ASIAN INSTITUTE OF TECHNOLOGY



ANNUAL REPORT 1982

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Notes

- Ex Officio Member: President, Vice-President for Academic Affairs
- 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
 Member of Executive Committee
- Ep Member of Educational Policy Committee Including Chairman of the ADRC, (as an Ex-Officio member)



Foreword

Calendar year 1982 was the year during which Bangkok celebrated its 200th anniversary and the Institute its 23rd.

It was a year of considerable activity at AIT. There were good increases in the numbers of students and the faculty members. A total of 362 degrees and diplomas were conferred during 1982 to bring the Institute's cumulative total to 2,664.

Two major construction projects were completed. The Student Center (the "Korea House") was officially opened on May 24 by H.E. Mr. Tae-Woong Kwon, Ambassador of the Republic of Korea to Thailand. Student Village III (the "German Village") was opened on November 3 by H.E. Dr. Hans Christian Lankes, Ambassador of the Federal Republic of Germany to Thailand.

Late in the year, the Government of France indicated that it will provide FF 3,000,000 for a new building for the Division of Energy Technology. The Government of the Republic of China announced a grant of approximately US\$500,000 to enlarge the Engineering Experiment Station it had constructed several years ago.

As of December 31, 1982, the Net Investment in Plant had increased by 11,1 percent over the corresponding amount of December 31, 1981 to a new total of US\$25,968,586.

At the end of 1982, the General Reserve Fund contained US\$ 2,170,094, an increase of 25.3 percent over the December 1981 amount. The Endowment Fund, as of December 31, 1982, contained US\$ 958,498, up 23.0 percent over that reported a year earlier.

Two major new Centers became operational during the year. On September 1, the Asian Regional Remote Sensing Training Center commenced its programs of activity. The Center's five American faculty members and virtually all of the equipment for this USAID—supported project had arrived during the summer months. The first group of students commenced the special four-months training course in remote sensing in September.

On November 1, the new Regional Research & Development Center began its operations.

Thus, during the Bicentennial Year of Bangkok, the Institute made substantial progress in its continuing task of assisting, through the avenues of science and technology, in the enhancement of the economic and social conditions of the great many people living in this part of the world

Prof. Robert B. Banks President

ORGANIZATIONAL CHART OF THE ASIAN INSTITUTE OF TECHNOLOGY NOMINATING COMMITTEE EXECUTIVE COMMITTEE HONORARY DEGREES COMMITTEE STUDENT RELATIONS **EDUCATION POLICY** COUNCIL OF FACULTY EXAMINERS PRESIDENT ACADEMIC DEVELOP-MENT & REVIEW COMMITTEE ACADEMIC INSTITUTE SENATE COUNCIL FACULTY/STUDENT LIAISON COMMITTEE VICE-PRESIDENT FOR ACADEMIC AFFAIRS VICE-PRESIDENT VICE-PRESIDENT FOR FOR DEVELOPMENT ADMINISTRATION COORDINATOR OF ACADEMIC SECRETA-RY AND DEAN OF STUDENT AFFAIRS APPOINTMENTS AND PROMOTIONS DIRECTOR OF DEVELOPMENT ADMIN. SERVICES COMMITTEE OFFICE OF RELATIONS DIRECTOR OF WITH INDUSTRY DIVISION OF AUXILIARY SERVICES OFFICE OF AGRICULTURAL & FOOD ENGINEERING ACADEMIC SERVICES OFFICE OF INFORMATION DIRECTOR OF FINANCE DIVISION OF COMPUTER APPLICATIONS SERVICES ASIAN REGIONAL REMOTE SENSING TRAINING CENTER DIRECTOR OF PHYSICAL PLANT CONTINUING DIVISION OF MEDICAL OFFICER ENERGY TECHNOLOGY **EDUCATION CENTER** PROJECT ARCHITECT DIVISION OF ENGLISH LANGUAGE ENVIRONMENTAL CENTER ENGINEERING DIVISION OF GEO-LIBRARY AND RE-TECHNICAL & TRANS PORTATION ENG. GIONAL DOCUMENT-ATION CENTER DIVISION OF HUMAN REGIONAL COM-SETTLEMENTS PUTER CENTER DEVELOPMENT DIVISION OF IN-REGIONAL RESEARCH DUSTRIAL ENGINEER-AND DEVELOPMENT ING & MANAGEMENT DIVISION OF STRUCTURAL ENGI-NEERING & CONS. WATER RESOURCES **ENGINEERING** AIT 1982 ANNUAL REPORT

Academic Development

On the 18th December 1982 the third graduation of the year – and the 36th in the history of the Institute – was held, thus completing the transition to three intakes and three graduations per year. The administrative advantages of this arrangement will continue to benefit the Institute through a reduction of the former peak loadings on the Registry, the domitories, the Library, the Regional Computer Center, and numerous other units of the administrative and academic machinery.

The long established procedures for application, interviewing, and admission, culminating in the arrival at the Institute of new students are functioning well. The question of the basic qualification for admission to the master's degree programs — long practised as being a four-year bachelor's degree or equivalent — is to be considered by the Academic Development and Review Committee of the Senate. One Division has petitioned to admit students with solely a three-year bachelor's degree, a common non-engineering qualification from universities on the sub-continent. The matter was introduced to the Senate and has been referred to the Academic Development and Review Committee for consideration. As yet, the matter has not been resolved.

The aim set forth in the Institute Plan (1981–84) was a student/faculty ratio of 8:1. Overall, the Institute now fares well with a gross ratio of 7:1. However, three Divisions: Computer Applications; Geotechnical & Transportation Engineering; and Structural Engineering & Construction continue to have insufficient full-time resident faculty members to meet the Institute Plan specification of a student/faculty ratio of 8:1. Deficiencies are being overcome through the employment of associated faculty members on short term Indian Government secondments.

The administration has been active, and the Vice President for Development particularly helpful in seeking out commitments of positions for seconded faculty. At present, there are committed but unfilled seconded positions from the Governments of Belgium: (2); ROC (1); Germany (3); Italy (2); Netherlands (1); Norway (1); Switzerland (1); and Taiwan Power Company (1). Several of these are designated for specified fields of academic endeavour. Active search is underway to find suitable individuals.

Additionally, members of faculties of some Asian, North American, and European universities have begun to come to AIT whilst on sabbatical leave. Although coming to AIT for specific purposes generally related to their own research interests, these individuals have been entering into teaching and student research supervision activities.

Of particular interest to the Trustees will be the launching of the long-sought course on principles of management. The new 3-credit course, under the aegis of the Division of Industrial Engineering & Management, is open to any student

in the Institute without pre-requisites, and meets currently for two 1½-hour lecture sessions per week. Course instructors comprise three full-time members of faculty and four associated faculty members. Enrollment during the January 1983 term comprises 46 students from 6 Academic Divisions. From the experience of this initial offering, modifications will doubtless be made so an attractive and meaningful course can evolve for the future benefit of students of the Institute.

Library and Regional Documentation Center

As of December 1982, the library collection included the following:

Books and bound journals	139,483	volumes
Maps		sheets
Microfilms	655	reels
Microfiches	4,138	titles
Periodicals	2,803	titles
Vertical files	5 125	items

The Center, which has been housed in its new building since August 1981, has attracted a considerable number of visitors and of training requests, as it is increasingly seen as a model of what can be achieved in Asia in the information field.

The Regional Documentation Center, created in March 1977, considerably developed its activities in 1982 along three main dimensions by :—

 Initiating or continuing regional information projects which aim to improve the flow of information in the region

The RDC's two-year feasibility study on how to access large computerized data bases was started at the end of 1979. It now provides to services for selective dissemination of information (SDI) for standard profiles ("Information Update"), and for personalized profiles ("Selective Information"). With the successful installation at AIT of the software known as CDS/ISIS and CAN/SDI, AIT has become an "ISIS Resources Center" in Asia, helping other Asian Information Centers to install or make better use of the software. The automation of LRDC activities, first started for information data bases, has been extended to acquisition and cataloging of library materials. A terminal installed in the library provides users direct access to the data bases available at AIT.

- Training on the job Asian information officers is an ever-increasing activity.
- During 1982 training was provided at AIT for information specialists in charge of operating specialized Information Centers in Bangladesh, Philippines, Malaysia, and Thailand. In addition, two librarians from Indonesia each received one-month of training sponsored by UNESCO/UNDP. The LRDC has been requested both by IDRC and UNESCO
- to increase its training activities as soon as possible.
- Increasing the intensive information dissemination activities, publications, reference and reprographic services of the four specialized AIT Information Centers.
 By December 1982 such services were being provided for
- By December 1982 such services were being provided for 108 countries to a total of 1497 subscribers of the four specialized AIT Information Centers.

The Asian Information Center for Geotechnical Engineering (AGE), supported by the International Development Research Center (IDRC), now provides the most comprehensive and inexpensive existing geotechnical information system, through seven serial publications, reference and reprographic services, and a computerized data base. AGE has been officially endorsed by the Southeast Asian Geotechnical Society (SEAGS) and Asian National Societies for Soil Mechanics and Foundation Engineering. Closer cooperation with SEAGS has been formalized and implemented.

The International Ferrocement Information Center (IFIC), created in 1976, has received continuing support from New Zealand and from IDRC. Besides its "Journal of Ferrocement", it has expanded its publication activities by producing four issues of a "Do It Yourself" series on ferrocement applications, and an introductory brochure on ferrocement which has been translated into 13 languages. IFIC has been instrumental in organizing conferences and training projects in India, Malaysia and Indonesia, and in setting up a permanent ferrocement training center in Malaysia.

The Renewable Energy Resources Information Center (RERIC), founded in June 1978, has been receiving support from France and UNESCO. It has fully implemented its initial program by regularly publishing a newsletter ("RERIC NEWS") and a primary journal ("Renewable Energy Review Journal"). A series of research reports has been published on solar and wind energy. The second volume of "AIT Research Reports and Publications on Renewable Energies" was published at the end of 1981. A "Do It Yourself" booklet — "Solar Rice Dryer" — in English and Thai has been published and very well received.

The Environmental Sanitation Information Center (ENSIC), founded in August 1978 with support from IDRC (Canada), has been increasing its activities. Besides its existing serial publications—a newsletter "ENFO" and "Environmental Sanitation Abstracts—Low Cost Options"—it has started publishing "Environmental Sanitation Reviews", has prepared an "ENSIC Holdings List", and the translation of a Vietnamese book on latrines. A practical manual — "Surface Water Filtration for Rural Areas" — was published on a grant of US\$1,500 from IRC.

Continuing Education Center

The Center is responsible for the development and administration of continuing education programs in the form of seminars, workshops, short courses and other special training programs. Functioning of the Center has been made possible by the services of the Director and his assistant, plus two secretaries. Under the umbrella of CEC is the Office of the German Program Coordinator (GPC) who is responsible for the development and administration of the German-funded scholarship and continuing education programs, and in providing assistance for securing and expediting funds for some research projects. The GPC is assisted by two program officers and a secretary. In May 1982, Mr. Gunter Tharun, the GPC was appointed Associate Director of CEC. The French language specialist, responsible for offering French language lessons to the AIT community, is also attached to the Center.

The regional need for additional programs of continuing education is enormous. Indications are that some courses should last for ½ to 3 months. Within the constraints of AIT's limited resources, the CEC is filling this need; in 1983 it aims to develop more package programs to be offered as the basis for in-house training programs.

Didactic Materials — As another medium for continuing education, the course materials used for short courses have been developed as inexpensive printed reference material for practising engineers. From the On-Farm Water Management course, a manual in Thai has been published and is being sold at nominal cost. Reference materials produced for other short courses are being prepared for sale.

German Program Coordinator's (GPC) Office

The GPC office has been responsible for the development and administration of three workshops. The AIT/CDG and AIT/DSE scholarship programs have been ably administered by the GPC office. Coordination between GPCO and various German embassies in the region has made possible the utilization of 62 German scholarships tenable at AIT during 1982.

The GPC ensured the success of the negotiations in Germany between AIT officials (led by VPD) by engaging in preparatory discussions with the various German aid authorities. He has also provided assistance in securing and expediting funds for a number of research projects: "Fish Production with Composted Water Hyacinth," carried out by Dr. P. Edwards; "Possibilities and Problems of R&D Cooperation among Developing Countries in East and Southeast Asia", carried out by Dr. M. Tabucanon and Dr. J. Tang.

French Language Specialist

The French language specialist has regularly been offering term courses on French language at basic, intermediate, and advanced levels. Students, staff members, and family members of students and staff have been attending these courses. Additionally, an intensive 3-month course for AIT graduates going to France for doctoral study was offered by the French language specialist.



Academic Centers

The Asian Regional Remote Sensing Training Center (ARRSTC) has six members of its training staff who hold the academic rank of Associate Professor. It is envisaged that in due course, some of these individuals—each of whom is a specialist in an academic discipline in addition to having expertise in remote sensing techniques—will find teaching or research interests in an Academic Division and will thus contribute to furtherance of the Institute's degree programs.

The English Language Center (ELC), presently staffed by four faculty holding academic ranks of Assistant Professor or Associate Professor, functions mainly to serve the English language needs of students in the Academic Divisions. The assistance provided comprises classroom instruction and language laboratory supervision of mainly first year students. Individual and group instruction in writing techniques is given by the ELC faculty to students in their fourth and fifth terms in the master's degree programs in the Academic Divisions.

The Regional Computer Center (RCC) serves almost wholly as a service center but offers non-credit instructional seminars on special topics in computer techniques. The Director of RCC holds the academic rank of Professor; he is currently also the Director of the ARRSTC.

Tim Kendall Memorial Prize

At the instigation of Professor P.C.G. Isaac, formerly a Trustee of the Institute, a sum of money was made available from the United Kingdom AIT Appeal. This is known as the Tim Kendall Memorial Fund. Some of the earnings of are used to finance an award to one of the candidates for degrees at each Graduation. During 1982, three awards of US\$200 were made:

Graduation	Recipient	Cum. GPA	*Thesis Grade
April 82	Mr. Vijaya R. Sharma (Nepal)	3.95	A**
August 82	Mr. Chee-Liong Chia (Singapore)	3.92	A**
December 82	2 Mr. Sanjay Arora (India)	3.94	Excellent

*Cumulative weighted grade point average;

A = 4, B = 3; **Special Study.

Selection of the recipients is made by the Council of Faculty Examiners on the recommendation of a screening committee chaired by the Vice President for Academic Affairs and including the Student Union President, the Chairman of the Faculty Student Liaison Committee of the Senate, and the Dean of Student Affairs. Criteria adopted by the Senate for awarding the Tim Kendall Memorial Prize

- The award should be given to a master's degree student who has been recommended for award of the degree.
- (2) Candidates must have achieved a high academic grade point average during their programs of study.
- (3) Only students who have produced an "Excellent" thesis, or special study, may be considered.

(4) The award need not be made for a particular term if there were no eligible candidates.



Training courses in Remote Sensing commenced in 1982.

Modification of the Coursework Option

The Senate, aiming to strengthen the coursework option of the master's degree program through formalizing the research component, unanimously enacted the following regulations.

- (1) Special Study, not being compulsory, may carry from 1 to 6 credits.
- (2) Special Study reports should be kept in the Division Office for future reference.
- (3) Not more than 6 credits of Special Studies shall count towards the Master's degree requirements in both coursework and thesis options.
- (4) A student in the coursework option shall undertake a "Research Study" as a part of his coursework requirement.
- (5) The Research Study may carry from 6 to 12 credits. These shall count towards the minimum requirement of 55 credits.
- (6) The Research Study, submitted in report form, shall be examined and graded by the student's Program Committee. The grade given for a satisfactory Research Study report shall be: excellent, very good, or fair. The Research Study grade shall not be included in the computation of the grade point average.
- (7) Research Study reports shall be deposited in the AIT Library.

The main effect of these regulations will be to concentrate the research endeavour of coursework-option students into a single effort of 6 to 12 credits. This Research Study shall then be graded as has been customary for the thesis, and the evaluation will not be included in calculation of the grade point average. This follows the pattern of evaluation of the thesis.

Faculty & International Research Staff

In the January 1982 term, there were 70 full time faculty members and 23 international research staff members employed in the Institute. In the May term the number of faculty rose to 72 and international research staff to 24, which subsequently increased to 80 and 28 respectively in the September term.

The table below lists the distribution of faculty and international academic staff by academic term and country.

Faculty and International Research Staff During 1982

20 20 AAVE (AAVE	Jan	uary Te	rm	M	lay Ten	m	Sept	September Te Faculty Staff	
Country of Origin	Faculty	Staff	Total	Faculty	Staff	Total	Faculty	Staff	Total
Australia	5	2	7	5	2	7	5	2	7
Austria	1	=	- 1	1	-	-1	1	-	1
Bangladesh	2	-	2	2	-	2	3		3
Belgium	2	-	2	2		2	2	-	2
Canada	2		2	2	-	2	1	-	1
China, Republic of	1	=	1	1	_	1	1	-	1
Denmark	2	1	2	2		2	2	-7	2
France	2	4	6	2	6	8	3	6	9
Germany, Fed, Republic of	4	1	5	4	1	5	5	2	7
India	6		6	6	-	6	6	-	6
Iran	-	1	1	-	1	1	-	1	1
Israel	1	-	1	1	-	1,	1:	1 -	1
Italy	1	-	1	1	-	1	-	-	-
Japan	7	-	7	7	=	7	6	1	7
Korea, Republic of	1	-	1	1	-	1	1	-	1
Nepal	1	1	2	1	1	2	1	1	2
Netherlands	1	-	1	1	100	1	2	-	2
Pakistan	2	-	2	2	-	2	2	-	2
Philippines	1	2	3	1	2	3	2	2	4
Singapore	-	1	1	-	-	-	-	-	1-
Sri Lanka	3	1	4	3	1	4	3	2	5
Switzerland	1	-	1	1	-	1	1	-	1
Thailand	14	8	22	15	8	23	16	9	25
U.K.	7	-	7	7	=	7	7	-	7
U.S.A	2	2	4	3	2	5	8	2	10
Vietnam	1	-	1	1	-	1	1	-	1
TOTAL	70	23	93	72	24	96	80	28	108

Enrollments

Student Enrollments in 1982 by Academic Division

		Jan	uary T	erm			M	ay Ter	m			Septe	mber T	erm	
	Dip.	Master	Doctor	Other	Total	Dip.	Master	Doctor	Other	Total	Dip.	Master	Doctor	Other	Total
Agricultural and Food Engineering	2	63	1	5	71	1	58	1	1	61	-	39	1	-	40
Computer Applications	1	60	1	-	62	1	59	1	3	64	-	39	1	-	40
Energy Technology	1	35	-	-	36	ï	29	-	-	30	4	19	-	-	19
Environmental Engineering	1	64	5	-	70	2	36	6	-	44	6	70	5	-	81
Geotechnical and Transportation Engineering	4	82	1	-	87	-	41	4	-	41	2	83	-	-	85
Human Settlements Development	2	56	4	-	58	3	69	-	4	76	2	62	-	-	64
Industrial Engineering and Management	2	39	4		45	-	50	4	-	54	-	50	5	-	55
Structural Engineering and Construction	-	61	2		63	1	29	1	-	31	1	62	2	1	66
Water Resources Engineering	2	52	1	3	58_	3	55	2	-	60	3	52	2	-	57
*RCC	-		6.0	12	12	-	-	-	6	6	-		-	2	
**ARRSTC	+	-	-	-	-	-	4	-	-	-	-	-	-	7	7
Totals	15	512	15	20	562	12	426	16	14	468	14	476	16	10	51

^{*}Regional Computer Center
**Asian Regional Remote Sensing Training Center



Number of Students by Country in 1982

Country	January	May	September
Afghanistan	1	1	4
Bangladesh	38	25	21
Brunei	1		1
Burma	8	6	7
China, Republic of	57	47	64
Ghana	1		
Hong Kong	4	2	4
India	38	40	38
Indonesia	50	41	37
Iran	1		
Japan	6	2	3
Korea, Republic of	9	6	13
Malaysia	27	26	29
Nepal	30	24	23
Pakistan	29	28	27
Papua New Guinea	2	1	1
People's Republic of	f China		1
Philippines	56	58	55
Singapore	7	4	1
Sri Lanka	61	42	48
Thailand	128	109	133
Vietnam	8	6	6
Total	562	468	516

Graduations

During 1982 a total of 362 degrees and diplomas were conferred bringing the Institute's total number of graduates to 2,664. The Institute successfully converted to its "three admission three graduations" mode of operations. This means that three academic divisions enrol students at the start of the January term, another three divisions at the start of the May term and the remaining three in the beginning of the September term. Hence in 1982 (for the first time) three graduations were held, in April, August and December.

At the 34th Graduation ceremony on April 21, 1982 Doctor of Engineering Degrees were awarded to Mr. Piyasena Wije Munije of Sri Lanka in Geotechnical and Transportation Engineering, and to both Mr. D. Nazrul Islam of Bangladesh and Mr. Krishnamurthy Ramanathan of Sri Lanka in Industrial Engineering and Management. The Graduation ceremony was attended by His Excellency, the Prime Minister of Thailand General Prem Tinasulanonda who was awarded an Honorary Doctorate Degree of Technology.

an Honorary Doctorate Degree of Technology.

At the 35th Graduation ceremony on August 20, 1982 one Doctor of Engineering degree was conferred on Mr. Sunchai Klinpikul of Thailand in Industrial Engineering and Management. The President of Tsukuba University, Professor Nobuyuku Fukuda, attended and delivered the graduation address.

At the 36th Graduation ceremony on December 18, 1982 one Doctor of Engineering degree was received by Md. Ismail Syed Mohideen of India. The Executive Secretary of the United Nations Economic and Social Commission for Asia and the Pacific, Mr. S.A.M.S. Kibria attended the ceremony and delivered the graduation address.

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Degree	Graduation	Afghanistan	Bangladesh	Brunci	Burma	Ghana	Hong Kong	India	Indonesia	fran	Japan	Korea, Rep. of	Malaysia	Nepal	Pakistan	Papua New Guinea	Philippines	Rep. of China	Singapore	Sri Lanka	Thailand	Vietnam	Agric, & Food Eng.	Computer Applic.	Energy Technology	Environmental Eng.	Geotech, & Trans. Eng.	Human Sett. Dev.	Ind. Eng. & Mangt.	Struct, Eng. & Const.	Water Res. Eng.	Total
			17		1		1	10	12		4	2	9	7	12	1	6	15	2	23	28	1	5	1	16	16	33	2	19	31	28	151
M.Eng.	April August		5					5	1		X.	77	1	3	2		5	5		1	7		11	10	10	1	1			1	1	35
	December		2					6	2		1		1	5	2		7	2		8	14		5		2	1		3	18		21	50
	April		1		1		1	2	6			2		5			4	2		3	17			2	1	13	6	21			1	44
M.Sc	August							1	1				1	2	1		2	3	3	2	3	3	5	11	1			4			1	22
	December				1			1	1				2		2		6	1		2	13		2	4				23				29
D.Eng.	April August December		1																	2	1						1		1			3
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Totals			35	1	5	1	2	26	27	1	5	5	14	24	20	1	31	30	5	41	84	4	32	30	33	32	45	56	44	32	58	362

Continuing Education

Twenty-five projects consisting of sixty-two seminars, workshops and short courses were undertaken in collaboration with the AIT Academic Divisions and external organizations. Over 2,000 participants attended these activities, some of which were held in Manila, Philippines; Bandung and Jakarta, Indonesia; and in various locations in Thailand. In-house training programs were developed and administered for three district organizations — two in Thailand and one in Philippines. Lasting for two to four weeks, these were undertaken on a contract basis.

	Date	Location	Title	Co-organizers No. of Particip	ants
1.	4-16 Jan. 1982	Bangkok	Short course: "On-Farm Water Management"	Agricultural & Food Engineering Division	24
2.	5-9 Jan. 1982	Bangkok	Workshop: "Management Information Systems for Water Supply Organization"	WHO	39
3.	11-15 Jan. 1982	Bangkok	Seminar: "Foundations for Database Security & Integrity"	Computer Applications Division/RCC	32
4.	18-20 Jan. 1982	Bangkok	Visit of Asian Energy Scientists & Technolo- gists to AIT	Energy Technology Division	20
5.	20 Jan. 1982	Bangkok	Workshop: "Solar Collector Testing Methods"	Energy Technology Division	30
6.	1-5 Feb. 1982	Bangkok	Workshop: "Improved Industrial Management Through Computer Support"	Industrial Engineering Division/UNIDO	32
7.	1-5 Feb. 1982	Bangkok	Workshop: "Rapid Techniques for Environ- mental Assessment in Developing Countries"	WHO	30
8.	15-27 Feb. 1982	Bangkok	Short course: "On-Farm Water Management"	Agricultural & Food Engineering Division	24
9.	25-26 Feb. 1982	Bangkok	Visit of Asian Energy Scientists & Techno- logists to AIT	Energy Technology Division	10
10.	1-20 March 1982	Bangkok	Short course: "On-Farm Water Management"	Agricultural & Food Engineering Division	24
11.	25-26 May 1982	Bangkok	Visit of Asian Energy Scientists & Technology	Energy Technology Division	3
12.	7-18 June 1982	Bandung, Indonesia	US – ASEAN Seminars on Energy Coal Technology Solar Energy Technology Biogas Technology Energy Planning	Energy Technology Division/ Indonesia Inst. of Science	34
13.	21-25 June 1982	Manila, Philippines	Short course: "Geotechnical Design for Settlement & Stability of Foundations & Slopes"	Geotechnical & Transportation Engineering Division/Association of Structural Engineers and the Association of Government Civil Engineers	
14.	26-30 July 1982	Bangkok	Short course: "Coastal Engineering with Application to Harbor Design"	Water Resources Engineering Division	19
15.	5-11 Aug. 1982	Jakarta, Indonesia	Short course: "Construction Methods & Equipment"	Structural & Construction Engineering Division/University of Indonesia	60



-	Date	Location	Title		Co-organizer:	s No. of Partic	ipant
16.	17 Aug11 Sep. 1982	Bangkok	Short course: "Design of Commu Irrigation Systems"	,4-	Division/Nation	Food Engineering nal Irrigation	1
7.	18-21 Oct. 1982	Bangkok	Short course: "Flow-Induced For Vibrations"	ces &		(Philippines) es Engineering Division	j
8.	1-27 Nov. 1982	Bangkok	Short course: "On-Farm Water M	anagement"	Agricultural &	Food Engineering Division	1
9.	15-20 Nov. 1982	Bangkok	Seminar: "Environmental Assessor Management"		Environmental		4
0.	22-26 Nov. 1982	Bangkok	Seminar: "Applications of Earth Observation Techniques to Manag of Natural Resources"	ement	Asian Regional Training Center	Remote Sensing r/French	8
1.	23-Nov 4 Dec. 1982	Bangkok	Asian School: "Solar Energy Harr Thermal & Electricity Generation	nessing-	Space Agency Energy Techno Mongkut's Inst	logy Division/King itute of Technology Thonburi	2
2.	24 Nov 2 Dec. 1982	Pattaya	Seminar: "Solid Waste Manageme		Environmental Division/CDG/I	Engineering Environmental	2
3.	5-11 Dec. 1982	Bangkok	Seminar: "Appropriate Technolog & Rural Development in Research		Resources Limi German Inst. fo Subtropical Ag	or Tropical &	2
	20-22 Dec. 1982	Bangkok	Workshop: "Fermentation Techn and Industrial Development Trend	ls"	SVITA/Japan S Promotion of S	Society for	7
5.	Jan Dec. 1982		Water Resources Development Tra Thai Government Officials 18 ten-day seminars	ining for	Khon Kaen Uni	iversity	
			is careay schillers		Chieng Mai Uni Kasetsart Unive Prince Songkla	versity	81
			AND THE PROPERTY OF THE PROPER				
			20 three-day roving seminars		Northeastern Province Central Province Southern Provi	es	80
Ot	ther Independently	Organized Se			Central Provinc	es	800
Ot	ther Independently	organized Se		Co-organizers	Central Provinc Southern Provi	es	800
_	STATE OF THE PARTY	ne Poor;	eminars	Co-organizers HSD/CIDA/BII NHA Thailand	Central Provinc Southern Provi	es nces	80
1.	Title Land for Housing the Towards Positive Ac	ne Poor: ction in Geology and on Land	Division Division of Human Settlements	HSD/CIDA/BI	Central Provinc Southern Provi E Rotterdam/	Date	80
1.	Title Land for Housing the Towards Positive Ac Asian Cities Symposium on Soil. Landforms: Impact Use Planning in Dec	te Poor; tion in Geology and on Land eloping	Division Division of Human Settlements Development Kasetsart University Alumni Association, AGID, AIT and Agricultural Science	HSD/CIDA/BII NHA Thailand AGID Kasetsart Unive Association, Australian Dew	Central Provinc Southern Provi E Rotterdam/ ersity Alumni AIT and elopment reau	Date 18-31 Jan. 1982	80
1. 2. 3.	Title Land for Housing the Towards Positive Ac Asian Cities Symposium on Soil. Landforms: Impact Use Planning in Dev Countries Short Course on Ear for Construction in the Construction	te Poor: tion in Geology and on Land eloping th Materials Coastal ea Areas Course on ement, geotextiles,	Division Division of Human Settlements Development Kasetsart University Alumni Association, AGID, AIT and Agricultural Science Society of Thailand Division of Geotechnical &	HSD/CIDA/BII NHA Thailand AGID Kasetsart Unive Association, Australian Dew Assistance Bu	Central Provinc Southern Provi	Date 18-31 Jan. 1982 1-3 Apr. 1982	80

Sponsored & Grant Research

Sponsored research continues to be an important activity because it enables the Institute to participate in the quest for real solutions to the problems impeding development of the region. It has practical value for the Institute itself insofar as it brings the faculty into working contact

with development agencies, government agencies and planning disciplines. This enhances the faculty members' experience and, as well, often provides fruitful topic areas for student research.

Sponsored and grant research projects also generate income for the Institute. Over the year 1982 income resulting from such research activities amounted to over US\$1.15 million whilst the contract and grant research in progress during the year amounted to more than US\$1.77 million.

In addition to external sponsorship of research, AIT makes available a small sum each year to support promising research projects proposed by younger members of the faculty.

Contract and Grant Research Completed During 1982

Title	Sponsor	Principal Investigator (s)	Amount US\$
Division of Agricultural & Food Enginee	ring		
1. Manual Soybean Seeder	Canadian Embassy, Bangkok	Dr. Singh	1,600
2. Integrated Farm Unit	Kamol Kij Co., Ltd. Bangkok, International Center for Living Aquatic Resources Management (ICLAI	Dr. Edwards	1,941
Development of a Computer-Based Decision Support System for Monitoring Water Resources Projects in Thailand	Office of the Prime Minister, Royal Thai Government	Dr. Apichart Dr. Krisorn (CA)	12,225
Rehabilitation and Development of Bung Boraped and Nong Han Phase I	Department of Fisheries, Ministry of Agriculture & Co-operatives, Thailand	Dr. Apichart Dr. Edwards Mr. Prida (WRE)	292,621
Division of Computer Applications			
1 Rainfall-Erosivity Study of the Northern Region of Thailand	Australian Development Assistance Bureau	Dr. Phien	40,213
Strengthening of Data/Information System for PWWA	World Health Organization & Provincial Waterworks Authority, Thailand	Dr. Kanchît	24,295
Application of Technologies Appropriate for Rural Areas, Phase I, Indonesia	United Nations Development Program & Indonesian Institute of Sciences (LIPI)	Prof. Sharif Dr. Singh (AFE) Dr. Dias (HSD) Dr. Edwards (AFE) Dr. Christoph (WRE) Dr. Kanchit Dr. Exell (ET) Dr. Chongrak (ENV)	99,700

Titl	e	Sponsor	Principal Investigator (s)	Amount US\$
Divi	ision of Energy Technology			
1.	Study of Appropriate Transfers of Solar Technologies & Energy Park Operations	French Government & French Solar Energy Commission	Prof. Saunier	77,000
Divi	sion of Environmental Engineering			
1.	Treatment of Pesticide Waste	Shell Co., Ltd.	Mrs. Samorn	14,352
2.	Recycling Rural and Urban Nightsoil in Thailand	International Development Research Centre, Canada	Dr. Chongrak Dr. Edwards (AFE)	110,000
Div	ision of Geotechnical & Transportation	Engineering		
1.	Determination of In-Situ Modulus of the Foundation Rock at Lang Suan Dam Site	Electricity Generating Authority of Thailand (EGAT)	Dr. R.P. Brenner	4,325
2.	Rural Roads and Poverty Alleviation in Thailand	International Labour Office, Geneva	Prof. John Hugh Jones	3,000
3.	Tanks Settlements at Bangkok Waterworks	Metropolitan Waterworks Authority, Thailand	Dr. A. Tomiolo Dr. Jerasak	9,519
4.	Investigation of Land Subsidence Caused by Deep Well Pumping in the Bangkok Area, Phase IV (Extension of Subsidence Observation Network)	National Environment Board, Thailand	Dr. Prinya Prof. Balasubramaniam Dr. Ohta	106,374
5.	Geotechnical Properties of Construction Material for Upper Quae Yai Project, Phase III	Electricity Generating Authority of Thailand (EGAT)	Prof. Balasubramaniam Dr. Tomiolo	8,105
6.	Investigation of Bank Failure, Main Canal of Lam Pao Irrigation Project Northeastern Thailand	Royal Irrigation Department, Thailand	Dr. Ohta Dr. Prinya Prof. Yudhbir Prof. Balasubramaniam Dr. Prinzl	22,837
7.	Settlement Studies on 2-Storey Bank and Eleven Storey Office Building, Northam Road, Penang, Malaysia, Phase II	Franki Piling (Singapore) Pte. Ltd.	Dr. Tomiolo Prof. Balasubramaniam	14,000
8.	Settlement Studies on 2- Storey Bank and Eleven Storey Office Building, Northam Road, Penang Malaysia	Franki Piling (Singapore) Pte. Ltd.	Prof. Balasubramaniam Dr. Tomiolo	6,500
9.	Evaluation of Geotechnical Charactersitics of Impervious Core Material for Chiew Larn Project	Elecricity Generating Authority of Thailand (EGAT)	Prof. Yudhbir Prof. Balasubramaniam	4,405
10.	Problems Related to the Landslide Affecting the Indosuez Bank, Kuala Lumpur, Malaysia	Indosuez Bank, Paris, France	Dr. Tomiolo	1,500

Title	Sponsor	Principal Investigator (s)	Amount US\$
Division of Human Settlements Development			
Local Participation in Northeast Thailand	CIDA	Dr. Weber	-
2. Local Participation in FELDA Schemes	CIDA	Dr. Weber	6,000
Appropriate Technology for Village Development, Malaysia	CIDA	Dr. Vokes	6,000
Training Manual on Rural Development Planning	CIDA	Dr. Dias	7,000
 Rural Development Model for Sri Lanka 	CIDA	Dr. Dias	-
6. Quality Indices for Urban Environment	CIDA	Dr. Kaji	-
7. Methodological Approach Urban Planning	CIDA	Dr. Kaji	2,000
Evaluation of the "Freedom to Build" Concept in Housing	CIDA	Mr. Keyes	6,000
Ferrocement Technology Training Program	USAID, Indonesia	Prof. Pisidhi Prof. Pama	40,293
			40,293
 Comparative Study of Suksawat Interchange 	National Engineering Consultants Co., Ltd.	Dr. Worsak Prof. Pisidhi	6,700
Division of Water Resources Engineering			
Flood Pattern and Potential Scour Downstream of Mae Ngat Dam Spillway, Mae Ngat Dam Project — Thailand	Royal Irrigation Department, Thailand	Mr. Prida	21,867
Development of Flood Forecasting and Warning System for Nam Pong, Nam Chi and Nam Mum Rivers, Northeast Thailand	Saltzgitter Consult, GmbH	Dr. Tawatchai	104,846
Development and Management Studies of Groundwater Resources in the Bangkok Area, Phase IV	National Environment Board, Thailand	Dr. Das Gupta	62,737
Cooling Water Intake South Bangkok Thermal Power Plant	Elmatech Engineering Co., Ltd.	Mr. Prida	21,085
Evaporation Control Using Monomolecular Organic Films	Canadian Embassy/CIDA	Dr. Christoph	10,000



Flood Pattern and Potential Scour Downstream of Mae Ngat Dam Spillway, Mae Ngat Dam Project – Thailand



Treatment Study of Pesticide Manufacturing Wastes at CNS Installation of the Shell Co. (Thailand)

Contract and Grant Research in Progress During 1982

Title	Sponsor	Principal Investigator (s)	Amount US\$
Division of Agricultural & Food Engineeri	ng		
Small Scale Fisheries in Pathumthani Province, Central Thailand: A Socio-economic and Technological Assessment of Status and Potential	Overseas Development Administration, U.K.	Dr. Edwards Dr. Chongrak (ENV) Dr. Vokes (HSD) Dr. Weber (HSD)	81,331
Fertilizer and Water Management Effects on Yields, Mineral Composition, Protein Production and Protein Quality of Tropical Food Crops	Danish International Development Agency	Dr. Eppendorfer	54,933
3. Farm Machinery	Japanese International Cooperation Agency	Dr. Koike	9,372
4. Small Scale Integrated Farm	Ministry of Foreign Affairs, The Netherlands	Dr. Edwards Dr. Apichart Dr. Eppendorfer Dr. Singh	39,991
5. Water Resources Planning and Development for the Fifth Plan	National Economic and Social Development Board, Thailand	Dr. Apichart	38,392
Feasibility Study of Fish-Duck Integrated Farming at the Family Level in Central and Northeast Thailand	USAID, Thailand	Dr. Edwards	21,845
7. Improvement and Evaluation of a Manual Soybean Seeder	International Development Research Centre, Canada	Dr. Singh	27,496
8. Re-use of Human Waste (Cesspool Sludge) and Cellulose Agriculture Residues for Fish Culture, Bangkok	Overseas Development Administration, U.K.	Dr. Edwards	136,582
Fish Production with Composted Water Hyacinth	Deutsche Gesellschaft fur Technische Zusammenarbeit (GTZ)	Dr. Edwards	40,134
 Rehabilitation and Development of Bung Boraped and Nong Han, Phase II 	National Economic and Social Development Board, Thailand	Dr. Apichart	70,027
Information System of Water Resource Development in Thailand: System Design and Implementation	e Office of the Prime Minister, Royal Thai Government	Dr. Apichart	13,216
12. Research Initiation Grant	Academic Research, AIT	Dr. Gee-Clough	1,500
 Rainfall Erosivity Study of the Lower Northern Region of Thailand 	Government of Australia	Dr. Apichart Dr. Phien (CA)	44,506
 Concentration of Fruit Juices by Membrane Processes 	Academic Research, AIT	Dr. Kim	1,250

Contract and Grant Research In-progress



Small Scale Integrated Farm



Hydraulic Model Study of Rayong River Mouth

Title	Sponsor	Principal Investigator (s)	Amount US\$
Division of Computer Applications			
Rainfed Agriculture Potential of Thailand	Secretariat of the Office of the Prime Minister, Royal Thai Government	Dr. Phien Dr. Apichart (AFE)	13,216
Division of Energy Technology			
Fluidized Bed Combustion of Agricultural Wastes	French Government	Dr. Bhattacharya	6,000
AND DESCRIPTION OF THE PROPERTY OF	Overseas Development	Dr. Exell	40,260
 Village-Size Solar Refrigerator (2 Years) 	Administration, U.K.		

Title	Sponsor	Principal Investigator (s)	Amount US\$
Development of Low Cost Rice Dryer, Phase II	International Development Research Centre, Canada	Dr. Exell	100,000
Evaluation of the Developing Countries' Energy Needs, Phase I	European Economic Community	Prof. Saunier	81,700
5. Energy Research Park Operations	French Government	Prof. Saunier	161,100
Test Bed for Evacuated Solar Collector	French Government	Dr. Wiart	3,000
7. Royal Orchid Hotel Solar Water Testing System	Italthai International	Prof. Saunier	5,000
Division of Environmental Engineering			
Rational Design of Mobile Bed Radial Flow Filters	Academic Research, AIT	Dr. Vigneswaran	2,000
Division of Geotechnical & Transportation E	ngineering		
Remedial Works — 19-Storey Building, Lorong Kuda, Kuala Lumpur	Franki (Malaysia)	Dr. Tomiolo Dr. Ohta	10,000
Division of Human Settlements Developmen			
The Position of Women in Low Income Residential Areas	CIDA	Dr. Weber	800
Small Farm Development Issues in Northeast Thailand	CIDA	Dr. Weber	7,200
Building a Productive Community after Land Reform, Chumphuang	CIDA	Dr. Weber	12,500
Monitoring the Implementation of Production Programs in Self-help Land Settlement Projects in Thailand	Thai-German Land Settlements Promotion Project (TG-LPP)	Dr. Weber	5,500
5. Lessons in Participatory Planning	CIDA	Dr. Dias	12,500
Introduction of Appropriate Village Technology in Tambon Na Mai	CIDA and Canadian Embassy, Bangkok	Dr. Dias	12,500
7. Planning for Integrated Development of Rural Areas: The Case of Sri Lanka	CIDA	Dr. Dias Dr. Weber Dr. Vokes	10,000
8. The Role of Small Towns in Rural Planning	CIDA	Mr. Kammeier	5,500
The Chinese Shophouses in Southeast Asia	CIDA	Mr. Kammeier	5,000
10. Land Policy for Housing	CIDA	Mr. Archer	5,500
11. Monitoring and Evaluation of the Building Together Project	CIDA	Dr. Angel	5,500
the building rogether rioject			

		Investigator (s)	US\$
Development of Self-help Building Technology	CIDA	Mr. Etherington	6,000
Implementation of Low-Cost Sanitation Systems	CIDA	Dr. Nimpuno	6,000
The Role and Functions Regional Centers in Thailand	CIDA	Dr. Iwami	6,000
sion of Industrial Engineering			
Possibilities & Problems of Research and Development Co-operation Among Developing Countries in East and Southeast Asia	Germany Agency for Technical Cooperation	Dr. M.T. Tabucanon Dr. J.C. Tang	34,72
sion of Structural Engineering & Constru	ction		
Handpump Development for Rural Thailand	International Development Research Centre, Canada	Prof. Pisidhi Dr. Pichai Dr. Worsak	85,000
International Ferrocement Information Center	New Zealand USAID IDRC	Dr. Valls Prof. Pama	121,600
sion of Water Resources Engineering			
Thermal Diffusion — Bang Pakong, Phase II	Electricity Generating Authority of Thailand (EGAT)	Mr. Prida	12,63
Nam Chon Dam Spillway Hydraulic Model Study	Electric Power Development Co., Ltd.	Mr. Prida	28,41
Optimum Water Resources Utilization Study Choshui River Basin	Taiwan Power Co. & Water Resources Planning Commission, ROC	Dr. Suphat Dr. Tawatchai Prof. Fude I (ENV)	174,810
Hydraulic Model Study of Rayong River Mouth	Sindhu Pulsirivongs & Associates, Consulting Engineers	Dr. Suphat	35,994
Management Information and Technical Support Services Eastern Seaboard Industrial Zone Development	National Economic and Social Development Board, Thailand	Prof. Anat	57,709
Chiew Larn Dam Spillway Hydraulic Model Study	Electricity Generating Authority of Thailand (EGAT)	Mr. Prida	38,358
Water for the Northeast: Assessment and Rehabilitation of Tank Irrigation	Royal Irrigation Department, Thailand	Mr. Prida	235,630
	Sanitation Systems The Role and Functions Regional Centers in Thailand sion of Industrial Engineering Possibilities & Problems of Research and Development Co-operation Among Developing Countries in East and Southeast Asia sion of Structural Engineering & Constructural Engineering	Implementation of Low-Cost Sanitation Systems The Role and Functions Regional Centers in Thailand Sion of Industrial Engineering Possibilities & Problems of Research and Development Co-operation Among Developing Countries in East and Southeast Asia Sion of Structural Engineering & Construction Handpump Development for Rural International Development Research Centre, Canada International Ferrocement USAID IDRC International Development for Rural Information Center USAID IDRC Sion of Water Resources Engineering Thermal Diffusion — Bang Pakong, Phase II Electricity Generating Authority of Thailand (EGAT) Nam Chon Dam Spillway Hydraulic Model Study Phydraulic Model Study of Rayong River Mouth Management Information and Technical Support Services Eastern Seaboard Industrial Zone Development Chiew Larn Dam Spillway Hydraulic Model Study Water for the Northeast: Assessment and Rehabilitation of Tank CIDA CIDA CIDA CIDA CIDA Germany Agency for Technical Cooperation Germany Agency for Technical Cooperation International Development Research Centre, Canada Bleetricity Generating Authority of Thailand (EGAT) Nam Chon Dam Spillway Hydraulic Bengineers National Economic and Social Development Board, Thailand (EGAT) Water for the Northeast: Assessment and Rehabilitation of Tank Water for the Northeast: Assessment and Rehabilitation of Tank CIDA Sermany Agency for Technical Cooperation Germany Agency for Technical Cooperation International Development Research Centre, Canada International Development Electricity Generating Authority of Thailand (EGAT)	Implementation of Low-Cost Sanitation Systems CIDA Dr. Nimpuno

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Campus & Physical Plant

In February 1982 the Student Center (Korea House) was completed at a cost of US\$110,000. This building was financed by the Korean Traders Scholarship Foundation. The space vacated by the Library in the Academic Building (south) was renovated to house the Computer Applications Division and the Asian Regional Remote Sensing Training Center. The total cost was US\$95,964 and the project was funded by the Royal Thai Government Grant. Student Village III was completed and available for occupancy in September 1982. The total cost of this project was DM2.6 M which was funded by the Government of the Federal Republic of Germany. The Village provides accommodation for 110 students (78 single and 32 married). The space available in the Student Recreation Center was extended and work was completed in September 1982. The cost, of about US\$20,000, was funded by the Royal Thai Government Grant.

and areas and a general conservation program, savings of about 90,000 kWhrs/month, or US\$96,000 per annum have been effected. The energy conservation program is continuing and it is expected that further significant savings will be achieved during 1983.

Figure. I illustrates the electricity consumption over the past four years. The unbroken line shows the fall in consumption if the two new buildings (Library and Energy Technology) are excluded; the broken line shows the pattern if the two buildings are included.

ADMINISTRATIVE DATA PROCESSING UNIT

The Administrative Data Processing Unit, established in April 1981, is charged with the responsibility of implementing data processing in the central administration. Mr. Surendra Shrestha was appointed Manager of the Unit in July 1982 and reports directly to the Vice President for Administration. Technical factors and matters related to the systems are discussed with the Director and staff of the Regional Computer Center.

As with similar installations in universities in other countries, it is anticipated that there will be considerable savings in both direct financial costs and staffing when the systems have been fully implemented. These savings should begin to flow early in 1983 and their total impact should be felt by the end of 1984. By way of example, the costs of



ENERGY CONSERVATION

The cost of electricity has risen rapidly in Thailand over the past seven or eight years. For example, the total consumption in the Institute in 1979 was 5.8 M kWhr at an annual cost of Baht 4.3 M. The unit price was Baht 0.75. In 1981, 6.1 M kWhr were consumed at a cost of Baht 12 M, giving a unit cost of close to Baht 2.00. Compared with 1981, consumption of electricity in 1982 has fallen if the two major new buildings, the Library and Energy Technology, are excluded from consideration. Because of the increased unit cost of electricity, the cost to the Institute has risen.

Following the redesigning of the lighting system in AIT, work on improving the power factor of different machines producing the monthly financial and cost-center reports by manual methods is about Baht 17,000 per month compared with Baht 8,000 per month for the computerised system.

The Accounting System serves as a base in the financial area. It will have various sub-systems including Budgeting, Inventory, Purchasing, Student Financial, and Payroll. Further sub-systems are being investigated including Check Writing and Reconciliation, Work Order System, Plant Maintenance Scheduling and Plant Stores Management. The Accounting System is well developed and is expected to be fully operating early in 1984. The following table sets out the current schedule for the introduction of data processing. This schedule is reviewed monthly.

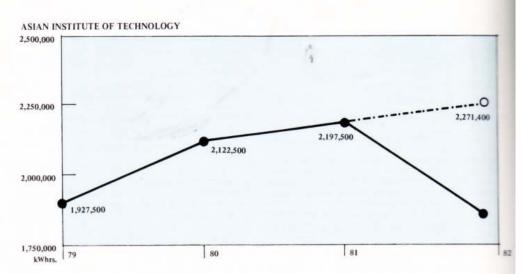


Fig. 1 Energy Consumption 1979 - 82, AIT.

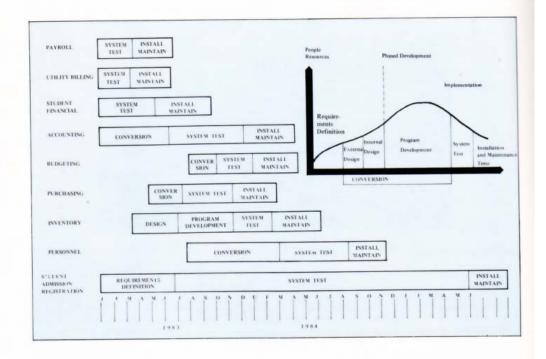


Fig. 2 Data Processing Implementation Schedule.



Implemented Applications of Administrative Data Processing Unit, December 1982

Executive Report Financial Report Cost Center Report Investment Report Sponsored Program Financial History	Accounts & Control	This set of applications under text processing produces all the reports for Accounts & Control Department.
Auxiliary Report Telephone Directory	Admin.	Prints updated directory of AIT every term.
IFS .	VPAA, VPA	Produces Management Reports on International Faculty/Staff.
AIT Mailing	OIS Development	Updated files of Board, Donors, Ex-Faculty, Alumni. Prints sticky labels for mailing purposes.
Tracer Study	Development	The system does all the statistical analysis of Alumni for the Tracer Study Report.
Medical	Clinic	Reports on medical statistics for Clinic and Management.
Grade Reporting Exam Scheduling	Registry	These are two independent inherited applications.

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Other Developments

AIT RATTANAKOSIN BICENTENNIAL ACTIVITIES IN PATHUMTHANI

As part of the nation-wide celebration activities for Bangkok's Bicentennial, AIT Alumni held a panel discussion on "Flooding and Land Subsidence in Bangkok" on April 16–17 at the AIT Center. The importance of the subject to the continued growth and prosperity of Bangkok ensured lively participation from the experts involved and greater awareness of the problem on the part of the government and general public.

AIT also cooperated with Pathumthani provincial officials by participating in an exhibition intended to acquaint people in this province with the range of administrative, educational, technological and industrial activities carried out in Pathumthani. The exhibition was undertaken as part of the celebration activities held throughout the nation's 72 provinces for the Rattanakosin Bicentennial.

STUDENT UNION

All registered students at AIT are represented in the General Assembly from which the President and Secretary/ Treasurer of the Union are chosen. The President then appoints the members of the Executive Council who constitute an active working group. They are responsible for planning, scheduling and organizing almost all student activities on campus.

Apart from regular literary activities such as publication of a student magazine, inter-divisional quiz and debate competitions and a supplement in the weekly AIT Bulletin, the Student Union also organizes a number of recreational activities.

Among the various events, the most spectacular and awaited are the "Cultural Show" with the participation of the various national groups in AIT, and "Star Wars", an interdivisional drama competition. Most sports facilities and activities are supervised and organized by the Sports Committee. The highlight of the sports activities is the "Sportsfest", an interdivisional competition featuring 19 different sports popular in Asia. A novel addition in the sports field is an annual Inter-University Sports Festival which brings AIT Students into contact with students of other univer-

Regular weekend films are shown at the AIT Center auditorium, which is the venue for most S.U. social gatherings. Sight-seeing trips in Thailand are also arranged by the S.U.



AIT's exhibits explained the scope of AIT's activities and focussed on the projects undertaken in the Energy Technology Division, especially those involving solar energy. In this context a wide variety of equipment was displayed and demonstrated including a solar water distillation unit, a solar water heating unit, a solar cooking unit, and examples of solar cells.

The Student Union takes a keen interest in academic matters too, through conducting a coursework evaluation scheme as well as by making representations in the Faculty Student Liaison Committee and Academic Senate.



AIT PROVIDES REMOTE SENSING TRAINING FOR ASIA

The Asian Regional Remote Sensing Training Center (ARRSTC) has been established at the Institute. ARRSTC provides training and assistance in the acquisition, analysis and use of all types of remotely sensed geographic data. Training programs are flexible and emphasize the quantitative and digital approaches to interpretation, storage, and analysis of data from air photos, the LANDSAT satellite, and other sensor systems (e.g., microwave).

Established as a joint undertaking of the United States Agency for International Development (USAID), AIT, the Thai National Research Council and the IBM World Trade Americas/Far East Corporation, the ARRSTC's main objective is to transfer a technology that will assist the developing countries of Asia to improve the management of their natural resources. The Center, like AIT, serves as a source of training and expertise which is available to the Asian international community.

The seconded faculty of the ARRSTC are Buddy Atwell, Geology, National Space Technology Laboratory, Missisippi; Dr. Larry Fox, Forestry, Humboldt State College, California; Dr. William Hodson, Ecology/Biology/ Land Development, Environmental Systems Research Institute, California, Dr Gary Johnson, Geography, EROS Data Center, South Dakota, and Dr. Aulis Lind, Geography, University of Vermont

The training program contains the following elements:

- Fundamentals of Remote Sensing
 - Physics and technology of airborne and satellite remote sensing instrumentation
- Visual Analysis
 - Philosophy and techniques of interpretaion of remotely sensed images.
 - Field verification techniques
 - Specific applications of visual analysis
- Computer Analysis
 - Fundamentals of pattern recognition by computer methods



The ARRSTC began its training program in September, 1982 with 7 trainees, all from Thailand. They were chosen by their respective agencies to receive training in remote sensing technology and transfer their newly acquired skills back to their agencies. The trainees have been sent by the following Thai agencies: two from the Land Development Depart-ment and one each from the Department of Soil Science, Khon Kaen University, the Royal Thai Air Force, and the Department of Forestry.

The faculty members are seconded by the US Agency for International Development, and respresent several fields in which remote sensing is applied. Each member of the faculty is recognized as an expert in the application of remote sensing technology to a specific discipline. In addition, each is also experienced in the design and implementation of academic and professional training programs.

- Identification of specific data classes
- Analysis and display of digital data Statistical techniques for analysis and display
- Specific applications of computer analysis
- Integration of mapped data with remotely sensed

Each phase of the program includes actual experience with images and data. Trainees design their own analysis projects on which to test their newly acquired skills.

Donor Relations

GOVERNMENTS

1. Australia

The Government of Australia made a contribution of US\$638,916 toward the cost of scholarships and staffing assistance. A request for financial assistance for the period 1982–85 has been submitted and it is expected that the Government of Australia will approve a grant of about A\$4 million.

2. Austria

The Republic of Austria continues to support the secondment of one Austrian faculty member to the Institute.

3. Bangladesh

The Government of Bangladesh continues to support the Institute by providing a grant of Taka 250,000 which the Institute can use in promoting its activities in Bangladesh.

4. Belgium

The Royal Government of Belgium provided a cash grant of US\$221,029 for scholarships and 24 man-months of faculty secondment as in-kind support. A new proposal for another three years of financial assistance is presently being discussed with the authorities in Brussels.

5. Canada

The Government of Canada made a cash grant of US\$ 465,509 for scholarships, research projects and faculty support. A new Memorandum of Understanding for the period 1983–85 is about to be finalized by CIDA. It is expected that for this three-year period, the Government of Canada will provide the Institute approximately Cdn.\$3.81 million for scholarships, faculty support, demonstration projects, information dissemination and program support.

6. Denmark

The Royal Government of Denmark made a cash contribution of US\$130,000 for scholarships and continued to support two Danish faculty members at the Institute.

7. France

The Republic of France provided a cash grant of US\$ 122,000 for scholarships, library and equipment acquisitions, maintenance, support to the Regional Documentation Center, Continuing Education Center and Asian faculty

support. In addition, it provided 71.5 man-months of faculty secondment as in-kind support.

The Government of France has agreed in principle to provide an additional grant of FF 3 million, equivalent to US\$417,300 to construct a building for research for the Division of Energy Technology.

8. Germany, Fed. Rep. of

The Government of the Federal Republic of Germany through its agencies, CDG, DAAD, DSE and GTZ made a cash grant of US\$1,742,610 for scholarships, research projects, equipment, conferences and construction. In addition, it provided 62.5 man-months of faculty secondment as in-kind support.



9. India

The Government of India continues to support the Institute by providing equipment, a local grant of up to Rs.200,000 per year and short-term secondment of Indian experts. During the FY 1981–82 a total of 12 man-months of faculty secondment was provided to the Institute.

10. Indonesia

The Republic of Indonesia made another grant of US\$ 22,000 to the Endowment Fund of the Institute.



11. Italy

The Republic of Italy made a cash grant of US\$100,000 for equipment acquisition and 12 man-months of faculty secondment.

12. Japan

The Government of Japan provided a cash grant of US\$679,143 for scholarships, operating grant and equipment acquisition. In addition, it supported 86 man-months of faculty secondment as in-kind support.



13. Korea, Rep. of

The Republic of Korea made a further grant of US\$ 192,883 to the Endowment Fund.



14. Netherlands

The Royal Netherlands Government provided a cash grant of US\$344,931 during FY 1981-82 for scholarships, Asian faculty support and for the purchase of books and other materials for the library. A total of ten (10) Asian faculty members are presently being supported by the Royal Netherlands Government.

15. New Zealand

The Government of New Zealand made a cash grant of US\$95,841 for scholarships and for support of the activities of the International Ferrocement Information Center.

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16. Norway

The Royal Norwegian Government provided a grant of US\$158,675 for scholarships.

17. Pakistan

The Government of Pakistan made a further contribution of Rs. 180,000 to the Institute.

18. Philippines

The Government of the Philippines provided another grant of US\$30,000 for operating costs and Endowment Funds.

19. China, Rep. of

During the fiscal year 1981—82, the Republic of China provided a cash grant of US\$272,600 for scholarships and supported 12 man-months of faculty secondment. It also agreed in principle to provide another grant of US\$494,068 to build the extension to the Regional Engineering Experiment Station. Construction is expected to start soon.

In addition, various companies in Taiwan such as BES Engineering Corp., China Technical Consultants, Chinese Petroleum Corp., RSEA, Taiwan Power Co., and Taiwan Water Supply Corp., provided US\$230,500 mostly for scholarships.

20. Sri Lank

The Government of Sri Lanka provided the Institute with a grant of Rs. 100,000.

21. Sweden

The Royal Government of Sweden has allocated a sum of US\$50,000 for support of the short-term training of Vietnamese students at the Institute.

22. Switzerland

The Government of Switzerland provided the Institute with a grant of US\$84,340 for scholarships and supported 12 man-months of faculty secondment.

23, Thailand

The Royal Thai Government made a grant of US\$ 1,003,839 to the Institute for scholarships, operating costs, construction, and tax reimbursement.



24. United Kingdom

The Government of the United Kingdom continues to support the Institute with faculty secondments. During this fiscal year, 57.5 man-months of faculty secondment were provided plus a cash grant of US\$102,355 for scholarships, library acquisition, seminars and research projects.

25. United States of America

During the fiscal year 1981–82, the Government of the United States of America provided a grant of US\$1,638,249 for scholarships, research projects, seminars, and also equipment for the Asian Regional Remote Sensing Training Center. In addition, it has supported six American faculty members: five in Remote Sensing Technology and one in Energy Technology.



INTERNATIONAL ORGANIZATIONS

- Various agencies of the United Nations Organizations such as ESCAP, ILO, UNCHS, UNESCO, UNIDO, UNDP, FAO, WMO and WHO made grants totalling USS 249,511. The bulk of the grants came through the UNDP grants.
- The European Economic Community (EEC) is presently supporting a research project at the Institute with a grant of US\$100,000.

FOUNDATIONS

- The AIT Foundation, Inc. has channeled the financial support of the IBM-AFE to the Institute. In FY1981

 82, a total grant of US\$425,750 was given to the Institute. It also supported 48 man-months of staff secondment.
- The AIT UK Appeal Fund likewise has given to the Institute a grant of US\$70,000 which was solicited from Shell International Petroleum Co., Ltd. This grant is being used to support one faculty member.
 The International Development Research Council of
- The International Development Research Council of Canada contributed US\$98,527 for research, seminars and scholarships.
- The Korean Traders Scholarship Foundation contributed a further sum of US\$10,000 for the construction of Korea House.

- The Lee Foundation of Singapore made another grant of US\$50,500 for scholarships.
- KEIDANREN of Japan provided the Institute with a scholarship grant of US\$65,000.
- The OPEC Fund based in Vienna, Austria made a cash contribution of US\$45,600 for scholarships.
- The Ford Foundation and Rockefeller Foundation contributed US\$5,650 and US\$11,333 respectively for scholarships.
- The Agricultural Development Council, Inc. contributed US\$3,330 towards a scholarship at the Institute.

NATIONAL GOVERNMENT AGENCIES

Several government agencies of the Royal Thai Government provided scholarships and sponsored numerous research projects at the Institute. A total grant of US\$ 843,910 was received from 13 such agencies. Hasanuddin University in Indonesia contributed US\$ 6,282 towards a scholarship and the Institute for Social Studies in the Hague provided US\$10,000 for sponsoring a seminar.

BUSINESS, PRIVATE, AND OTHERS

- A total of twenty (20) business enterprises contributed US\$402,824.
- The Marden Family in Hong Kong continued to support the Institute's scholarship program with a grant of US\$13,000.

OBSERVATIONS

- During the fiscal year 1981-82, the Institute received a total of US\$11,300,339 in cash and in-kind contributions from various donor agencies.
- 2. The following shows the contributions of Governments, International Organizations, Foundations, National Government Agencies, Business, Private and Others:

Governments	77.15 %
International Organizations	2.56 %
Foundations	7.65 %
National Government Agencies	8.94 %
Duringer Private and Others	2 70 0

 Table 1 is the list of donors in FY 1981—82 and the percentage of their contribution. Table 2 shows the cumulative percentage contribution given by various governments, International Organizations, Foundations, National Government Agencies and Business Enterprises for the period 1959—1982.

TABLE 1
Contributions in Cash and Kind

FY	198	1 - 82	•

nors	Percentage (%)	National Government Agencies Percen	tage (
Australia	5.65	Agricultural Land Reform Office, Thailand	0.37
Austria	0.14	Bank of Thailand	0.08
Belgium	2.29	Board of Investment, Thailand	0.17
Canada	4.21	Electricity Generating Authority of Thailand	
China, Rep. of	2.70	Hasanuddin University, Indonesia	0.06
Denmark	1.51	Institute of Social Studies, Netherlands	0.09
France	2.01	Mineral Resources Dept., Thailand	0.04
Germany, Fed. Rep. of	16.40	Metropolitan Water Works Authority,	0.05
India	0.33	Thailand	
Indonesia	0.19	National Environmental Board, Thailand	2.26
Italy	1.08	National Econ. & Social Dev. Board,	1.12
Japan	7.41	Thailand	
Korea, Rep. of	1.71	Petra Christian University, Indonesia	0.08
Norway	1.40	Prime Minister's Office, Thailand	1.61
Netherlands	3.30	Provincial Water Works Authority.	0.09
New Zealand	0.85	Thailand	
Pakistan	0.16	Royal Irrigation Dept., Thailand	0.69
Philippines	0.27	Royal Thai Airforce, Thailand	0.02
Switzerland	0.88	Royal Thai Navy, Thailand	0.05
Thailand	8.88	Transport Road Research Lab.,	0.42
United Kingdom	1.28	United Kingdom	
United States of America	14.50	Taiwan Power Co., ROC	0.72
		Taiwan Water Supply Corp., ROC	0.12
Sub-total	77.15	Sub-total	8.94
EEC ESCAP	0.35	Business, Private and Others	
ILO	0.03	BES Engineering Corp.	0.24
IDA	0.03	Caltex Oil (Thailand) Ltd.	0.0
UNCHS	0.12	China Technical Consultants, Inc.	0.4
UNESCO	0.37	Captain Motor Co., Ltd.	0.0
UNIDO	0.22	Chinese Petroleum Corp.	0.2
UNDP	1.33	Electric Power Development Co., Ltd.	0.2
WHO	0.07	Elma Tech, Engineering Co., Ltd.	0.1
1.7.5 M.C.		Franki Piling (Singapore) Pte. Ltd.	0.1
Sub-total	2.56	IBM — Malaysia	0.1
		Italthai International Hotel Co., Ltd.	0.0
		Kubota Ltd., Japan	0.2
oundations		Marden Family, Hong Kong	0.1
vanuativna		National Engineering Consultants, Ltd.	0.0.
Agricultural Development Council, Inc	0.03	Ret-Ser Engineering Agency	0.2
AIT Foundation (IBM-A/FE)	4.42	Shell International Petroleum Co., Ltd.	0.2
AIT UK Appeal Fund	0.67	Siam Cement Co., Ltd.	0.0
Ford Foundation	0.05	Salzgitter Consult Gmbht	0.4.
IDRC	0.87	Shell Co. of Thailand	0.1
KEIDANREN, Japan	0.58	Sindhu Pulsiverongs & Associates	0.14
Korean Traders Scholarship Foundatio	5000000	United Engineers (Malaysia) Bhd.	0.2
Lee Foundation of Singapore	0.44	Others	0.0
Let I candation of origination	0.40		2.5
OPEC Fund			3.7
OPEC Fund Rockefeller Foundation	0.10	Sub-total	

TABLE 2

Total Contributions Received In Cash and In Kind

 $FY\,1959-60\ to\ FY\,1981-82$

Donors	Percentage (%)
Australia	5.08
Austria	0.02
Bangladesh	0.02
Belgium	0.78
Canada	5.85
China, Rep. of	2.61
Denmark	1.04
France	1.22
Germany, Fed. Rep. of	5.63
Hong Kong	0.00
India	0.06
Iran	0.01
Israel	0.11
Italy	0.29
Japan	14.46
Korea, Rep. of	0.15
Netherlands	2.77
New Zealand	1.00
Norway	0.42
Pakistan	0.15
Philippines	0.28
Switzerland	0.63
Thailand	14.41
United Kingdom	7.10
United States of America	18.83
Vietnam	0.02
International Organizations	1.39
Foundations	6.66
National Government Agencies	0.50
Business, Industries, Private, & Others	8.51
Total	100 %



Scholarship Contributions 1981 to 1984 for AIT Internally Selected Candidates

Number of Scholarships

DONORS

	1981-82	1982-83	1983-84 Projections
I. GOVERNMENTS			
Australia	30	35	35
Belgium	5	6	6
Canada/HSD	20	7	_
Canada/BBD	-	40	40
Denmark	8	8	10
France	7	7	12
Germany, Fed. Rep. of (DAAD	15	8	15
Japan	15	24	24
Netherlands	22	15	15
Norway	10	15	10
Switzerland	6	.6	10
Thailand (King's)	15	8	8
Sub-Total	157	179	185
II. FOUNDATIONS			
AIT Foundation, Inc., USA	_	1	
KEIDANREN, Japan	5	4	5
Lee Foundation, Singapore	3	. 3	3
OPEC Fund	3	3	3
Starr Foundation, USA	1	1	_
Sub-total	12	12	11
III. INDUSTRIES			
BES Engineering Corp., ROC	2	2	
Caltex Petroleum Corp.	_	1	- 1
China Technical Consultants In	ic., ROC 2	2	
Chinese Petroleum Corp., ROC	2	2	
Kubota, Ltd., Japan	2	2	
Ret-Ser Engineering Agency, R	OC 1	1	
Shell Int'l Petroleum Co.	5	4	
Siam Cement Co.	-	1	
Taiwan Cement Corp., ROC	1	1	
Taiwan Power Co., ROC	3	2	
Sub-total	18	18	20
IV. INDIVIDUALS & OTHER	ts		
Dorothy Marden, Hong Kong	-	- 1	
George Marden, Hong Kong	1		
European Economic Communi	ity -	- 10)
Sub-total	1	1	1
TOTAL	188	3 220	21

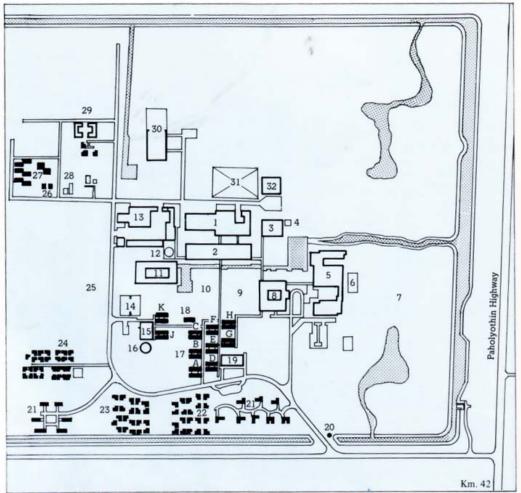
Scholarship Contributions 1981 to 1984 for Externally Nominated Candidates at AIT

D	ONORS	N	umber of	Scholarship	s DONORS
		1981-8	2 1982–8	3 1983–84 Projections	
I.	GOVERNMENTS				V NATIO
C.	ermany, Fed. Rep. of (CDG)	18	35	35	ORGA
	epublic of China	17	27	25	Bank
	veden (SAREC)		+7D	-	Dept
	nited States of America				Ind
	MUCIA/Nepal	-	1	-	Dept.
	USAID/ASEAN	47	20	30	The
	USAID/Bangladesh	+1D	1+1D	-	Hasan
	USAID/Indonesia	-	2	-	Korea
	USAID/Nepal	2			Petra (
	USAID/Philippines		2		Royal
_					Supre
	Sub-total	84+1D	88+8D	90	Royal
_			20.10		Syiah
П.	UN AGENCIES				Sub-to
	LINIDBLACE		400		-
	UNDP/Afghanistan	1	+1D		TOTA
	UNDP/Bangladesh	+3D	+1D		1100000000
	UNDP/FAO	1	2		GRAN
	UNDP/WMO WHO	1	+1D		D - D: 1
-	WHO		2+3D		D = Diplo
_	Sub-total	3+3D	4+6D	-	
Ш.	FOUNDATIONS				
	IDRC, Canada	+1D	1	-	
	International Road Federation		1	-	- 34
	Okumenisches Studienwerk, Germany	-	1	-	1
	Sub-total	_+1D	3	-	1
v	INDUSTRIES				TANK TANK
	Taiwan Water Supply Corp., ROC	1	-	-	
	Sub-total	1	-	-	MA

			Proj	ectio
1	NATIONAL GOVERNMENT			
	ORGANIZATIONS			
	Bank of Thailand	1	1	-
	Dept of Higher Education & Culture,			
	Indonesia	-	2	-
	Dept. of Tech. Economic Coop.,			
	Thailand	-	2	-
	Hasanuddin University, Indonesia	2	-	
	Korea Nat'l Housing Corp.	-	+1D	-
	Petra Christian University, Indonesia	-	2	340
	Royal Thai Air Force	1	2	-
	Supreme Command Headquarters, Royal Thai Government	-	1	7
	Syiah Kuala Univ., Indonesia	100	1	-
	Sub-total	4	11+1D	-
	TOTAL	92+5	D 106+15D	90
	GRAND TOTAL	280+5	D 326+15D	307
)	= Diploma/Certificate		HE ST	

Number of Scholarships 1981–82 1982–83 1983–84





SITE PLAN OF AIT CAMPUS

Scale 1:5,000



- Academic Building North Academic Building South Regional Computer Center Utility Building AIT Center Swimming Pool Golf Course Administration Building Football Field Hockey Field Library

- 10 11 12 13 14 15 16
- Library Water Tower Physical Plant Tennis Courts Cafeteria Student Center
- Dormitories
- Staff Dormitory II Student Recreation Center
- 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32

- Student Recreation Center
 Gate House
 Faculty Houses
 Student Village I
 Student Village II
 Student Village III
 Cricket Pitch
 Building Together Demonstration Houses
 Staff Housing Project III
 Plant Nursery
 Staff Dormitory I
 Regional Engineering Experiment Station
 Energy Research Park
 Energy Technology Building

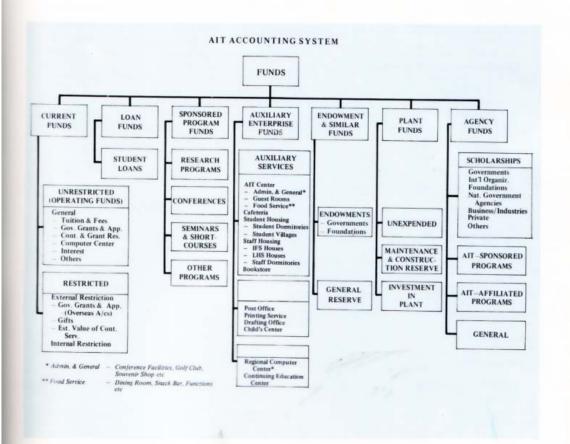
Financial Review

Since its inception in 1967 the Asian Institute of Technology has adopted a "Fund Accounting System" and has its financial year run from July 1, through June 30. This method of maintaining the Institute's accounts ensures observance of limitations and restrictions placed on the use of the resources available to the Institute. They are classified into various funds in accordance with activities or objects specified for accounting and reporting purposes. Please note that the figures shown in this Financial Review are on a cash basis.

At present, 7 main groups of funds are maintained by the Institute as follows:—

- 1. Current Funds
- 2. Loan Funds
- 3. Sponsored Program Funds
- 4. Auxiliary Enterprise Funds
- Endowment & Similar Funds
- 6. Plant Funds
- 7. Agency Funds

The following chart demonstrates the group of funds presently maintained by the Institute.



Auditor's

We have examined the accompanying balance sheet of the Asian Institute of Technology as at June 30, 1982 and the related statements of changes in fund balances and current funds revenues and expenditures for the year then ended. Our examination was 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.

Assets

URRENT FUNDS	USS
Unrestricted:	100000000000000000000000000000000000000
Cash at banks	436,383,56
Investments, at cost	291,299.73
Accounts receivable and accrued income	857,670.33
Due from other funds	
- Loan Funds	1,250.00
- Auxiliary Enterprise Funds	8,340.96
- Plant Funds	110,132.16
- Agency Funds	100,000.00
Restricted:	
Cash at banks	231,516.79
Investments at cost	790,820.84
Accounts receivable and accrued income	132,457.36
Due from other funds	
- Agency Funds	8,094.43
Total Current Funds	2,967,966.16
DAN FUNDS	
Cash at bank	473.59
Accounts receivable	776.41
Total loan Funds	1,250.00
NDOWMENT FUNDS	
Investments, at cost	929,976.26
Total Endowment Funds	929,976,26

Report

In our opinion, the aforementioned financial statements present fairly the financial position of the Asian Institute of Technology at June 30, 1982 and the changes in fund balances and the current funds revenues and expenditures for the year then ended in accordance with generally accepted accounting principles applied on a basis consistent with that of the preceding year.

Price Waterhouse & Co. Bangkok, November 12, 1982.

Liabilities and Fund Balances

URRENT FUNDS	USS
Unrestricted:	
Accounts payable and accrued expenses	183,129.04
Deferred income	100,000.00
Deposits	11,957.22
Fund balances (Schedule 1)	1,509,990.08
Restricted:	
Accounts payable and accrued expenses	103,812.08
Fund balances (Schedule 1)	1,059,077.34
Total Current Funds	2,967,966.16
LOAN FUNDS	
Due to other funds	
	1,250.00
Due to other funds	27702722
Due to other funds — Unrestricted Current Funds Total Loan Funds	1,250.00 1,250.00
Due to other funds — Unrestricted Current Funds	27702722

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GENERAL RESERVE	
Cash at banks	525.03
Investments, at cost	1.929.634.55
Accrued income	66,712.28
Total General Reserve	1.996,871.86
PLANT FUNDS	
Unexpended:	
Cash at banks	296,462,22
Accounts receivable	121.15
Deposits	5,790.00
Due from other funds	
- Auxiliary Enterprise Funds	2,389.00
Maintenance and Construction Reserve	
Cash at bank	4,000.91
Investments, at cost	81,938.31
Net investment in plant, at cost	
Land development	565,700.67
Buildings	15,874,761.38
Furniture and equipment	5,370,084.60
Library acquisitions	1,384,182.59
Construction in progress	1,929,125,55
Total Plant Funds	25,514,556.38
AUXILIARY ENTERPRISE FUNDS	
Code of horder	(022 52
Cash at banks	6,032.52
Investment, at cost	101,273.66
Prepayment and deposits	37,860.16
Inventories	93,626.70
Accounts receivable	125,067.48
Total Auxiliary Enterprise Funds	363,860.52
SPONSORED PROGRAM FUNDS	
or or other Production Politics	
Cash on hand and at banks	71,718.13
Accounts receivable	20,229.47
Total Sponsored Program Funds	91,947.60
AGENCY FUNDS	
Cash at banks	695 402 00
Investments, at cost	685,493,09 165,102.02
Accounts receivable	4,612.53
Accounts receivable 111111111111111111111111111111111111	4,012.33
Total Agency Funds	855,207 64

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Liabilities and Fund Balances

GENERAL RESERVE	
Fund balances (Schedule 4)	1,996,871.86
Total General Reserve	1,996,871.86
PLANT FUNDS	
Unexpended:	
Accounts payable and accrued expenses Due to other funds	199,389.56
Unrestricted Current Funds Fund balances (Schedule 5)	110,132.16
- Unallocated	31,738.94
- Allocated	36,498.29)
Maintenance and Construction Reserve	
Fund balances (Schedule 6)	
- Unallocated	85,939.22
Net investment in plant	
Fund balances (Schedule 7)	25 122 954 70
- Allocated	25,123,854.79
Total Plant Funds	25,514,556.38
AUXILIARY ENTERPRISE FUNDS	
Accounts payable and accrued expenses	107,477.35
Due to other funds	
- Unrestricted Current Funds	8,340.96
- Plant Funds	2,389.00
Fund balances (Schedule 8)	
Auxiliary services — Unallocated	90,000.00
- Allocated	5,524.83
- Reserve	81,236.16
- Wines and spirits	6,012.65
Academic related	
Continuing Education Center - Allocated	62,879.57
Total Auxiliary Enterprise Funds	363,860.52
SPONSORED PROGRAM FUNDS	
Accounts payable and accrued expenses	6,520.02
Fund balances (Schedule 9)	85,427.58
Total Sponsored Program Funds	91,947.60
AGENCY FUNDS	
Accounts payable and accrued expenses	74.54
Due to other funds	
Unrestricted Current Funds	100,000.00
- Restricted Current Funds	8,094.43
Fund balances (Schedule 10)	
- Allocated	708,995.12
- Unallocated	38,043.55
Total Agency Funds	855,207.64
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UNRESTRICTED CURRENT FUNDS

(Operating Funds)

Funds available for general operating purposes without restrictions imposed by outside agencies.

(Operating Funds) Cash Income FY 1981/82

	FY 1981/82 (US\$ 1,000) %	
Tuition and Fees	3,017	78.6
Governmental Grants and Appropriations	212	5.5
Contract and Grant Research	328	8.6
Computer Center	78	2.0
Other Sources	203	5.3
TOTAL	3,838	100.0

The cash expenditures for the same period were US\$ 3,476,000. Hence, comparing the cash income and cash expenditures, the Institute has an excess of income over expenditures of US\$ 362,000.

RESTRICTED CURRENT FUNDS

Funds available subject to restrictions imposed either externally or internally, specifying the manner in which said funds are to be used in current operations.

Income FY 1981/82

	Cash (US\$ 1,000)	Kind (US\$ 1,000)	%
Governmental Grants and Appropriations	572	516	35.9
Gifts	494	_	16.3
Established Value of Contributed Services	-	960	31.7
Sponsored Programs	140	_	4.6
Sales and Services	264	-	8.7
Other Sources	83	-	2.8
TOTAL	1,553	1,476	100.0

The cash balance carried forward from FY 1980/81 was US\$ 766,000, and cash expenditures and transfers were US\$ 2,736,000, leaving a balance in the funds of US\$ 1,059,000.

LOAN FUNDS

Funds available for loans to needy students.

SPONSORED PROGRAM FUNDS

Funds available subject to restrictions by donors or other agencies, as per condition of gifts, that they be used for research projects, conferences, seminars, short courses, or any other programs.

Cash Revenues FY 1981/82

	FY 1981/83 (US\$ 1,000) %	
Research Programs	840	69.0
Conferences	34	2.8
Seminars, Training Programs		
Short Courses	80	6.5
Other Programs	264	21.7
TOTAL	1,218	100.0

The cash balance carried forward from FY 1980/81 was US\$1,792 and cash disbursements and adjustments for the same period were US\$1,134,000. Hence, upon comparing the cash revenues and cash disbursements, the Institute would have an excess of revenues over disbursements of US\$84,000.

AUXILIARY ENTERPRISE FUNDS

Funds provided for operating auxiliary services, other campus services, and academic related, services in support of academic divisions and/or administration departments with a non-profit making purpose.

Financial Status FY 1981/82

		FY	1981/82
	Cash (US\$ 1,000)	Kind (US\$ 1,0	00) %
Revenues	947	18	100.0
Cost of Goods Sold	342	-	40.8
Operational Costs	559	18	56.8
Additional Assets	8	-	-1.8
Reserve	32	-	-1.8

The "Auxiliary Enterprise Reserve" was established in 1980, and amounted to approximately US\$ 82,000, at the end of June 1982.

The "Continuing Education Center" was started at the beginning of 1980 under the "Auxiliary Enterprise Funds—Academic Related". The total revenues—at the end of FY 1981/82 were approximately US\$ 5,9,000, and total disbursements were approximately US\$ 13,000. It is anticipated that in the future it eventually will take over all conferences, seminars, workshops, short-courses, and symposiums from Sponsored Program Funds.

ENDOWMENT FUND

Funds which donors or other agencies have stipulated, as a condition of gifts, that the principal is to be maintained inviolate and in perpetuity, with only the income from the investments of the fund being expended.

Cash Status FY 1981/82

	Y 1981/82 US \$ 1,000)	Since FY 1976/77 (US \$ 1,000)
Governments :		
The Republic of China	-	500
The Republic of Indonesia	22	42
The Republic of Korea	193	258
The Republic of the Philippines Foundations:	10	50
Education & Public Welfare Foundation	-	25
Lee Foundation	-	50
Jim Kendall Memorial Fun	d 5	5
TOTAL	230	930

The Endowment Fund was established in 1976, and has been growing steadily ever since. There was US\$930,000 in this fund at the end of FY 1981/82, excluding interest earnings which were utilized for operating costs.

GENERAL RESERVE

Funds hold in trust by the Institute on behalf of donors and other agencies.

Cash Status FY 1981/82

	FY 1981/82 (US\$ 1,000)	Since FY 1976/77 (US \$ 1,000)
Transferred from Unrestricted Current Fund	s 200	1,501
Net Interest Received	78	441
TOTAL	278	1,942

The General Reserve was established in 1976, in order to guarantee against calamity, by transferring from the Operating Funds and occasionally from the year-end balance of the Unrestricted Current Funds. The interest incurred from its principal is accrued in the fund. However, it is calculated on a cash basis.

UNEXPENDED PLANT FUNDS

Funds to be used for the acquisition of physical properties.

Income FY 1981/82

	FY 1981/82		
	Cash (US\$ 1,000)		Kind S\$ 1,000
Governmental Grants			
and Appropriations	1,536	515	86.0
Gifts	30	2	1.3
Other Income and Transfers	303	-	12.7
TOTAL	1,869	517	100.0

The balance carried forward from FY 1980/81 was US\$ 1,144,000, and the amount expended and transferred was US\$ 3,534,000, leaving a balance in the funds of US\$

The "Maintenance and Construction Reserve" was established in 1979, in order to provide funds for costs of maintenance and construction. At the end of FY 1981/82, there was a balance of US\$ 85,939 available in the fund.

NET INVESTMENT IN PLANT

"Net Investment in Plant" is the net value of the Institute's properties.

Financial Status FY 1981/82

	FY 1981/82 (US\$ 1,000)	Total Value (US \$ 1,000
Campus Development	9	566
Buildings	4,611	15,875
Construction in Progress	1,713	1,929
Equipment	1,155	5,370
Library Acquisitions	106	1,384
TOTAL	7,594	25,124
The second secon		

AGENCY FUNDS

Funds held in trust by the Institute on behalf of donors and other agencies.

Cash Revenues FY 1981/82

	FY 1981/82	
	(US\$ 1,000)	%
Scholarships:		
Governments	3,510	82.1
International Organizations	67	1.6
Foundations/Nat. Gov. Agencie	s 446	10.4
Business/Industries	231	5.4
Private	22	0.5
TOTAL	4,276	100.0

AGENCY FUNDS

FY 1981/82

	(US\$ 1,000)	%
AIT-Sponsored/AIT-Affiliated Staff and Faculty Grants		
TOTAL	5,153	

SUMMARY OF CASH RECEIVED FROM DONORS

FY 1981/82

TOTAL	11,300	100.0
Private	15	0.1
National Government Agencies Business/Industries	954 615	8.5 5.4
International Organizations	257	2.3
Governments	8,669	76.7
Donors:		1075/925



1. Notes to the Financial Statements June 30, 1982

- a) Accrual basis: The financial statements of the Asian Institute of Technology have been prepared on the accrual basis except for depreciation accounting as explained in note 1 (d) to the financial statements. The statement of current funds revenues and expenditures is a statement of financial activities of current funds related to the current reporting period. It does not purport to present the results of operations or the net income or loss for the period as would a statement of income.
- b) 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 that are in accordance with activities or objects specified.

Within each fund group, fund balances that are restricted by outside sources are so indicated and are distinguished from unrestricted funds allocated to specific purposes by action of the governing board. Externally restricted funds may only be utilized in accordance with the purpose established by the source of such funds and are in contrast with unrestricted funds over which the governing board retains full control to use in achieving any of its institutional purposes.

Income derived from investments is accounted for as revenue in the unrestricted current funds, with the exception of general reserve fund and unexpended plant fund in which income is accounted for in the fund maintaining the invest-

All other unrestricted revenue is accounted for in the unrestricted current fund. Restricted gifts, grants, appropriations and other restricted resources are accounted for in the appropriate restricted funds.

- c) Foreign currency translation: The books and accounts of the Institute are maintained in U.S. Dollars. At the balance sheet date assets and liabilities denominated in other currencies are translated into U.S. dollars at approximate exchange rates ruling on that date. Revenue and expenditures are translated at approximate rates in effect during the year. Exchange gains and losses are included in income in the year.
- d) Physical plant and equipment are stated at cost at date of acquisition or fair value at date of donation in the case of gifts. Depreciation on physical plant and equipment is not recorded.

2. Commitments

At June 30, 1982 the Institute had outstanding commitments of U.S.\$70,233 in respect of contracts for construction in progress at that date but not completed. These contracts are being financed by Government grants.



Alumni Relations

ALUMNI RECORD

There were three graduation ceremonies in 1982, on April 21, August 20 and December 18. The number of AIT Graduates as of the Thirty-sixth Graduation on December 18, 1982, totalled 2,664 from 29 countries.

A. DISTRIBUTION BY DIVISIONS

	M.Eng.	M.Sc.	D.Eng.	D.Sc.Tech.	Diploma	TOTAL	%
AFE	127	28	2	-	18	175	6,6
CA	38	39		-	5	82	3.1
ET	31	3	-	-	3	37	1.4
ENV	209	77	9	-	12	307	11.5
G & TE	405	40	4	-	21	470	17.6
HSD	20	132	-	-	8	160	6.0
IE & M	208	19	10	_	10	247	9.3
SE & C	420	1	17	-	6	444	16.7
WRE	454	8	10	2	46	520	19.5
*C & RD	61	35	4	-	T.	100	3.7
*SE&M	106	8	T.	-	7	122	4.6
OTAL	2,079	390	57	2	136	2,664	2570
	78.1	14.6	2.1	0.1	5.1		100 %

^{*}C&RD = Community and Regional Development

^{[*} Discontinued in 1974]

^{*} SE & M = System Engineering and Management

B. DISTRIBUTION OF ALUMNI BY COUNTRY

Country	Number	Percenta
Afghanistan	15	0.56
Bangladesh	248	9.31
Brunei	4	0.15
Burma	9	0.34
Canada	1	0.04
China, Republic of	361	13.55
Ghana	2	0.08
Hong Kong	52	1.95
India	166	6.23
Indonesia	108	4.05
Iraa	8	0.30
Japan	13	0.49
Kampuchea	3	0.11
Korea, Republic of	29	1.09
Laos	1	0.04
Macao	5	0.19
Malaysia	119	4.47
Nepal	52	1.95
Pakistan	204	7.66
Papua New Guinea	3	0.11
Philippines	274	10.29
Singapore	19	0.71
Sri Lanka	179	6.72
Tanzania	1	0.04
Thailand	737	27.66
Turkey	6	0.22
United Kingdom	2	0.08
United States of America	2 3	0.11
Vietnam	40	1.50
TOTAL	2,664	100 %

REPORT OF THE AIT ALUMNI ASSOCIATION

ALUMNI CHAPTERS

At present AITAA has twelve chapters with duly elected officers. These chapters are :

Bangladesh	Hong Kong/Macao
Indonesia	Japan
Korea	Malaysia
Pakistan	Philippines
Republic of China	Singapore
Thailand	U.S.A.

Action will be taken to declare the Indian Chapter inactive. Any attempt to re-establish the Indian Chapter must go through the same process as that of a new chapter.

ALUMNI OFFICERS

The Executive Committee of AITAA serving during the year 1982 are as follows:

Prof. Pisidhi Karasudhi	President	
Dr. Kanchit Malaivongs	Executive Secretary	
Mr. Surendra M. Shrestha	Auditing Secretary	
Mr. Jugal K. Agarwalla	Business Secretary	
Dr. Yew-Chaye Loo	Finance Secretary	
Dr. Mario T. Tabucanon	Press Secretary	

ELEVENTH AND TWELFTH MEETINGS OF THE GOVERNING BOARD

The Eleventh Meeting of the Governing Board of AITAA was held at AIT on 16 and 17 April 1982, followed by a trip to Bang Phra, Nong Kor and the Petroleum Authority of Thailand's centers at Mabtaput and Chonburi. The meeting was attended by official representatives of the Executive Committee and the following AITAA Chapters: Hong Kong/Macao, Indonesia, Japan, Korea, Malaysia, Pakistan, Republic of China and Thailand.





H.E. General Prem Tinasulanonda, who was awarded an Honorary Doctorate Degree of Technology in 1982, has graciously accepted honorary membership of AITAA.

The major results of the meeting are as follows:

- Progress reports of the AITAA Chapters' activities in the period April 1981 to April 1982 were made.
- (2) The AITAA President's policies of increasing the number of active members of the Association and the number and types of chapters' activities and of increasing the alumni's beneficial contributions to the Institute, were accepted.
 (3) The dates for the annual Governing Board meeting
- (3) The dates for the annual Governing Board meeting will be changed, so that it can be held a few weeks prior to the AIT Board of Trustees meeting which is usually scheduled in January.
- (4) Each alumni chapter shall in their own ways make efforts to contact their own government, the private sector and other potential donors for support to AIT and shall report back to the next meeting.
- (5) It was agreed that alumni should not preclude themselves from assisting AIT in interviewing candidates to AIT.

- (6) Honorary memberships to AITAA have been offered and accepted by the following:
- Dr. Soedjatmoko
 Rector of the United Nations University
- H.E. General Prem Tinasulanonda Prime Minister of Thailand

1983 GOVERNING BOARD MEETING

AITAA — THAILAND Chapter will host the next Governing Board Meeting which is scheduled for January 14—15, 1983. This is in keeping with the Governing Boards' decision to conduct its meetings a few weeks before the AIT Board of Trustees Meeting which will take place later in January.

ABBREVIATIONS

AGID Association of Geoscientists for International Development

BIE Bouwcentrum International Education CDG Carl Duisberg Gesellchaft e.V. Germany CDS Centre de Documentation Siderurgique CIDA Canadian International Development Agency

CCOP Committee for Co-ordination of Joint Prospecting for Mineral Resources in Asian Offshore Areas

German Academic Exchange Services

DAAD DSE Deutsche stiftung für Internationale Entwicklung ESCAP Economic and Social Commission for Asia and the Pacific

FAO Food Agricultural Organization

FELDA Federal Land Development Authority, Malaysia Deutsche Gesellschaft für Technische Zurammenarbeit GTZ IAEG International Association of Engineering Geology IBM/AFE IBM World Trade Americas/Far East Corporation

IDA International Development Association IDRC International Development Research Center

ILO International Labour Union ISF AIT, Insured Saving Funds

ISIS International Student Information Service

JSSMFE Japanese International Society of Soil Mechanical and Foundation Engineering

OIS Office of Information Services RSEA Ret-Ser Engineering Agency

UNDP United Nations Development Programme

UNCHS United Nations Center

UNESCO United Nations Educational, Scientific and Cultural Organization

UNIDO United Nations Industrial Development Organization

VPA AIT, Vice President for Administration VPAA AIT, Vice President for Academic Affairs VPD AIT, Vice President for Development

WHO World Health Organization WMO World Meteorological Organization

OPEC Organization of Petroleum Exporting Countries KEIDANREN Federation of Economic Organization of Japan



The Asian Institute of Technology is an international institution of higher learning that engages in instruction and research in engineering, the sciences and allied fields. Its particular focus is the needs of the Asian region both in terms of contributing to the creation of indigenous expertise and identifying appropriate areas of research. Its programs, which are systematically reviewed and adjusted to meet the changing priorities of the region, currently provide:

- Educational opportunities at the master's and doctorate levels
- Opportunities for practising engineers in the region to keep abreast
 of technological developments and their applications to the needs of
 the region through post-graduate diploma courses and short term
 workshops or seminars
- Stimuli for the development of research through the establishment of a major research center within AIT
- A focus for the development of engineering education to meet the unique needs of the region
- Mechanisms for the introduction into the region of the latest relevant developments in technology and for the modification of their application to suit regional needs
- A center for the development of equipment for research and instructional laboratories
- An outstanding library and documentation center to serve the needs of both AIT and the region
- A major computing center, designed and operated to serve AIT and other institutions in the region
- A regional focal point and catalyst for the development of professional activities, including conferences and seminars, and a center for the publication of technical information for the region.

Individuals who wishto have their name added to the mailing list for the Institute's quarterly Review, or information brochures, or who desire information on other aspects of the Institute's activities should contact:

Information Services Officer Asian Institute of Technology G.P.O. Box 2754, Bangkok 10501, Thailand

Telephone: 5239300-09, 5239310-13 5238891-93, 5168321-22

Organizations or institutions interested in sponsoring a program should contact the

Vice President for Development Asian Institute of Technology G.P.O. Box 2754, Bangkok 10501, Thailand

A list of AIT publications and other information is available from:

Director Library & Regional Documentation Center Asian Institute of Technology G.P.O. Box 2754, Bangkok 10501, Thailand

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Prof. Ricardo P. Pama — Vice President for Development
Mr Kenneth R. Long — Vice President for Administration
Mr F. John Stephens — Academic Secretary and Dean of Student Affairs
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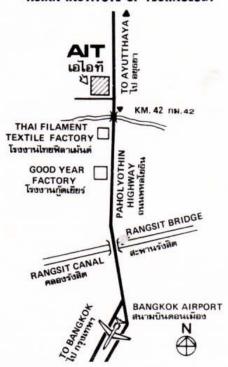
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Dr Kanchit Malaivongs — Division of Computer Applications
Prof. Gerard Y. Saunier — Division of Energy Technology
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Training Center
Prof. Anat Arbhabhirama – Regional Research and Development Center

ASIAN INSTITUTE OF TECHNOLOGY



AIT Annual Report 1982

Prepared by Office of Information Services April 1983



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 Editor

 #irawan Boonsrirochana
 Asst. Editor

 Apichart Ngarmniyom
 Artist

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 P.K. Printing

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Excerpts from 1982 Graduation Addresses



April Generation

The Assan Institute of Technology as a non-political educational institution of international renown is ideally placed to encourage, and nitrate 88-operative research and development programs between the Asim countries. The lightfule also has great potential to unnotine extraor in this exchange of cultural and technological programs."

M.S. Conneal Prices Transplanning Prime Minister of Thulland



August Graduation

"ATT staff is a great experiment in the field of inchinology. Its aims not only to inducate a number of promising, young sugments and scientists for this particular region, but also to have made experiment mayor the influe present somety through a territive and examinent proceedings. The laboratory of this great experiment in Asia finely to the moment, but the philosophy is well applicable with no doubt to the world as large."

Prof. Nobuyaki Fakada, President, University of Turkuba Japan



December Graduation

The Ajam Institute of Fechnology is certainly a point example of his the effort is being made—in what essentially must be a bartiling places to transfer technology to the minds of the people of this region."

Mr. S. A.M.S. Kibria, Executive Secretary of the Economic and Social Commission for Asia and the Pacific



