct | CEC | Rural Physical Infrastructure Development Mekong Secretariat |
| 21 Oct - 13 Dec | CEC | Microcomputer Applications in Irrigation Water Management USAID (Phil/Indonesia)/NORAD/WB |
| 22 - 24 Oct | RCC | Computer Resources Management in Higher Education US-ASEAN |
| 28 - 29 Oct | ET | Bioprocess Engineering of On-Farm Digesters for Waste Treatment GTZ/KU |
| 28 Oct - 1 Nov | LRDC | Desktop Publishing ILO-ARPLA/WB |
| 4 - 22 Nov | SOM | Management of Technology Transfer USAID-ASEAN Human Resources Dev. Program |
| 4 - 29 Nov | CEC | Marine Oil Pollution Prevention, Control and Abatement in Developing Countries US-ASEAN |
| 6 - 9 Nov | INRDM | Protected Areas and Biodiversity in Malaysia, Singapore and Brunei CUC-AIT PP/Univ. Sains, Malaysia |
| 6 Nov - 5 Dec | LRDC | Basic Computer In-Service Training UNCHS (HABITAT) |
| 11 Nov | SEC | Latest Technology in the Application of Cementitious Materials for Construction |
| 11 Nov | CEC | Road Maintenance Management CARE International/USAID |
| 11 - 22 Nov | RCC | Basic Micro-Computer Operations UNFPA |
| 11 Nov - 20 Dec | CEC | Hydrometeorological Measurements and Data Analysis Techniques |
| 13 - 16 Nov | INRDM | Protected Areas and Biodiversity in Vietnam, Kampuchea and Laos (Hanoi, Vietnam) CUC-AIT PP/Hanoi Univ. |
| 14 Nov | LRDC | D/BASE In-Service Training ESCAP-BANGKOK |
| 14 Nov - 11 Dec | RCC | Administrative Applications Development US-ASEAN |
| 14 Nov - 4 Dec | RCC | PC Applications Development for the Malaysian Exams Syndicate Officers Ministry of Education |
| 18 - 20 Nov | ET | Advanced Energy Audits and Technology ASEAN |
| 18 - 22 Nov | ET/CEC | Acid Rain and Emissions in Asia Resource Management Associates |
| 18 - 29 Nov | LRDC | Advanced Micro CDS/ISIS Pascal |
| 18 Nov - 12 Dec | EE | Environmental and Industrial Toxicology: Pollution Control and Assessment Chulabhorn Research Institute |
| 21 Nov - 4 Dec | RCC | Computer Center Management |
| 21 Nov - 6 Dec | CEC | Study Tour Program for 10 Vietnamese Officials on Integrated Agricultural Development Mekong Secretariat |
| 25 Nov - 6 Dec | SOM | Strategies for Privatization: Design and Implementation |
| 25 Nov - 20 Dec | CEC | Computerized Database Security and Integrity US-ASEAN |
| 1 - 4 Dec | INRDM | Indo-Malayan Regional Workshop on Protected Areas CUC-AIT PP/IUCN/WB |
| 2 - 6 Dec | HSD | Expert Group Meeting on the Global Report on Human Settlements (Nairobi) UN |
| 2 - 6 Dec | AFE | Systems Approaches for Agricultural Development IRRI/IBSNAT/SARP/TPE/CABO |
| 3 - 13 Dec | ET | Rational Use of Energy in Industry USAID-ASEAN HRD/KONEBA |
| 5 Dec | INRDM | World Bank/Global Environment Facility/NGO Workshop on Biodiversity WB |
| 6 Dec | HSD | Management of Local Development Planning and Implementation |
| 9 - 13 Dec | GTE | Ninth Asian Regional Conference on Soil Mechanics and Foundation Engineering SEAGS/AIT |
| 9 - 27 Dec | RCC | Computer Application in Education |
| 16 - 20 Dec | HSD | Microcomputer Short Course for Department of Town and Country Planning, Bangkok |
| 16 - 21 Dec | CEC | Study Tour on Opium Eradication/Area Development USAID |
| 25 - 29 Dec | ALWDP | Management Orientation in Irrigation Engineering Curricula in Southeast Asia DSE/GTZ |

Information on sponsors/co-organizers not listed for certain continuing education activities may be obtained from the concerned academic unit at AIT.

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The Asian Institute of Technology is greatly honored that Her Royal Highness Princess Maha Chakri Sirindhorn has graciously consented to become an Honorary Faculty Member of the Institute.

In this singular position Her Royal Highness will be associated with the Interdisciplinary Natural Resources Development and Management Program and with the Remote Sensing Laboratory. The Institute is deeply grateful that Her Royal Highness has seen fit to share her expertise and experience with the faculty, staff, and students.

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SOM

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TC

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EE

Kim Sun Il

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Zhuang Ya-hui

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ET

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GTE

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Docteur d'Etat, Paris 11.

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TC

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WRE

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Ph.D., Alberta.

INRDM

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Larry Wolfe

B.Sc., Univ. of Oregon; M.B.A.,
M.Sc., Univ. of British Columbia.

LC

Rick L. Whisenand

BA., MA., Oklahoma.

INSTITUTE ADMINISTRATION

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|-------------------------------------|-------------------------|
| President | Prof. Alastair M. North |
| Vice President for Academic Affairs | Prof. Helmut Eggers |
| Vice President for Development | Prof. Ricardo P. Pama |
| Bursar | Mr. Edward Mayer |
| Academic Secretary | Dr. Roger Hawkey |

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| | |
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| Division of Computer Science | Dr. Vilas Wuwongse |
| Division of Energy Technology | Prof. R.H.B. Exell |
| Division of Environmental Engineering | Mr. Hans Schroder |
| Division of Geotechnical and Transportation Engineering | Dr. Yusuke Honjo |
| Division of Human Settlements Development | Dr. A.T.M. Nurul Amin |
| Division of Industrial Engineering and Management | Prof. P.C. Pandey |
| Division of Structural Engineering and Construction | Prof. Worsak Kanok-Nukulchai |
| Division of Telecommunications | Prof. A.B. Sharma |
| Division of Water Resources Engineering | Prof. Ricardo Harboe |
| School of Management | Dr. Patrick Gougeon (Director) |

COORDINATORS OF INTERDISCIPLINARY PROGRAMS

| | |
|--|----------------------|
| Irrigation Engineering and Management | Mr. Rainer Loof |
| Natural Resources Development and Management | Dr. Howard Daugherty |

CENTER DIRECTORS

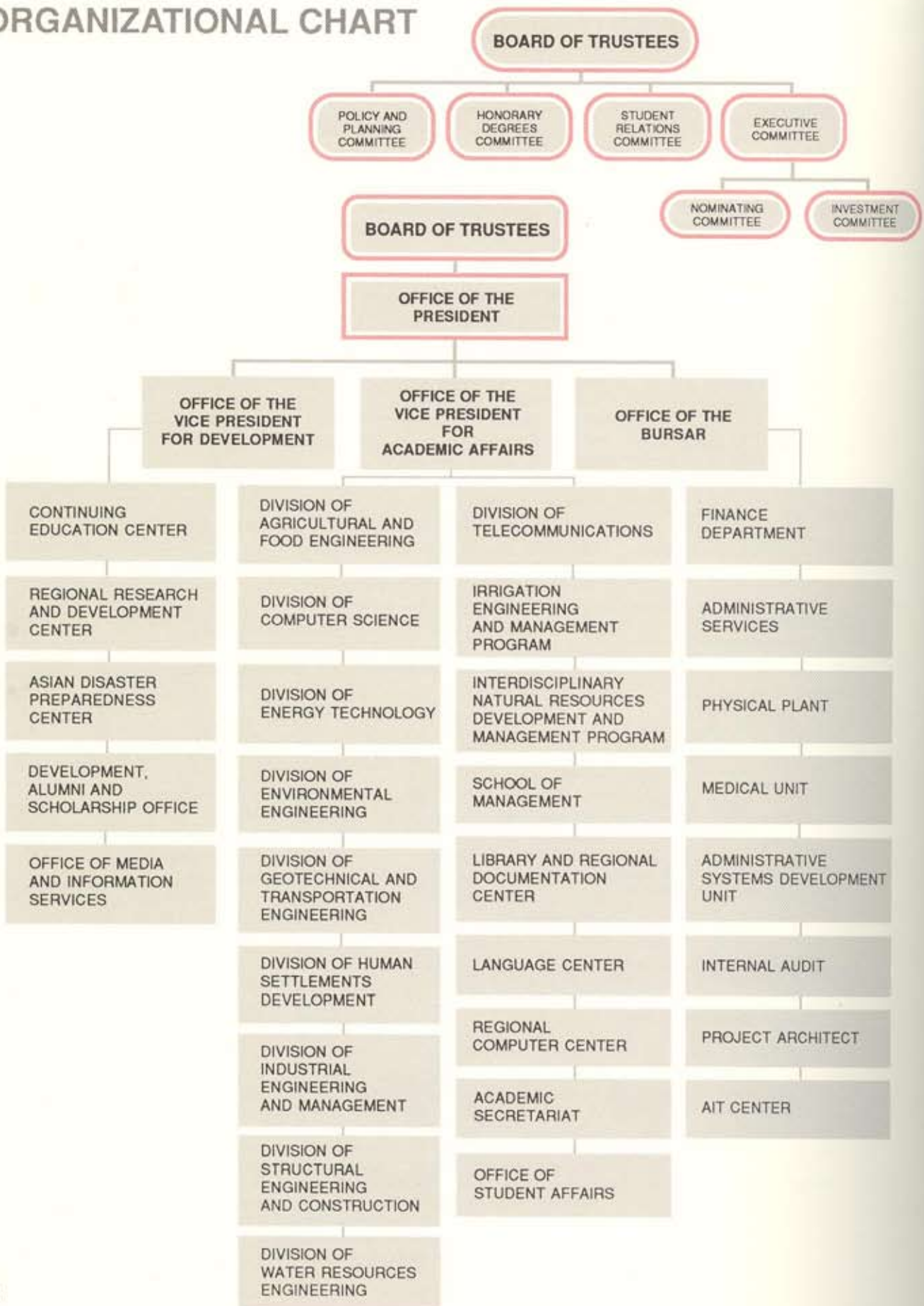
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|---|----------------------------------|
| Asian Disaster Preparedness Center | Lt. Col. Brian Ward (Ret.) |
| Continuing Education Center | Dr. Nicanor C. Austriaco |
| Library and Regional Documentation Center | Mr. Arthur Vespy |
| Regional Computer Center | Dr. Charoon Chirapaisarnkul |
| Regional Research and Development Center | Mr. Prida Thimakorn |
| Language Center | Mr. Matthew Laszewski (Chairman) |

STUDENT AFFAIRS

| | |
|-------------------------|----------------------------|
| Dean of Student Affairs | Prof. R.H.B. Exell |
| Student Union President | Mr. Venkatesh Sundararaman |
| | Mr. Wu Tern Siang |

Prof. Exell, appointed Aug '91, succeeding Prof. J.C. Mora
 Mr. Schroder, appointed May '91, succeeding Dr. Takashi Mino
 Dr. Amin, appointed Jan '91, succeeding Dr. Yap Kioe-Sheng
 Prof. Pandey, appointed Sept '91, succeeding Prof. Prem Vrat
 Prof. Harboe, appointed Feb '91, succeeding Prof. Ashim Das Gupta
 Dr. Gougeon, appointed July '91, succeeding Dr. Georges Hirsch
 Mr. Loof, appointed Jan '91, succeeding Dr. G.N. Paudyal
 Dr. Daugherty, appointed Jan '91, succeeding Dr. John Lukens
 Mr. Laszewski, appointed June '91, succeeding Mr. David Hall
 Mr. Sundararaman, succeeding Mr. Tadatsugu Tamaki, served as SU President from Jan '91 to Aug '91; Mr. Wu, succeeding Mr. Sundararaman, will serve as SU President from Sept '91 to Apr '92.

ORGANIZATIONAL CHART



**ASIAN INSTITUTE OF TECHNOLOGY
BALANCE SHEETS
AS AT 30th JUNE, 1991 AND 1990**

| | Note | Unrestricted Current Fund | | Restricted Fund | | Capital Fund | | Sponsored Program Fund | | Agency Fund | | Total | |
|--|------|---------------------------|------------|-----------------|-------------|---------------|---------------|------------------------|------------|-------------|------------|---------------|---------------|
| | | 1991 | 1990 | 1991 | 1990 | 1991 | 1990 | 1991 | 1990 | 1991 | 1990 | 1991 | 1990 |
| | | BAHT | BAHT | BAHT | BAHT | BAHT | BAHT | BAHT | BAHT | BAHT | BAHT | BAHT | BAHT |
| ASSETS | | | | | | | | | | | | | |
| Cash at banks | | 4,280,985 | 2,825,144 | 6,483,221 | 4,062,943 | 4,505,546 | 14,060,218 | 22,681,343 | 10,302,308 | 17,512,023 | 12,831,489 | 55,463,118 | 44,082,102 |
| Investments | 2 | 14,498,820 | 22,370,306 | 281,399,445 | 267,114,403 | 35,581,105 | 32,500,428 | 58,320,132 | 40,238,235 | 24,753,621 | 35,186,591 | 414,553,123 | 397,409,963 |
| Advance duties and taxes | 3 | 14,275,903 | 23,214,369 | - | - | - | - | - | - | - | - | 14,275,903 | 23,214,369 |
| Accounts receivable and accrued income | | 6,772,055 | 3,122,249 | 7,198,438 | 7,600,757 | 1,202,259 | 382,206 | 1,986,329 | 2,830,771 | 815,712 | 529,329 | 17,974,793 | 14,465,312 |
| Deposits | | 351,593 | 379,013 | 528,300 | 735,516 | - | - | - | - | - | - | 879,893 | 1,114,529 |
| Inventories | | - | - | 938,326 | 1,038,353 | - | - | - | - | - | - | 938,326 | 1,038,353 |
| Due from other funds | | - | - | 27,502,094 | 27,502,094 | - | - | - | - | - | - | 27,502,094 | 27,502,094 |
| Fixed assets | 4 | - | - | - | - | 1,164,610,322 | 1,070,548,744 | - | - | - | - | 1,164,610,322 | 1,070,548,744 |
| TOTAL ASSETS | | 40,179,356 | 51,911,081 | 324,049,824 | 308,054,066 | 1,205,899,232 | 1,117,491,596 | 82,987,804 | 53,371,314 | 43,081,356 | 48,547,409 | 1,696,197,572 | 1,579,375,466 |
| LIABILITIES AND FUND BALANCES | | | | | | | | | | | | | |
| LIABILITIES | | | | | | | | | | | | | |
| Accounts payable and accrued expenses | | 1,006,640 | 1,413,081 | 2,612,940 | 2,759,194 | 1,186,295 | 2,246,787 | 6,058,779 | 342,993 | 543,125 | 3,491,852 | 11,407,779 | 10,253,907 |
| Deposits | | 658,000 | 561,680 | 652,279 | 582,124 | - | - | - | - | - | - | 1,310,279 | 1,143,804 |
| Due to other funds | | - | - | 27,502,094 | 27,502,094 | - | - | - | - | - | - | 27,502,094 | 27,502,094 |
| TOTAL LIABILITIES | | 1,664,640 | 1,974,761 | 30,767,313 | 30,843,412 | 1,186,295 | 2,246,787 | 6,058,779 | 342,993 | 543,125 | 3,491,852 | 40,220,152 | 38,899,805 |
| FUND BALANCES | 6 | 38,514,716 | 49,936,320 | 293,282,511 | 277,210,654 | 1,204,712,937 | 1,115,244,809 | 76,929,025 | 53,028,321 | 42,538,231 | 45,055,557 | 1,655,977,420 | 1,540,475,661 |
| TOTAL LIABILITIES AND FUND BALANCES | | 40,179,356 | 51,911,081 | 324,049,824 | 308,054,066 | 1,205,899,232 | 1,117,491,596 | 82,987,804 | 53,371,314 | 43,081,356 | 48,547,409 | 1,696,197,572 | 1,579,375,466 |

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

S. K. S. S. S.

PRESIDENT

ASIAN INSTITUTE OF TECHNOLOGY
STATEMENTS OF CHANGES IN FUND BALANCES
FOR THE YEAR ENDED 30th JUNE, 1991 (WITH COMPARATIVE TOTAL FOR 1990)

| | Unrestricted Current Fund | | Restricted Fund | | | | Capital Fund | | | | | | Total | |
|---|---------------------------|------|-----------------|----------------|----------------------|-------------------|------------------|----------------|---|-----------------------------|-------------|---------------|---------------|-----------|
| | BAHT | 1990 | General BAHT | Endowment BAHT | General Reserve BAHT | Fixed Assets BAHT | Liquid Assets | | Maintenance and Construction Reserve BAHT | Sponsored Program Fund BAHT | Agency Fund | | 1991 BAHT | 1990 BAHT |
| | | | | | | | Unallocated BAHT | Allocated BAHT | | | BAHT | BAHT | | |
| ASSETS | | | | | | | | | | | | | | |
| Balances, 1 July 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 | |
| Adjustments : | | | | | | | | | | | | | | |
| Disposal of assets | - | | - | - | - | (19,204,949) | - | - | - | - | - | (19,204,949) | (3,327,612) | |
| Additions : | | | | | | | | | | | | | | |
| Excess of revenues over expenditures (expenditures over revenues) | 6,742,080 | | 12,497,958 | - | - | - | - | - | (1,087,320) | 23,900,704 | (2,517,326) | 39,536,096 | 20,726,076 | |
| Investment income | - | | - | 1,358,607 | 20,002,707 | - | - | - | - | - | - | 21,361,314 | 17,408,222 | |
| Government grants and appropriations | - | | - | 2,074,905 | - | - | - | 29,399,084 | - | - | - | 31,473,989 | 15,768,220 | |
| Gain (loss) on rate of exchange | - | | - | (40,000) | (148,976) | - | - | - | - | - | - | (188,976) | (237,602) | |
| Miscellaneous income and contributions | - | | - | - | - | - | 5,124,463 | 26,446,451 | - | - | - | 31,570,914 | 40,165,464 | |
| Contributions in kind | - | | - | - | - | - | - | 5,444,560 | - | - | - | 5,444,560 | 4,056,635 | |
| | 56,678,400 | | 63,095,665 | 57,775,180 | 192,085,010 | 1,051,343,796 | 8,805,783 | 100,299,831 | 917,688 | 76,929,025 | 42,538,231 | 1,650,468,609 | 1,527,557,060 | |
| Deductions : | | | | | | | | | | | | | | |
| Inter-fund transfer from (to) | | | | | | | | | | | | | | |
| - Unrestricted Current fund | - | | - | - | 4,054,562 | - | - | 4,054,561 | 10,054,561 | - | - | 18,163,684 | 5,452,363 | |
| - Restricted Current Fund | (4,054,562) | | - | - | - | - | - | 23,727,906 | - | - | - | 19,673,344 | (1,817,454) | |
| - General Reserve | - | | - | - | - | - | - | - | - | - | - | - | - | |
| - Liquid assets capital fund | (4,054,561) | | - | - | (22,727,906) | - | - | - | - | - | - | (27,782,467) | 1,682,546 | |
| - Allocated | - | | - | - | - | - | - | - | - | - | - | - | - | |
| - Maintenance and Construction Reserve | (10,054,561) | | - | - | - | - | - | - | - | - | - | (10,054,561) | (1,817,455) | |
| Expenditures for plant facilities | | | | | | | | | | | | | | |
| - Cash | - | | - | - | - | 113,266,527 | - | (17,073,734) | - | - | - | 96,192,793 | 52,165,971 | |
| - Kind | - | | - | - | - | - | - | (5,444,560) | - | - | - | (5,444,560) | (4,056,635) | |
| Other cost | - | | - | - | - | - | (1,314,999) | (83,924,423) | - | - | - | (85,239,422) | (38,690,735) | |
| | (18,163,684) | | - | - | (19,673,344) | 113,266,527 | (1,314,999) | (78,660,250) | 10,054,561 | - | - | 5,508,811 | 12,918,601 | |
| Balances, 30 June 1991 (Note 6) | 38,514,716 | | 63,095,665 | 57,775,180 | 172,411,666 | 1,164,610,323 | 7,490,784 | 21,639,581 | 10,972,249 | 76,929,025 | 42,538,231 | 1,655,977,420 | 1,540,475,661 | |

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, 1991 AND 1990

| | Total | | | | Unrestricted Fund | | Restricted Fund | |
|---|--------------------|---------------------|--------------------|--------------------|--------------------|--------------------|--------------------|---------------------|
| | 1991 | | 1990 | | 1991 | 1990 | 1991 | 1990 |
| | BAHT | BAHT | BAHT | BAHT | BAHT | BAHT | BAHT | BAHT |
| REVENUES : | | | | | | | | |
| Tuition and fees : | | | | | | | | |
| Academic division | 166,141,084 | 144,953,107 | 166,141,084 | 144,953,107 | | | | |
| Computer center | 6,733,249 | 5,345,081 | 6,733,249 | 5,345,081 | | | | |
| | 172,874,333 | 150,298,188 | 172,874,333 | 150,298,188 | | | | |
| Gifts and contributions : | | | | | | | | |
| Cash | 33,759,257 | 22,105,726 | 8,639,639 | 8,344,015 | | | 25,119,618 | 13,761,711 |
| In kind (Note 5) | 76,377,725 | 72,194,251 | - | - | | | 76,377,725 | 72,194,251 |
| | 110,136,982 | 94,299,977 | 8,639,639 | 8,344,015 | | | 101,497,343 | 85,955,962 |
| Grants and contracts | 7,639,816 | 7,161,143 | - | - | | | 7,639,816 | 7,161,143 |
| Sales and services : | | | | | | | | |
| Educational activities | 54,611,271 | 43,735,232 | 937,239 | 1,361,233 | | | 53,674,032 | 42,373,999 |
| Others | 1,016,205 | 947,677 | - | - | | | 1,016,205 | 947,677 |
| | 55,627,476 | 44,682,909 | 937,239 | 1,361,233 | | | 54,690,237 | 43,321,676 |
| Income from investments | 25,242,475 | 16,940,982 | 25,242,475 | 16,940,982 | | | | |
| Auxiliary services | 55,715,824 | 49,661,568 | 12,314,145 | 6,478,477 | | | 55,715,824 | 49,661,568 |
| Recovery of indirect costs | 12,314,145 | 6,478,477 | - | - | | | | |
| AIT sponsored programs | 6,141,609 | 5,084,936 | - | - | | | 6,141,609 | 5,084,936 |
| Physical plant support | 24,160,599 | 13,694,100 | - | - | | | 24,160,599 | 13,694,100 |
| Exchange stabilization | 3,372,637 | 9,326,494 | - | - | | | 3,372,637 | 9,326,494 |
| Miscellaneous | 7,475,289 | 1,583,378 | 341,274 | 247,375 | | | 7,134,015 | 1,336,003 |
| TOTAL REVENUES | 480,701,185 | 399,212,152 | 220,349,105 | 183,670,270 | 220,349,105 | 183,670,270 | 260,352,080 | 215,541,882 |
| EXPENDITURES : | | | | | | | | |
| Salaries and associated costs : | | | | | | | | |
| Cash | 130,004,512 | 116,849,731 | 123,627,856 | 112,439,532 | | | 6,376,656 | 4,410,199 |
| In Kind (Note 5) | 76,377,725 | 72,194,251 | - | - | | | 76,377,725 | 72,194,251 |
| | 206,382,237 | 189,043,982 | 123,627,856 | 112,439,532 | | | 82,754,381 | 76,604,450 |
| Academic units operating costs | 96,647,388 | 75,914,379 | 23,130,034 | 20,737,530 | | | 73,517,354 | 55,176,849 |
| Student related costs | 7,065,436 | 6,013,220 | 1,308,501 | 1,143,558 | | | 5,756,935 | 4,869,662 |
| Administrative support costs | 14,828,106 | 2,521,307 | 14,592,764 | 2,518,917 | | | 235,342 | 2,390 |
| Capital purchases | 11,621,674 | 31,002,891 | 10,117,301 | 7,699,041 | | | 1,504,373 | 23,303,850 |
| Campus wide services | 40,830,569 | 33,679,329 | 40,830,569 | 33,679,329 | | | | |
| Physical plant support costs | 30,723,223 | 14,496,283 | - | - | | | 30,723,223 | 14,496,283 |
| AIT sponsored programs | 1,910,346 | 3,404,013 | - | - | | | 1,910,346 | 3,404,013 |
| Auxiliary services costs | 36,669,558 | 46,660,795 | - | - | | | 36,669,558 | 46,660,795 |
| Exchange stabilization | 7,792,942 | 6,908,036 | - | - | | | 7,792,942 | 6,908,036 |
| Other costs | 6,989,668 | 3,563,189 | - | - | | | 6,989,668 | 3,563,189 |
| TOTAL EXPENDITURES | 461,461,147 | 413,207,424 | 213,607,025 | 178,217,907 | 213,607,025 | 178,217,907 | 247,854,122 | 234,989,517 |
| EXCESS OF REVENUES OVER EXPENDITURES | 19,240,038 | (13,995,272) | 6,742,080 | 5,452,363 | 6,742,080 | 5,452,363 | 12,497,958 | (19,447,635) |
| (EXPENDITURES OVER REVENUES) | | | | | | | | |

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

To the Board of Trustees of the Asian Institute of Technology

We have examined the balance sheets of Asian Institute of Technology as at 30th June, 1991 and 1990, 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 the Asian Institute of Technology as at 30th June, 1991 and 1990, 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 organizations as set out in Note 1 to the financial statements, applied on a consistent basis.



Ernst & Young

Bangkok: 1st November, 1991.

ASIAN INSTITUTE OF TECHNOLOGY 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.

Investments income are recognized 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 recognized 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 recognized 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 realizable 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 recognized as revenue and expenditure and taken up in the statement of changes in fund balances.

NOTE 2 - INVESTMENTS (Baht)

| | 1991 | 1990 |
|---------------------------------|-------------|-------------|
| Time deposits with banks | 159,509,814 | 195,324,347 |
| Deposits with finance companies | 255,043,309 | 202,085,616 |
| | 414,553,123 | 397,409,963 |

The investments of each fund as at 30th June, 1991 and 1990 are as follows:

| | 1991 | 1990 |
|--------------------------------------|-------------|-------------|
| Unrestricted current fund | 14,498,820 | 22,370,306 |
| Restricted fund | | |
| General | 82,354,762 | 70,391,202 |
| Endowment | 57,346,729 | 54,165,351 |
| General reserve | 141,697,954 | 142,557,850 |
| | 281,399,445 | 267,114,403 |
| Capital fund | | |
| Liquid assets | 24,608,855 | 30,495,419 |
| Maintenance and construction reserve | 10,972,250 | 2,005,009 |
| | 35,581,105 | 32,500,428 |
| Sponsored program fund | 58,320,132 | 40,238,235 |
| Agency fund | 24,753,621 | 35,186,591 |
| | 414,553,123 | 397,409,963 |

Time deposits with banks amounting to Baht 13.9 million (1990 : Baht 1.0 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 (Baht)

This represents advance duties and tax 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 16th July, 1985. The refund of the advance is for non-Thai faculty and staff and is subject to the annual government budget of the Government of Thailand.

The details of advance duties and taxes as at 30th June, 1991 and 1990 are as follows:

| | 1991 | 1990 |
|-------------------------------|------------|------------|
| Employees personal income tax | 12,970,999 | 16,490,442 |
| Import duty and business tax | | |
| Automobile | 455,612 | 4,751,524 |
| Wine and spirit | 838,154 | 1,948,353 |
| Other | 11,138 | 24,050 |
| | 14,275,903 | 23,214,369 |

NOTE 4 - FIXED ASSETS

| | 1991 | 1990 |
|--------------------------|---------------|---------------|
| Campus development | 21,147,459 | 21,127,003 |
| Buildings | 485,009,984 | 444,723,887 |
| Furniture and equipment | 525,834,817 | 499,598,040 |
| Library acquisitions | 71,295,841 | 61,836,260 |
| Construction in progress | 61,322,221 | 43,263,554 |
| | 1,164,610,322 | 1,070,548,744 |

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 recognized as revenues and expenditures in the restricted general fund.

NOTE 6 - FUND BALANCE (BAHT)

| | 1991 | 1990 |
|--------------------------------------|---------------|---------------|
| Restricted fund | | |
| General | 63,095,665 | 50,597,707 |
| Endowment | 57,775,180 | 54,381,668 |
| General Reserve | 172,411,666 | 172,231,279 |
| | 293,282,511 | 277,210,654 |
| Capital fund | | |
| Fixed assets | 1,164,610,323 | 1,070,548,745 |
| Liquid assets | | |
| - Unallocated | 7,490,784 | 3,681,320 |
| Liquid assets | | |
| - Allocated | 21,639,581 | 39,009,736 |
| Maintenance and construction reserve | 10,972,249 | 2,005,008 |
| | 1,204,712,937 | 1,115,244,809 |

NOTE 7 - CAPITAL COMMITMENTS

As at 30th June, 1991, the Institute had capital commitments in respect of building construction amounting to approximately Baht 40.3 million (1990 : Baht 19.5 million)

NOTE 8 - BANK GUARANTEES

As at 30th June, 1991, there were outstanding bank guarantees of approximately Baht 10.1 million (1990 : Baht 1.0 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.

NOTE 9 - PRESENTATION

The 1990 statement of revenues and expenditures as presented herein have been reclassified to conform with the 1991 presentation, with no effect on the previously reported excess of revenues over expenditures (expenditures over revenues) or fund balances.

ABBREVIATIONS

| | | | |
|-----------|---|-----------|--|
| ADB | Asian Development Bank | OFDA | Office of Foreign Disaster Assistance |
| AFME | French Agency for Energy Management | RCEHMT | Regional Center for Energy, Heat and Mass Transfer |
| AIDAB | Australian International Development Assistance Bureau | RTG | Royal Thai Government |
| APCTT | Asia-Pacific Center for Technology Transfer | RUCA | State University of Antwerp |
| ASEAN | Association of Southeast Asian Nations | SAREC | Swedish Agency for Research Cooperation with Developing Countries |
| ARRA | Aqua Renaissance Research Association, Japan | SARP | Simulation and Systems Analysis for Rice Production, the Netherlands |
| ARPLA | Asian and Pacific Regional Center for Labour Administration | SEAGS | Southeast Asian Geotechnical Society |
| CABO | Center for Agrobiological Research, Wageningen | SIDA | Swedish International Development Authority |
| CDG | Carl Duisberg Gesellschaft | SNV | Netherlands Development Organization |
| CFTC | Commonwealth Fund for Technical Cooperation | TPE | Department of Technical Production Ecology, Wageningen |
| CIDA/AIT | Canadian Int'l Development Agency/AIT | UNCHS | UN Commission for Human Settlements |
| CUC PP | Canadian Univ. Consortium Partnership Project | UNCTAD | United Nations Conference on Trade and Development |
| CIRDAP | Center for Integrated Rural Development for Asia and the Pacific | UNIDO | UN Industrial Development Organization |
| CISIR | Columbian Industrial/Scientific Inst. for Research | UNDP | UN Development Program |
| CNES | Centre National D'Etudes Spatiales | UNDRO | UN Disaster Relief Organization |
| CNRS | Centre National pour La Recherche Scientifique | UNEP | UN Environment Programme |
| CQVB | Center Quebec Valorisation Biomass | UNESCO | UN Educational, Scientific and Cultural Organization |
| DAAD | German Academic Exchange Service | UNFPA | UN Fund for Population Activities |
| DANIDA | Danish Int'l Development Agency | UNHCR | UN High Commissioner for Refugees |
| DSE | German Foundation for Int'l Development | UNICEF | UN Children's Fund |
| EC | European Community | UNITAR | UN Institute for Training and Research |
| EGAT | Electricity Generating Authority of Thailand | USAID | United States Agency for Int'l Development |
| ESCAP | Economic and Social Commission for Asia and the Pacific, UN | WB | World Bank |
| FAO | Food and Agriculture Organization, UN | WHO/SEARO | World Health Organization Southeast Asia Regional Office |
| FINNIDA | Finnish Int'l Development Agency | WMO | World Meteorological Organization |
| GRID | Global Resources Information Database | | |
| GTZ | German Agency for Technical Cooperation | | |
| ICIMOD | Int'l Centre for Integrated Mountain Development | | |
| IBSRAM | Int'l Board for Soil Research and Management | | |
| IBSNAT | Int'l Benchmark Soils Network Agrotechnology Transfer, Univ. of Hawaii, USA | | |
| IDRC | Int'l Development and Research Center, Canada | | |
| IHE | Int'l Institute for Hydraulic and Environmental Engineering | | |
| IHP/OHP | Int'l Hydrological Program/Operation Hydrological Program, Germany | | |
| IIT | Indian Institute of Technology | | |
| IIT | Israel Institute of Technology | | |
| ILCA | International Livestock Center for Africa | | |
| ILO | International Labour Organization | | |
| INNERTAP | Information Network on New and Renewable Energy Resources and Technologies for Asia and the Pacific | | |
| INPL | Institut National Polytechnique Lorraine | | |
| INRIA | Nat'l Inst. of Research in Computer Science and Automation, France | | |
| ITU | International Telecommunications Union | | |
| IRRI | Int'l Rice Research Institute | | |
| IUCN | Int'l Union for the Conservation of Nature | | |
| IWRA | Int'l Water Research Association | | |
| JICA | Japan Int'l Cooperation Agency | | |
| JSSMFE | Japanese Society of Soil Machinery and Foundation Engineering | | |
| KEIDANREN | Federation of Economic Organizations, Japan | | |
| KMIT | King Mongkut's Institute of Technology, Thailand | | |
| KU | Kasetsart University, Thailand | | |
| LED-SAAM | Lyonnais Des Eaux Dunex-Macau Waterworks | | |
| LIPI | Indonesia Institute of Science | | |
| MOFA | Ministry of Foreign Affairs, France | | |
| NESDB | National Economic and Social Development Board, Thailand | | |
| NHA | National Housing Authority, Thailand | | |
| NORAD | Norwegian Agency for Int'l Development | | |
| ODA | Overseas Development Administration, UK | | |

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 |
| IREM | Irrigation Engineering and Management |
| INRDM | Interdisciplinary 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 |
| MOTIC | Management of Technology Information Center |

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