6－4　教職員の昇格体系および給与レベル

教職員の昇格や給与は明確に体系化され，すべての教職員に公表されている。

また実際にそれにもとづいて昇格や給与の決定が行なわれている。先ず教員の昇格は教育の経験年数と教育および教育業績点で決定される。この場合昇格の申請者は自分自身で学部長に提出しなければならない。学部長は学部内の各学科から１名および部外者１名よりなる昇格審査委員会に審査を委託する。この委員会ではその中から２名および外部から１名の計３名の査読委員を選び，この委員は綿密に申請書や業績内容を査読し，その結果を昇格委員会で報告して委員会全体としての審査結果を出して，学部長に報告し，学部長は，それを学長に報告して最終決定が行なわれる。

昇格に必要な教育経験年数と研究業績は表６－８の通りであり，また研究業績の評価点基準は表６－９に示す。

（表６－８）　昇　格　基　準

職　　名	教育経験年数	研究業績	備　考
Lecturer	－	－	学部卒
Lecturer → Assist Prof.	学士の場合９年 修士の場合５年 博士の場合２年	３０点以上	
Assist.Prof.→ Assoc.Prof	－	５０点以上	
Assoc.Prof.→ Prof.	－	７０点以上	

（表6－9） 教育及び研究業績評価点の基準

業績の内容			評価点
教育	○ 学士を卒業させる。		0 点／1人
	○ 修士 〃		5 〃
	○ 博士 〃		10 〃
研究	論文	○外国雑誌，内外学会誌（査読有）	30 点／1論文
		○国内雑誌，内外学会誌（査読無）	20 〃
	報告・資料	○外国	15 点／1論文
		○国内	7 〃
	著書	○外国で出版（自分の講義で使用しなければならない）	20 点／（1科目，1講義時間）
		○国内で出版	15 〃
	制作	○理論的裏付け（解析），応用性がありかつ公表されていること。	30 点／1作品
		○学生実験用（現カリキュラム上の）	10 〃
		○新しいものでかつ今後に教育に有用と考えられるもの。	20 〃

〔備考〕
1) 連名のある場合は人数で割る。ただしかかわり方によっては，連名者の了解の下で重みをつけてよい。
2) 雑誌は世界的に権威のあるもの。
3) 申請する場合は柱となる業績（たとえば論文がその業績のかなりの部分を占めるように）が必要である。
4) この点数制度は時々見直されなければならない。

一方，給与レベルは表6－10のように等級号化されており，教員については次のようなレベルになっている。なお大学教職員（国家公務員）の給与は民間に比べ半分以下の低さと言われている。

Lecturer	3等級～7 等級
Assist.Prof.	6 ～8
Assoc.Prof.	7 ～9
Prof.	8 ～10

（6－10）教職員給与表

（単位：バーツ）

等級号	1	2	3.	4	5	6	7	8	9	10	11
1	1255	2205	2765	3745	4945	6935	8475	9385	10365	11415	12535
2	1325	2345	2905	3955	5205	7285	8895	9875	10855	11975	13095
3	1395	2485	3115	4165	5465	7635	9385	10365	11415	12535	13695
4	1470	2625	3325	4425	5745	8055	9875	10855	11975	13095	14295
5	1545	2765	3535	4685	6025	8475	10365	11415	12535	13695	14935
6	1620	2905	3745	4945	6305	8895	10855	11975	13095	14295	15575
7	1695	3115	3955	5205	6585	9385	11415	12535	13695	14935	16275
8	1780	3325	4165	5465	6935	9875	11975	13095	14295	15575	16975
9	1865	3535	4425	5745	7285	10365	12535	13695	14935	16275	17745
10	1950	3745	4685	6025	7635	10855	13095	14295	15575	16975	
11	2065	3955	4945	6305	8055	11415					
12	2205	4165	5205	6585	8475	11975					
13	2345	4425	5465	6935	8895	12535					
14	2485	4685	5745	7285	9385						
15	2625										
16	2765										
17	2905										
18	3115										
19	3325										
20	3535										

6－5　教職員の教育，研究担当比率

教職員の授業担当時間は，基本的には１０時間が基準とされ，それ以外は時間外として手当が支給されることになっている。通常は講義を１～２科目，これに実験，実習卒業研究指導を加えて，１週あたり１０～１２時間が平均的教育担当時間である。但し実際にはこの教育担当時間は，学科間，また一つの学科内でも大きくばらついている。たとえば一年次の共通基礎教育を受けた学生は，二年次に入る時に学科選択をするがそれは学生の希望をそのまま受入れるので，各科とも教員の比率はそれほど変化ないのに学生数は１３５名と２４名のように大きな差がある。学生数の多い学科は授業を分けてやることになるので担当時間が増えることになる。

一方，経済的理由で収入を多く望む教職員は授業を多くもち，他方研究を優先させたい者は授業を余りもたなくても問題にされないので，少ない場合は週２０時間にも達しているが，現在のところ，学内ではこれを平均化するような対策はとられていない。平均授業担当時間を１２時間とし，これに授業準備時間を１２時間加えたものを教員担当時間（計２４時間）とすれば，残りの１６時間／週が研究時間となる。この余り多くない研究時間も従来日本から援助を受けて研究設備のある者あるいは，博士号をとって研究能力のある者は研究に使っているが，多くの教職員は研究活動を行っていない。（一部著作を行っている者もいるが，それも余り多くない。）

6－6　カリキュラムの認定，見直し作業

カリキュラムは学内で作成し（修正も含む），大学省にそれを申請して許可を受けるシステムになっている。

学部のカリキュラムは，時々見直しをしており，また多くの学科が比較的新しいので，カリキュラム自体現状に比較的マッチしており現在のところ特に改定作業はしていない。

但し，カリキュラム内容に見合った教員が学内で養成できていなかったり，外部にも依頼できる講師がいない場合があり，開講できない科目も現状ではいくつかある。

一方大学院について工学部の電気系に修士，博士課程があり，そのカリキュラムは新しくよく出来ている。一方，産業教育学部にも修士課程が設けられており，内容の新しいカリキュラムが組まれている。

なお，KMITLとしては今後，学部の全学科に大学院課程を開設する計画をしているので，今後はそのカリキュラム作成をしていかなければならない。

6－7　学生の応募，入学，卒業等の状況

(1)　1986年度の入学，卒業状況については，次に示すとおりである。

（単位：人）

入　　学		在　学	卒　　業（1985）
Diploma Degree	93	196	155（plus Vocational　48）
Bacheler Degree	1,241	3,974	602
Master Degree	75	167	12
Doctor Degree	4	9	

(2)　学生の応募状況（1986年度）は次に示すとおりである。

（単位：人）

KMITL	定　員	第１志望	第２志望
Biotechnology	21	3	7
Telecom. Elec. Computer, Control. Electronics	300	711	1,018
Mechanical	30	45	89
Construction	30	21	40
Com. Arts	25	28	49

(3)　その他の学科は省略，概してまだ低い状況である。比較として，チュラ大工学部の場合，定員443名，第１志望者が3,838名，第２志望者が784名である。

KMITL工学部では，上の360名の定員のほかに独自の試験で100名の者をとっている。

6－8　奨学金制度及びそのプロセス

政府から，または企業からの寄付による奨学金は学資に困っている学生のため約400名分，トータル950,000バーツがあたえられている。

また，学生の約10％，約260名が授業料を免除されている。（1学年1,500バーツ）

6－9　就職斡旋の現況

卒業生の就職はかなりの部分は個人で会社をまわっている。しかし大学への求人も増えて

きており，随時掲示板に貼り出して，それを見た学生が応募するケースも増えてている。

日本のような，一定の就職試験時期というものはないが，卒業年の１月がやはり一番多い。就職が決まる時はもちろん成績証明書や卒業証明書が必要である。

KMITLの調査によれば，タイにおける大学卒業生の数は3,000人／年で非常に少ないので就職の分野は広いとしている。そして以下のようにKMITLの就職率は９０％以上で，他の大学に比べて非常に高い。就職率は次に示すとおりである。

年度	1981	1982	1983	1984	1985
工学部 卒業者数(人)	146	160	219	208	281
就職率(5ケ月後)	98%	97%	98%	93%	100%
建築学部 卒業者数(人)	72	87	108	92	104
就職率(5ケ月後)	100%	90%	97%	94%	94%
工業教育学部 卒業者数(人)	55	64	64	66	135
就職率(5ケ月後)	95%	92%	95%	76%	96%
農学部 卒業者数(人)	68	52	76	75	94
就職率(5ケ月後)	82%	79%	93%	51%	89%
KMITL 平均就職率	94%				
全大学平均就職率	81.4%				

≪ 付　属　資　料 ≫

1. 要 請 書

大使	主席経済
参事官	
一等書記官	
二等書記官	JICA

DEPARTMENT OF TECHNICAL AND ECONOMIC COOPERATION
Krung Kasem Road, Bangkok, Thailand
Cable: DTEC.
TEL. 817555

URGENT
No.1702.3/[illegible]

The Department of Technical and Economic Cooperation presents its compliments to the Embassy of Japan and, with reference to the Department's note No. 1702.3/34492 dated December 13, 1985 concerning the list of Technical Assistance and Grant Aid Projects, has the honour to submit herewith the list of additional projects for the Embassy's consideration.

The Department of Technical and Economic Cooperation avails itself of this opportunity to renew to the Embassy the assurances of its highest consideration.

DEPARTMENT OF TECHNICAL AND ECONOMIC COOPERATION

February [illegible], B.E. 2529 (1986)

Encls.

The Embassy of Japan,
Bangkok.

DEC-I/Japan Sub-Division
Tel. 2812747

New Request Project List

Thailand-Japan Economic and Technical Cooperation

Plan Cooperation Programme to Support Economic and Social Development under the Six Plan

1. National Resources Development and Environmental Management Programme

Technical Assistance	Implementing Agencies
(1) Development of Environment Engineering Department and Northen Enviornmental Research Center	Chiang Mai University
(2) The National Institute of Biomass Industry	Kosetsart University National Energy Administration Forest Industry Organization

2. Rural Development Programme

Grant Aid	
(1) Construction of Nong Harn and Lam Dom Yai Rubber Dam	Royal Irrigation Dept.
(2) Micro-hydro Generation Royal for Rural Development	Provincial Electricity Authority

3. Urban and Specific Zones Development Programme

Grant Aid	
(1) Traffic Development for Chiang Mai and Traffic Engineering Center for Urban Cities in Chiang Mai	Department of Public Works

Development Survey	Implementing Agencies
(1) Master Plans and Feasibility Study of Water Supply Systems for Six Provincial Towns (Prachatipat, Patum Thani, Takua Pa, Phang Nga, Thung Song and Su Ngai Golok)	Provincial Waterworks Authority

4. Science and Technology Development Programme

Technical Assistance

Strengthening of Education in Technology of King Mongkut's Institute of Technology Ladkrabang	KMIT. Ladkrabang Campus
Plans for Development of the Joint Doctoral Programme in Engineering	Ministry of University Affairs
Thailand's need for a Research-Grade Telescope	Chulalongkorn University

REQUEST FOR TECHNICAL ASSISTANCE PROJECT

Project Title	:	Strengthening of Education in Technology of King Mongkut's Institute of Technology Ladkrabang
Requesting Agency	:	King Mongkut's Institute of Technology Ladkrabang
Proposed Source of Assistance	:	The Government of Japan

1. Background Information

King Mongkut's Institute of Technology Ladkrabang (KMITL) was started originally in 1960 as the Training Centre in Telecommunications at Nondhaburi. It has then been developed step by step until it has now become a fully autonomous university devoted to science and technology.

It received technical cooperation from the Government of Japan in the field of telecommunications for development of a technician training programme from the establishment in 1960 until 1964. After that there was a follow-up programme in the same field until 1977. From 1978 to 1982 the technical cooperation from the Government of Japan was in the fields of solid-state electronics, data-processing and high-tension electrical engineeri

In addition to technical cooperation, the Government of Japan also gave grant aids in 1974 for construction of auditorium, gymnasium, library, memorial hall and a telecommunications laboratory building, and in 1984 for general classroom buildings which are still under construction.

In response to the demand of qualified human resources in technology for economic and social development of Thailand, KMITL has developed educational activities into various fields of technology as shown in Table

Table 1 Activities of KNITL in 1985

Faculty	Field	Level of Educational Programme		
		Bachelor	Master	Doctor
1. Engineering	1.1 Telecommunications*	✓	✓	✓
	1.2 Electronics**	✓	✓	✓
	1.3 Computer**	✓	✓	✓
	1.4 Electrical Engineering**	✓	✓	✓
	1.5 Control Engineering	✓	✓	✓
	1.6 Mechanical Engineering	✓	-	-
	1.7 Industrial Instrumentation	✓	-	-
	1.8 Television Technology	✓	-	-
2. Architecture	2.1 Architecture	✓	✓	-
	2.2 Interior Decoration	✓	-	-
	2.3 Industrial Design	✓	-	-
	2.4 Communication Arts	✓	-	-
	2.5 Construction Technology	✓	-	-
3. Industrial Education and Science	3.1 Industrial Education	✓	✓	-
	3.2 Mathematics	✓	-	-
	3.3 Applied Physics	✓	-	-
	3.4 Industrial Chemistry	✓	-	-
	3.5 Applied Biology	✓	-	-
	3.6 Applied Statistics	✓	-	-
4. Agricultural Technology	4.1 Agricultural Techniques	✓	-	-
	4.2 Plant Production Technology	✓	-	-
	4.3 Animal Production Technology	✓	-	-
	4.4 Agricultural Engineering	✓	-	-
	4.5 Agricultural Industry	✓	-	-
	4.6 Agricultural Business Administration	✓	-	-
5. Computer Research and Service Centre**				

Notes * Technical cooperation from the Government of Japan (1960-1964, the follow-up from 1965-1977)

** Technical cooperation from the Government of Japan (1978-1982)

Although among various educational and research activities of KMITL the technical cooperation from Japan was given only in the fields of telecommunications (1960-1964, the follow-up from 1965-1977), solid-state electronics, data-processing and electrical engineering (1978-1982), the grant-aids cooperation for construction of basic facilities and classrooms has contributed to the build-up of academic atmosphere and to the progress of the whole Institute.

Throughout the twenty-five years of step by step development KMITL has accumulated certain experiences, essential academic foundations as well as basic facilities that can facilitate expansion into a meaningful university of technology. In the coming Sixth National Development Plan (1987-1991), KMITL is going to extend activities into areas of science and technology that have national priority for industrial and economic development as shown in Table 2.

Table 2 Programmes of KMITL in the Sixth National Development Plan (1987-1991)

Faculty	Field
1. Engineering (Information Technology)	1.1 Telecommunications 1.2 Electronics 1.3 Computer 1.4 Electrical Engineering 1.5 Control Engineering
2. Heavy Engineering	2.1 Mechanical Engineering 2.2 Civil Engineering 2.3 Metallurgical Engineering 2.4 Industrial Engineering 2.5 Aeronautical Engineering 2.6 Geological and Mining Engineering
3. Science	3.1 Mathematics 3.2 Applied Physics 3.3 Industrial Chemistry 3.4 Biotechnology 3.5 Applied Statistics
4. Architecture	4.1 Architecture 4.2 Interior Decoration 4.3 Furniture Design 4.4 Urban Planning
5. Product Design and Communication Arts	5.1 Industrial Product Design 5.2 Handicraft Product Design 5.3 Packaging Design 5.4 Graphic Design 5.5 Communication Arts
6. Industrial Technology	6.1 Industrial Instrumentation 6.2 Industrial Electronics 6.3 Computer Technology 6.4 Telecommunications Technology 6.5 Industrial Electrical Technology
7. Agricultural Technology	7.1 Agricultural Techniques 7.2 Plant Production Technology 7.3 Animal Production Technology 7.4 Agricultural Industry 7.5 Agricultural Engineering 7.6 Agricultural Business Administration
8. Industrial Education (Technical Teachers Training)	8.1 Industrial Education in Engineering 8.2 Industrial Education in Architecture 8.3 Industrial Education in Agriculture
9. Computer Research and Service Centre	

As technology is making rapid progress and to ensure successful development of education in technology, it is necessary to have cooperation from developed countries, especially in staff development and in some essential equipment. KMITL therefore wishes to request technical cooperation from the Government of Japan or other donor countries and agencies in the following fields during the Sixth National Development Plan (1987-1991).

Programme 1 Information Technology with emphasis on digital and optical techniques in modern Telecommunications, Broadcasting, Electronics, Computer, Electrical and Control Engineering.

Programme 2 Heavy Engineering with emphasis on Mechanical, Civil, Aeronautical and Metallurgical Engineering as well as Geological and Mining Engineering.

Programme 3 Applied Science with emphasis on Industrial Chemistry, Applied Physics and Biotechnology.

Programme 4 Industrial Product Design and Communication Arts.

Programme 5 Agricultural Technology.

Programme 6 Specialized Technology.

The details of the request for technical cooperation for each programme are as follows.

2. Details of the Project

2.1 Programme 1 INFORMATION TECHNOLOGY

2.1.1 Programme Goal and Objectives

(1) To develop education, research and development in the following fields related to information technology :

a) Telecommunications and Broadcasting

b) Electronics Engineering

c) Computer Engineering

d) Electrical Engineering

e) Control Engineering.

(2) To develop graduate programmes in these fields so that there will be a self-reliant programme for staff development in the future as well as meaningful contributions to the industrial development.

(3. To develop into a technical centre in these fields that can provide consulting services to industry and related agencies. It will be a centre of technology transfer and dissemination of information technology for national economic and social development.

2.1.2 End of Programme Status

(1) The programme will produce qualified engineers to promote industrial development in the fields of information technology which become increasingly important for national economic development.

(2) The programme will establish sustaining research and development activities in the fields of information technology which will be greatly valuable for national development of telecommunications and information infrastructure and industry.

(3) The programme will establish high standard graduate programmes for a self-reliant programme of engineering staff development in Thailand.

2.1.3 Duration of the Programme

The duration of cooperation is proposed for 5 years from 1987 to 1991.

2.1.4 Programme Site

King Mongkut's Institute of Technology Ladkrabang
Bangkok 10520, Thailand

2.1.5 Assistance Requested

The request of assistance is in the following forms :

(a) Fellowships for staff development and recruitment.

(b) Equipment for educational activities and promotion of research and development.

(c) Experts to develop Thai counterparts and to initiate activitivies together so that technology transfer can be efficiently made and well established.

(d) Research fund to promote research and development for sustaining activities.

(a) Fellowships

(1) Fellowships for further study and research training in Japan of existing and recruited staff, possibly for Ph.D. degrees, in the proposed fields during 1987-1991 are requested for 20 persons with 800 man-months.

(2) Justification for request of fellowships is as follows:

(i) In the fields of engineering with much lower salaries in a university compared with those in industry, it is nearly impossible to recruit voluntary applicants as teaching staff. The only way to secure teaching staff in these fields is to award fellowships to new graduates for further study abroad under a bond of working, upon their return, for at least twice the period of time of being awarded the fellowships.

(ii) To develop qualified staff for sustaining educational and research activities, and also a self-reliant staff development programme

b) Equipment

(1) Equipment is requested for development of educational and research activities in the fields of Telecommunications, Broadcasting, Electronics, Computer, Electrical and Control Engineering for 1.50 million US dollars with details as follows:

(i) Training and research equipment in modern Telecommunications	US $ 0.20 million
(ii) Training and research equipment in modern Broadcasting Technology	US $ 0.20 million
(iii) Training and research equipment in Computer	US $ 0.50 million
(iv) Training and research equipment in Control Engineering	US $ 0.20 million
(v) Training and research equipment in Electronics Engineering	US $ 0.20 million
(vi) Training and research equipment in Electrical Engineering (Power systems and electrical machineries)	US $ 0.20 million
Total	US $ 1.50 million

(2) Justification for request of equipment is as follows:

(i) To provide equipment for teaching and research laboratories in the proposed fields.

(ii) With rapid advances in telecommunications technology, it is necessary to have relevant equipment for maintaining training and development of man-power for national economic development abreast with the technological progress.

c) Experts

(1) Experts are requested to work with Thai counterparts in development of activities and building-up of research and development capability in the related fields. They will also promote development of the programme through establishment of channels for information flow for technology transfer from Japan. The number of experts is requested for 5 fields with 240 man-months as follows:

Field of Expert	1987	1988	1989	1990	1991
1) Telecommunication & Broadcasting Eng.					
2) Computer Eng.					
3) Electronics Eng.					
4) Electrical Eng.					
5) Control Eng.					

(2) Justification for request of experts is as follows:

(i) To have Thai counterparts working with the experts in building up facilities, experiences and potential in education and related fields of technology at KMITL under local environments in Thailand.

(ii) With experts, training of Thai counterparts can be made locally under actual environments which will promote self-development after the programme.

(d) Research Fund

In order to promote research and development activities at the initial stage of the programme, it is necessary to have some fund for supporting research and development work. A research fund from the Japanese cooperation as a supplement of the Thai budget will ensure the success of the implementation of the project. The requested research fund with the Japanese cooperation in these fields is 0.2 million US dollars per year. The total amount for five years is 1 million US dollars.

2.2 Programme 2 HEAVY ENGINEERING

2.2.1 Programme Goal and Objectives

(1) To develop education, research and development in the following fields of heavy engineering:

a) Mechanical Engineering

b) Civil Engineering

c) Metallurgical Engineering

d) Aeronautical Engineering

and e) Geological and Mining Engineering.

(2) To develop graduate programmes in these fields so that there will be a self-reliant programme for staff development in the future as well as meaningful contributions to the industrial development.

(3) To develop into a technical centre in these fields that can provide consulting services to industry and related agencies. It will be a centre of technology transfer and dissemination of technology for national economic and social development.

2.2.2 End of Programme Status

(1) The programme will produce qualified engineers in the fields of heavy engineering which are in shortage for industrial development.

(2) The programme will establish sustaining educational and research activities in the fields of heavy engineering which will be greatly valuable for development of national industrial infrastructure.

(3) The programme will establish high standard graduate programmes for a self-reliant programme of engineering staff development in Thailand.

2.2.3 Duration of the Programme

The duration of cooperation is proposed for 5 years from 1987 to 1991.

2.2.4 Programme Site

King Mongkut's Institute of Technology Ladkrabang Bangkok 10520, Thailand.

2.2.5 Assistance Requested

The request of assistance is in the following forms:

(a) Fellowships for staff development and recruitment.

(b) Equipment for educational and research activities.

(c) Experts to develop Thai counterparts and to initiate activities together so that technology transfer can be efficiently made and well established.

(d) Research fund to promote research and development for sustaining activities.

(a) Fellowships

(i) Fellowships for further study and research training of existing and recruited staff, possibly for Master and Ph.D. degrees, in the proposed fields during 1987-1991 are requested for 20 persons with 800 man-months.

(ii) Justification for request of fellowships is as follows:

(i) In the fields of engineering with much lower salaries in a university compared with those in industry, it is nearly impossible to recruit voluntary applicants as teaching staff. The only way to secure teaching staff in these fields is to award fellowships to new graduates for further study abroad under a bond of working, upon their return, for at least twice the period of time of being awarded the fellowships.

(ii) To develop qualified staff for sustaining educational and research activities, and also a self-reliant staff development programmes in the future.

(b) Equipment

(1) Equipment is requested for development of educational and research activities in the fields of Mechanical Engineering, Civil Engineering, Metallurgical Engineering, Aeronautical Engineering and Geological and Mining Engineering for 1.00 million US dollars with details as follows :

(i) Educational and research equipment in Mechanical Engineering	US $ 0.20 million
(ii) Educational and research equipment in Civil Engineering	US $ 0.20 million
(iii) Educational and research equipment in Metallurgical Engineering	US $ 0.20 million
(iv) Educational and research equipment in Aeronautical Engineering	US $ 0.20 million
(v) Educational and research equipment in Geological and Mining Engineering	US $ 0.20 million
Total	US $ 1.00 million

(2) Justification for request of equipment is as follows:

(i) To provide equipment for teaching and research laboratories in the proposed fields.

(ii) Among these five fields, Mechanical Engineering and Civil Engineering have been initially developed by KMITL without any assistance from donor countries. It is necessary to strengthen educational and research capability of these departments with some essential educational and research equipment.

(iii) Metallurgical Engineering, Aeronautical Engineering and Geological and Mining Engineering are the new fields to be developed in the Sixth National Development Plan (1987-1991). Educational and research equipment is requested for establishing these new departments.

(c) Experts

(1) Experts are requested to work with Thai counterparts in development of activities and building-up of educational and research capability in the related fields. The number of experts is requested for 5 fields with 216 man-months as follows:

Field of Expert	1987	1988	1989	1990	1991
1) Mechanical Engineering					
2) Civil Engineering					
3) Metallurgy Engineering					
4) Aeronautical Engineering					
5) Geological and Mining Engineering					

(2) Justification for request of experts is as follows:

(i) To have Thai counterparts working with the experts in building up facilities, experiences and capability in education and research in these fields of technology at KMITL.

(ii) With experts, training of Thai counterparts can be made locally under actual environments which will promote self-development after the programme.

(d) Research Fund

In order to be self-reliant in staff development, it is necessary to promote research and development activities. To ensure the active research work, a research fund supplementary to the Thai budget is requested for these five fields for 0.5 million US dollars in five years.

2.3 Programme 3 APPLIED SCIENCE

2.3.1 Programme Goal and Objectives

(1) To develop education, research and development in the following fields of applied science:

a) Industrial Chemistry

b) Applied Physics

c) Biotechnology.

(2) To develop graduate programmes in these fields so that there will be a self-reliant programme for staff development in the future as well as meaningful contributions to the industrial development.

(3) To develop into a technical centre in these fields that can provide consulting services to industry and related agencies. It will be a centre of technology for national economic and social development.

2.3.2 End of Programme Status

(1) The programme will produce qualified scientists in the fields of applied science which are in shortage for industrial development.

(2) The programme will establish a sustaining educational and research activities in the fields of applied science which will be greatly valuable for development of national industrial infrastructure.

(3) The programme will establish high standard graduate programmes for a self-reliant programme of staff development in applied science in Thailand.

2.3.3 Duration of the Programme

The duration of cooperation is proposed for 5 years from 1987-1991.

2.3.4 Programme Site

King Mongkut's Institute of Technology Ladkrabang
Bangkok 10520, Thailand.

2.3.5 Assistance Requested

The request of assistance is in the following forms:

(a) Fellowships for staff development and recruitment.

(b) Equipment for educational and research activities.

(c) Experts to develop Thai counterparts and to initiate activities together so that technology transfer can be efficiently made and well established.

(d) Research fund to promote research and development for sustaining activities.

(a) Fellowships

(1) Fellowships for further study and research training of existing and recruited staff, possibly for Ph.D. degrees, in the proposed fields during 1987-1991 are requested for 12 persons with 480 man-months.

(2) Justification for request of fellowships is as follows:

(i) In the fields of applied science with lower salaries in a university compared with those in industry, it is not always easy to recruit voluntary applicants as teaching staff. One good way to secure teaching staff in these fields is to award fellowships to new graduates for further study abroad under a bond of worki upon their return, for at least twice the period of time of being awarded the fellowship.

(ii) To develop qualified staff for sustaining educational and research activities, and also a self-reliant staff development programme in the future.

(b) Equipment

(1) Equipment is requested for development of educational and research activities in the fields of Industrial Chemistry, Applied Physics, and Biotechnology for 600,000 US dollars with details as follows:

(i) Educational and research equipment in Industrial Chemistry	US $ 200,000
(ii) Educational and research equipment in Applied Physics	US $ 200,000
(iii) Educational and research equipment in Biotechnology	US $ 200,000
Total	US $ 600,000

(2) Justification for request of equipment is as follows:

(i) To provide equipment for teaching and research laboratories in the proposed fields.

(ii) All these three fields have been developed from the beginning without any assistance from donor countries. It is necessary to strengthen educational and research capability of these departments with some essential educational and research equipment.

(c) Experts

(1) Experts are requested to work with Thai counterparts in development of activities and building-up of educational and research capability in the related fields. The number of experts is requested for 3 fields with 180 man-months as follows:

Field of Expert	1987	1988	1989	1990	1991
1) Industrial Chemistry					
2) Applied Physics					
3) Biotechnology					

(2) Justification for request of experts is as follows:

(i) To have Thai counterparts working with the experts in building up facilities, experiences and capability in education and research in these fields of applied science at KMITT.

(ii) With experts, training of Thai counterparts can be made locally under actual environments which will promote self-development after the programme.

(d) Research Fund

In order to be self-reliant in staff development, it is necessary to promote research and development activities. To ensure the active research work, a research fund supplementary to the Thai budget is requested for these three fields for 300,000 US dollars in five years.

2.4 Programme 4 INDUSTRIAL PRODUCT DESIGN AND COMMUNICATION ARTS

2.4.1 Programme Goal and Objectives

(1) To develop education in the fields of

a) Industrial Product Design

b) Communication Arts.

(2) To strengthen undergraduate programmes in these fields so that there will be contributions to the industrial development.

(3) To develop into a technical centre in these fields that can provide consulting services to industry and related agencies. It will be a centre of technology transfer and dissemination of technology for national economic and social development.

2.4.2 End of Programme Status

(1) The programme will produce qualified graduates in the fields of industrial product design and communication arts which are in shortage for industrial development.

(2) The programme will establish sustaining educational activities in the fields of industrial product design and communication arts which will be greatly valuable for development of national industrial infrastructure.

(3) The programme will establish high standard undergraduate programmes in the proposed fields in Thailand.

2.4.3 Duration of the Programme

The duration of cooperation is proposed for 5 years from 1987-1991.

2.4.4 Programme Site

King Mongkut's Institute of Technology Ladkrabang
Bangkok 10520, Thailand.

2.4.5 Assistance Requested

The request of assistance is in the following forms:

(a) Fellowships for staff development and recruitment.

(b) Equipment for educational and research activities.

(c) Experts to develop Thai counterparts and to initiate activities together so that technology transfer can be efficiently made and well established.

(d) Research fund to promote research and development for sustaining activities.

(a) Fellowships

(1) Fellowships for further study and research training of existing and recruited staff, possibly for Master and Ph.D. degrees, in the proposed fields during 1987-1991 are requested for 8 persons with 320 man-months.

(2) Justification for request of fellowships is as follows:

(i) In the fields of industrial product design and communication arts with lower salaries in a university compared with those in industry, it is not always easy to recruit voluntary applicants as teaching staff. One good way to secure teaching staff in these fields is to award fellowships to new graduates for further study abroad under a bond of working, upon their return, for at least twice

(ii) To develop qualified staff for sustaining educational and research activities, and also a self-reliant staff development programme in the future.

(b) Equipment

(1) Equipment is requested for development of educational and research activites in the fields of Industrial Product Design and Communication Arts for 400,000 US dollars with details as follows:

(i) Educational and some research equipment in Industrial Product Design	US $ 200,000
(ii) Educational and some research equipment in Communication Arts	US $ 200,000
Total	US $ 400,000

(2) Justification for request of equipment is as follows:

(i) To provide equipment for teaching and research laboratories and workshops in the proposed fields.

(ii) Both of these fields have been developed from the beginning without any assistance from donor countries. It is necessary to strengthen educational and research capability of these departments with some essential educational and research equipment.

(c) Experts

(1) Experts are requested to work with Thai counterparts in development of activities and building-up of educational and research capability in the related fields. The number of experts is requested for both fields with 120 man-months as follows:

Field of Expert	1987	1988	1989	1990	1991
1) Industrial Product Design					
2) Communication Arts					

(2) Justification for request of experts is as follows:

(i) To have Thai counterparts working with the experts in building up facilities, experiences and capability in education and research in the proposed fields at INTTI.

(ii) With experts, training of Thai counterparts can be made locally under actual environments which will promote self-development after the programme.

(d) Research Fund

In order to be self-reliant in staff development, it is necessary to promote research and development activities. To ensure the active research work, a research fund supplementary to the Thai budget is requested for these two fields for 100,000 US [illegible] in five years.

2.5 Programme 5 AGRICULTURAL TECHNOLOGY

2.5.1 Programme Goal and Objectives

(1) To develop education, research and development in the following fields of agricultural technology:

a) Post-harvest Technology

b) Agro-industry

c) Farm Machinery.

(2) To develop graduate programmes in these fields so that there will be a self-reliant programme for staff development in the future as well as meaningful contributions to the industrial development.

(3) To develop into a technical centre in these fields that can provide consulting services to industry and related agencies. It will be a centre of technology transfer and dissemination of technology for national economic and social development.

2.5.2 End of Programme Status

(1) The programme will produce qualified graduates in the fields of agricultural technology which are in great demand for agricultural and industrial development.

(2) The programme will establish sustaining educational and research activities in the fields of agricultural technology which will be greatly valuable for development of national agricultural and industrial infrastructure.

(3) The programme will establish high standard graduate programmes for a self-reliant programme of staff development in agricultural technology in Thailand.

2.5.3 Duration of the Programme

The duration of cooperation is proposed for 5 years from 1987-1991.

2.5.4 Programme Site

King Mongkut's Institute of Technology Ladkrabang
Bangkok 10520, Thailand.

2.5.5 Assistance Requested

The request of assistance is in the following forms:

(a) Fellowships for staff development and recruitment.

(b) Equipment for educational and research activities.

(c) Experts to develop Thai counterparts and to initiate activities together so that technology transfer can be efficiently made and well established.

(d) Research fund to promote research and development for sustaining activities.

(a) Fellowships

(1) Fellowships for further study and research training of existing and recruited staff, possibly for Master and Ph.D. degrees, in the proposed fields during 1987-1991 are requested for 12 persons with 480 man-months.

(2) Justification for request of fellowships is as follows:

(i) In the fields of agricultural technology with lower salaries in a university compared with those in agricultural industry, it is not always easy to recruit voluntary applicants as teachnig staff.

One good way to secure teaching staff in these fields is to award fellowships to new graduates for further study abroad under a bond of working, upon their return, for at least twice the period of time of being awarded the fellowships.

(ii) To develop qualified staff for sustaining educational and research activities, and also a self-reliant staff development programme in the future.

(b) Equipment

(i) Equipment is requested for development of educational and research activities in the fields of Post-harvest Technology, Agro-industry, and Farm Machinery for 600,000 US dollars with details as follows:

(i) Educational and research equipment in Post-harvest Technology	US $ 200,000
(ii) Educational and research equipment in Agro-industry	US $ 200,000
(iii) Educational and research equipment in Farm Machinery	US $ 200,000
Total	US $ 600,000

(2) Justification for request of equipment is as follows:

(i) To provide equipment for teaching and research laboratories in the proposed fields.

(ii) All these three fields have been developed from the beginning without any assistance from donor countries. It is necessary to strengthen educational and research capability of these departments with some essential educational and research equipment.

(c) Experts

(1) Experts are requested to work with Thai counterparts in development of activities and building-up of educational and research capability in the related fields. The number of experts is requested for 3 fields with 180 man-months as follows:

Field of Expert	1987	1988	1989	1990	1991
1) Post-harvest Technology					
2) Agro-industry					
3) Farm Machinery					

(2) Justification for request of experts is as follows:

(i) To have Thai counterparts working with the experts in building up facilities, experiences and capability in education and research in these fields of agricultural technology at KMITL.

(ii) With experts, training of Thai counterparts can be made locally under actual environments which will promote self-development after the assignment.

(d) Research Fund

In order to be self-reliant in staff development, it is necessary to promote research and development activities. To ensure the active research work, a research fund supplementary to the Thai budget is requested for these three fields for 300,000 US dollars in five years.

2.6 Programme 6 SPECIALISED TECHNOLOGY

2.6.1 Programme Goal and Objectives

(1) To develop education, research and development in the following specialised technology :

a) Satellite (Airborne) Image Processing

b) Biomedical Image Processing.

(2) To develop graduate programmes in these fields so that there will be a self-reliant programme for staff development in the future as well as meaningful contributions to the industrial development.

(3) To develop into a technical centre in these fields that can provide consulting services to industry and related agencies. It will be a centre of technology transfer and dissemination of information technology for national economic and social development.

2.6.2 End of Programme Status

(1) The programme will produce technical products, both software and hardware equipment, that can be produced in Thailand.

(2) The programme will produce qualified engineers to promote industrial development in the fields of specialised technology which become increasingly important for national economic development.

(3) The programme will establish sustaining research and development activities in the fields of specialised technology which will be greatly valuable for national development of telecommunications and information infrastructure.

(4) The programme will establish high standard graduate programmes for a self-reliant programme of engineering staff development in Thailand.

2.6.3 Duration of the Programme

The duration of cooperation is proposed for 5 years from 1987 to 1991.

2.6.4 Programme Site

King Mongkut's Institute of Technology Ladkrabang
Bangkok 10520, Thailand.

2.6.5 Assistance Requested

The request of assistance is in the following forms:

(a) Fellowships for staff development and recruitment.

(b) Equipment for educational activities and promotion of research and development.

(c) Experts to develop Thai counterparts and to initiate activities together so that technology transfer can be efficiently made and well established.

(d) Research fund to promote research and development for sustaining activities.

(a) Fellowships

(1) Fellowships for further study and research training in Japan of existing and recruited staff, possibly for Ph.D. degrees, in the proposed fields during 1987-1991 are requested for 5 persons with 200 man-months.

(2) Justification for request of fellowships is as follows :

(i) In the fields of engineering with much lower salaries in a unidversity compared with those in industry, it is nearly impossible to recruit voluntary applicants as teaching staff. The only way to secure teaching staff in these fields is to award fellowships to new graduates for further study abroad under a bond of working, upon their return, for at least twice the period of time of being awarded the fellowships.

(ii) To develop qualified staff for sustaining educational and research activities, and also a self-reliant staff development programme in the future.

(b) Equipment

(1) Equipment is requested for development of educational and research activities in the fields of specialised technology as follows :

(i) Training and research equipment in Satellite Image Processing US $ 0.25 million

(ii) Training and research equipment in Biomedical Image Processing US $ 0.25 million

Total US $ 0.50 million

(2) Justification for request of equipment is as follows :

(i) To provide equipment for teaching and research laboratories in the proposed fields.

(ii) To provide equipment that can be integrated with KMITL know-how into a ready-made prototype.

(iii) With rapid advances in image processing technology, it is necessary to have relevant equipment for maintaining training and development of man-power for national economic development abreast with the technological progress.

(c) Experts

(1) Experts are requested to work with Thai counterparts in development of activities and building-up of research and development capability in the related fields. They will also promote development of the programme through establishment of channels for information flow for technology transfer from Japan. The number of experts is requested for 60 man-months.

(2) Justification for request of experts is as follows

(i) To have Thai counterparts working with the experts in building up facilities, experiences and potential in education and research in the related fields of technology at KMITL under local environments in Thailand.

(ii) With experts, training of Thai counterparts can be made locally under actual environments which will promote self-development after the programme.

(d) Research Fund

In order to promote research and development activities at the initial stage of the programme, it is necessary to have some fund for supporting research and development work. A research fund from the Japanese cooperation as a supplement of the Thai budget will ensure the success of the project. The requested research fund with the Japanese cooperation in these fields is 0.2 million US dollars per year.
The total amount for five years is 1 million US dollars.

3. Thai Government Contribution

3.1 Professional Staff

There are already some existing staff. However, more recruits have to be made and the number of fellowships requested during 1987-1991 is given for each of the six programmes.

3.2 Operating Fund

The Government of Thailand will provide the operating fund throughout the 1987-1991 period.

4. Related Projects

King Mongkut's Institute of Technology Ladkrabang has so far received cooperation from Japan only in the fields related to telecommunication. This project will strengthen the development in these fields and also extend the development into the relevant fields of science and technology.

5. Future Work Plan

After the completion of the project in 1991 KMITL will attain the following standings as a university:

1. Being dedicated to and actively involved in tertiary education in science and technology,
2. Being capable of technology transfer in science and technology to Thailand,
3. Producing qualified and skilled scientists, technologists and engineers in an increasing number that partially satisfies the demand for such personnel from the rapidly growing industry in Thailand,
4. Establishing a stronger tie of university-industry relations,
5. Strengthening itself as a centre of academic excellence.

These standings will enable the Institute to make even more significant contributions to the industrial development, the economic progress and the social well-being of Thailand.

Prepared by

Name : Dr. Kosol Petchsuwan

Position : Vice-Rector

King Mongkut's Institute of Technology Ladkrabang

Bangkok 10520, Thailand

Telephone : 3269157, 3269964

Telex : 84967 INSMONG TH

Date : December 1985

2. KMITL 学長からの書簡

สถาบันเทคโนโลยีพระจอมเกล้า, เจ้าคุณทหารลาดกระบัง ลาดกระบัง กรุงเทพฯ ๑๐๕๒๐
KING MONGKUT'S INSTITUTE OF TECHNOLOGY LADKRABANG BANGKOK 10520,THAILAND
Tel.3269157, Telex: 84967 INSMONG TH

21 March 1986

To J I C A

Yesterday, I talked to Mr. Ito on the phone about the priority of the fields in our request for technical cooperation from Japan.

I would like to propose them into two categories :

(1) Major cooperation which includes equipment, experts, fellowships and possibly research fund.

(2) Minor cooperation which includes mainly fellowships, and possibly some equipment and one or two experts.

The priority in each category can be listed as follows :

Major Cooperation

1) Telecommunications and Broadcasting
2) Computer
3) Mechanical Engineering
4) Applied Physics (Applied Optics, Laser, etc.)
5) Industrial Product Design (Plastic Products, Packaging, etc.)

Minor Cooperation

1) Civil Engineering (Construction Technology)
2) Communication Arts (Television Programming Techniques-NHK)
3) Control Engineering
4) Electronics
5) Farm Machinery (Post-harvest machinery)
6) Biotechnology (Fermentation)
7) Post-harvest Teachnology (Preservation of Fresh fruits for Export)
8) Electrical Engineering
9) Image Processing

They can also be listed with reference to each programme in our proposal as shown in the attached list.

We hope that the cooperation can cover as many fields as possible, eventhough each field will get only minor cooperation.

I sincerly hope that the list of priority will be helpful for your consideration.

Once again, your kind cooperation is gratefully appreciated.

Yours sincerely,

K. Petch

(Dr.Kosol Petchsuwan)
Rector

cc. Mr. Takeo Ito
First Secretary

Programme	Field	Major * Cooperation	Minor ** Cooperation	Remarks
1	1) Telecommunications Broadcasting	√(1)***		
	2) Computer	√(2)		
	3) Control Engineering		√(3)	
	4) Electronics		√(4)	
	5) Electrical Engineering		√(8)	
2	6) Mechanical Engineering	√(3)		
	7) Civil Engineering		√(1)	Construction Technology
3	8) Applied Physics	√(4)		Applied Optics, Laser
	9) Biotechnology		√(6)	Fermentation
4	10) Industrial Product Design	√(5)		Plastic Products, Packag Ceramic
	11) Communication Arts		√(2)	Television Programming Techniques
5	12) Farm Machinery		√(5)	Post-harvest Machineries
6	13) Post-harvest Technology		√(7)	Preservation of Frech Fruits for Export
	14) Image Processing		√(9)	

Notes : * Major Cooperation includes Equipment
Experts
Fellowships
Research fund (if possible)

** Minor Cooperation includes Fellowship (mainly)
Equipment (some)
Experts (only very few persons)

*** ( ) the number in the brackets shows priority in each category.

3. 質 問 状

QUESTIONNAIRE

February 18, 1987

The following information and data are required to study the feasibility of the technical cooperation, concerning the Strengthening of Education in Technology Project of KMITL (hereinafter referred to as "the Project").

1. Background and Justification of the Proposed Project:

(1) What kind of role does the Project play in the Sixth Five-Year Plan for National Economic and Social Development?

(2) Please describe the necessity and justification for an urgent implementation of the Project.

(3) How is the current budgetary arrangement in Thailand?

(4) Please show the annual budget on the Ministry's basis for the past three years and its details of the Office of University Affairs.

(5) Does the Thai Government take special measures to realize the Project in terms of budget allocation.
If yes, how?

2. Industrial Circumstances and Labour Condition:

(1) How is the present situation on the relevant industries in the proposed field?

(2) How is the current supply and demand for engineers & technicians in the proposed field, and its future forecast?

(3) What kind of role is expected to play in the industry for the graduates of KMITL?

(4) Please describe the recent tendency on place of employment for the graduates of KMITL in the proposed field.

3. Present Education System in Thailand:

(1) Please describe the outline of the whole educational system in Thailand.

(2) Please explain the Thai Government's basic policy on the higher education in Thailand.

(3) What kind of role is expected to play for "Research & Development" in the University's education with respect to industrial links.

(4) Please describe the characteristics of KMITL, in comparison with the Engineering Dept. of the other Universities. (e.g. number of students & teaching staff, curricula, facilities & equipment, etc.)

4. Outline of the Project:

(1) What is the objective of the Project?

(2) Please point out the problems on the education of KMITL in terms of staff development, research & development, facilities & equipment, curricula & textbook, etc.

(3) When were Bachelor's Course, Master's Course and Doctor's Course established in each Faculty?

(4) Please describe the content of curricula & syllabuses in the established courses of the proposed field.

(5) Please describe the most effective schedule for the Project implementation.

(6) If you have any other technical cooperation scheme similar to the Project such as JSPS, please describe the outline.

5. Management System:

(1) Please describe the organization chart & main responsibilities of KMITL management system as a whole and the executive system of the Project.

(2) Please show the annual budget of KMITL by item of expenditure and income for the past three years.

1. - Annual Operating Costs -
   - ° Staff salaries and allowances
   - ° Consumable materials
   - ° Maintenance of buildings & equipment
   - ° Utilities
   - ° Travel
   - ° Others (breakdown if exceeds 10 recent)

   - ° Total

2. - Capital Expenditure -
   - ° Construction
   - ° New equipment & machinery
   - ° Others

   - ° Total

3. - Income -
   - ° Government's Support
   - ° Tuition fee
   - ° Others

   - ° Total

(3) Please describe the appointment plan for the Counterpart Personnel and the details of candidates, if any. (Name, educational background, professional career, research activities, etc.)

(4) Please describe maintenance service system for equipment.

(5) Please point out the problems on the experiment & research facilities and equipment.

(6) Please describe the qualification of educaters in Bachelor's Course, Master's Course and Doctor's Course.

(7) Please point out the problems on experience & qualifications of teaching staff, with respect to theoretical training, practical skill training, training in teaching and industrial experience.

(8) Is there a regular arrangement for teaching staff to be attached to industry for experience?

6. Telecommunications Field:

(1) Which point do you expect to strengthen through the Japanese technical cooperation.

1. Implementation of highly advanced course
2. Research and development
3. Operation of telecommunications such as telephone, telegraph and so on.
4. Others:

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(2) Please give the priority order to the following.

1. Transmission
2. Telephone exchange
3. Outside plant
4. Data telecommunication
5. Others:

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(3) What is the difference in education & training between KMITL and the central training college of TOT and CAT.

7. Broadcasting Field:

(1) Please describe the objectives to establish the Broadcast Engineering Course in accordance with the following:

1. Bachelar degree or Master degree (or in other case, please specify it.)
2. In relation to the purpose of instruction, please give the priority order, if any.
   a) Education for practical knowledges on broadcasting engineering. (fundamental or advanced level?)
   b) Research and Development on broadcasting equipment.
   c) Education for modern electronic engineering and theory such as modern electronic circuits design, digital coding theory, etc.
   d) In other case, please specify it.
3. Please describe the status of Broadcast Engineering Course. (Independent Department?/or integrated to Telecommunication Department?)
4. Please make further comments, if any.

(2) Please describe the outline of Broadcast Engineering Course in accordance with the following:

1. Estimated number of annual graduates / study period / number of teaching staff / speciality of the staff and Japanese expert.
2. Main lecture titles.
3. Main subjects of experiment and practice.
4. Textbook making procedures for lecture and experiment.
5. Ordinary procedures to get the reference books.
6. Desirable research theme.
7. Estimated number and type of jobs in local broadcasting field for the graduates.

8. Computer Field:

(1) Which of the following do you want to strengthen through the Japanese technical cooperation, Computer Engineering Department or Computer Research & Service Center?

(2) How is the present situation on operation & maintenance of ACOS-300?

(3) What is the proportion of CPU time used for researchers, programming exercises and office work?

(4) Please list the types computers, minicomputers and personal computers by Department and/or field in KMITL.

(5) What are the organization chart and its members of Computer Research and Service Center?

(6) Please prepare the block diagram of ACOD-300.

9. Mechanical Engineering Field:

(1) Curriculum

(2) Subjects of mechanical engineering experiment and practice.

(3) Number of staffs, professor, associate professor, lecturer, assistant, engineer, technician and clerical employee.

(4) Subjects of their studies.

(5) Facilities & equipment for education and research work.

(6) Field or subject considered as particularly important for education and research.

10. Others

- Staffing Policies -

(1) What is the weekly teaching duty in hours in the proposed field?

(2) Are the teaching duty hours satisfactory?

(3) Are salaries for teachers equivalent to salaries in industry for comparable qualifications?

(4) Are other conditions equivalent to those in industry?

(5) Is there any scheme for grading the teaching staff, in relation to experience, qualifications and responsibilities, and for monitoring their performance.

- Support Staff -

(6) Please describe number & level of the following staff.

1. Technical support staff for laboratories.
2. Administrative staff
3. Specialist staff, for example, librarians

(7) Are salary level for support personnel adequate to attract those staff?

- Student Flow Rates -

(8) What is entrance qualifications for KMITL?

(9) Please show the following student flow rates.

1. Admission rate
2. Dropout rate
3. Pass/fail rate

(10) Please show enrollment and output by course.

(11) Please describe the scholarship system for student.

(12) What are the criteria to select the students for admission.

- Staff Load -

(13) Please show student-staff ratio, average class size and average teacher workload (hours a week) in the proposed field.

(14) How many teaching & support staff are assigned to each faculty (Professor, Assistant Professor, Lecturer, Assistant, Technician, Support staff, etc.)

- Curriculum & Syllabuses -

(15) Please describe the procedure of preparation and revision & approval of syllabuses.

(16) Are curricula & syllabuses reviewed and revised regularly?

(17) Is industry involved in such reviews?

- Facilities & Equipment -

(18) Please show the average workspace of Classrooms & Laboratories per student (in square meters).

(19) Please show the collection of books and capacity in square meters per student in the Library.

(20) Please describe the present situation on student & staff housing.

(21) Please point out the problems on supplying spare parts of the sophisticated equipment and on procuring consumable materials.

(22) Is equipment utilization regularly monitored?
If yes, how and by whom it is conducted?

11. Data Collection

Necessary data and information are required for the study as follows:

(1) The latest annual report on KMITL's activities.

(2) Organization charts of the central ministry showing relevant key posts and main responsibilities.

(3) Recent report on follow-up of graduates, if available.

(4) The latest statistical yearbook in Thailand, if available.

(5) Population censues in detail.

(6) Education statistics in detail.

(7) Labour and employment statistics in detail.

(8) Layout of Classrooms & Laboratories in the proposed field.

(9) Electric power supply and water supply data as follows:

1. Voltage of single phase and triple phase
2. Range of voltage fluctuation and frequency of blackout
3. Available capacity of electric power
4. Drawing of classroom showing the positions of concent and circuit braker
5. Electric charge
6. Lighting capacity of each classroom
7. Water source and quality
8. Available volume of water supply
9. Suspension of water supply
10. Drawing which shows the position tap and its size
11. Drawing which shows the position of drainage and its size

無償資金協力の概要

1. 案件名

タイ王国モクット王工科大学拡充計画
The Project for
the Expansion of King Mongkut's Institute of Technology
in the Kingdom of Thailand

2. 資金供与年度

昭和59年度	国庫債務負担行為
昭和60年度	国庫債務負担行為
昭和61年度	国庫債務負担行為

3. 交換公文締結日

マスター	1984年(昭和59年)	7月16日
昭和59年度 副	1984年(昭和59年)	7月16日
昭和60年度 副	1985年(昭和60年)	7月10日
昭和61年度 副	1986年(昭和61年)	10月21日

4. 援助額

￥3,690,000,000.-

5. 施主

モンクット王工科大学ラカバン校
King Mongkut's Institute of Technology, Ladkrabang

6. 所在地

タイ王国バンコック市ラカバン地区
Ladkrabang, Bangkok, The Kingdom of Thailand

7. 施設用途

施設用途 - 大学施設

施設内訳 - 本施設は教育機能・管理機能を持ったアカデミックセンターと学生のための寄宿舎より構成されており各施設の内訳は概ね以下の如くである。

アカデミックセンター
Academic Center

1) 中央講義実習棟
Central Lecture Room and Laboratory

- 講義教室(大) Lecture Room (L)	150 席 (最大270席)	x 2 室
- 講義教室(中) Lecture Room (M)	60 席	x 5 室
- 講義教室(小) Lecture Room (S)	30 席	x 40 室
- 電子工学実験室 Electronic Lab.	30 席	x 2 室
- 基礎工学実験室 Basic Engineering Lab.	60 席	x 1 室
- 物理実験室 Physics Lab.	60 席	x 2 室
- 生物実験室 Biology Lab.	40 席	x 2 室
- 基礎制御工学実験室 Machine Control Lab.	30 席	x 1 室
- 化学実験室 Chemistry Lab.	60 席	x 2 室
- 製図実習室 Drawing Room	60 席	x 2 室

2) 情報サービスセンター
Information Service Center

- 教材資料保管室 Document Storage	6 万冊	x 1 室
- 閲覧室 Reading Room	60 席	x 1 室

- 印刷･製本室 1 室
  Printing Room

- 暗室 1 室
  Dark Room

- コンピューター実習室 60 席 x 2 室
  Computer Room

- 語学研修室 30 席 x 2 室
  Language Lab.

- 視聴覚教材製作スタジオ 1 室
  A/V Production Room

- 視聴覚教材製作編集室 1 室
  A/V Editing Room

3) 中央管理棟
   Central Administration

- 学長室 1 室
  Rector Room

- 副学長室 5 室
  Vice Rector Room

- 応接室 1 室
  Reception Room

- 受付、秘書室 1 室
  Secretariat

- 会議室 60 席 x 1 室
  Conference Room

- セミナー室 30 席 x 2 室
  Seminar Room

- 管理事務室 1 室
  Administration Office

4) 学生ホール
Student Hall

- スタッフ食堂 54 席 x 1 室
Staff Dining

- 学生食堂 342 席 x 1 室
Student Dining

- 厨房 1 室
Kitchen

- 売店 1 室
Co-op

- 会議室 1 室
Meeting Room

- 多目的ホール 1 室
Multi Purpose Room

寄宿舎
Dormitory

5) 学生宿舎 x 2 棟
Student Dormitory

- 寮室 2 名用各 25 室
Study and Bed Room

- シャワー・洗面・洗濯室・便所 各 1 室
Shower and Lav.

- 読書室 各 1 室
Reading Room

競泳用プール
Swimming Pool

6) 競泳用プール
Swimming Pool

全長 50m x 7コース(巾18.5m)
水深 競泳時 1.3m ~ 1.6m
水球時 1.6m ~ 1.8m

8. 施設の構造、層数、棟数、サイト数

構造 - 躯体　鉄筋コンクリート、一部プレストレストコンクリート
　　壁　　コンクリートブロック
層数 - 1層(1棟)、2層(5棟)、5層(1棟)
棟数 - 7棟
サイト数 - 1ケ所

棟名	構造	層数
中央講義室(小)・実習室	鉄筋コンクリート コンクリートブロック壁	5階
中央講義室(大・中) ・情報サービスセンター	鉄筋コンクリート プレストレストコンクリート コンクリートブロック壁	2階
中央管理棟	鉄筋コンクリート コンクリートブロック壁	2階
学生ホール	鉄筋コンクリート コンクリートブロック壁	2階
学生寄宿舎 x2棟	鉄筋コンクリート コンクリートブロック壁	2階
競泳用プール	鉄筋コンクリート コンクリートブロック壁	1階

9. 敷地面積

日本側負担工事敷地 :　34,600 m²
キャンパス全体　:　約1,200,000 m²

10. 建築面積

8,374 m² + 180 m² (プール建屋部分)
合計 8,554 m²

11. 延床面積

中央講義実習棟	11,282 m²	
情報サービスセンター	2,857 m²	
中央管理棟	1,765 m²	
学生ホール	1,831 m²	
学生寄宿舎	1,537 m²	
小　計		19,272 m²
競泳用プール	180 m²	
延床面積		19,452 m²

12. 着工日

1985年(昭和60年)　1月17日

13. 完工日

1986年(昭和61年) 10月31日

JICA