

# 第三国集団研修評価調査団報告書

—シンガポール，建設プロジェクト管理—

1988年5月

国際協力事業団  
研修事業部

研 管

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国際協力事業団

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## 序 文

第三国研修とは、社会的、文化的、言語的に共通の基盤をもつ同一の開発途上地域に研修実施国を選定し、そこに当該地域の途上国から研修員を受入れて、より現地事情に適合した適正技術、知識の移転を図り、これにより開発途上国間技術協力（TCDC）の推進に寄与し、将来的には実施国が独自に研修員受入事業を実施できるよう支援協力することを目的としている。我が国は1974年度、タイのコラート養蚕研究訓練センターで初めて第三国集団研修を実施して以来、開発途上国からの第三国研修実施協力要請は増え続け、1987年度には16カ国で36コースの集団研修を実施した。

シンガポールにおける第三国集団研修は、1980年度から3回に亘りテクノネット・アジアにて実施された中小工業ワーク・ショップ、1984年度にアセアン・太平洋人造り緊急行動計画の一環として実施された航空・港湾関係4コースがあるが、1987年度に実施されたのは、シンガポール・ポリテクニクにて1983年度から実施され5回目を迎えた「建設プロジェクト管理」コースの1件であった。

本報告書はシンガポール・ポリテクニクにおいて実施された「建設プロジェクト管理」コースの5年間に亘る研修の成果を総合的に評価するため、1988年3月24日から4月1日まで現地に派遣された評価調査団の調査結果をとりまとめたものである。

本報告書が関係者各位のさらに深い御理解のもとに、第三国研修のより良い今後の展開に資することが出来れば幸いである。

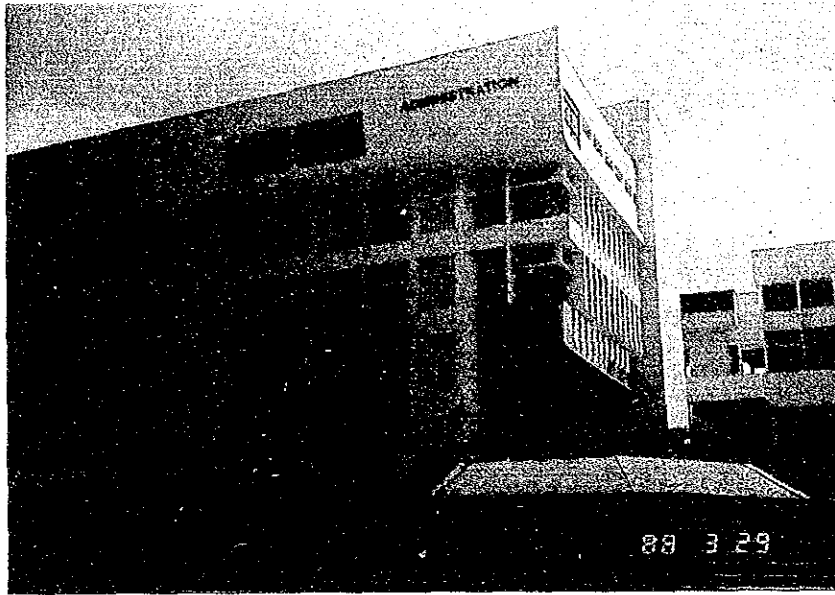
最後に本調査団の派遣に際し、ご協力を賜った外務省、建設省、在シンガポール日本大使館及び派遣専門家各位に深甚な謝意を表する次第である。

1988年5月

研修事業部長

岡 部 和 夫





シンガポール・ポリテクニク管理棟正面



江崎団長と Khoo 校長との間での Minutes 署名







合同評価会風景



合同評価会を終えて



第5回コース閉講式



# 目 次

序 文	
1. 研修評価調査団の派遣	1
1.1 派遣の経緯と目的	1
1.2 調査団の構成	1
1.3 調査日程	1
1.4 主要面談者	2
2. 研修概要と実績	4
2.1 経緯	4
2.2 研修計画	4
(1) 研修目的及び到達目標	4
(2) 研修期間	4
(3) カリキュラム	4
(4) 割当団	10
(5) 定員	10
(6) 応募資格	10
2.3 研修実施機関	10
(1) 研修実施機関の概要	10
(2) 研修実施機関の指導・運営体制	12
2.4 研修員受入実績	12
2.5 日本の協力実績	13
(1) 経費	13
(2) 専門家派遣	13
(3) カウンターパート研修員受入れ	14
(4) その他	14
3. 評価活動の実績	15
3.1 各種評価の結果とその内容	15
3.2 計画変更等へのフィードバックとその内容	15
4. 評価	16
4.1 実施目的	16
4.2 評価方法	16
4.3 研修効果	16

4.4	研修計画	17
(1)	期間・時期	17
(2)	カリキュラム	17
(3)	割当国	18
(4)	定員	18
(5)	応募資格	18
4.5	研修実施機関	19
(1)	研修指導能力	19
(2)	研修運営管理能力	20
4.6	日本の協力	20
(1)	経費	20
(2)	専門家派遣	20
(3)	カウンターパート研修員受入れ	21
4.7	研修終了時アンケート結果	21
4.8	帰国研修員アンケート結果	27
5.	総合評価	28
6.	提言等	29
7.	団長所感	30
資 料		
1.	評価ミニッツ	33
2.	1987年度コース・インフォメーション(G.I)	76
3.	実施機関コース・レポート	81
4.	1983年度合意議事録(R/D)	114

## 1. 研修評価調査団の派遣

### 1.1 派遣の経緯と目的

1983年10月1日に我が方実施協議調査団とシンガポール・ポリテクニクとの間で署名された合意議事録（Record of Discussions：R/D）に基づき、1983年度より開始されたシンガポール第三国集団研修（建設プロジェクト管理）は1987年度で5回目を迎えた。このため国際協力事業団は5年間の協力を総括すべく、研修の成果、計画の妥当性、コース実施・運営状況、日本側協力の成果を測定し、今後の当該第三国集団研修に対する日本側の協力の方向を定めると共に、将来の案件形成の参考に資することを目的とする評価調査団を第5回研修コース終了時に併せシンガポールに派遣することとした。

### 1.2 調査団の構成

団長・総括	江崎政久	JICA	東京国際センター所長事務代理
研修評価	斉藤憲晃		建設省都市局区画整理課課長補佐
研修運営	村岡敬一	JICA	研修事業部管理課職員

### 1.3 調査日程

日順	月日	曜日	行 程	調 査 内 容
1	3.24	木	東京→シンガポール (江崎団長・村岡団員)	
2	3.25	金	東京→シンガポール (斉藤団員)	JICAシンガポール事務所打合せ 日本大使館・村山公使、森書記官表敬(午前) シンガポール・ポリテクニクKHOO校長表敬 ・評価日程打合せ(午後)
3	3.26	土		シンガポール・ポリテクニク施設視察(午前) 第5回研修閉講式出席(午後)
4	3.27	日		アンケート結果集計・分析
5	3.28	月		JICA事務所との打合せ・対処方針協議(午前)
6	3.29	火		新規案件要望聴取
7	3.30	水		シンガポール・ポリテクニクとの合同評価会(午前)

日順	月 日	曜日	行 程	調 査 内 容
8	3.31	金	シンガポール→東京 (江崎団長・斉藤団 員)	評価文書作成(午後) 団長主任夕食会、ミニッツ署名交換 日・シ・ソフトウェア・センター/シンガポール 港湾庁/民間航空訓練センターに於ける意見交換 (村岡団員)
9	4. 1	土	シンガポール→東京 (村岡団員)	

#### 1.4 主要面談者

シンガポール・ポリテクニク

KHOO KAY CHAI

Principal (校長)

DR. N. VARAPRASAD

Deputy Principal (Academic) (副校長)

CHENG HUANG LING

Deputy Principal (Planning) (副校長)

ONG BOON RING

Head,

Civil Engg & Building Dept (土木建築部長)

LIM MENG TONG

Deputy Head,

Civil Engg & Building Dept (土木建築部次長)

FRANGS HONG K. H.

Lecturer / Liaison Officer

Civil Engg & Building Dept (土木建築部講師兼コー  
ス・コーディネーター)

DELONIX PAN-CHEONG

Planning Officer

DR. CHIN SIM MOO, PHILIP

Head,

Electrical Engg Dept (電気工学部長)

NG SUI ONN

Principal Lecture,

Electrical Engg Dept (電気工学部主任講師)

YEOW KIAN PENG

Head,

Chemical Process Technology Dept (化学処理技術部  
長)

P. J. BOWYER

日本国大使館

村山比佐斗

森功一

JICAシンガポール事務所

石崎光夫

小野仁規

JICA専門家

友森剛二

鬼沢浩志

Head,

Computer Centre (コンピューターセンター所長)

公使

二等書記官

事務所長

事務所員

建設省大臣官房官庁営繕部監督課課長補佐

建設省関東地方建設局営繕部建築第一課営繕設計官

## 2. 研修概要と実績

### 2.1 経緯

アセアン諸国は、近年の加速的な経済発展に伴う建設ブームに沸いており、殊にシンガポール、マレーシアは第三次産業のためのビル建設、都市化による高層住宅の建設需要が年10%以上の上昇を続けているが、こうした中で建設事業に携わる人材、就中、建設管理、運営面に携わる人材の不足が顕在化しており、その養成が急務となっている。

かかる背景の下、国際協力事業団は1983年9月シンガポールに実施協議調査団を派遣し、シンガポール・ポリテクニク関係者との間で協議を行った結果、アセアン諸国を対象に建設プロジェクト管理の理論・実務の包括的技術の習得を目的とする第三国集団研修を実施することに合意し、同年10月1日シンガポール第三国集団研修（建設プロジェクト管理）の実施に係る合意議事録（Record of Discussions：R/D）を署名・交換した。

右R/Dの署名を受け、我が国は、1984年3月より5年間（5回）に亘り、シンガポール・ポリテクニクに於いて、第三国集団研修を実施している。

またこの間、第1回研修の終了時に併せて1984年3月に研修管理調査団がシンガポールに派遣され、シンガポール・ポリテクニクとの間で研修コースの運営・管理につき協議を行った。

他方、1986年度第4回コースに際しては、アセアン・太平洋人造り緊急行動計画の一環として、割当国に太平洋諸国が加えられた。

### 2.2 研修計画

#### (1) 研修目的及び到達目標

アセアン諸国の研修員に建設プロジェクト管理の最新知識、技術を付与し、研修員参加各国の建設事業の発展に寄与する。

#### (2) 研修期間

1983年度 第1回	1984年3月18日から3月14日（14日間）
1984年度 第2回	1985年3月25日から4月6日（13日間）
1985年度 第3回	1986年3月10日から3月22日（13日間）
1986年度 第4回	1987年3月9日から3月21日（13日間）
1987年度 第5回	1988年3月14日から3月26日（13日間）

#### (3) カリキュラム

5ヶ年間の研修カリキュラムは次のとおり。



1983年度 第1回カリキュラム

Day	Date	Subject	Assigned to
1	March 18 (Sun)	Arrival/Opening & Orientation	—
2	19 (Mon)	1. Inventory Model 2. Assignment Problem	Polytechnic
3	20 (Tue)	1. Financial Planning & Analysis 2. Linear Programming Method 3. Line of Balance Method 4. Trend Analysis	Polytechnic
4	21 (Wed)	Pre-tender Planning	Polytechnic
5	22 (Thu)	Contract Planning (1) PERT and CPM	Polytechnic
6	23 (Fri)	Contract Planning (2) Transportation Network Planning (3) Resources Planning and Allocation	Polytechnic
7	24 (Sat)	Contract Planning (4) Site Layout (5) Site Safety	Polytechnic
8	25 (Sun)	— Free —	—
9	26 (Mon)	Workshop and Presentation	Polytechnic
10	27 (Tue)	1. Site Visit 2. New Building Techniques in Japan (1) Asismatic High Rise Building (2) Prefabricated Dwelling Houses & Open Building Components (3) Energy Conservation in House & Building (4) Others	Polytechnic JICA
11	28 (Wed)	Computer Application to Building Techniques in Japan	JICA
12	29 (Thu)	Business Organisation (1) Financial Reporting (2) Financial Statement Analysis	Polytechnic
13	30 (Fri)	Business Organisation (3) Organisation Division & Performance Appraisal (4) Q. C. Circle (Work Improvement)	Polytechnic
14	31 (Sat)	Evaluation of the Course by Polytechnic	
15	April 1 (Sun)	Departure	—

1984年度 第2回研修カリキュラム

Day	Date	Time	Programme	Speaker
1	March 25 (Mon)	11 am 2pm - 5pm	Opening Ceremony Project Management	Dr Yeo Khim Teck
2	26 (Tues)	9am - 12pm 2am - 5 pm	Rational Approach for Computation of Completion Time for Construction Projects Financial Planning of Construction Projects	Mr. Surinder Singh Mr. Lee Tat Man
3	27 (Wed)	9am - 12pm 2pm - 5pm	Managing International Technology Transfers Site Safety	Mr. Gan Cheong Eng Mr Harry Wong
4	28 (Thur)	9am - 12pm 2am - 5pm	Prefabrication Technology Visit to Prefabrication Plant	Mr Lau Joo Ming Mr Lim Chong Sit H. D. B.
5	29 (Fri)	9am - 12pm 2am - 5pm	International Construction Contracting Country Report Presentation	Mr Chan Wai Ming Participants
6	30 (Sat)		- Free -	
7	31 (Sun)		- Free -	
8	April 1 (Mon)	9am - 12pm 2pm - 5pm	Introduction of New Civil Engineering and its Application Method Introduction of New Construction Technology and its Application Method	Mr Fujimori Mr Nishitome
9	2 (Tue)	9am - 12pm 2pm - 5pm	CWQC (QC) In Construction Industries General Management of High-Rise Project	Mr Yasu Mr Nishitome
10	3 (Wed)	9am - 12pm 2pm - 5pm	Panel Discussion on New Technology of Civil Engineering and Construction Panel Discussion on Construction Management Technology	Mr Fujimori Mr Nishitome Mr Yasu Mr Fujimori Mr Nishitome Mr Yasi
11	4 (Thur)	9am - 5pm	Application of Computerisation in Project Management - "Hands-on" from Metiers Management Systems Pte Ltd	
12	5 (Fri)		Public Holiday (Good Friday)	
13	6 (Sat)	9am - 11am 11am - 1pm	Course Evaluations and visit to Singapore Polytechnic. Presentation of certificates of attendance by Principal, Singapore Polytechnic	

1985年度 第3回研修カリキュラム

Day	Date	Time	Subject	Speaker
1	10 Mar (Mon)	2pm to 5pm	1. Opening Ceremony 2. Fast Tracking of Design and Construction	Dr. Tony Chi
2	11 Mar (Tue)	9am to 12pm 2pm to 5pm	1. Safety at Worksites 2. Case Study of the Caisson Construction at CUB Centre	Mr. Harry Wong K. C. Mr. Martin Rush
3	12 Mar (Wed)	9am to 12pm 2pm to 5pm	1. Tunnelling Techniques in soft soils 2. Site Visit (MRT)	Mr. Kim Ewe Chye -
4	13 Mar (Thur)	9am to 12pm 2pm to 5pm	1. Co-ordination of Building Services 2. Fire Safety of Buildings	Mr. Peter Woods Mr. Boo Geok Kwang
5	14 Mar (Fri)	9am to 12pm 2pm to 5pm	1. Taxi-way Bridge for Singapore Changi 2. Foundation System of Standard Chartered Bank Building 3. Computer Application in Construction Management	Mr. Perumalswamy Dr. Tan Guan Mr. Darcy McColl
6	15 Mar (Sat)			
7	16 Mar (Sun)		- Free -	
8	17 Mar (Mon)	9am to 12pm 2pm to 5pm	1. Prefabrication Technology 2. Site Visit (HDB)	Mr. Lau Joo Ming -
9	18 Mar (Tue)	9am to 12pm 2pm to 5pm	Presentation of Country Report by Participants	-
10	19 Mar (Wed)	9am to 12pm 2pm to 5pm	Application of Japanese Construction Technology in Asean	
11	20 Mar (Thur)	9am to 12pm 2pm to 5pm	Construction Management Style of Japan	Mr. Teruo Chkawa and Mr. Masaru Kaido
12	21 Mar (Fri)	9am to 12pm 2pm to 5pm	Means of Construction Technology Transfer by Developed MNations	
13	22 Mar (Sat)		1. Closing Ceremony 2. Presentation of Certificates 3. Course Evaluation	-

1986年度 第4回研修カリキュラム

Day	Date	Time	Subject	Speaker
1	9 Mar (Mon)	10am to 12pm 2pm to 5pm 7pm to 9pm	1. Participants meet to discuss and prepare Country Report 2. Opening Ceremony	-- --
2	10 Mar (Tue)	9am to 12pm 2am to 5pm	1. Safety at Worksites 2. Project Teem Management	Mr. Harry Wong KC Mr Feter Woods
3	11 Mar (Wed)	9am to 12pm 2pm to 5pm	1. Construction Methods used by HDS 2. Site Visit (HDB)	Mr Law Joo Ming Mr Law Joo Ming
4	12 Mar (Thur)	9am to 12pm 2pm to 5pm	1. Project Management case study-Raffies City Project 2. Project Management Techniques	Mr Lah Soo Eng Mr C. Middleton
5	13 Mar (Fri)	9am to 12pm 2pm to 5pm	1. Computer Application in Construction Management 2. Application of CAD in Drafting	Mr Darcy McColi Mr Tony Adamc
6	14 Mar (Sat)			
7	15 Mar (Sun)		-- Free --	
8	16 Mar (Mon)	9am to 12pm 2pm to 5pm	1. Fast Tracking of Design and Construction 2. Site Visit (MRT)	Dr Tony Chil
9	17 Mar (Tue)	9am to 12pm 2pm to 5pm	Application of Japanese Construction Technology in Asean-Pacific	
10	18 Mar (Wed)	9am to 12pm 2pm to 5pm	Construction Management Style of Japanese Firms	Mr Shinji Matsumoto and Mr Naoto Mine
11	19 Mar (Thur)	9am to 12pm 2pm to 5pm	Means of Construction Technology Transfer by Developed Nations Country Report	--
12	20 Mar (Fri)	9am to 12pm 2pm to 5pm	Country Report Country Report	-- --
13	21 Mar (Sat)	9am to 12pm	1. Course Evaluation 2. Ciesing Ceremony	--

1987年度 第5回研修カリキュラム

Day	Date	Activity/Subject	Assigned to
1	March 13 (Sun)	Arival of participants	SP
2	14 (Mon)	1. (Morning) Orientation prepare Country Report 3. (Evening) Opening Ceremony	SP SP
3	15 (Tue)	1. Safety at Worksites 2. Cash Flow Planning for Various Kinds of Projects	SP SP
4	16 (Wed)	1. Quality Control Management of Public Housing in Singapore 2. Site Visit (Prefabrication Plant)	SP SP
5	17 (Thu)	1. Human Resource Management of Technical Staff 2. Application of CAD in Draughting	SP SP
6	18 (Fri)	1. Joint Venture Management 2. Co-ordination of Building Services	SP SP
7	19 (Sat)	Free	-
8	20 (Sun)	Free	-
9	21 (Mon)	1. Post-Contract Management 2. Site Visit (HDB Worksite)	SP SP
10	22 (Tue)	Application of Japanese Construction Technology in ASEAN	JICA
11	23 (Wed)	Construction Manegement Style of Japanese Firms	JICA
12	24 (Thu)	Means of Construction Technology Transfer by Developed Nations	JICA
13	25 (Fri)	Presentation of Country Reports by participants	SP/JICA
14	26 (Sat)	1. Course Evaluation 2. Closing Ceremony	SP
15	27 (Sun)	Departure of Participants	SP

(4) 割当国

インドネシア、マレーシア、フィリピン、タイ、ブルネイ及びシンガポール。

但し、ブルネイへの割当は1984年度以降。また、1987年度は太平洋諸国を追加。

(5) 定員

1983年度	周 辺 国	16名
	実 施 国	4名
	(シンガポール)	
1984、'85年度	周 辺 国	18名
	実 施 国	4名
1986年度	周 辺 国	22名
	実 施 国	4名
1987年度	周 辺 国	20名
	実 施 国	4名

(6) 応募資格

- ① 建築、建設若しくは土木の学位を有する者。
- ② 官民いずれかのゼネラル・コンストラクション機関にあって建設プロジェクト管理に従事している者。
- ③ 5年以上の実務経験を有する者。
- ④ 25才以上の者。
- ⑤ 健康状態の良好な者。

## 2.3 研修実施機関

(1) 研修実施機関の概要

シンガポール・ポリテクニクは、1954年シンガポール・ポリテクニク法に基づいて同国の将来における工業発展に必要なマンパワーの育成を目的として設立された中堅技術者養成機関であり、高等技術専門学校といえるものである。全日制(3年間)と定時制(5年間)からなり、学生数はそれぞれ約9,000人、約5,000人である。

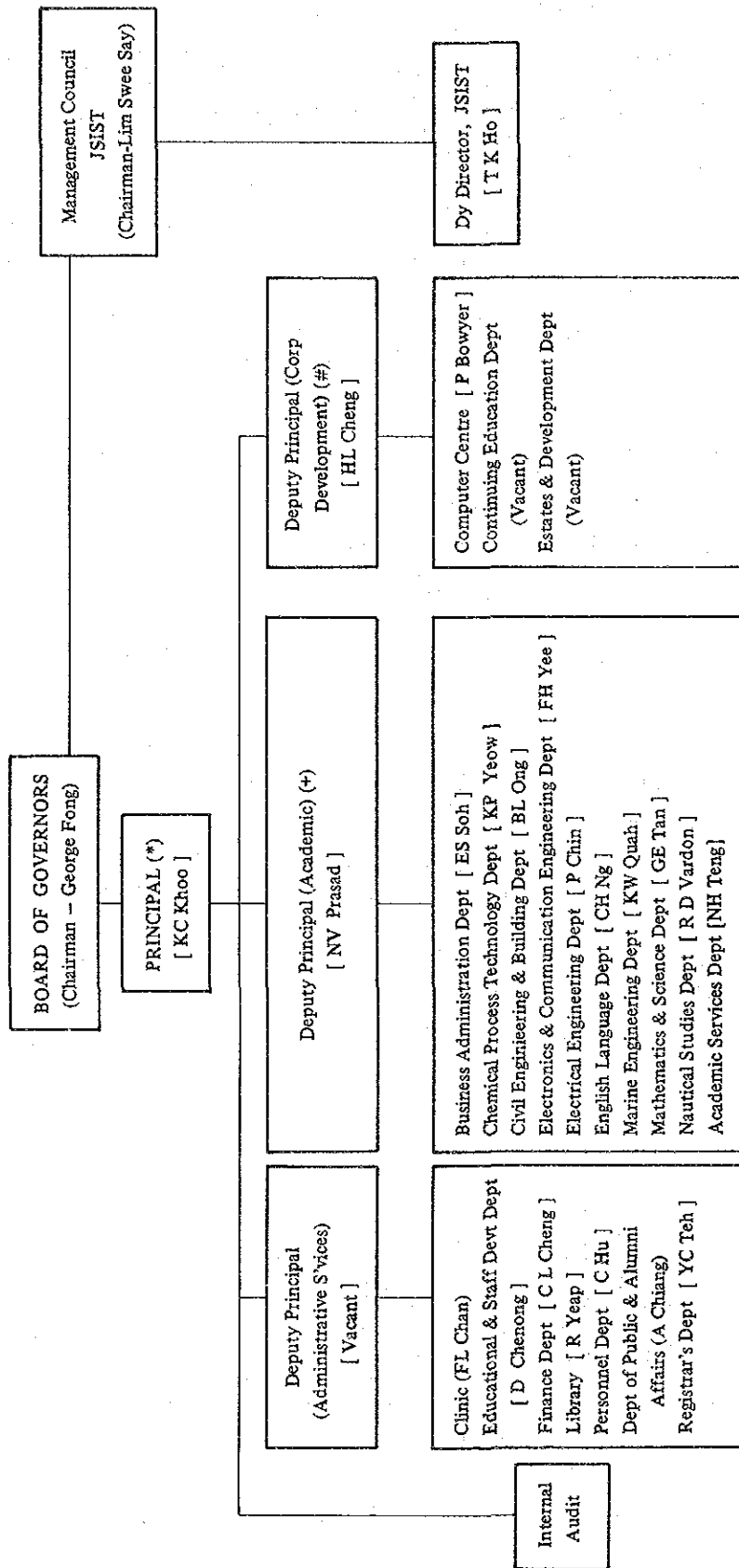
本件第三国研修は同校の一学部である土木建築工学部が中心となり運営されている。

また1980年12月、国際協力事業団のプロジェクト方式技術協力により役立された日本・シンガポール・ソフトウェア・センター(JSIST)は、1987年4月より本シンガポール・ポリテクニクに組織移管され、シンガポール・ポリテクニク理事会(Board of Governors)が任命する運営評議会(Management Council)により独自の運営が行われている。

シンガポール・ポリテクニクの組織図は次のとおり。

SINGAPORE POLYTECHNIC

CHANGES IN THE DUTIES OF SENIOR EXECUTIVES OF THE SINGAPORE POLYTECHNIC\*  
( 14 Mar 88 )



@ This chart indicates the line of reporting and the areas of responsibilities of senior executives.

- (\*) Special responsibility for manpower scrutiny and endowment fund.
- (+) Special responsibility for schools promotion and CAI development.
- (#) Special responsibility for corporate planning and industry services.

(2) 研修実施機関の指導・運営体制

1983年10月1日にシンガポール・ポリテクニクと我が方実施協議調査団との間で署名されたR/Dに於いては、実施機関側の負担事項として次の項目が合意されている。

- ① カリキュラム作成
- ② G.I作成
- ③ 講師の手配
- ④ 研修施設、宿泊施設の手配
- ⑤ 研修員選考
- ⑥ 研修員空港送迎
- ⑦ 航空券・国内旅行の手配
- ⑧ 日本側が負担する経費以外の経費負担
- ⑨ シンガポール外務省への専門家派遣要請書提出
- ⑩ その他コース実施に関する事項の調整

2.4 研修員受入実績

国名	年度					合計
	1983	1984	1985	1986	1987	
ブルネイ	—	2	0	2	0	4
インドネシア	6	6	6	4	6	28
マレーシア	2	1	2	3	3	11
フィリピン	4	0	5	0	0	9
タイ	4	5	4	2	6	21
クック	—	—	—	2	—	2
フィジー	—	—	—	1	—	1
ソロモン	—	—	—	2	—	2
トンガ	—	—	—	1	—	1
小計	16	14	17	17	15	79
シンガポール	6	6	6	6	6	30
合計	22	20	23	23	21	109



定員、応募、受入人数の比較

年度	1983	1984	1985	1986	1987	合計
定員	20 (4)	22 (4)	22 (4)	26 (4)	24 (4)	114 (20)
応募	29 (8)	25 (10)	35 (10)	28 (9)	28 (12)	145 (49)
受入れ	22 (6)	20 (6)	23 (6)	23 (6)	21 (6)	109 (30)

( ) カッコ内はシンガポール内数

2.5 日本の協力実績

(1) 経費

我が方は本件第三国研修の実施にあたり、R/Dに基づき受入諸費及び研修諸費として次の経費を各コース開始前にシンガポール・ポリテクニクに支給した。

支給項目

- ① 受入諸費：航空賃（エコノミークラス）、滞在費（日当・宿泊料）、保険料
- ② 研修諸費：外部講師謝金、現地備人費、会場借料、資材費、テキスト作成・購入費、交通費、車輛借上費、会議費、通信連絡費

5年間の支出実績は次のとおり。

第1回（1983年度）	6,097千円
第2回（1984年度）	7,811千円
第3回（1985年度）	6,751千円
第4回（1986年度）	9,237千円
第5回（1987年度）	4,864千円
合計	34,760千円

（第4回は、アセアン・太平洋人造り緊急行動計画に基づき割当国を太平洋諸国に拡大した結果、支出額が増加している。）

(2) 専門家派遣

我が方はR/Dに基づき毎回2名ずつ5年間で計10名の短期専門家と講師として派遣した。専門家派遣実績は次のとおり。

年 度	氏 名	所 属 先	派 遣 期 間
1983	藤 松 進	建設省建築研究所	1984.3.25~4.1
	川 合 広 樹	日建設計	1984.3.26~3.30
1984	藤 森 茂 澄	鹿島建設	1985.3.28~4.7
	西 留 一 清	〃	〃
1985	海 藤 勝	大林組	1986.3.10~3.22
	大 川 輝 夫	〃	現 地 参 加
1986	松 本 信 二	清水建設	1987.3.11~3.24
	三 根 直 人	〃	1987.3.15~3.24
1987	友 森 剛 二	建設省官房官庁営繕部	1988.3.17~3.29
	鬼 沢 浩 志	〃 関東地方建設局	〃

( 専門家人選は、建設省の推せんに基づき実施 )

(3) カウンターパート研修員受入れ

第一回研修コースの円滑なる管理・運営に資するべく1983年11月19日から12月17日までの約1カ月間ポリテクニク側コース・コーディネイターのMr. Benjamin Tan をカウンターパート研修員として本邦に受入れた。

(4) その他

5カ年間の我が方経費負担総額(概算)は次のとおり。

( 単位：千円 )

年 度	研修実施経費	専門家派遣		研修員受入		経費総額
		人 数	経 費	人 数	経 費	
1983	6,097	2	951	1	996	8,044
1984	7,811	2	1,406	-	-	9,217
1985	6,751	2	596	-	-	7,347
1986	9,237	2	2,049	-	-	11,286
1987	4,864	2	1,366	-	-	6,233
Total	34,760	10	6,371	1	996	42,127

### 3. 評価活動の実績

#### 3.1 各種評価の結果とその内容

##### (1) 研修管理調査団の派遣

国際協力事業団は1983年第1回研修コースの終了時に合せ、研修管理調査団をシンガポールに派遣し、第1回研修の実施状況調査及び翌年度の研修実施の概要に関する協議をポリテクニクとの間で行った。

右調査団による総合所見は次のとおりである。

- ① シンガポール・ポリテクニク当局の熱意と、極めて能率的な実施体制及びニーズのある研修分野の選択によって、本コースの実施は成功を収めたと判断される。
- ② シンガポール側の自主運営体制が堅実であるので、日程、カリキュラム、教材の作成等、出来るだけシンガポール側の実施体制に任せた方が良策と考える。
- ③ 研修経費の科目変更等は、現地事情の変化に応じて起因するため、JICA本部としては予算額の枠内で、かつ2～3割の範囲内で、現地事務所長にその決定裁量権を与えることが、事務の執行上より効率的かつ効果的と考える。
- ④ 本コースに対するニーズの高さ、シンガポール側の熱意、努力等を勘案して、1984年度の実施に際しては、専門家携行機材として視聴覚機器等供与を配慮することが望ましい。

##### (2) 研修終了時評価の実施

ポリテクニク側は毎年度コース終了時に合せ、当事業団指定フォームを用いた研修員アンケートを実施し、右結果はその都度翌年度のコース・カリキュラム改訂に反映された。

##### (3) コース・レポートの作成

ポリテクニク側は毎年度のコース終了後コース・レポートを作成し、当該年度の研修実施状況及び翌年度コース実施に向けての改善計画を当事業団に報告している。

#### 3.2 計画変更等へのフィードバックとその内容

研修内容の改善を目的とした毎年度毎のコース・カリキュラム見直し作業の結果、コース内容の実際とコース名称との間にズレが生じてきたため、1986年度第3回研修以降コース英文名称をそれまでの“Regional Training Course in Construction Project Management in Building”より“Regional Training Course in Building Construction & Project Management”に変更した。

## 4. 評 価

### 4.1 実 施 目 的

1983年度より開始されたシンガポール第三国集団研修（建設プロジェクト管理）は、1987年度で第5回を迎えるところ、5カ年間に亘る協力に対する評価を実施することにより、研修の成果、計画の妥当性、コース実施・運営状況、日本側の協力の効果を測定し、今後の本件研修に対する協力の方向を定めると共に、将来の案件形成の参考とする。

### 4.2 評 価 方 法

評価調査団は1986、1987年度研修終了時に実施した研修員に対するアンケート及び、1983年度から1986年度の4年間に研修に参加した帰国研修員に対するアンケート並びに毎年度のコース・レポートの分析結果に基づき、シンガポール・ポリテクニク側との間で合同評価会を実施した。また右評価会の席上には、折から派遣中の短期専門家の同席に願い、研修の現場からの意見を聴取することにより評価の適正を期した。

研修終了時アンケート結果及び帰国研修員に対するアンケート結果については、夫々4.7及び4.8を参照願いたい。

### 4.3 研修効果（到達目標達成度）

研修による技術移転が受け入れ国の技術レベル向上にどの程度役だっているかを的確に評価することは、本研修が1983年度に開始され、5年の経過期間しか経っていないのでかなり困難である。

したがって、ここでは研修生に対して、所期の目的を達成しているか否か、即ち研修生のニーズにどの程度適合していたかを見ることとする。

第4回、第5回の研修終了時に研修生に対して行ったアンケート調査では、ほぼ全員が研修の効果が十分あがったとしている。

また、既に研修を終了した第1回～第4回の研修生に対して、現時点における研修の効果等について回答を求めたところ、最新の技術について知識を得たことのほか、他の発展途上国の技術内容等について知見を広めることができたことをあげるものが多い。

第三国で研修することの効果であろう。

又、研修内容中、帰国後、最も有用だったものとして、建設管理技術、とくにコストコントロールの技術をあげるものが多い。

アセアン諸国では、個々の建設技術では既にかなり高度なレベルに達しているもので、それらを総合化した技術に対する評価が高いということであろうか。

以上、研修生に最新の建設技術を与えるとの目標は十分達成されたといえよう。

#### 4.4 研修計画

##### (1) 期間、時期

研修期間は、毎回おおむね2週間程度であった。

研修期間の長短の評価は研修内容によっても左右されようが、第4回、第5回研修時のアンケート調査では、期間2週間については、概ね妥当とする意見が過半を占め、やや長いとする意見が若干あったことを考慮しても、研修生にとっては満足すべき期間設定であったと思われる。

研修時期は過去5回を通じて、全て3月に設定された。この時期は受け入れ側のシンガポール・ポリテクニクの試験期間と重なるため、教官にとっては授業をする必要のない期間であり、最も適当な時期のようである。

研修生を派遣するがわにとって、期間、時期が適当か否かについては、直接聴取する機会がなかったのでコメントできないが、シンガポール・ポリテクニクからとくに問題があるとの報告は受けていない。

##### (2) カリキュラム

###### ① 研修範囲

研修は、建設技術及びプロジェクト管理を対象範囲としている。

アンケート調査では、6-7割が範囲は適切と回答しているが、やや広いとした回答が若干あった。

専門分野が極めて細分化しており、また一方、研修内容に関して、関係者が事前にその詳細な内容を打合わせる事が困難な状況を考慮すれば、研修内容をやや広めにとることの方向はやむを得ないであろう。

なお、カリキュラムは、研修生の意見をとりいれて毎年改良されており、受け入れ側の適切な対応と熱意が特記される。

###### ② 研修レベル

アンケート調査では7-8割が適当と回答している。

日本人専門家の言によれば、かなり高度な内容を扱ったとのことであるので、研修生のレベルも相当高かったと推察される。

###### ③ 研修形態・日程

研修は講義を主体とし、現地見学を2回程度、参加者各国のカントリーレポートの発表講評が2日程度で構成される。

概ね好評のようであったが、演習、見学、討論の時間がやや少なかったとの意見もあり、研修生がより一層動的に活動に参加できるための条件整備が望まれる。

なお、視聴覚教材の使用が研修内容を理解させるうえで、極めて有効のようである。

### (3) 割当国

割当国は原則としてアセアン諸国である。

アセアン諸国はいずれも近年工業化が急速に進んできており、技術レベルなどに多少の差はあっても、高度なレベルの技術移転が可能になってきている。

したがって、研修の目的、内容と、割当国のニーズとが合致し、十分な研修効果があったと思われる。

1986年度のみ、「アセアン太平洋人造り緊急行動計画」の一環として、南太平洋諸国が加えられた。

南太平洋諸国は、アセアン諸国と比べ、社会経済状況、技術レベルが相当異なるため、十分な研修効果をあげるのに困難があったようである。

### (4) 定員

当初の計画定員は、5年間で、計114名(うち、シンガポール20名)であったが、実参加者は109名(うち、シンガポール30名)であった。

定員は概ね適切とのシンガポール側の評価であるが、シンガポール以外の国の参加者が予想よりやや少なく、シンガポール側の参加者数で調整がなされた。

しかし、このことにより直ちに定員が過大であったとは言えない。

というのは、参加国からは、派遣者を選抜するのに十分な時間が与えられていないとの意見があったからである。

予算執行上の制限、各国の事務連絡網の複雑さ等によるものと思われる。

### (5) 応募資格

応募資格は以下のとおりである。

- ① 建築、土木の学位もしくは資格を有すること。
- ② 公的又は民間の建設機関において、建設事業に従事。
- ③ 5年の実務経験。
- ④ 十分な英語能力。
- ⑤ 25歳以上。
- ⑥ 健康であること。

これらの資格は、妥当かつ必要であり、シンガポール及び他の参加国からも問題は提起されていない。

日本人専門家は一様に参加者の能力を高く評価しており、応募資格が適切であったことの証

左であろう。

#### 4.5 研修実施機関

##### (1) 研修指導能力

###### ① 講師

講師数は、年によって若干異なるが、毎年シンガポール側約10人、日本側2人である。

シンガポール側からは、シンガポール・ポリテクニク、国立シンガポール大学の他、政府機関、民間からも講師が派遣されてきた。

第4回、第5回の参加者に対するアンケート調査では、教授法、言語能力、参加者の講義への参加度等において、いずれも比較的高い評価がなされている。

5段階評価で、最上位の割合こそ低いものの、3、4段階の評価の合計が、各項目とも9割を超えている。

###### ② 教材

研修生に対するアンケートによれば、第4回、第5回とも、全員が平均以上の評価をしており、適切なものであったと思われる。

日本人専門家によれば、ビデオ、スライド等の視聴覚教材の使用が有効だったようである。

###### ③ 資機材

シンガポール・ポリテクニクの資機材は相当高度なものであり、十分な研修が可能である。

日本人専門家も資機材について高い評価を与えており、また、研修生に対するアンケートでも、研修生の中で不満を表明している者はいない。

###### ④ 研修・生活環境

本件第三国研修コースは、シンガポール市内のホテルを研修兼宿泊施設として実施されてきたが、同国における近年のホテル需給事情の好転により会場となるホテルの研修環境・生活環境は申し分なく、研修員からも好評であった。

5年間の会場・研修員宿泊料・日当は下記に示すとおりである。

(単位：S\$)

回数	研修・宿泊施設	宿泊料	日当
1983年度 第1回	エクアトリアルホテル	95/2人	46
1984年度 第2回	〃	105/2人	46
1985年度 第3回	〃	105/2人	45
1986年度 第4回	マリーナマンダリンホテル	105/2人	45
1987年度 第5回	センチュリーパークシェラトンホテル	105/2人	45

## (2) 研修管理運営能力

シンガポール・ポリテクニクは毎年度の研修実施に際してコース・コーディネーター及び12名の職員により構成された運営委員会を設置し、研修の管理運営に当たってきた。右に対する研修員よりの評価は高く、また研修実施中のコース・コーディネーションについては、我が方派遣専門家よりも毎回高く評価されているところ、研修員実施機関の研修管理運営は極めて円滑に実施されたものと思料される。

なお、研修員の応募受入れ手続に関しては、シンガポール政府外交ルートを通じての応募勧奨を支援すべく、JICA事務所ルートを通じての応募促進手配を適宜実施した。

## 4.6 日本の協力

### (1) 研修実施経費

第三国集団研修のスキームを通じ周辺割当国からの研修員の招聘に必要な経費の全額及び研修コースの実施・運営に必要な費用の一部を日本側が負担した。

過去5年間の日本側負担額は、2.4 研修実施経費支出実績の項目に記載されているとおり、34,760千円である。

毎年度の研修実施経費はJICAシンガポール事務所とポリテクニクとの間で毎年交換されるMinutes of Discussionsに基づきポリテクニク側より提出された研修実施経費支給申請をJICA本部にて査定の上、送金しており、支給内容についての過不足は特段なかったものと思料される。また研修員へのアンケートの結果からも、研修実施経費は妥当な額であったと判断される。

### (2) 専門家の派遣

本件コース実施にあたっては、毎回2名ずつ、5年間で計10名の短期専門家が我が方より



派遣された。研修開始当初、専門家の一部からは、派遣前準備期間に比して、担当講義内容が比較的広範にわたるため、専門家2名体制での対応は無理が多いとの見解が寄せられ（特に1984年度第2回コース実施に際しては、専門家所属先より1名の私費参加があった）、またシンガポール・ポリテクニク側からも具体的講義内容の通報がコース開始直前となった場合は講師間の講義内容の調整に多大な労苦を要した旨の報告があった経緯があるも、1985年第4回コース以降は、専門家人選を早め、教材準備期間にも比較的余裕をもたせた結果、かかる問題は解消された。

一方、実際の専門家講義に際しては、テキストと併用してVTR、OHP、スライド等視聴覚教材を活用した講義手法が採られた結果、時宜を得た日本企業の現地建設現場視察の手配とともに、研修員からの好評を博した。なお、1985年度第3回コースの開講期間中にシンガポール国内でホテルの到壊事故が発生し、当時派遣中の専門家が犠牲者の救出活動に参加する等、各専門家には講義以外でも多大なご尽力を頂いた。

### (3) カウンターパート研修員受入れ

1983年度第1回研修コースの実施に先立ち、シンガポール・ポリテクニク側第三国研修コース・コーディネーターのMr. Benjamin TANを1983年11月19日から12月17日までの1カ月間に亘り本邦に受入れ、同氏の我が方第三国研修事業に対する理解の促進を図るとともに、研修プログラム内容の調整等、初回研修に向けての準備に最善を期した。

同氏は、翌年度の第2回研修コースの実施に際しても、コース・コーディネーターを勤め、本件第三国研修の円滑な立上がりに貢献した。

## 4.7 研修終了時アンケート結果

1986、1987両年度の参加研修員に対する研修終了時アンケート結果は次のとおり。

	1986年度	1987年度
(1) コース目的		
① コース目的の認識度合		
完全に知っていた	17%	15%
ほぼ完全に知っていた	31%	45%
一応知っていた	44%	35%
あまりよく知らなかった	4%	5%
全く知らなかった	4%	0%

② コース目的の達成度合

完全に達成した	0%	5%
ほぼ達成した	78%	62%
	1986年度	1987年度
一応達成した	18%	33%
あまり達成されなかった	4%	0%
達成されなかった	0%	0%

③ 期待感の充足度

完全に満足	9%	10%
ほぼ満足	65%	47%
一応満足	13%	33%
やや不満足	4%	0%
不満	0%	0%

(2) カリキュラム・デザイン

① 科目の範囲・レベル・時間配分・密度・期間

イ. 科目の範囲	1986年度	1987年度
適当	61%	71%
やや広い	26%	10%
やや不十分	9%	14%
広すぎる	4%	5%
不十分	0%	0%

ロ. レベル

適当	66%	80%
やや高度	17%	10%
やや容易	13%	10%
高度	4%	0%
容易	0%	0%

ハ. 時間配分

① 講義

適当	74%	62%
やや少ない	13%	38%
やや多い	9%	23%
少なすぎる	4%	5%
多すぎる	0%	0%

② 討論		
适当	74 %	48 %
	1986年度	1987年度
やや少ない	22 %	47 %
少なすぎる	4 %	5 %
やや多い	0 %	5 %
多すぎる	0 %	0 %
③ 実習		
适当	42 %	29 %
やや少ない	45 %	47 %
少なすぎる	13 %	5 %
やや多い	0 %	19 %
多すぎる	0 %	0 %
④ 視察		
适当	83 %	62 %
やや少ない	9 %	38 %
やや多い	4 %	0 %
少なすぎる	4 %	0 %
多すぎる	0 %	0 %
二. 密度		
适当	70 %	76 %
ややきつい	21 %	19 %
ややゆるい	9 %	5 %
きつすぎる	0 %	0 %
ゆるすぎる	0 %	0 %
ホ. 期間		
适当	79 %	52 %
やや短い	13 %	5 %
短すぎる	4 %	0 %
長すぎる	4 %	5 %
やや長い	0 %	38 %

(3) コースの実施体制

① 教授方法

イ. 講義の進め方

	1986年度	1987年度
傑出している	13%	0%
非常に良い	40%	52%
良い	47%	48%
まずい	0%	0%
非常にまずい	0%	0%

ロ. 講師の語学力

傑出している	6%	0%
非常に良い	47%	52%
良い	47%	48%
まずい	0%	0%
非常にまずい	0%	0%

ハ. 研修員の参加度合

傑出している	14%	0%
非常に良い	50%	33%
良い	36%	62%
少い	0%	5%
非常に少い	0%	0%

ニ. 教材の質・量

傑出している	14%	0%
非常に良い	57%	38%
良い	29%	68%
とぼしい	0%	0%
非常にとぼしい	0%	0%

ホ. 研修施設の質・量

傑出している	14%	0%
非常に良い	50%	38%
良い	36%	62%
とぼしい	0%	0%
非常にとぼしい	0%	0%

② 習得技術・知識の活用

非常に役立つ	13%	29%
役立つ	44%	33%
一応役立つ	39%	38%
	1986年度	1987年度
あまり役立たない	4%	0%
役立たない	0%	0%

(4) 運営・管理

① コース実施上のコーディネーション

傑出している	9%	10%
非常に良い	57%	62%
良い	34%	28%
まずい	0%	0%
非常にまずい	0%	0%

② 事前情報(G.I)

傑出している	0%	52%
非常に良い	41%	38%
良い	41%	10%
やや不足	18%	0%
不十分	0%	0%

③ 視察の手配

傑出している	9%	0%
非常に良好	27%	53%
良好	41%	33%
やや不満	23%	14%
不満	0%	0%

④ 宿泊施設・食事

傑出している	10%	0%
非常に良好	40%	63%
良好	40%	32%
やや不満	10%	5%
不満	0%	0%

⑤ 日当

多すぎる	5%	0%
やや多い	5%	7%
適当	40%	93%
やや少ない	40%	0%
少なすぎる	10%	0%
⑥ 交通手段		
非常に便利	10%	31%
便利	28%	42%
普通	58%	31%
やや不便	4%	6%
不便	0%	0%
⑦ 厚生活動		
傑出している	4%	5%
非常に良好	32%	38%
良好	55%	47%
やや不足	9%	5%
不足	0%	0%
⑧ 研修員の相互交流		
傑出している	9%	10%
非常に良好	48%	33%
良好	39%	57%
やや不足	4%	0%
不足	0%	0%
(5) 研修成果		
十二分に成果があった	0%	5%
非常に成果があった	57%	58%
成果があった	39%	37%
一応成果があった	4%	0%
あまり成果がなかった	0%	0%

#### 4.8 帰国研修員アンケート結果

1983年度から1986年度の4年間に本件第三国集団研修に参加した帰国研修員に対するアンケート調査をアセアン各国のJICA事務所を通じ実施したところ、インドネシア8名、フィリピン3名、タイ2名、シンガポール4名の計17名から回答が寄せられた。(回収率16%)

(1) 回答中特に評判がよかった講義は次のとおり。(複数回答)

Contract Planning	(6名がExcellentと回答)
Cost Planning & Cost Control	(5名がExcellentと回答)
Project Management Techniques	(5名が “ ”)
First Tracking of Design and Construction	(5名が “ ”)

また、現場視察については、講義以上に参考になったとの回答が半数近くを占めた。

- (2) 回答者17名中16名よりは、機会があれば今後とも毎年本件コースに研修員を送りたい旨の回答があり、一部には未だ高い研修ニーズがあることが窺われる。
- (3) 研修成果としては、新規技術・知識の習得に加え、近隣国の技術事情を知り得たことが多いに参考になった旨の回答が多く寄せられた。

## 5. 総 合 評 価

- (1) 今回の調査団派遣の目的は、1983年度以来5年間に亘る協力を総括するため研修の成果、計画の妥当性、コース実施・運営状況、日本側協力の効果を測定し、今後の本件第三国集団研修に対する協力の方向を定めると共に、将来の案件形成の参考に資することであった。
- (2) このため本件評価調査団は1988年3月24日から4月1日まで9日間に亘りシンガポールを訪問し、日本大使館、JICA事務所及び派遣中のJICA専門家との意見交換並びに第5回研修コース閉講式参加の機会を通じての研修員、講師及びコース運営関係者との懇談の結果を踏まえ、シンガポール・ポリテクニク側関係者との間で5年間に亘る本件第三国集団研修に対する合同評価を実施した。合同評価結果の概要は次のとおり。
  - ① 5カ年間の研修成果については、1986年度及び1987年度の2度に亘る研修終了時アンケート結果及び1983年度から1986年度の4年分の帰国研修員に対するアンケート結果をもとに、これを評価したところ、研修内容及び研修運営管理体制とも、ほぼ研修員側より満足の出来る評価を得ており、また各研修員は帰国後も研修の成果を夫々の実務に活用している様子が窺われる。
  - ② 本件第三国研修は開講後5カ年を経て、主としてアセアン諸国を中心に建設プロジェクト管理に携さわる人材の養成に貢献してきたが、一方、最近では周辺国の参加者数が減少の傾向を見せはじめしており、シンガポール・ポリテクニク側としては、アセアン諸国の本件研修に対するニーズはほぼ充足されたものとしている。
- (3) 上記結果に基づき評価調査団としては、本件第三国研修コースが5年間に109名に上るアセアン・太平洋諸国の人材養成に果たした貢献を高く評価するとともに、この間のシンガポール・ポリテクニク側の尽力を多とすることにより、これをもって本件第三国研修を終らせしめることで、シンガポール・ポリテクニク側と合意し、この結果を評価ミニッツに取り纏め、江崎団長とKHOO校長との間で評価ミニッツの署名交換を行った次第である。



## 6. 提 言 等

- (1) シンガポール・ポリテクニク側との協議に先立ち、本評価調査団は、3月25日、在シンガポール日本大使館に村山比佐斗公使を表敬訪問したところ、同公使より、シンガポールは第三国研修の実施にとり非常に良い環境が整っているので、新規案件の発掘を行い、今後とも是非協力を続けて頂いた旨の発言があった。
- (2) 一方、調査団は、かねてよりシンガポール・ポリテクニク側よりJICA事務所に対し検討方打診のあった新規案件（①電力供給・送電、②食品衛生加工、③オフィス・オートメーション）の内容を非公式に聴取してきた次第である。
- (3) ついては、今後、周辺国側のニーズ把握を含め、引き続き検討を重ねる必要性はあるものと思料されるも、5年間に亘る協力の結果、第三国研修実施機関としてのシンガポール・ポリテクニクの優秀さは、実証されており、これまで培われた我が方との友好協力関係を今後一層発展させるためにも、新規案件の実現を前向きに検討願いたい。

## 7. 団 長 所 感

第三国研修が好成果を得るには関係諸国のうち特に実施国の熱意と実施体制がきめ手とされるが、この点シンガポール・ポリテクニク（SP）は過去の調査でも大いに評価されているところである。加えてSPは研修コース担当者について適材適所の配置を行ない定型的なコース実施にとどまらず血のかよった運営をめざしていることを実感した。

閉講式において参加研修員からSP及び日本側関係者に対し大きな賛辞が呈せられ、また閉講式後の懇親会の盛りあがりを見て、この研修コースの成功は関係者間の“心のふれあい”によるところが大きいと深く感銘した。SP側は今回の協力終了を単なる終了とするのではなく、更に新たな第三国研修へのため発展的にとらえたいと強く要望しているがこのことはSP側のわが方に対する好意と信頼の表れであり、うれしいことである。

## 資 料

1. 評価 ミ ニ ッ ツ
2. 1987年度コース・インフォメーション(G.I)
3. 実施機関コース・レポート
4. 1988年度合意議事録(R/D)



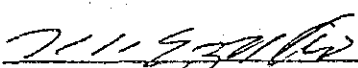
MINUTES OF DISCUSSIONS BETWEEN  
THE JAPANESE EVALUATION TEAM AND  
THE AUTHORITIES CONCERNED OF THE GOVERNMENT OF SINGAPORE  
ON THE THIRD COUNTRY TRAINING PROGRAMME IN THE FIELD OF  
CONSTRUCTION PROJECT MANAGEMENT IN BUILDING


The Japanese Evaluation Team (hereinafter referred to as "the Team") organised by the Japan International Cooperation Agency (hereinafter referred to as "JICA") and headed by Mr Masahisa EZAKI, visited Singapore from March 24 to March 31, 1988, for the purpose of evaluating the training course in the field of Construction Project Management in Building (hereinafter referred to as "the Course"), which has been carried out since the Japanese fiscal year of 1983 in Singapore through the Singapore Polytechnic (hereinafter referred to as "the Polytechnic") as agent of the Government of the Republic of Singapore, under the Third Country Training Programme of JICA.

During its stay in Singapore, the Team had a series of discussions with the authorities concerned of the Government of the Republic of Singapore with respect to the progress and achievement of the above-mentioned Course. A summary report on the discussions is attached.

As a result of the discussions, both parties concerned came to the mutual understanding with regards to the point that the intended purpose of the Course has been successfully achieved and thereby agreed to recommend to their respective Governments to conclude the Course.

Singapore, March 30, 1988

  
Masahisa EZAKI  
Head  
Japanese Evaluation Team  
Japan International  
Cooperation Agency  
Japan

  
KHOO Kay Chai  
Principal  
Singapore Polytechnic  
Singapore

## SUMMARY REPORT

### I BACKGROUND

1. Recognising the increasing need for trained professionals in building construction and project management to meet the growing complexity of massive construction projects in the ASEAN countries, the Government of the Republic of Singapore, in collaboration with the Government of Japan, initiated the Regional Training Course in Construction Project Management in Building at the Singapore Polytechnic under the Third Country Training Programme of JICA in the Japanese fiscal year of 1983, based on the Record of Discussions signed by the Head of the Japanese Consultation Team and the Principal of the Singapore Polytechnic on October 1, 1983.
2. The Course has been conducted for the past five (5) years since its inception on a once-a-year basis by the Government of the Republic of Singapore and supported by the Government of Japan under its technical cooperation scheme. In the Japanese fiscal year of 1986, the Course was conducted as one of the Immediate Action Programme of the ASEAN-Pacific Cooperation for Human Resources Development and invitation was extended to South Pacific countries, in addition to ASEAN member countries.
3. Since the Japanese fiscal year of 1986, the title of the Course has been changed from "Regional Training Course in Construction Project Management in Building" to "Regional Training Course in Building Construction & Project Management", to reflect the actual course contents and the topics covered by the Course.
4. The purpose of the Course is to provide participants with comprehensive theoretical and practical training in building construction and project management. The Course aims to merge business skills with the professional competence of the participants and seeks to contribute to the further development of the construction industry in each participating country.
5. On the average, twenty-two (22) participants were accepted to the Course annually. The accumulated number is one hundred and nine (109) for the past five (5) years. The number of participants, by country of origin, is given in Annex I.
6. A comparison of the number of applicants, selected applicants and number of participants is shown in Annex II.
7. The list of participants in each of the five (5) years is attached as Annex III.

.../2

## II JICA'S CONTRIBUTION

1. Under the five-year Course, the Government of Japan, through JICA, has dispatched ten (10) short-term experts to Singapore and accepted one (1) Singaporean counterpart personnel for training, for a period of three (3) weeks, in Japan. A list of the experts is given in Annex IV.
2. The Government of Japan through JICA has provided the funds necessary for the invitation of participants from neighbouring countries and the expenditure for operating the Course during the five-year period.
3. The total cost borne by JICA amounted to forty-two million two hundred thousand (42,200,000) yens. Details are given in Annex V.

## III POLYTECHNIC'S CONTRIBUTION

1. The Polytechnic contributed to the Course in terms of manpower and physical resources:

### 1.1 Manpower

The Organising Committee for the Course in each of the five (5) years comprises the Course Co-ordinator and twelve members of staff drawn from the Polytechnic's Department of Civil Engineering & Building.

Together, they spent 136 man-hours per year preparing for the Course. Another 660 man-hours per year were spent during the actual period of the two-week training course.

### 1.2 Local Speakers

The Polytechnic identified a panel of experienced professionals to lead the various training sessions. Some of the speakers were drawn from among Polytechnic staff. A list of the speakers is attached as Annex VI.

### 1.3 Physical Resources

In addition to the standard audio-visual equipment hired from the venues at which the Course was held, the Polytechnic provided a range of special audio-visual equipment, such as video projection system, multi-system video recorder and receiver, video cameras, computer-aided draughting and design (CADD) facilities and micro-computers.

.../3

#### IV ASSESSMENT OF ACHIEVEMENT

1. The evaluation of the Course by means of a questionnaire to all participants was conducted at the end of each Course. During the Japanese fiscal years of 1983 to 1985, the participants completed an evaluation form designed by the Polytechnic; for the Japanese fiscal years 1986 and 1987, participants were requested to complete the evaluation form supplied by JICA.
2. The feedback received from each year's questionnaire was useful in modifying the curriculum and organisation of the Course in the succeeding year.
3. An analysis of the 1986 and 1987 results is given below:

The results of the answer on each item are quite encouraging, and it is noteworthy that the percentage of the participants who answered "Quite Many" to the item "Application of Techniques & Knowledge" to their duties increased from 13% in 1986 to 29% in 1987. If the answer categories "Many" and "Quite Many" are combined, the figures are even more impressive - 57% in 1986 and 62% in 1987.

##### 3.1 Objectives

With regard to the awareness of the course objectives before coming to Singapore, more than 90% of the participants marked positive answers. All the participants commented that the main objectives of the Course had met their needs and their expectations of the Course were fulfilled.

##### 3.2 Curriculum Design

- (a) In the 1987 Course, 71% of the participants commented that the coverage of the subjects were "Just right" and 80% of them commented that the level was "Just right". In comparison with the 1986 Course, both figures of the 1987 Course have improved.
- (b) As for time allocation among lectures, discussions, exercises and observation trips, the comments of the participants varied a little although half of them commented that it was "Just right". The portion of the exercises should have been increased as half of the participants commented so.
- (c) Considering the capacity and availability of the participants, the intensity and duration of the Course was most suitable.

.../4



### 3.3 Conduct of the Course

- (a) All the aspects of teaching methods of lectures (including methods of instruction and presentation, communication, participants' involvement and participation, quality and quantity of training materials/facilities) were very favourably evaluated by the participants.
- (b) Most of the participants replied that what they learnt in the Course would be applicable in their respective countries.

### 3.4 Administration & Management

- (a) The participants generally commented that the Course was well organised and administered effectively with regard to pre-course information and arrangements for observation tours.
- (b) As for living allowances (hotel accommodation and food) and transportation, most of the participants expressed their satisfaction.
- (c) The social programme was well arranged; consequently, the communication among participants was quite smooth.

### 3.5 Training Outcome

With regard to the attainment of techniques and knowledge, most of the participants expressed that the result was fruitful.

- 4. A summary of the questionnaires completed for the fiscal years 1986 and 1987 is given in Annex VII.
- 5. All ex-participants were also requested to complete a questionnaire designed to obtain feedback to enable JICA to evaluate the achievement of the Course. The results of the analysis of the returned questionnaires from fifteen ex-participants are outlined below:

#### 5.1 Benefits from the Course

Concerning the benefits obtained from the Course, the major comments from the ex-participants are as follows:

- (a) Exchange of experiences among the participating countries as well as that of Singapore and Japan was quite beneficial and encouraging to execute their work in their home countries.

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- (b) Advanced knowledge and techniques in the field of construction obtained from the Course are of use.

#### 5.2 Adaptability of the Course

- (a) All the ex-participants who answered the questionnaires commented that the chances for adaptability of what they acquired through the Course to their present work are many.
- (b) Since the present duties of the ex-participants are now different, it is inevitable that the adaptability of each subject varies.
- (c) However, the subjects relating to Construction Management Techniques (or Construction Planning & Cost Control) received quite a high appreciation from most of them.

#### 5.3 Others

The Course had been conducted mainly in the form of lectures; however, some of the ex-participants feel that the number of site visits could have been increased.

- 6. The Polytechnic has submitted course reports to JICA annually. A summary of the course reports is attached as Annex VIII.

### V CONCLUSION

- 1. In the five (5) years, the Course provided one hundred and nine (109) participants from countries in the ASEAN and South Pacific regions with the opportunity to refresh and update the relevant techniques and knowledge in the field of Construction Project Management in Building, and consequently contributed to the further development of the construction industry in each participating country.
- 2. However, the Polytechnic feels that the Course has fulfilled the current training needs of the region, as the ASEAN countries appear to have increasing difficulties in nominating participants for the Course.
- 3. The Japanese expressed its satisfaction for the outcome of the Course and its appreciation to the Polytechnic for its efforts in conducting the Course.
- 4. Based on the evaluation of the five (5) years of the Course, both parties came to the conclusion that the intended purpose of the Course has been successfully achieved.

REGIONAL TRAINING COURSE IN  
CONSTRUCTION PROJECT MANAGEMENT IN BUILDING

NUMBER OF PARTICIPANTS ACCEPTED TO THE COURSE

Japanese Fiscal Year	1983	1984	1985	1986	1987	Total
Brunei	NA	2	-	2	-	4
Cook Island	NA	NA	NA	1	NA	1
Fiji	NA	NA	NA	1	NA	1
Indonesia	6	6	6	4	6	28
Malaysia	2	1	2	3	3	11
Papua New Guinea	NA	NA	NA	1	NA	1
Philippines	4	-	5	-	-	9
Singapore	6	6	6	6	6	30
Solomon Islands	NA	NA	NA	2	NA	2
Thailand	4	5	4	2	6	21
Tonga	NA	NA	NA	1	NA	1
Total	22	20	23	23	21	109

NA = Not Applicable

REGIONAL TRAINING COURSE IN  
CONSTRUCTION PROJECT MANAGEMENT IN BUILDING

NUMBER OF APPLICANTS & PARTICIPANTS ON ANNUAL BASIS

Japanese Fiscal Year	Planned Intake	Applicants	Applicants Authorised	Actual Participants
1983 Mar 18, 84 - Apr 1, 84	20 (4)	29 (8)	22 (6)	22 (6)
1984 Mar 25, 85 - Apr 6, 85	22 (4)	25 (10)	20 (6)	20 (6)
1985 Mar 10, 86 - Mar 22, 86	22 (4)	35 (10)	23 (6)	23 (6)
1986 Mar 9, 87 - Mar 21, 87	26 (4)	28 (9)	23 (6)	23 (6)
1987 Mar 14, 88 - Mar 26, 88	24 (4)	28 (12)	21 (6)	21 (6)
Total	114 (20)	145 (49)	109 (30)	109 (30)

( ) = Number of Singaporeans

SINGAPORE POLYTECHNIC  
Japan-Singapore Third Country Training Programme 1983  
Training Course in Building Construction & Project Management  
19 - 31 March 1984  
Equatorial Hotel, Singapore

List of Participants, by Country

Country	Name & Address of Participant	Employment
Indonesia	Ir Handojo Kristyanto	Head Corporate Planning Department P T Pembangunan Jaya Gedung Jaya 11th Floor Jl M H Thamrin 12 Jakarta Pusat
	Ir Nasruddin	Directorate of Housing Directorate General Cipta Kerya Department of Public Works Jl Wijaya I/68 Kebayoran Baru Jakarta Selatan
	Ir Nursito	Manager Building Construction Division P T Wijaya Karya Jl D I Panjaitan Kav 9 Jakarta
	Ir Wastu Pragantha	Head Building Construction & Conservation Jakarta Municipal Government Jl Taman Jatibaru 1 Jakarta 10210
	Ir Pratikno	Branch Manager P T Pembangunan Perumahan Jl M H Thamrin 57 Jakarta Pusat

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Country	Name & Address of Participant	Employment
Indonesia	Ir Bambang Setiarto	Deputy Chief Building & Conservation Service Jakarta Municipal Government Jl Taman Jatibaru 1 Jakarta Pusat
Malaysia	Che Mohamed Che Jusoh	Assistant Director Inspectorate Unit Public Works Department Kuala Lumpur
	Low Kee Yang	Assistant Director Inspectorate Unit Public Works Department Kuala Lumpur
Philippines	Harry G Ponce	Assistant Chief Industry Development Specialist Construction Industry Authority of the Philippines 6th Floor Trade & Industry Centre Tordesillas St Salcedo Village Makati Metro Manila
	Sonia T Valdeavilla (Ms)	Chief International Project Monitoring Division 8-C 11th Floor Jamboree Kanuning Quezon City
	Antonia B Berron	Project Manager Construction Manpower Development Foundation 4th Floor Trade & Industry Centre Tordesillas St Salcedo Village Makati Metro Manila

.../3

Country	Name & Address of Participant	Employment
Philippines	Rolando V Chua	Project Manager Construction Manpower Development Foundation 4th Floor Trade & Industry Centre Tordesillas St Salcedo Village Makati Metro Manila
Thailand	Akdej Homsesthi	Deputy Director Construction Supervisory Division Bureau of Public Works Bangkok Metropolitan Administration Bangkok
	Chaivat Pattanasin	Assistant Head Engineering Utilities Division National Housing Authority Klong Chan Bangkapi Bangkok 10240
	Sopon Prasitratsint	Assistant Head Project Administration Project & Construction Department National Housing Authority Klong Chan Bangkapi Bangkok 10240
	Prasit Sathorn	Civil Engineer Level C5 Technical Divison Bureau of Public Works Bangkok Metropolitan Administration Bangkok

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Country	Name & Address of Participant	Employment
Singapore	Chee Kok Weng	Senior Architect Housing & Development Board M N D Building Maxwell Rd Singapore 0106
	Ho Mok Huat	Executive Civil/Structural Engineer Urban Redevelopment Authorit U R A Building Maxwell Rd Singapore 0106
	Daniel Lim Thiam Lee	Project Manager Ong Chwee Kou Building Contractors (Pte) Ltd 161 Kg Ampat #01-01 O C K Industrial Building Singapore 1336
	Teh Hong Kia	Project Manager Low Keng Huat Cosntruction Co (S) Pte Ltd 24 Peck Seah Street #04-00 Singapore 0207
	Wong Kim Yuan	Operations Manager Metrobilt Construction Pte Ltd 18 Howard Rd Singapore 1336
	Looi Tek Leong	Principal Civil Engineer Port of Singapore Authority P S A Towers 3 Maritime Sq Singapore 0409

File : lsel84  
Date : 11 March 1988  
Updated: 29 March 1988



SINGAPORE POLYTECHNIC  
 Japan-Singapore Third Country Training Programme 1984  
 Training Course in Building Construction & Project Management  
 25 March - 6 April 1985  
 Equatorial Hotel, Singapore

List of Participants, by Country

Country	Name & Address of Participant	Employment
Thailand	Wornten Pankhao (Mrs)	Senior Architect Department of Public Works Construction Divison Lanluang Road Bangkok  Tel: 282 4872
	Pakdipong Nakasuwan	Civil Engineer 5 Department of Public Works Construction Divison Lanluang Road Bangkok  Tel: 282 4872
	Chitr Lilavivat	Project Manager Union Development Co Ltd 12th Floor Orakarn Building 26/41 Chidlom Road Ploenchit Bangkok 10500  Tel: 251 3356/8
	Thongtik Takungvidh	Assistant Manager Thai Contractors Association 110 Wireless Road Bangkok 10500  Tel: 251 0697/252 2953
	Anuvat Tantivong	Architect Public Works Department 2 Lam Luang Road Bangkok  Tel: 281 5734/281 5822

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Country	Name & Address of Participant	Employment
Indonesia	Ir Santoso Hardjendro	Branch Manager P T Nindya Karya Jln Letjen M T Haryono Kav 22 Jakarta 13630  Tel: 803276
	Ir Soemargadi	Branch Manager P T Nindya Karya Jln Letjen M T Haryono Kav 22 Jakarta 13630  Tel: 803276
	Ir Umarjadi Reksodidjojo	Branch Manager P T Nindya Karya Jln Letjen M T Haryono Kav 22 Jakarta 13630  Tel: 803276
	Ir Didiek Subandono	Branch Manager P T Nindya Karya Jln Letjen M T Haryono Kav 22 Jakarta 13630  Tel: 803276
	Ir Atyanto Mochtar	Head of Public Buildings Services in Bandung Ministry of Public Works Kepala Jawatan Gedung-gedung Negara Jln Lengkong Besar 10 Bandung  Tel: 59693

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Country	Name & Address of Participant	Employment
Indonesia	Ir Poetoet Waskito Budi	Directorate of Public Buildings Ministry of Public Works Jln Kramat Raya 63 Jakarta Pusat  Tel: 348178
Brunei	Mr Haji Zulkipli b Haji Abdul Hamid	Quantity Surveyor Quantity Surveying Section Ministry of Development Building Bandar Seri Begawan  Tel: 25911
	Mr Pengiran Othman b Pengiran Omar	Acting Senior Architect Architect Section Ministry of Development Building Bandar Seri Begawan  Tel: 25911 x 280
Malaysia	Abdul Jalil b Alang Endut	P W D Headquarters Jln Mahameru Kuala Lumpur  Tel: 919011 x 3706
Singapore	Aloysius Chua Teck Seng	Partner Design Development Architects 10 Anson Road #32-03 International Plaza Singapore 0207  Tel: 223 8977
	Leong Charn Huen	Partner Regional Development Consortium Architects 545 Orchard Road #16-08 Far East Shopping Centre Singapore 0923  Tel: 737 1717

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Country	Name & Address of Participant	Employment
Singapore	Eng Cheng Yong	Senior Civil Engineer Housing & Development Board Maxwell Road Singapore 0106  Tel: 225 4444 x 3621
	Leong Kok Hoong	Higher Executive Quantity Surveyor Public Works Department Ministry of National Development 11th Storey M N D Building Maxwell Road Singapore 0106  Tel: 222 0044 x 402
	Alan Ho Cheok Cheng	Executive Architect Urban Redevelopment Authority U R A Building 45 Maxwell Road Singapore 0106  Tel: 221 6666 x 186
	Wong Khuan Woon	Executive Engineer Public Works Department Ministry of National Development 11th Storey M N D Building Maxwell Road Singapore 0106  Tel: 344 8251

File: 1sel85  
Date: 11 March 1988

SINGAPORE POLYTECHNIC  
 Japan-Singapore Third Country Training Programme 1985  
 Training Course in Building Construction & Project Management  
 10 - 22 March 1986  
 Equatorial Hotel, Singapore

List of Participants, by Country

Country	Name & Address of Participant	Employment
Thailand	Rhooanusas Niyom DOB: 03.09.52 51/22 Soi Chokammaysuk Krungthep-Nonthaburi Road Amphur Meung Nonthaburi  Tel: -	Project Engineer Thai Konoike Construction Co Ltd 12th Floor Regent House 183 Rajdamri Road Pathumwan Bangkok 10500  Tel: 251 3138/9
	Seree Phonnayramit DOB: 17.02.57 376 Sri Din-Dange Market Din-Dange Road Dyathai Bangkok 10400  Tel: -	Project Manager Thai Konoike Construction Co Ltd 12th Floor Regent House 183 Rajdamri Road Pathumwan Bangkok 10500  Tel: 251 3138/9
	Prasong Tharachai DOB: 02.05.46 101 Mooban Seri Soi 7 Seri 7 Suanluang Prakanong Bangkok 10250  Tel: 314 2259	Vice-President Southeast Asia Technology Co Ltd 123 Sukhumvit 57 Bangkok 10110  Tel: 392 2711 Cable: 20417 SEATEC TH
	Ekasit Limsuwan (Dr) DOB: 17.09.47 700 Soi Thanakarn #3 Ngamwongwan Road Nontaburi Thailand 11000  Tel: 588 0041	Associate Professor Civil Engineering Department Chulalongkorn University Bangkok 10500  Tel: 252 5001

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Country	Name & Address of Participant	Employment
Indonesia	Ir Tripomo DOB: 05.09.47 Jln Bambu Ampel II-C/17 Kompleks Pasar Minggu Indah Jakarta Selatan  Tel: -	Unit Manager Perum Perumas Unit Karawang Jln Melati No 4 Guro II Karawang Jawa Barat  Tel: 61369
	Ir Soedmanto B Soedarso DOB: 27.08.50 Komplek Arcamanik Blok A II-16 Bandung  Tel: -	Chief of Construction Div Perum Perumnas Caban IV Jln Surapati 84 Bandung  Tel: -
	Mr Mochamad Said Fachruddin DOB: 15.01.39 6 Jln Menteng Palbatu Jakarta  Tel: 822039	Chief of Technical Dept P T Adhi Karya 39 Jln Ir H Juanda Jakarta  Tel: 358889 Telex: 47563 ADHI IA
	Sugeng DOB: 16.09.42 Jln Mesjid Mustaqiem II/14 Tomang Jakarta Barat D K I Jakarta  Tel: 594942	Deputy General Manager P T Waskita Karya Jln Hang Tuah Raya 26 Kebayoranbaru Jakarta Selatan D K I Jakarta  Tel: 747545
	Inam Santoso DOB: 10.05.55 Jln Bona Indah Gardens II A/17 Lebak Bulus I Jakarta Selatan  Tel: 765615	Head Project Evaluation Section Directorate of Public Buildings Jln Kramat Raya 63 Jakarta Pusat  Tel: 347344
Esron Stefanus Heruk DOB: 03.06.41 Jln Pulo Asem Utara VI/8 Rawamangun III Jakarta Timur  Tel: 489 7513	Technical Manager Building Construction Div P T Wijaya Karya Jln D I Panjaitan Kav 9 Jakarta Timur  Tel: 819 2808	

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Country	Name & Address of Participant	Employment
Philippines	Caleste Millendez Malliza (Ms) DOB: 174 Provenir St Pasay City Metro Manila  Tel: 590432	National Capital Region Ministry of Public Works & Highways 2nd Street Port Area Manila  Tel: 498281
	Arturo M Santos DOB: 10.11.34 267 J Aranda St Gatchalian Subd Las Pinas  Tel: -	P M O for Special Buildings Ministry of Public Works & Highways Bonifacio Drive Port Area Manila  Tel: 471806
	Elvin Ilagan Caringal DOB: 18.04.50 1821 E Jose Abad Santos Sta Cruz Manila  Tel: 210638	Supervising Civil Engr III Building Section Ministry of Public Works & Highways Region IV-A E D S A Quezon City  Tel: 974996
	Emmanuel P Cuntapay DOB: 23.12.48 Cnr Atherton & Adrian Sts North Fairview Park Sub-Div Quezon City  Tel: 903231	Supervising Architect Ministry of Public Works & Highways Bonifacio Drive Port Area Manila  Tel: 408081/408183
	Gloria C Briones DOB: 12.06.44 Virgo St Villarica Sub-Div Cainta Rizal  Tel: -	Civil Engineer Buildings Division Bureau of Construction Ministry of Public Works & Highways Bonifacio Drive Port Area Manila

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Country	Name & Address of Participant	Employment
Malaysia	Thomas Anthon Jejasingam Thamboe DOB: 23.12.41 Lot 2904 Taman Puncu Emas Jln Toh Ungku Seremban 70100 Negri Sembilan  Tel: -	Civil Engineer Public Works Department Negri Sembilan
	Mohd Jais b Basiran DOB: 07.01.55 41 Jln Baru 43000 Kajang Selangor  Tel: -	Senior Architect J K R Headquarters (Public Works Department) Jln Mahameru Kuala Lumpur
Singapore	Sng Cheng Keh 25 Tan Kim Cheng Road #02-25 Singapore 1026	Housing & Development Board Maxwell Road Singapore 0106
	Ng See Boon Block 1P Pine Grove #04-78 Singapore 2159	Housing & Development Board Structural Engineering Dept 16th Storey M N D Building Maxwell Road Singapore 0106
	Yap Cheng Chwee Block 1F Gillman Heights #17-51 Singapore 0410	Structural Design & Investigation Branch Public Works Department Robinson Road Offices 77 Robinson Road #03-00 S I A Building Singapore 0106
	Loke Kwang Yoon 24A Robin Road Singapore 1025	P & T Architects 17-06 Clifford Centre Singapore 0104

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Country	Name & Address of Participant	Employment
	Lim Chee Ming 4 Jln Riang Singapore 1335	Urban Redevelopment Authority U R A Building 45 Maxwell Road Singapore 0106
	Andrew F W Heng 151-D King's Road #11-13 Singapore 1026	985 Bukit Timah Road Magnet House Singapore 2158

File: 1sel86  
Date: 11 March 1988

SINGAPORE POLYTECHNIC  
 Japan-Singapore Third Country Training Programme 1986  
 Training Course in Building Construction & Project Management  
 9 - 21 March 1987  
 Marina Mandarin, Singapore

List of Participants, by Country

	Name & Address of Participant	Employment
1	<u>ASEAN Countries</u>	
	Brunei	
1	Mr Mohd Zaini Haji Ali Block B-26 Unit No 1 Anggerek Desa Flat Berakas Brunei Tel: 30546	Architect Public Works Department P O Box 515 Bandar Seri Begawan Brunei Tel: 41911
	DOB: 23.12.57	
2	Mr A Hamidon b Haji Md Tahir 107 Jln Penglima Kuala Belait Brunei Tel: 31469	Senior Executive Engineer Jabatan Kerja Raya (Public Works Department) Kuala Belait Brunei Tel: 34311
	DOB: 03.01.53	
	Indonesia	
1	Mr Victor H Sianipar Jln Layur Blok D/32 Jakarta 13220 Indonesia Tel: 489 4552	Chief Engineer PT Total Bangun Persada Jln Letjen S Parman No 106 Jakarta 11440 Indonesia Tel: 592373/592935/593195 Cable: TOTAL BADA
	DOB: 28.07.51	
2	Mr Edy Rahenyantono SawoRaya 5 Bukit Duri Tebet Jakarta Selatan Indonesia Tel: -	Staff of Technology Construction Section Bureau of Construction Industry Development Patimura 20 Kebayoran Baru Jakarta Selatan Indonesia Tel: 774371
	DOB: 29.09.54	

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Name & Address of Participant	Employment
Indonesia (continued)	
3 Mr Guratno Hartono Jln Pulloasem Timur I No 1 Jakarta Timur 13220 Indonesia Tel: 489 3673  DOB: 15.08.55	Head of Section of Building Guidance Department of Public Works Directorate of Buildings Jln Kramat Raya 63 Jakarta Pusat 10450 Indonesia Tel: 347678
4 Mr Gusnando Sjamsu Anwar Jln Duren Tiga VII No 45 Jakarta Selatan Indonesia Tel: 799 3463	Engineer PT Wijaya Karya Jln D I Panjaitan Kav 9 Jakarta Timur Indonesia Tel: 819 2808 Indonesia
Malaysia	
1 Mdm Siti Normahjasni Nordin 170 Jln Setia Gombak Setia Malaysia Tel: 689 6350  DOB: 12.06.51	Architect Public Works Department Medical Works Branch P W D Headquarter Jln Mahameru Kuala Lumpur Malaysia Tel: 291 9011 x 3720
2 Mdm Khatijah bte Mohd Ali Piah 26 SS 18/4B Subang Jaya 47500 Petaling Jaya Selangor Malaysia Tel: 733 7095  DOB: 06.05.52	Architect Public Works Department Cawangan Bangunan Ibu Pejabat J K R Jln Mahameru 50582 Kuala Lumpur Malaysia Tel: 291 9011 x 2415
3 Mr Ibrahim b Haji Yakub J K R 640 Jln Kampong Sireh 15050 Kota Bharu Kelantan Tel: 782054  DOB: 31.03.46	Deputy Director Public Works Department Jabatan Kerja Raya Kelantan 15050 Kota Bharu Kelantan Malaysia Tel: 784040

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	Name & Address of Participant	Employment
	Singapore	
1	Mr Ler Seng Ann 363-B East Coast Road Katong Omega Apartments Singapore 1542 Republic of Singapore  DOB: 21.10.56	Civil/Structural Engineer Urban Redevelopment Authority 45 Maxwell Road Singapore 0106 Republic of Singapore
2	Mr Leong Khoon Kin Apartment Block 26 Tanglin Halt Road #06-68 Singapore 0314 Republic of Singapore  DOB: 09.08.37	Executive Architect Schools Construction Branch Property Development Division Public Works Department Ministry of National Development 10th Storey M N D Building Maxwell Road Singapore 0106 Republic of Singapore
3	Mr Ling Lee Teck Apartment Block 148 Hougang Street 11 #02-94 Singapore 1953 Republic of Singapore  DOB: 09.08.56	Executive Structural Engineer Structural Engineering Dept Department Housing & Development Board 16th Storey M N D Building Maxwell Road Singapore 0106 Republic of Singapore
4	Mr Bernard Loh Ho Sang Apartment Block 552 Jurong West Street 42 #06-325 Singapore 2264 Republic of Singapore  DOB: 23.08.55	Project Manager Lee Kim Tah (Pte) Ltd 80 Marine Parade Road #19-00 Parkway Parade Singapore 1544 Republic of Singapore
5	Mr Quek Cheng Kay Apartment Block 66 Telok Blangah Drive #20-210 Singapore 0410 Republic of Singapore  DOB: 12.01.53	Associate Architect EC Architects 50 Jln Sultan #08-09/10 Jln Sultan Centre Singapore 0719

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Name & Address of Participant	Employment
Singapore (continued)	
6 Mr Chen Chee Cheong Apartment Block 123 Geylang East Central #02-98 Singapore 1438 Republic of Singapore  DOB: 21.05.51	Project Manager See Hua Constrn Pte Ltd Block 82 Geylang Bahru #01-2582 Singapore 1233 Republic of Singapore
Thailand	
1 Mr Surachart Kijcharoensakkul 92/201 Soi Thaveesook Sukhapibal II Road Klong Jan Bangkapi Bangkok Thailand Tel: -  DOB: 30.01.51	Project Manager National Housing Authority Department of Construction Management Klong Chan Bangkapi Bangkok Thailand Tel: 377 2010-23 x 291
2 Mr Vija Chiasakul 450 Ladprao Road Bangkhaen Bangkok 10900 Thailand Tel: 512 1121  DOB: 26.04.50	Project Engineer National Housing Authority Department of Construction Klong Chan Bangkapi Bangkok Thailand
2 <u>South Pacific Countries</u>	
Cook Islands	
1 Mr Tearoa Tomokino Depot 9 Matavera Rarotonga Cook Islands Tel: 23020  DOB: 22.08.47	Trade Training Officer Public Service Commission National Trade Training Centre P O Box 24 Arorangi Rarotonga Cook Islands Tel: 20550

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Name & Address of Participant	Employment
Fiji	
1 Mr Abdul Hafiz Crown Quarters 86 Vatunibale Labasa Fiji Tel: -  DOB: 14.07.53	Senior Construction Engineer Public Works Department c/- Divisional Engineer Northern Public Works Department Labasa Fiji Tel: 82044
Papua New Guinea	
1 Mr Gabe Konio P O Box 1108 Boroko Papua New Guinea  DOB: 1952	Architect Department of Works P O Box 1108 Boroko Papua New Guinea
Solomon Islands	
1 Mr Casper Luiramo Solomon Islands Housing Authority P O Box 426 Honiara Solomon Islands  DOB: 03.05.58	Operations Controller Solomon Islands Housing Authority P O Box 291 Honiara Solomon Islands
2 Mr Nelson Koroi Solomon Islands Housing Authority P O Box 291 Honiara Solomon Islands  DOB: 17.09.48	General Manager Solomon Islands Housing Authority P O Box 291 Honiara Solomon Islands
Tonga	
1 Mr Siaosi Peleki Moala Tatakamotonga Mu'a Tonga Tel: 31099  DOB: 15.05.57	Architect Ministry of Works P O Box 52 Nuku'alofa Tonga Tel: 21100

File: lsel87

SINGAPORE POLYTECHNIC  
 Japan-Singapore Third Country Training Programme 1987  
 Training Course in Building Construction & Project Management  
 14 - 26 March 1988  
 Century Park Sheraton Hotel, Singapore

List of Selected Participants

Country	Name & Address of Participant	Employment
Thailand	Vichai Choeikate DOB: 23.03.41 10 Soi 13 (Seree I) Ramkumhaeng 24 Road Huamark Bangkok Bangkok 10250  Tel: 314 5763	Civil Engineer National Housing Authority Construction Project Department 1 Project Management Division 1  Tel: 377 2010 x 176
	Aran Karukose DOB: 01.02.47 1/68 Soi 3 Ramintra Road Bangkok Bangkok 10220  Tel: 510 3094	Architect National Housing Authority Construction Project Department 2 Project Management Division 6  Tel: 377 2010 x 291
	Charoon Peingumpust DOB: 05.02.55 210/8 Soi Indramara 26 Sutisan Road Bangkok  Tel: 277 2546	Project Engineer Summit Grade Ltd, Part 10 Sukhothai Soi 5 Dusit Bangkok 10300  Tel: 243 0066-71
	Somnainy Sriwana (Miss) DOB: 06.08.53 9/34 Soi Kingphet Petchaburi Road Bangkok 10400  Tel: 215 9908	Civil Engineer Design & Construction Division Department of Vocational Education Ministry of Education Bangkok 10300  Tel: 282 9120

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Country	Name & Address of Participant	Employment
Thailand	Kitcha Ieksukhum DOB: 03.06.46 580/137 Asoka - Dindang Road Huay Kwang Bangkok  Tel: 246 2845	Assistant Chief Construction Supervision Sub-Div Construction Division Public Works Department Pan-Fah Bangkok  Tel: 282 4872
	Thamnob Sanguandikul DOB: 23.06.43 36/36 Charansanitwong 46 Bangkoknoi Bangkok 10700  Tel: 424 5946	Senior Engineer Department of Public Works 2 Lamnuang Road Pomprab Bangkok 10100  Tel: 281 1953
Indonesia	Daryatno DOB: 02.08.45 Jl Ungaran No 3 Jakarta 12980  Tel: 829.7352	Head of Operation Bureau PT Pembangunan Perumahan Jl M H Thamrin No 57 Jakarta Pusat  Tel: 322.609/336.970 Cable: NHDCO JKT
	Teddi Suherman DOB: 26.04.50 Jl Gatot Subroto No 34 Bandung  Tel: -	General Manager PT Waskita-Karya Jl Hang Tuah Raya 26 Kebayoran Baru Jakarta Selatan  Tel: 739.7545 Cable: WASKITA IA JAKARTA
	Zulkifli Syarif DOB: 13.10.48 Jl Cendana No 5 Rt 16 / 02 Kel Cipinang Muara Jaktim  Tel: -	Estimator PT Adhi Karya (Persero) Jl Raya Pasar Minggu Km 18 Jakarta Selatan  Tel: 799.0965/799.4751

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Country	Name & Address of Participant	Employment
Indonesia	Antonius Budiono DOB: 04.08.54 Jl Sanjaya I/31 Kebayoran Baru Jakarta Selatan  Tel: 770.378	Head of Section Directorate of Buildings Directorate General of Human Settlements Ministry of Public Works Jl Kramat Raya 63 Jakarta Pusat  Tel: 347.678/346.939
	Suryatmana Sukandar DOB: 16.02.52 Jl Raya Perumnas D 54/18 Klender Jakarta Timur  Tel: -	Civil Engg Sub-Division Head Perum Perumnas Jl D I Panjaitan Kav 11 Jakarta Timur  Tel: 819.4807 Cable: 48432 PERUMNASIA
	Tribudi Santoso Rajabulan DOB: 22.08.51 Komplek Depkes II Cibening D4 Bekasi Jawa Barat  Tel: -	Chief of Technical Building Construction Div PT Wijaya Karya Jl D I Panjaitan Kav 9 Jakarta Timur  Tel: 819.2808 Telex: 48112 PT WIKA I

.../4

Country	Name & Address of Participant	Employment
Malaysia	Ms Aziah bte Ibrahim DOB: 17.01.53 6 Jln Changkat Persekutuan 50480 Kuala Lumpur  Tel: 274 5295	Architect Department of National Housing Ministry of Housing & Local Government 46 Jln Dungun Damansara Heights 50782 Kuala Lumpur  Tel: 254 0205 x 36
	Mrs Rohani bte Haji Ali DOB: 23.07.59 Lot 154 Jln Bidara 2/3 Taman Bidara 68100 Batu Caves Selayang Selangor  Tel: -	Civil Engineer Department of National Housing Ministry of Housing & Local Government 46 Jln Dungun Damansara Heights 50782 Kuala Lumpur  Tel: 254 0205 x 26
	Norzan b Mohd Yusof DOB: 21.05.56 125 Jln Setia Kasih Bukit Damansara Kuala Lumpur  Tel: 254 9562	Senior Executive Engineer J K R Headquarters (Public Works Department) Jln Mahameru Kuala Lumpur  Tel: 292 1144 x 5

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Country	Name & Address of Participant	Employment
Singapore	Wong Ting Fatt	Managing Director Alpha Builders Pte Ltd 776 North Bridge Rd Singapore 0719  Tel: 297 1504
	Chew Song Kim	Project Manager Reliance Contractors 3 Lim Teck Kim Rd #08-01 STC Building Singapore 0208  Tel: 669 1957, 225 8633
	Lee Teng Koh	Project Engineer Drainage Department Ministry of the Environment 40 Scotts Rd #18-00 Environment Building Singapore 0922  Tel: 732 7733
	Ling Siew Hua	Architect Ong & Ong Architects 570 Thomson rd #11-03 Singapore 1129  Tel: 258 8666
	Mrs Sally Chua Wai Ping	Executive Architect Urban Redevelopment Authority 45 Maxwell Rd URA Building Singapore 0106  Tel: 321 8170
	Tan Seng Chuan	Site Manager Hock Chuan Ann Construction Pte Ltd Block 164 Bukit Merah Central #03-3619/3621 Singapore 0315  Tel: 273 0266

File : lsel88  
Date : 4 March 1988  
Updated: 8 March 1988/28 March 1988

REGIONAL TRAINING COURSE IN  
CONSTRUCTION PROJECT MANAGEMENT IN BUILDING

LIST OF JAPANESE EXPERTS

1983

1. Dr Susumu Fujimatsu, Ministry of Construction
2. Mr Hiroki Kawai, Nikken Sekkei Co Ltd

1984

1. Mr Shigeto Fujimori, Kajima Corporation
2. Mr Issei Nishitome, Kajima Corporation

1985

1. Mr Masaru Kaido, Ohbayashi Corporation
2. Mr Teruo Ohkawa, Ohbayashi Corporation

1986

1. Mr Shinji Matsumoto, Shimizu Construction Co Ltd
2. Mr Naoto Mine, Shimizu Construction Co Ltd

1987

1. Mr Goji Tomomori, Ministry of Construction
2. Mr Hiroshi Onisawa, Ministry of Construction

REGIONAL TRAINING COURSE IN  
CONSTRUCTION PROJECT MANAGEMENT IN BUILDING

JICA'S CONTRIBUTION

Japanese Fiscal Year	Operational Cost Borne by JICA	Short-Term Experts Dispatched by JICA		Training of Singaporean Counterpart Personnel in Japan		Total Cost Borne by JICA
		Number	Cost	Number	Cost	
1983	6,097	2	951	1	996	8,044
1984	7,811	2	1,406	-	-	9,217
1985	6,751	2	596	-	-	7,347
1986	9,237	2	2,049	-	-	11,286
1987	4,864	2	1,369	-	-	6,233
Total	34,760	10	6,371	1	996	42,127

(Cost: Thousand Yens)

REGIONAL TRAINING COURSE IN  
CONSTRUCTION PROJECT MANAGEMENT IN BUILDING

LIST OF LOCAL SPEAKERS

1983

1. Mr R W Harrington, Singapore Polytechnic
2. Mr Surinder Singh, National University of Singapore
3. Mr Gan Cheong Eng, National University of Singapore
4. Mr Wong Chi Meng, Times Organisation
5. Mr Harry Wong, Ministry of Labour
6. Mr Chua Yang Hong, Low Keng Huat Construction Co Pte Ltd
7. Mr Kiron Chatterjee, Electronic Data Systems Pte Ltd
8. Miss Angeline Ang, Electronic Data Systems Pte Ltd
9. Mr Ng Man Choong, Singapore Polytechnic
10. Mr Lim Meng Tong, Singapore Polytechnic
11. Mr Lau Joo Ming, Housing & Development Board
12. Mr Lim Chong Sit, Housing & Development Board

1984

1. Dr Yeo Khim Teck, Nanyang Technological Institute
2. Mr Surinder Singh, National University of Singapore
3. Mr Lee Tat Man, Nanyang Technological Institute
4. Mr Gan Cheong Eng, National University of Singapore
5. Mr Harry Wong, Ministry of Labour
6. Mr Lau Joo Ming, Housing & Development Board
7. Mr Lim Chong Sit, Housing & Development Board
8. Mr Chan Wai Ming, Forbes Management Consultants
9. Mr M Yasu, Kajima Corporation

1985

1. Dr Tony Chi, Chi & Associates
2. Mr Harry Wong, Ministry of Labour
3. Mr Martin Rush, Q E Design System (S) Pte Ltd
4. Mr Lim Ewe Chye, Nanyang Technological Institute
5. Mr Peter Woods, National University of Singapore
6. Mr Boo Geok Kwang, Singapore Fire Service
7. Mr Perumalswamy, T Y Lin (S E A) Pte Ltd
8. Dr Tan Guan, T Y Lin (S E A) Pte Ltd
9. Mr Darcy McColl, Integrated Business Solutions (S) Pte Ltd
10. Mr Lau Joo Ming, Housing & Development Board

.../2

1986

1. Mr Harry Wong, Ministry of Labour
2. Mr Peter Woods, National University of Singapore
3. Mr Lau Joo Ming, Housing & Development Board
4. Mr Loh Soo Eng, DBS Land
5. Mr Charles Middleton, Singapore Polytechnic
6. Mr Darcy McColl, Hornet Computer Systems
7. Mr Tony Adamo, Singapore Polytechnic
8. Dr Tony Chi, Chi & Associates

1987

1. Mr Harry Wong, Ministry of Labour
2. Mr Peter Woods, National University of Singapore
3. Dr Surinder Singh, National University of Singapore
4. Mr Lau Joo Ming, Housing & Development Board
5. Mr Tony Adamo, Singapore Polytechnic
6. Dr Stanley Richardson, Nanyang Technological Institute
7. Mr Jimmy Koh, Singapore Contractors' Association Limited
8. Mr Michael Hwang, Allen & Gledhill Advocates & Solicitors
9. Mr Chung Yue Soh, Atlas Copco Pte Ltd

REGIONAL TRAINING COURSE IN  
CONSTRUCTION PROJECT MANAGEMENT IN BUILDING

BRIEF SUMMARY OF JICA QUESTIONNAIRE TO THE PARTICIPANTS OF THE COURSES  
IN THE JAPANESE FISCAL YEARS OF 1986 AND 1987

	1986	1987
<b>I OBJECTIVES</b>		
1. To what extent were you aware of the objectives of this training programme before you came to Singapore?		
Fully aware	17%	15%
Highly aware	31%	45%
Aware	44%	35%
Vaguely aware	4%	5%
Not aware at all	4%	0%
2. Please indicate whether the main objectives were:		
Fully met	0%	5%
Almost met	78%	62%
Just met	18%	33%
Fairly met	4%	0%
Not met	0%	0%
3. In your opinion, to what extent was your expectation of this Course fulfilled?		
Completely fulfilled	9%	10%
Adequately fulfilled	65%	47%
Fulfilled	13%	33%
Fairly fulfilled	13%	10%
Not fulfilled	0%	0%
<b>II CURRICULUM DESIGN</b>		
1. Coverage, Level, Time Allocation, Intensity and Duration		
(a) Coverage of the subjects		
Just right	61%	71%
Somewhat broad	26%	10%
Somewhat incomplete	9%	14%
Too broad	4%	5%
Incomplete	0%	0%

.../2



	1986	1987
(b) Level		
Just right	66%	80%
Somewhat advanced	17%	10%
Somewhat elementary	13%	10%
Too advanced	4%	0%
Too elementary	0%	0%
(c) Time Allocation to:		
Lectures		
Just right	74%	62%
Somewhat little	13%	10%
Somewhat much	9%	23%
Too little	4%	5%
Too much	0%	0%
Discussions		
Just right	74%	43%
Somewhat little	22%	47%
Too little	4%	5%
Somewhat much	0%	5%
Too much	0%	0%
Exercises		
Just right	42%	29%
Somewhat little	45%	47%
Too little	13%	5%
Somewhat much	0%	19%
Too much	0%	0%
Observation Trips		
Just right	83%	62%
Somewhat little	9%	38%
Somewhat much	4%	0%
Too little	4%	0%
Too much	0%	0%
(d) Intensity		
Just right	70%	76%
Somewhat hard	21%	19%
Somewhat leisurely	9%	5%
Too hard	0%	0%
Too leisurely	0%	0%

.../3

	1986	1987
(e) Duration		
Just right	79%	52%
Somewhat short	13%	5%
Too short	4%	0%
Too long	4%	5%
Somewhat long	0%	38%

### III COURSE CONDUCT

#### 1. Teaching Method

##### Method of Instruction & Presentation

Outstanding	13%	0%
Very good	40%	52%
Good	47%	48%
Poor	0%	0%
Very poor	0%	0%

##### Communication Language

Outstanding	6%	0%
Very good	47%	52%
Good	47%	48%
Poor	0%	0%
Very poor	0%	0%

##### Participants' Involvement & Participation

Outstanding	14%	0%
Very good	50%	33%
Good	36%	62%
Poor	0%	5%
Very poor	0%	0%

##### Quality & Quantity of Training Materials

Outstanding	14%	0%
Very good	57%	38%
Good	29%	62%
Poor	0%	0%
Very poor	0%	0%

.../4

	1986	1987
<b>Quality &amp; Quantity of Training Facilities</b>		
Outstanding	14%	0%
Very good	50%	38%
Good	36%	62%
Poor	0%	0%
Very poor	0%	0%

2. Application of Techniques & Knowledge

Quite many	13%	29%
Many	44%	33%
Fairly many	39%	38%
Not many	4%	0%
Not at all	0%	0%

IV ADMINISTRATION & MANAGEMENT

1. Co-ordination for Conduct of Course

Outstanding	9%	10%
Very good	57%	62%
Good	34%	28%
Poor	0%	0%
Very poor	0%	0%

2. Pre-Course Information (General Information Brochure)

Outstanding	0%	52%
Very good	41%	38%
Good	41%	10%
Poor	18%	0%
Very poor	0%	0%

3. Arrangements for Observation Trips

Outstanding	9%	0%
Very good	27%	53%
Good	41%	33%
Poor	23%	14%
Very poor	0%	0%

4. Accommodation & Food

Outstanding	10%	0%
Very good	40%	63%
Good	40%	32%
Poor	10%	5%
Very poor	0%	0%

.../5

	1986	1987
5. Allowances		
Too much	5%	0%
Somewhat much	5%	7%
Reasonable	40%	93%
Somewhat little	40%	0%
Too little	10%	0%
6. Transportation		
Very convenient	10%	21%
Convenient	28%	42%
Good	58%	31%
Somewhat inconvenient	4%	6%
Very inconvenient	0%	0%
7. Social Programme		
Outstanding	4%	5%
Very good	32%	38%
Good	55%	47%
Poor	9%	5%
Very poor	0%	0%
8. Communication among Participants		
Outstanding	9%	10%
Very good	48%	33%
Good	39%	57%
Poor	4%	0%
Very poor	0%	0%

V TRAINING ATTAINMENT

Fully attained	0%	5%
Very fruitful	57%	58%
Fruitful	39%	37%
Fairly fruitful	4%	0%
Not fruitful	0%	0%

REGIONAL TRAINING COURSE IN  
CONSTRUCTION PROJECT MANAGEMENT IN BUILDING  
SUMMARY REPORT SUBMITTED BY THE SINGAPORE POLYTECHNIC  
FOR FISCAL YEARS 1983 TO 1988

## 1. Number of Participants

Year	Brunei	Indonesia	Malaysia	Philippines	Singapore	Thailand	Cook Islands	Fiji	Papua New Guinea	Solomon Islands	Tonga	Total
1983	-	6(4)	2(4)	4(4)	6(4)	4(4)	-	-	-	-	-	22
1984	2(2)	6(4)	1(4)	0(4)	6(4)	5(4)	-	-	-	-	-	20
1985	0(2)	6(4)	2(4)	5(4)	6(4)	4(4)	-	-	-	-	-	23
1986	2(3)	4(3)	3(3)	0(3)	6(4)	2(3)	1	1	1	2	1	23
									(7)			
1987	0(4)	6(4)	3(4)	0(4)	6(4)	6(4)	-	-	-	-	-	21
Total	4	28	11	9	30	21	1	1	1	2	1	109

(Figure in brackets refer to the number of places allocated by JICA for each country)

- Notes:**
- In each year, the number of participants selected for each country does not equal the allocation specified by JICA because some countries submitted less than their quota of nominations. The difference in the total number of participants for the year is made up by offering more places to other countries which were able to submit more nominations than the allocated number of places.
  - Nominations were not received from some countries in the different years, for a variety of reasons, chief among which is the lack of time given to the invited governments to select suitable nominees. (See Section 5. on "Remarks" below.)

## 2. Activities

Information on building construction and project management was passed on to participants during the Training Course through lectures, site visits, hands-on (practical) sessions, discussions and exchange of views particular to each country, as follows:

Year	Lecture	Site Visit	Hands-On
1983	8	2	2
1984	13	1	1
1985	13	2	0
1986	8	3	2
1987	9	3	1

### Notes:

1. Participants are required to present a country report, either jointly or individually, on their country's building practices. In the last two fiscal years, ie 1986 and 1987, the Japanese experts assigned to the Training Course have been invited to be present during the country report presentation for a wider exchange of information and ideas.
2. At the end of each session (there are two sessions per day), participants are given the opportunity to discuss and raise questions regarding the topic.
3. The local speakers are drawn from among academicians and practitioners from organisations in both the private and public sectors.

## 3. Curriculum Design

Each year, the course curriculum is reviewed and modified based on feedback received from the previous year's participants.

.../3

#### 4. Selection of Participants

Participants for the Training Course are selected based on the following:

- 4.1 able to satisfy the requirements as specified in the General Information:
  - 4.1.1 have a degree or professional qualification in Architecture, Building or Civil Engineering
  - 4.1.2 be engaged in construction projects in public or private construction organisations
  - 4.1.3 have at least five (5) years of relevant occupational experience
  - 4.1.4 have a good command of spoken and written English
  - 4.1.5 be more than twenty-five (25) years of age
  - 4.1.6 be in good health to participate and complete the Course
- 4.2 ensure that there is a good mix of participants from both the private and public sectors
- 4.3 ensure that there is a good mix of professionals from the different disciplines.

#### 5. Remarks

- 5.1 We have received comments from some invited countries that they did not have sufficient time to select suitable nominees for the Course. This problem can be alleviated if the General Information brochure is delivered in good time.
- 5.2 There have been several cases of difficulties of communication between Singapore and the invited governments, probably because of the tortuous route of disseminating information regarding the Course to the invited countries.
- 5.3 Each year, we are given the names of the Japanese experts assigned for the Course close to the opening of the Course. This makes any changes to the programme difficult.

**A REGIONAL TRAINING COURSE IN  
BUILDING CONSTRUCTION AND PROJECT MANAGEMENT**

March 9 - 21, 1987

**GENERAL INFORMATION**

**1. BACKGROUND**

This group training course entitled "A Regional Training Course in Building Construction and Project Management" will be conducted jointly by the Government of Singapore and the Government of Japan as part of its Technical Cooperation Programme.

Arrangements for conducting the Course are made by the Department of Civil Engineering & Building of the Singapore Polytechnic (SP) in collaboration with the Japan International Cooperation Agency (JICA).

**2. OBJECTIVE**

To meet the growing complexity of massive construction projects, a need for trained professionals in building construction and project management is required. This group training course is intended to provide an avenue for the transfer of knowledge and techniques in construction management to various Asean-Pacific countries.

The purpose of the Course is to provide participants with comprehensive theoretical and practical training in building construction and project management. This Course aims to merge business skill with the professional competence of the participants and seeks to contribute to the further development of the construction industry in each participating country.

**3. DURATION**

The Course will be conducted for a two-week duration from March 9 to 21, 1987.

**4. LANGUAGE**

The Course will be conducted in the English Language.

**5. VENUE & FACILITIES**

The Course will be held at the:

**HOTEL EQUATORIAL SINGAPORE**  
429 Bukit Timah Road  
Singapore 1025  
Telephone : 7320431  
Cable : "EQUATORIAL"  
Telex : EQUATOR RS 21578

**6. COURSE STRUCTURE**

The Course is designed to include:

- (a) Decision Making Models
- (b) Construction Planning and Control Procedures
- (c) Modern Construction Technology
- (d) Business Organisation of Companies in Building Construction

The tentative curriculum of the Course is shown in Appendix



## 7. COURSE PROGRAMME

The list and schedule of activities for the Course are shown in Appendices II and III respectively.

## 8. PARTICIPATING COUNTRIES

The countries invited to nominate participants are as follows: Brunei, Indonesia, Malaysia, Philippines, Singapore, Thailand and the South Pacific Island States.

## 9. NUMBER OF PARTICIPANTS

The total number of participants will be limited to twenty-six(26).

## 10. QUALIFICATIONS OF PARTICIPANTS

To be eligible for admission, participants should:

- (a) have a degree or professional qualification in Architecture, Building or Civil Engineering;
- (b) be engaged in construction projects in public or private construction organisations;
- (c) have at least five (5) years of relevant occupational experience;
- (d) have a good command of spoken and written English;
- (e) be more than twenty-five (25) years of age; and
- (f) be in good health to participate and complete the Course.

## 11. PROCEDURES FOR APPLICATION

The governments desiring to nominate participants for the Course should complete eight (8) copies of the application form (Form A2.3) for each applicant and forward them to the Government of the Republic of Singapore through the Embassy of the Republic of Singapore in their respective countries not later than **January 2, 1987**.

The Government of the Republic of Singapore will inform the respective governments not later than **January 30, 1987** whether or not the nominee has been accepted to the Course.

## 12. ALLOWANCE AND EXPENSES (for foreign participants only)

The Government of Japan will bear the following expenses:

- (a) Economy class return trip ticket between Singapore and Changi International Airport and the respective international airports designated by JICA;
- (b) Living allowance of S\$45.00 per day, covering food and daily expenses for each foreign participant; and
- (c) Accommodation costs on a twin-sharing basis.

## 13. ACCOMMODATION

All foreign participants will be housed in:

**HOTEL EQUATORIAL SINGAPORE**  
429 Bukit Timah Road  
Singapore 1025  
Telephone : 7320431  
Cable : "EQUATORIAL"  
Telex : EQUATOR RS 21578

#### 14. CERTIFICATE

Participants who have successfully completed the Course will be awarded a Certificate of Participation.

#### 15. COUNTRY REPORT

Participants are required to prepare a Country Report which shall be presented during the workshop sessions. This report may be presented jointly with other participants from the same country. (Please refer to Appendix III.)

#### 16. OTHER INFORMATION

- (a) Participants are requested to arrive in Singapore on the date designated by SP and JICA after the confirmation of acceptance. However, the date will also be confirmed by JICA through the air tickets sent to the participants.
- (b) Participants shall have to bear *all other expenses not included in Item 12* (e.g. airport tax, excess baggage charge etc).
- (c) Upon arrival at the Singapore Changi International Airport, participants will be met by a representative of SP, who shall bring them to the place of accommodation. Thereafter, supervision of the participants will be assumed by SP throughout the duration of the Course.
- (d) Participants are requested to follow the schedule of the Course strictly.
- (e) Any application to change or alter the curriculum or to extend the duration of the Course will not be entertained.
- (f) Participants are requested not to bring any member of their families. The living allowance paid by the Government of Japan is sufficient only to cover normal living expenses for one person.

- (g) For administrative purposes, participants are requested to bring four (4) copies of a recent passport-sized photograph (5 cm x 5 cm).
- (h) Participants are requested to follow the return trip schedule designated by SP and JICA.
- (i) Participants are requested to secure overseas travel insurance to cover themselves during their stay in Singapore for the period of the Training Course (ie from March 9 to 21, 1987).
- (j) Further information concerning the Course is available from the following address:

**COURSE COORDINATOR**  
**REGIONAL TRAINING COURSE IN BUILDING**  
**CONSTRUCTION AND PROJECT MANAGEMENT**  
**DEPARTMENT OF CIVIL ENGINEERING & BUILDING**  
**SINGAPORE POLYTECHNIC**

Dover Road  
Singapore 0513  
Republic of Singapore  
Telephone : 7721126 or 7721322  
Telex : SINPOL RS 50208

## APPENDIX I

### COURSE CONTENT

The content is divided broadly into two categories, namely, project management techniques and construction technology.

Related topics will include:—

- Project Team Management
- Project Management.— Case Study
- Joint-Venture Management
- Computer Application in Project Management
- Safety Management at Construction Worksite
- Computer Aided Drafting
- Prefabrication of Low Cost Housing
- High Rise Building and Deep Basement Construction
- Land Reclamation Techniques.
- Application of Automation in Building Construction
- Technology Transfer by Developed Nations.

## APPENDIX II

### COURSE ACTIVITIES

1. Opening Ceremony
2. General Activities
  - \* Orientation to the Course
  - \* Course Modules
  - \* Consultation Sessions
3. Lectures by local and Japanese experts
  - \* Group Discussions
  - \* Case Studies
  - \* Film and Slide Presentations
4. Observation Tours
  - \* Construction Sites
  - \* Computer Applications
5. Country Report Presentation (See Appendix III)
6. Closing Ceremony

## APPENDIX III

### SUGGESTED OUTLINE FOR COUNTRY REPORT

Title: Construction Practice in (Participants' Country)

1. *Background*
  - 1.1 Introduction
  - 1.2 Factors affecting growth and development of key cities
  - 1.3 Socio-economic profile of the capital city
  - 1.4 Construction trends and statistics
  - 1.5 Real estate developments
2. *Construction Practice*
  - 2.1 Characteristics of public and private construction practice with respect to responsibilities of design and construction of buildings
  - 2.2 Type of contractual arrangement commonly adopted
3. *Construction Project Management*
  - 3.1 Site Organisation
    - 3.1.1 Relationship between site personnel and corresponding responsibilities
  - 3.2 Contract Planning
    - 3.2.1 Methods commonly adopted
    - 3.2.2 Risk management (e.g. inclement weather, shortage of materials or labour supply etc)
  - 3.3 Site Layout
    - 3.3.1 Logistic management within restricted sites and sites in the urban centre to avoid traffic congestion

### 3. 実施機関コース・レポート

#### (1) 第1回研修コース・レポート

**REGIONAL TRAINING COURSE IN  
BUILDING CONSTRUCTION PROJECT MANAGEMENT  
18 MARCH TO 1 APRIL 1984**

#### 1. Purpose & Background of the Training Programme

##### 1.1 Purpose

The course is designed to provide an opportunity for persons who are engaged in building construction project management in the ASEAN region to refresh and update relevant techniques and knowledge.

##### 1.2 Background

The course content is to cover areas in building construction management and project management. These include management tools in construction, new construction methods, new contractual arrangements and financial planning and financial management of construction projects.

#### 2. Qualification of Applicants to the Training Programme

Applicants to the Course are to:

- 2.1 have a degree in architecture, building or civil engineering or equivalent,
- 2.2 be engaged in construction project management in building in the governmental, public or private general construction organisations,
- 2.3 have at least five (5) years of occupational experience,
- 2.4 have a good command of spoken and written English,
- 2.5 be more than twenty-five (25) years of age, and
- 2.6 be in good health to participate and complete the course.

#### 3. Training Schedule

##### 3.1 Title

A Regional Training Course in Building Construction Project Management

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3.2 Date

19 March to 31 March 1984

3.3 Time

9.00 am to 12.00 noon and 2.00 pm to 5.00 pm

3.4 Venue

Hotel Equatorial  
429 Bukit Timah Road  
Singapore 1025  
Republic of Singapore

3.5 Teaching Method

3.5.1 Classroom lecture with the use of audio-visual aids, followed by question and answer sessions.

3.5.2 "Hands on" experience of operating computer terminals.

3.5.3 Visits to construction sites.

4. Teaching Materials

4.1 Papers presented are prepared by lecturer(s) concerned for the course.

4.2 Participants were requested to present country reports. The reports serve to:

4.2.1 identify the status of construction activity in each country

4.2.2 comment on the common contractual arrangements adopted and their merits and difficulties

4.2.3 comment on the intensity of mechanisation

4.2.4 comment on the level of construction technology

4.2.5 outline the concentration of public and private construction organisation in the real estate development.

4.3 The audio visual aids used are:

4.3.1 Overhead Projectors

.../3

- 4.3.2 Slide Projector
- 4.3.3 Video Player and Television
- 4.3.4 Movie Projector

## 5. Evaluation Methods

### 5.1 Evaluation Sheet

#### 5.1.1 The areas evaluated include:

##### 5.1.1.1 Venue of Course

##### 5.1.1.2 Course Content

#### 5.1.2 These are subdivided into 3 subsections, each on a 4-point scale ranging from:

Very Good	-	4
Good	-	3
Fairly Good	-	2
Average	-	1

#### 5.1.3 The evaluations are for each paper presented or other types of teaching packages such as site visits, etc.

### 5.2 Achievement Test

No achievement test was conducted, as the objective of the course is to "refresh and update" rather than to teach something new.

### 5.3 Utilization of the Evaluation Results for Next Year's Programme

The evaluation report serves as a useful piece of information for the planning of future programmes. It reflects the opinions of the participants who, at the receiving end, are in a better position to evaluate the relevance of this course to their profession.

## 6. Organisation Relating to the Training Conduct

### 6.1 Training Facilities & Accommodation

#### 6.1.1 Name of the Training Facilities

Hotel Equatorial

.../4

6.1.2 Location of the Training Facilities

429 Bukit Timah Road  
Singapore 1025  
Republic of Singapore

6.1.3 Condition of the Training Facilities

Rooms used are spacious, carpetted, with curtains, well-illuminated and equipped with sound system.

6.1.4 Accommodation

Accommodation for foreign participants is provided at the Hotel itself with double rooms for the male participants and a single room for the only female participant.

6.1.5 Condition of the Accommodation

Rooms are spacious and well-furnished with attached bathrooms, radio, TV, daily local newspaper and efficient room service. The Hotel provides excellent studying, dining and recreational facilities.

6.1.6 Welfare Facilities

Clinic : Tokyo Green Clinic

Insurance Company : Nippon Fire and Safety Co Pte Ltd

7. Procedures of Recruitment of Participants

7.1 General Information (GI) - see Appendix 1

7.1.1 Date of Printing : 10th November 1983

7.1.2 Date of Dispatch : 17th November 1983

7.1.3 Channels for Distribution:

7.1.3.1 Through diplomatic channels for foreign participants.

7.1.3.2 Individual invitation to various bodies (public, statutory and private) for local participants.

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7.2 Fixed Number of Participants

It was originally intended to accept only four participants from each country but due to a warm response from Indonesia and limited response from Malaysia, six were taken in from the former and two from the latter. The Thais and Filipinos submitted four each as requested. Six accepted from Singapore due to the encouraging response and because no additional expense will be incurred with extra two participants.

7.3 Names of Participating Countries

All the ASEAN member countries, Thailand, Malaysia, Phillipines, Indonesia and Singapore. Brunei was not invited because her entry into ASEAN took place after the formal invitation through diplomatic channels.

7.4 List of Participants

The list of participants is given in Appendix 2.

7.5 Name of Agent dealing with Airplane Tickets

SAFE Travel Service Pte Ltd

8. Experts from Japan

8.1 Dr Susumu Fujimatsu  
Manager of Structural Department  
Building Research Institute  
Ministry of Construction

8.2 Mr Hiroki Kawai  
Senior Structural Engineer of Structural Engineering Division  
and Deputy Manager of Overseas Division  
Nikken Sekkei Co Ltd

9. Budget Allocation for the Training Programme

9.1 The budgetted allocation for the Course is given in Appendix 3.

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## 9.2 Settlement of Accounts

All bills for the above Course are re-directed to the Bursar of Singapore Polytechnic for payment. These bills are settled within 2 to 4 weeks of submission. The person in charge is the Head of the Finance Department, Singapore Polytechnic. The accounting system in the Polytechnic is to debit an account named "JICA" for the total sum of money received for the course and to credit this account for each item of expense paid out. These bills and vouchers of payments are filled and kept in the Finance Department.

9.3 The final account of expenditure for the Course is given in Appendix 4.

## 10. Certificate

10.1 Issuers - Singapore Polytechnic and Japan International Cooperation Agency

10.2 Signatories - Singapore Polytechnic and Japan International Cooperation Agency.

## 11. Future Plan

11.1 Review of the Training Subjects

Emphasis will be given to subjects currently gaining in attention in the Construction Industry. Besides updating one's knowledge, the course will also aim to introduce participants to new techniques of construction management and new technology in construction.

11.2 Review of the Training Schedule

The period in late March is the most suitable time as it coincides with the Polytechnic's Sessional Examination, thus allowing Polytechnic staff members to concentrate on the Training Programme. Any period earlier or later than this period will be unsuitable, as in the former case, staff members will be busy preparing students for the Sessional Examination and, in the latter, they will be on vacation and/or busy preparing their course materials for the next academic year.

.../7

11.3 The Singapore Polytechnic, on behalf of the Singapore Government, is expending its own manpower to organize the Training Programme. As such, a great deal of effort and man-hours have to be put in for every detail of the Programme to ensure its success. This can be considered as a contribution by the Singapore Government as foregoing the opportunity cost of the Singapore Polytechnic staff members doing other services. The present arrangement is likely to be retained.

11.4 Plan for Sharing the Number of Lecturers

The Singapore Government, through the Singapore Polytechnic, will continue to provide a number of lecturers well experienced and knowledgeable in the construction field and practice within the ASEAN region. There are also plans to attract lecturers from other ASEAN countries who are well-known for their expertise in their home country or around this region. Some of the Japanese lecturers, though highly knowledgeable in the specialised field, find it difficult to present their ideas in English. For the full benefits of the course to be realised, it would be preferred that experts with a fair proficiency in spoken English be fielded as lecturers for the course.

Prepared by : Mr Benjamin Tan  
Course Co-ordinator

Mrs Delonix Pan-Cheong  
Planning Officer

Date : 3 May 1984

LIST OF PARTICIPANTS

Indonesia

- 1 Ir Nasruddin
- 2 Nursito B E
- 3 Ir Bambang
- 4 Wastu Pragantha
- 5 Pratikno
- 6 Handojo Kristyanto

Malaysia

- 1 Low Kee Yang
- 2 Mohamed Che' Jusoh

Philippines

- 1 Harry G Ponce
- 2 Sonia T Valdeavilla
- 3 Antonio B Berron
- 4 Rolando V Chua

Singapore

- 1 Chee Kok Weng
- 2 Ho Mok Huat
- 3 Daniel Lim Thiam Lee
- 4 Teh Hong Kia
- 5 Wong Kim Yuan
- 6 Looi Tek Leong

Thailand

- 1 Chaivat Pattanasin
- 2 Sophon Prasitratsiat
- 3 Akdej Homsethi
- 4 Prasit Sathorn

## SINGAPORE POLYTECHNIC

## BILL OF ESTIMATE FOR EXPENSES BY THE GOVERNMENT OF JAPAN

		SUB TOTAL(a)	SUB TOTAL(b)
1	Expenses for Participants		35,580
1.1	Flight Fare	13,500	
	(a) Manila-S'pore-Manila @ \$1571 x 4 Persons = 6284		
	(b) Bangkok-S'pore-Bangkok @ \$940 x 4 Persons = 3760		
	(c) Kuala Lumpur-S'pore-Kuala Lumpur @ \$260 x 2 Persons = 520		
	(d) Jakarta-S'pore-Jakarta @ \$476 x 6 Persons = 2856		
	(e) Meeting Services @ \$5 x 16 Persons = 80		
1.2	Living Allowance	22,080	
	(a) Accommodation @ (\$115 x 8 Rooms x 15 Days) - 20% = 11,040		
	(b) Per Diem @ \$46 x 16 Persons x 15 Days = 11,040		
2	Expenses for Training		18,836
2.1	Honoraria @ \$120 x 6 Persons x 7 Hours	5,040	
2.2	Clerk	2,196	
	(a) Typist @ \$55 x 24 Days = 1,320		
	(b) Secretary @ \$73 x 12 Days = 876		
2.3	Conference Rooms @ \$212.50 x 12 Days	2,550	
2.4	Brochures @ \$3.50 x 200 Copies	700	
2.5	Certificate @ \$7.50 x 20 Copies	150	
2.6	Stationery @ \$100 x 20 Persons	2,000	
2.7	Travel to Sites @ \$300 x 3 Times	900	
2.8	AVA Facilities @ \$75 x 12 Days	900	
2.9	Coffee Break @ \$2 x 25 Persons x 2 Times x 12 Days	1,200	
2.10	Opening & Closing Reception @ \$20 x 60 Persons x 2 Times	2,400	
2.11	Banner with Stand @ \$400 x 1 Unit	400	
2.12	Name Plates @ \$10 x 40 Pieces	400	
	Grand Total		54,416

Date: 20.2.84

SINGAPORE POLYTECHNIC  
 REGIONAL TRAINING COURSE IN  
 BUILDING CONSTRUCTION PROJECT MANAGEMENT  
 18 MARCH TO 1 APRIL 1984  
 FINAL ACCOUNT OF EXPENDITURE

Item	Sub-Total(a) (S\$)	Sub-Total(b) (S\$)
1 Expenses for Participants		35,580.00
1.1 Flight Fare	13,500.00	
1.2 Living Allowance		
(a) Accommodation	11,040.00	
(b) Per Diem	11,040.00	
2 Expenses for Training		18,836.00
2.1 Honoraria	4,240.00	
2.2 Clerk		
(a) Typist	1,319.77	
(b) Secretary	876.00	
2.3 Conference Rooms	2,550.00	
2.4 Brochures	700.00	
2.5 Certificates	250.00	
2.6 Stationery	2,414.91	
2.7 Travel to Sites	1,185.32	
2.8 AVA Facilities	900.00	
2.9 Coffee Breaks	1,200.00	
2.10 Opening & Closing Receptions	2,400.00	
2.11 Banner with Stand	400.00	
2.12 Name Plates	400.00	
<b>Grand Total</b>		<b>S\$54,416.00</b>

Date Prepared : 3 May 1984

(2) 第2回研修コース・レポート

Evaluation Report  
2nd Japan-Singapore Third Country Training Program

1. Background

This group training course entitled "A" Regional Training Course in Building Construction Project Management" is conducted jointly by the Government of Singapore and the Government of Japan as part of its Technical Cooperation Programme.

Arrangements for conducting the course are made by the Civil Engineering and Building Department of the Singapore Polytechnic (SP) in collaboration with the Japan International Cooperation Agency (JICA).

2. Qualifications of Participants

To be eligible for admission, participants should:

- (a) have a degree in Architecture, Building or Civil Engineering;
- (b) be engaged in building construction project management in the public or private general construction organisation;
- (c) have at least five (5) years of occupational experience;
- (d) have good command of spoken and written English;
- (e) be more than twenty-five (25) years of age; and
- (f) be in good health to participate and complete the course.

3. Level of Knowledge and Technique to be Attained

The course aims to merge business skills with technical competence at middle to top executive level.

4. Course Programme

<u>Date</u>	<u>Time</u>	<u>Programme</u>	<u>Speaker</u>
25/3 Mon	11am	Opening Ceremony	
	2pm - 5pm	Project Management	Dr. Yeo Khim Teck
26/3 Tues	9am - 12pm	Rational Approach for Computation of Completion Time for Construction Projects	Mr Surinder Singh
	2pm - 5pm	Financial Planning of Construction Projects	Mr Lee Tat Man
27/3 Wed	9am - 12pm	Managing International Technology Transfers	Mr Gan Cheong Eng
	2pm - 5pm	Site Safety	Mr Harry Wong
28/3 Thur.	9am - 12pm	Prefabrication Technology	Mr Lau Joo Ming Mr Lim Chong Sit
	2pm - 5pm	Visit to Prefabrication Plant	H.D.B.

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<u>Date</u>	<u>Time</u>	<u>Programme</u>	<u>Speaker</u>
29/3 Fri	9am - 12pm	International Construction Contracting	Mr Chan Wai Ming
	2pm - 5pm	Country Report Presentation	Participants
1/4 Mon	9am - 12pm	Introduction of New Civil Engineering and its Application Method	Mr Fujimori
	2pm - 5pm	Introduction of New Construction Technology and its Application Method	Mr Nishitome
2/4 Tue	9am - 12pm	CWQC (QC) In Construction Industries	Mr Yasu
	2pm - 5pm	General Management of High-Rise Project	Mr Nishitome
3/4 Wed	9am - 12pm	Panel Discussion on New Technology of Civil Engineering and Construction	Mr Fujimori Mr Nishitome Mr Yasu
	2pm - 5pm	Panel Discussion on Construction Management Technology	Mr Fujimori Mr Nishitome Mr Yasi
4/4 Thur	9am - 5pm	Application of Computerisation in Project Management - "Hands-on" guidance from Metiers Management Systems Pte Ltd	
4/5 Fri		Public Holiday (Good Friday)	
6/4 Sat	9am - 11am	Course Evaluations and visit to Singapore Polytechnic	
	11am - 1pm	Presentation of certificates of attendance by Principal, Singapore Polytechnic	

.../4



5. Lecturers

<u>Name</u>	<u>Age</u>	<u>Nationality</u>	<u>Academic Background and Experience</u>
1. Dr Yeo Kim Teck	37	Singapore	PHD, Senior Lecturer Nanyang Technological Institute
2. Mr Surinder Singh	45	Singapore Permanent Resident	MSC, Senior Lecturer National University of Singapore
3. Mr Lee Tat Man	38	Singapore	MSC, Senior Lecturer Nanyang Tech. Institute
4. Mr Gan Cheong Eng	37	Singapore	MBM, Senior Lecturer National University of Singapore
5. Mr Harry Wong	36	Singapore	B.Eng, Head, Factory Inspectorate Ministry of Labour
6. Mr Lau Joo Ming	37	Singapore	MSC, Principal Structural Engineer Housing & Development Board
7. Mr Chan Wai Ming	30	Singapore	MBA, Partner Forbes Mangement Consultants
8. Mr S Fujimori	50	Japan	B.Eng, Deputy Director Civil Engineering Technology Dept, Kajima Corporation
9. Mr I Nishitome	43	Japan	Degree of Architectural Engineer, Head Project Administration Division, Kajima Corporation
10. Mr M Yasu	47	Japan	Head, TQC Promotion, Kajima Corporation

6. Country Report and Workshop

Participants are required to prepare a Country Report which shall be presented during the workshop sessions. The report shall be accompanied by architectural drawings and contract documents for the benefit of the other co-participants. This report may be presented jointly with other participants from the same country.

.../4

The Country Reports should conform to the format outlined.

#### Suggested Outline of Country Reports

Title: The State of Construction Practice in (Country)

- 1.0 Background
  - 1.1 Introduction.
  - 1.2 Factors affecting growth and development of key cities.
  - 1.3 Socio economic profile of the capital city.
  - 1.4 Construction Trends and Statistics.
  - 1.5 Real Estate Developments.
- 2.0 Construction Practice
  - 2.1 Characteristics of public and private construction practice with respect to responsibilities of design and construction of buildings.
  - 2.2 Type of contracts being used including conditions of contracts.
- 3.0 Construction Project Management
  - 3.1 Site Organisation
    - 3.1.1 Relationship between site personnels and corresponding responsibilities.
  - 3.2 Contract Planning
    - 3.2.1 Methods commonly adopted.
    - 3.2.2 Risk management e.g. inclement weather, shortage of material or labour supply, etc.
  - 3.3 Site Layout
    - 3.3.1 Logistic management within restricted sites and sites in the urban centre to avoid traffic congestion.
  - 3.4 The Construction Process
    - 3.4.1 Flow of information among site personnels.
    - 3.4.2 Requisition of materials supply.
    - 3.4.3 Control of construction period and quality of work.
    - 3.4.4 Labour management on site and incentives to higher productivity.
    - 3.4.5 Coordination of own and nominated sub-contractors.
    - 3.4.6 Controlling wastage of materials on site.
    - 3.4.7 Safety consciousness on site.
- 4.0 Construction Project Finance
  - 4.1 Cash flow analysis.
  - 4.2 Cost control.
  - 4.3 Cost information and Statistics.

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7. Teaching Materials

2 copies of teaching materials are attached.

8. List of Audio-visual Aids

- 1) 16 mm projectors (2 nos).
- 2) Slide projectors.
- 3) Overhead projectors.
- 4) Screens.
- 5) Audio System.

9. Venue & Facilities

The course was held at the:

HOTEL EQUATORIAL SINGAPORE  
429, Bukit Timah Road  
Singapore 1025  
Telephone: 7320431  
Cable: "EQUATORIAL"  
Telex: EQUATOR RS 21578

10. General Information Brochures

Two copies are enclosed for reference.

11. List of Participants

Singapore : 6  
Indonesia : 6  
Thailand : 5  
Brunei : 2  
Malaysia : 1

Name List of Local Participants

1. Mr Aloysius Chua Teck Seng (27/2/1948)  
Partner  
Design Development Architects  
10 Anson Road #32-03  
International Plaza  
Singapore 0207  
Tel: 2238977
2. Mr Leong Charn Huen (20/8/1945)  
Partner  
Regional Development Consortium Architects  
545 Orchard Road #16-08  
Far East Shopping Centre  
Singapore 0923  
Tel: 7371717
3. Mr Eng Cheng Yong (22/8/1950)  
Senior Civil Engineer  
Housing & Development Building  
Maxwell Road  
Singapore 0106  
Tel: 2254444 Ext 3621

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4. Mr Leong Kok Hoong (28/3/1952)  
Higher Executive Quantity Surveyor  
Public Works Department  
Ministry of National Development  
11th Storey  
National Development Building  
Maxwell Road  
Singapore 0106  
Tel: 2220044 Ext 402
5. Mr Alan Ho Cheok Cheng (13/6/1954)  
Executive Architect  
Urban Redevelopment Authority  
Urban Redevelopment Authority Bldg  
45 Maxwell Road  
Singapore 0106  
Tel: 2216666 Ext 186
6. Mr Wong Khuan Woon (30/11/1952)  
Executive Engineer  
Public Works Department  
Ministry of National Development  
11th Storey, National Development Bldg  
Maxwell Road  
Singapore 0106  
Tel: 3448251

Participants from Indonesia

1. Ir Santosa Hardjendro  
Branch Manager  
P.T. Nindya Karya  
Jl. Letjen M.T.  
Haryono Kav. 22  
Jakarta 13630  
Indonesia  
Tel: (021) 803276
2. Ir Soemargadi  
Branch Manager  
P.T. Nindya Karya  
Jl. Letjen M.T.  
Haryono Kav. 22  
Jakarta 13630  
Indonesia  
Tel: (021) 803276
3. Ir Umarjadi Reksodidjojo  
Branch Manager  
P.T. Nindya Karya  
Jl. Letjen M.T.  
Haryono Kav. 22  
Jakarta 13630  
Indonesia  
Tel: (021) 803276

.../7

4. Ir Didiék Subandono  
Branch Manager  
P.T. Nindya Karya  
Jl. Letjen M.T.  
Haryono Kav. 22  
Jakarta 13630  
Indonesia  
Tel: (021) 803276
5. Ir Atyanto Mochtar  
Head of Public Bldgs  
Services in Bandung  
Ministry of Public Works  
Kepala Jawatan Gedung-gedung Negara  
Jalan Lengkong Besar 10  
Bandung  
Indonesia  
Tel: (022) 59693
6. Ir Poetoet Waskito Budi  
Directorate of Public Buildings  
Ministry of Public Works  
Jalan Kramat Raya 63  
Jakarta Pusat  
Indonesia  
Tel: 348178

Participants from Thailand

1. Mrs Wonnten Pankhao  
Senior Architect  
Department of Public Works  
Construction Division  
Lanluang Road  
Bangkok  
Thailand  
Tel: 2824872
2. Mr Pakdipong Nakasuwan  
Civil Engineer 5  
Department of Public Works  
Construction Division  
Lanluang Road  
Bangkok  
Thailand  
Tel: 2824872
3. Mr Chitr Lilavivat  
Project Manager  
Union Development Co Ltd  
12th Floor, Orakarn Building  
26/41 Chidlom Road  
Ploenchit,  
Bangkok 10500  
Thailand  
Tel: 2513356-8

.../8

4. Mr Thongtik Takungvidh  
Assistant Manager  
Thai Contractors Association  
110 Wireless Road  
Bangkok 10500  
Thailand  
Tel: 2510697/2522953
5. Mr Anuvat Tantivong  
Architect  
Public Works Department  
2 Larn Luang Road  
Bangkok  
Thailand  
Tel: 2815734/2815822

Participants from Brunei

1. Mr Haji Zulkipli Bin Haji Abdul Hamid  
Quantity Surveyor  
Quantity Surveying Section  
Ministry of Development Building  
Bandar Seri Begawan  
Brunei  
Tel: 25911
2. Mr Pengiran Othman Bin Pengiran Omar  
Acting Senior Architect  
Architect Section  
Ministry of Development  
N. Brunei Darnssalam  
Brunei  
Tel: 25911 Ext 280

Participants from Malaysia

1. Mr Abdul Jalil Bin Alang Endut  
PWD HQ  
Jalan Mahameru  
Kuala Lumpur  
Malaysia  
Tel: 919011 Ext 3706

12. Cooperation by the Government of Japan

Three experts were dispatched. They were

1. Mr M Yasu  
Head, TQC Promotion  
Kajima Corporation
2. Mr I Nishitome  
Head, Project Administration Division  
Kajima Corporation
3. Mr S Fujimori  
Deputy Director  
Engineering Technology Dept  
Kajima Corporation

.../9

13. Settlement of Accounts

Funds are kept with the Finance Department, Singapore Polytechnic under the account No 7219-52-00.

Procedure for payment of expenses:

- (a) Members of organising committee procure goods and services under their respective assigned responsibility.
- (b) Members received goods and services and endorsed delivery orders. Invoices are checked and sent to Chairman, organising committee for recommendation of payment.
- (c) Head, Civil Engineering and Building Department approve bills payment and forward invoice to Head, Finance Dept.
- (d) Head, Finance Dept releases funds in respect of payments to vendors and suppliers.

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Regional Training Course Final Account

Item	Pay to	Invoice No	Amount	Remarks
1. Expenses For Participants	Safe Enterprises Pte Ltd	16619	\$9,624-00	
1.1 Flight Fare				
1.2 Living allowance	Hotel Equatorial Pte Ltd	4870	14,175-00	
(a) Accommodation	"Paid"		9,660-00	
(b) Per Diem			33,459-00	\$690 x 14 persons
2. Expenses For Training	"Speaker"		4,664-00	cheques issued in Speakers' names
2.1 Honoraria	Tact Employment & Secretarial Services	8503156	786-50	
2.2 Clerk		8504179	1,413-50	
(a) Typist	Hotel Equatorial Pte Ltd	4873	2,300-00	
(b) Secretary	Viva Lithographers		800-00	
2.3 Conference Rooms	BAC Printers	002447	2,245-00	Paid (invoice record with Finance)
2.4 Brochures	Plasticraft Industries Pte Ltd	33941	400-00	
2.5 Certificates	Mr Boey Siew Kan (CB Dept)		339-20	see memo by S.K. Boey
2.6 Stationery	Civil Engineering & Bldg Dept		1,400-80	
(a) Files	Safe Enterprises Pte Ltd	16620	600-00	
(b) Photographs	-do-			
(c) Photostating	Hotel Equatorial Pte Ltd	4874	1,350-00	
2.7 Travel to sites	Hotel Equatorial Pte Ltd	4872	2,000-00	
(a) Insurance	Hotel Equatorial Pte Ltd	4871	3,500-00	
(b) Coach transfer	Oriental Studio	15192	918-00	
2.8 AVA Facilities	Oriental Studio	15202	120-00	
2.9 Coffee Break	International Control Systems	8061	7,000-00	
2.10 Opening & Closing Reception	Cash (Miss Anna Lee)(CB Dept)	4753	36-00	
2.11 Banner & Direction stand	Corten Furniture Pte Ltd	85/07/0015	240-00	
2.12 Name Plates	JICA		3,474-00	
2.13 Word Processor			33,587-00	for use by Civil Engineering & Building Dept as per JICA memo ref 038/JICA/85 dated 30/4/85.
2.14 Calculator			67,016-00	Payment made to JICA
2.15 Computer Table				
2.16 Other expenses				

Benjamin Tan  
11 July 1985

cc. Principal, SP  
DP (P)  
Head, CB Dept  
Head, Finance  
Planning Officer



(3) 第3回研修コース・レポート

REPORT OF SEMINAR ON 'A REGIONAL TRAINING COURSE IN BUILDING  
CONSTRUCTION PROJECT MANAGEMENT' - MARCH 1986

2. SEP 1986

Background

The seminar was held at the Hotel Equatorial in Singapore from the 10th of March 1986 to the 22nd of March 1986. There was a total of 23 participants from the following Asean countries:

Indonesia - 6 representatives  
Thailand - 5 representatives  
Philippines - 4 representatives  
Malaysia - 2 representatives  
Singapore - 6 representatives

Brunei declined to nominate any participants. Most of the participants were from the public sector. There were 15 talk sessions of approximately 3½ hours each, delivered by 11 speakers. There were also 2 site visits. Impromptu site visits were also arranged on the request of participants (especially after some talk on certain construction projects). On some occasions, committee members volunteered to bring the participants out during the evenings and weekends to show them around Singapore. It is believed that the participants were quite satisfied and happy about the Course as a whole from the feedback obtained from them. In fact, the participants even hosted a barbecue dinner at the hotel premises in appreciation of the contribution of the organising committee and JICA.

Problems encountered/ suggested improvements

Through the course of the preparation and the running of the seminar, some problems were encountered which, it is felt, should be raised at this point so that possible alternatives or modifications can be made. This would enable a smoother running of the forthcoming conferences.

- a) There were some problems with unexpected events related with the transportation to site. One of the organizations could not allow more than 15 visitors to a site, as a result of which the participants had to be divided into 2 groups visiting 2 different sites. Furthermore, the participants wanted to visit some sites which were referred to in the talks but were not scheduled for. These situations required additional transportation expenses which were not budgeted for. With this in mind, it is suggested therefore to provide a contingency fund for event which unexpected expenses have to be incurred.
- b) It was also found that the organizing committee was informed of the Japanese experts rather late. As a result of this, the topics on which these experts would be speaking could only be confirmed then. This gave rise to a situation whereby there was a similarity in treatment of a particular subject between the local speakers and the Japanese experts. On top of this, their papers had to be typed, printed and collated in an extreme hurry.

- c) It may be a good idea also, if the Japanese experts are able to attend the presentation of the country reports. This would enable them to impart and share their knowledge and experiences with participants during the discussion of each country report. To be able to do this, the experts would have to be informed early of their role.
- d) It will be helpful perhaps to provide for 2 more participants from Brunei making a total of 4 participants as all the other countries are allowed 4 participants. This is to take into account the sentiments of the Brunei participants concerned
- e) It was noticed that participants generally did not have enough time to prepare good and comprehensive country reports during the seminar. It was also difficult for them to do so before coming to Singapore as they may have difficulty meeting up with each other. A possible solution is to allow them to arrive one day earlier to have an opportunity to meet and discuss what they may like to present. At the same time it allows more time to obtain any additional material they may need.
- f) The time period allotted for a typist seems to be insufficient. The arrangement is to hire a typist for 24 days before the start of the course. However, there is a real need for the services of a typist during the seminar itself. This is to handle the typing, printing and collating of the country reports and papers sent in by the Japanese experts, not to mention any late submission of papers by any speakers. It will therefore be helpful to have the services of the typist extended one week into the seminar.
- g) It seems that the Singapore participants had a problem attending the full course of the seminar. Some apparently had to return to their respective offices to continue with their work. This is quite disruptive to the smooth running of the seminar.
- h) There is also a suggestion here that the title of the course be changed slightly from: 'A Regional Training Course in Building Construction Project Management' to 'A Regional Training Course in Building Construction and Project Management'. As the course also caters for some topics in construction technology besides project management, this title seems more appropriate.
- i) The organizing committee would like to make a request whether it is possible to approve the budget earlier for the forthcoming year so that many of the reservations (e.g. accommodation, transportation etc) can be confirmed earlier too. This would greatly alleviate the problem of rushing at the last moment. The committee on their part will endeavour to submit the proposed budget at an earlier date also.

REGIONAL TRAINING COURSE IN BUILDING CONSTRUCTION PROJECT MANAGEMENT  
10 MARCH - 22 MARCH 1986

THE FINAL ACCOUNT

Item	Pay To	Invoice No.	Amount	Remarks
1. Expenses For Participants				
1.1 Flight Fare	SAFE Travel	21270	\$ 13,937.00	
1.2 Living allowance	Hotel Equatorial	5657	\$ 15,750.00	
(a) Accomodation	Foreign Participants	-	\$ 11,475.00	\$675 x 17 persons
(b) Per Diem				
2. Expenses For Training				
2.1 Honoraria	Speakers	-	\$ 5,040.00	\$560 x 8 persons \$280 x 2 persons
2.2 Clerk				
(a) Typist	Brene's Secretarial Service	03/013/86	\$ 1,488.00	
(b) Secretary	Brene's Secretarial Service	04/013A/86	\$ 935.00	
2.3 Conference Rooms	Hotel Equatorial	5657	\$ 2,400.00	
2.4 Brochures	BAC Printer	2884	\$ 610.00	
2.5 Certificates	BAC Printer	002911	\$ 215.00	
2.6 Stationery				
(a) Files	Plasticraft Industries Pte. Ltd.	41681	\$ 315.00	
(b) Printing	BAC Printer	2885	\$ 439.00	
	BAC Printer	002911	\$ 240.00	
	BAC Printer	002941	\$ 1,025.00	
	C/B Department	-	\$ 1,113.55	
(c) Photographs				
2.7 Travel to sites	SAFE Travel	21271	\$ 283.10	
2.8 AVA Facilities	Hotel Equatorial	5657	\$ 1,440.00	
2.9 Coffee Break	Hotel Equatorial	5657	\$ 1,350.00	
2.10 Opening & Closing	Hotel Equatorial	5657	\$ 2,240.00	
2.11 Banner & Direction Stand	Dimensional Productions	9450	\$ 4,146.35	
2.12 Name Plates	Alpha Plus Gifts & Souvenirs	1652	\$ 780.00	
2.13 Equipments				
(a) Printer	Systech Systems Technology Pte. Ltd.	ST/11491	\$ 1,900.00	
(b) Slide Projector	Kodak (Singapore) Pte. Ltd.	152381	\$ 500.00	
		152382	\$ 312.00	
			<u>\$68,384.00</u>	

paid to Boey S. K.  
\$360 x 4 times



cc Principal SP  
Head, Finance  
Planning Officer

(4) 第4回研修コース・レポート

REPORT ON 'REGIONAL TRAINING COURSE IN BUILDING CONSTRUCTION AND PROJECT MANAGEMENT' 9 MARCH 1987 TO 21 MARCH 1987

The training course was held at Marina Mandarin Singapore from 9 to 21 March 1987. There was a total of twenty three participants from Asean Pacific countries, mostly from the public sector.

Brunei	- 2 participants
Cook Islands	- 1 participant
Fiji	- 1 participant
Indonesia	- 4 participants
Malaysia	- 3 participants
Papua New Guinea	- 1 participant
Singapore	- 6 participants
Solomon Islands	- 2 participants
Thailand	- 2 participants
Tonga	- 1 participant

The other Asean-Pacific countries which were also invited to attend the training course include Philippines, Vanuatu, Kiribati and Western Samoa. Except for Vanuatu, no response was received from these countries. The reply from Vanuatu that the country would not be able to participate in the training course was received only after the completion of the course.

The curriculum of the training course includes eleven lecture sessions of approximately three-and-a-half hours each, three site visits and two hands-on experience sessions at Singapore Polytechnic Computer and CAD/CAM Centre. During the evenings and the weekends, committee members brought the foreign participants out for sight-seeing and shopping. From the feedback obtained from the participants, it is understood that the participants were quite happy and satisfied with the training course.

The introduction of a Country Report Preliminary Discussion Session for the participants at the beginning of the training course this year was found to be very useful and effective. During the previous years, when there were no such discussion sessions, the participants usually complained that they had very little opportunity to meet and discuss about the country reports because of the tight training schedule.

The idea of inviting the Japanese experts to sit-in during the country report sessions to give comments and suggestions was also found to be beneficial to the participants.

Although the training course was smoothly conducted, some problems were encountered during the planning and preparation stages.

1. The payment of the budget for the training course was always not paid on time. This puts the course organiser in a difficult position as the printing of the general information brochure is normally printed on October so that there would be sufficient time for us to dispatch the brochures and invite applications. Once the brochures are printed and delivered, we are obliged to pay the printer. We have always had to negotiate with the printer for deferred payment.

2. Communication with the South Pacific countries was extremely difficult. Correspondence by mail took a long time to reach these countries, and in the case of Vanuatu, the reply was received by the course organiser about two weeks after the training course was completed. At one stage, the course organiser was unable to contact Western Samoa by telex or trunk call because the tele-communication system of Soloman Islands had been damaged by a passing cyclone.
3. Because of the different levels of development in the construction industries of Asean and South Pacific countries, it was difficult to tailor a curriculum which would meet the varied requirements of both these regions at the same time. Although the South Pacific countries would benefit from the training course as much as the Asean countries, it would be better for separate training courses to be organised for them.

ASEAN-PACIFIC COOPERATION FOR HUMAN RESOURCES DEVELOPMENT

A REGIONAL TRAINING COURSE  
IN  
BUILDING CONSTRUCTION AND PROJECT MANAGEMENT 1987

Curriculum of the Course

Day	Date	Time	Subject	Speaker
1	9 Mar (Mon)	10am to 12pm 2pm to 5pm 7pm to 9pm	1. Participants meet to discuss and prepare Country Report 2. Opening Ceremony	- -
2	10 Mar (Tue)	9am to 12pm 2pm to 5pm	1. Safety at Worksites 2. Project Team Management	Mr Harry Wong K C Mr Peter Woods
3	11 Mar (Wed)	9am to 12pm 2pm to 5pm	1. Construction Methods used by HDB 2. Site Visit( HDB )	Mr Lau Joo Ming Mr Lau Joo Ming
4	12 Mar (Thur)	9am to 12pm 2pm to 5pm	1. Project Management case study-Raffles City Project 2. Project Management Techniques	Mr Loh Soo Eng Mr C Middleton
5	13 Mar (Fri)	9am to 12pm 2pm to 5pm	1. Computer Application in Construction Management 2. Application of CAD in Drafting	Mr Darcy McCalli Mr Tony Adams
6	14 Mar (Sat)		)	
7	15 Mar (Sun)		) -- Free --	
8	16 Mar (Mon)	9am to 12pm 2pm to 5pm	1. Fast Tracking of Design and Construction 2. Site Visit (MRT)	Dr Tony Chi -
9	17 Mar (Tue)	9am to 12pm 2pm to 5pm	Application of Japanese ) Construction Technology ) in Asean-Pacific )	Mr Shinji Matsumoto
10	18 Mar (Wed)	9am to 12pm 2pm to 5pm	Construction Management ) Style of Japanese Firms )	and
11	19 Mar (Thur)	9am to 12pm 2pm to 5pm	Means of Construction ) Technology Transfer by ) Developed Nations ) Country Report	Mr Naoto Mine -
12	20 Mar (Fri)	9am to 12pm 2pm to 5pm	Country Report Country Report	- -
13	21 Mar (Sat)	9am to 12pm	1. Course Evaluation 2. Closing Ceremony	-

REGIONAL TRAINING COURSE  
IN  
BUILDING CONSTRUCTION AND PROJECT MANAGEMENT

<u>SPEAKER</u>	<u>TOPIC</u>	<u>DATE OF PRESENTATION</u>
1. Mr Harry Wong K C Head ( Construction Branch ) Factory Inspectorate Department Ministry of Labour Havelock Road Singapore 0105	Safety at Worksites	10 March 1987
2. Mr Peter Woods Senior Lecturer Faculty of Architecture National University of Singapore Kent Ridge Singapore 0511	Project Team Management	10 March 1987
3. Mr Lau Joo Ming Senior Principal Structural Engineer Structurer Engineering Department Housing and Development Board Ministry of National Development Maxwell Road Singapore 0106	Construction Methods used by HDB	11 March 1987
4. Mr Loh Soo Eng General Manager DBS Land 68 Orchard Road #06-01 Singapore	Project Management Case Study of Raffles City Project	12 March 1987

REGIONAL TRAINING COURSE  
IN  
BUILDING CONSTRUCTION AND PROJECT MANAGEMENT

LIST OF SPEAKERS

<u>SPEAKER</u>	<u>TOPIC</u>	<u>DATE OF PRESENTATION</u>
5. Mr Charles Middleton Principal Lecturer Civil Engineering and Building Department Singapore Polytechnic Dover Road Singapore 0513	Project Management Techniques	12 March 1987
6. Mr Darcy McColl Director Hornet Computer Systems 51 Marang Road Singapore 0409	Computer Application in Construction Management	13 March 1987
7 Mr Tony Adamo Computer Centre Singapore Polytechnic Dover Road Singapore 0513	Application of CAD in Drafting	13 March 1987
8. Dr Tony Chi Principal Chi & Associate 5001 Beach Road 04-16/17 Singapore 0719	Fast Tracking of Design and Construction	16 March 1987



REGIONAL TRAINING COURSE  
IN  
BUILDING CONSTRUCTION AND PROJECT MANAGEMENT

LIST OF SPEAKERS

9. Dr Shinji Matsumoto	)		
Principal Researcher	)		
Expert in Building Construction	)	Application of Japanese Construction	
and Project Management	)	Technology in Asean-Pacific	
Institute of Technology	)		
Shimizu Construction Co Ltd	)		
Japan	)	Construction Management Style	17 March 1987
	)	of Japanese Firms	18 March 1987
Mr Naoto Mine	)		19 March 1987
Senior Researcher	)		
Expert in Building Construction	)		
and Project Management	)	Means of Technology Transfer by	
Institute of Technology	)	Developed Nations	
Shimizu Construction Co Ltd	)		
Japan	)		

REGIONAL TRAINING COURSE IN BUILDING CONSTRUCTION AND PROJECT MANAGEMENT  
9 MARCH - 21 MARCH 1987

LIST OF PARTICIPANTS

<u>NAME</u>	<u>COUNTRY</u>	<u>DESIGNATION</u>	<u>OFFICE ADDRESS</u>
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2 Mohd. Zaini Haji Ali	Brunei	Architect, Public Works Department	Public Works Department P.O. Box 515, B.S.B. Brunei
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5 Victor H. Sianipar	Indonesia	Chief Engineer PT. Total Bangun Persada	PT. Total Bangun Persada Jl. Letjen. S. Parman No. 106 Jakarta ( 11440 ). Indonesia
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16 Ling Lee Teck	Singapore	Executive Structurer Engineer Housing & Development Board	Housing & Development Board 16th Storey Structural Engineering Dept National Development Bldg Maxwell Road, Singapore 0106
17 Quek Cheng Kay	Singapore	Associate Architect, E.C. Architects	E.C. Architects 50, Jl Sultan, #08-09 Jl Sultan Centre Singapore 0719
18 Leong Khoon Kin	Singapore	Executive Architect, Director of Public Works	Schools Construction Branch Property Development Division Public Works Department MND Building, 10th Storey Maxwell Road, Singapore 0106 page 3

REGIONAL TRAINING COURSE IN BUILDING CONSTRUCTION AND PROJECT MANAGEMENT  
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21 Vija Chissakul	Thailand	Project Architect, State Enterprise	National Housing Authority Dept. of Construction Klong Chan Bangkapi, Bangkok
22 Surachart Kijcharoensakkul	Thailand	Project Engineer, State Enterprise	National Housing Authority Dept of Construction Management Klong Chan, Bangkapi, Bangkok
23 Siaosi Peleki Moala	Tonga	Architect, Ministry of Works	Ministry of Works P.O. Box 52 Nuku'alofa Tonga

4. 1983年度合意議事録 (R/D)

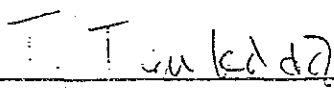
THE RECORD OF DISCUSSIONS BETWEEN  
THE JAPANESE CONSULTATION TEAM AND  
THE AUTHORITIES CONCERNED OF THE GOVERNMENT OF SINGAPORE  
ON THE THIRD COUNTRY TRAINING PROGRAMME IN  
THE FIELD OF CONSTRUCTION PROJECT MANAGEMENT IN BUILDING

The Japanese Consultation Team (hereinafter referred to as "the Team") dispatched by the Japan International Cooperation Agency (hereinafter referred to as JICA) and headed by Mr Tsuneo Tsukada, Head of Office for International Training Centres, Training Affairs Department, JICA, visited Singapore from September 28, 1983 to October 4, 1983 for the purpose of working out the Third-Country Training Programme in the field of Construction Project Management in Building at Singapore Polytechnic (hereinafter referred to as the polytechnic) supported by the Government of Japan under its technical cooperation scheme.


During its stay in Singapore the Team had a series of discussions with the authorities concerned of the Government of Singapore with respect to the measures to be taken by both governments for the successful implementation of the Third-Country Training Programme.

As the result of discussions the Team and the authorities concerned of the Government of Singapore agreed to recommend to their respective governments the matters referred to in the attached document.

Singapore, October 1, 1983

  
\_\_\_\_\_  
Mr Tsuneo Tsukada  
Head of Office for International  
Training Centres  
Training Affairs Department, JICA

Head of the Japanese Consultation  
Team

  
\_\_\_\_\_  
Mr Khoo Kay Chai  
Principal  
Singapore Polytechnic

## THE ATTACHED DOCUMENT

The Government of Japan and the Government of Singapore will cooperate with each other in implementing the Third-Country Training Programme (hereinafter referred to as "the Programme") in the field of Construction Project Management in Building at the Polytechnic.

The Programme will be conducted by the Government of Singapore with the support of the Government of Japan under its technical co-operation scheme. The Programme will be conducted once a year from the Japanese fiscal year of 1983 (April 1, 1983 - March 31, 1984) onward, subject to annual agreement between the authorities concerned of both governments.

The Programme in the Japanese fiscal year of 1983 will be implemented in accordance with the following items:

### 1 TITLE

The Training Course under the Programme will be entitled "Regional Training Course in Construction Project Management in Building" (hereinafter referred to as "the Course")

### 2 PURPOSE

The Course is designed to provide an opportunity for person who are engaged in construction project management in building in the ASEAN Region to refresh and update relevant techniques and knowledge.

### 3 DURATION

The Course will conducted from March 18, 1984 to April 1, 1984.

4 CURRICULUM

A tentative curriculum is attached as ANNEX I.

5 PARTICIPATING COUNTRIES

The following countries are invited to nominate applicants:  
Indonesia, Malaysia, Philippines, Thailand.

6 NUMBER OF PARTICIPANTS

The total number of participants from the countries specified in 5 above will be sixteen (16) and the number of participants from Singapore will be four (4).

7 QUALIFICATIONS OF APPLICANTS

Applicants to the Course are to:

- (1) have a degree in Architecture, Building or Civil Engineering or equivalent;
- (2) be engaged in construction project management in building in the governmental, public or private general construction organisations;
- (3) have at least five (5) years of occupational experience;
- (4) have a good command of spoken and written English;
- (5) be more than twenty-five (25) years of age; and



- (6) be in good health to participate and complete the Course.

## 8 APPLICATION PROCEDURE

- (1) The Governments desiring to nominate applicant(s) for the Course should complete five (5) copies of the designated application form for each applicant and forward them to the Government of Singapore through their respective diplomatic channels not later than January 18, 1984.
- (2) The Government of Singapore will inform the applying governments whether or not the nominee is accepted to the Course not later than February 18, 1984.

## 9 UNDERTAKING OF BOTH GOVERNMENTS

In preparing for and implementing the Course both governments will undertake the following responsibilities.

### 9-1 The Government of Singapore

#### 9-1-1 Ministry of Foreign Affairs

- (1) To forward General Information brochures (hereinafter referred as "G.I.") on the Course to the governments of participating countries through its diplomatic channels.
- (2) To receive application forms and forward them to the Polytechnic.

- (3) To notify the results of selection of participants to their respective governments through its diplomatic channels and to the Embassy of Japan in Singapore.
- (4) To submit Form A-1 and Form A-2-3 to the Embassy of Japan in Singapore.

9-1-2 Singapore Polytechnic

- (1) To formulate the curriculum.
- (2) To draft and print G.I.
- (3) To assign its own teaching staff as lecturer/instructors for the Course to the maximum possible extent.
- (4) To arrange training and accommodation facilities for the participants.
- (5) To screen applicants.
- (6) To arrange for meeting and sending services at the airport.
- (7) To arrange for international travel for participants and domestic study tours.

- (8) To take budgetary measures for the expenses necessary for implementing the Course except those financed by the Government of Japan.
- (9) To submit a course report to the Embassy of Japan in Singapore.
- (10) To submit Form A-1 and A-2-3 to the Ministry of Foreign Affairs of Singapore.
- (11) To co-ordinate all matters related to the Course.

9-2 The Government of Japan

- (1) To dispatch two (2) short term experts under its Expert-Assignment Programme for the purpose of giving advice and guidance to the Polytechnic and of giving lectures on such subjects as mentioned in ANNEX I.
- (2) To receive one (1) of the counter-part personnel from the Polytechnic as a participant to the individual training course organised by JICA under its Technical Training Programme for the purpose of consulting with JICA regarding implementation of the Course and of introducing relevant knowledge and techniques in this field.
- (3) To bear the following expenses for the Course;

- (a) international economy-class flight fare, accommodation, per-diem and medical insurance premium for participants from outside of Singapore
- (b) honoraria for external lecturers, meeting, teaching aid, material procurement, duplication, study tours and secretarial services.

#### 10 FINANCIAL ARRANGEMENTS

Financial arrangements by the Government of Japan for the training expenses will be made in accordance with the following procedures.

- (1) The Polytechnic will submit to the JICA Singapore Office a bill of estimate for expenses to be borne by the Government of Japan not later than sixty (60) days before the opening of the Course.
- (2) JICA Singapore Office will assess the amount stated on the bill of estimate, administer the expenses mentioned in 9-2-3-(a) above and pay to the Polytechnic the appropriate amount of expenses mentioned in 9-2-3-(b) above not later than thirty (30) days before the opening of the Course.
- (3) Upon confirmation that the payment has been made, the Polytechnic will submit to the JICA Singapore Office a receipt for the amount.

- (4) The Polytechnic will submit to the JICA Singapore Office a statement of expenditures within thirty (30) days after the closing of the Course.
- (5) In case any amount left unused is stated in the above-mentioned statement of expenditures, the Polytechnic will reimburse the same amount to JICA Singapore Office in accordance with the instructions given by the latter.
- (6) The Polytechnic will make available for JICA's reference all the receipts and other documentary evidence to certify the expenditures stated in 10-(4) above if requested by the latter.

#### 11 SCHEDULE OF IMPLEMENTATION

A recommended schedule of implementation of the Course is attached as ANNEX II.

## ANNEX I

## TENTATIVE CURRICULUM OF THE COURSE

Day	Date	Subject	Assigned to
1	March 18 (Sun)	Afrival/Opening & Orientation	-
2	19 (Mon)	1. Inventory Model 2. Assignment Problem	Polytechnic
3	20 (Tue)	1. Financial Planning & Analysis 2. Linear Programming Method 3. Line of Balance Method 4. Trend Analysis	Polytechnic
4	21 (Wed)	Pre-tender Planning	Polytechnic
5	22 (Thu)	Contract Planning (1) PERT and CPM	Polytechnic
6	23 (Fri)	Contract Planning (2) Transportation Network Planning (3) Resources Planning and Allocation	Polytechnic
7	24 (Sat)	Contract Planning (4) Site Layout (5) Site Safety	Polytechnic
8	25 (Sun)	--- Free ---	-
9	26 (Mon)	Workshop and Presentation	Polytechnic
10	27 (Tue)	1. Site Visit 2. New Building Techniques in Japan (1) Aseismatic High Rise Building (2) Prefabricated Dwelling Houses & Open Building Components (3) Energy Conservation in House & Building (4) Others	Polytechnic JICA
11	28 (Wed)	Computer Application to Building Techniques in Japan	JICA
12	29 (Thu)	Business Organisation (1) Financial Reporting (2) Financial Statement Analysis	Polytechnic
13	30 (Fri)	Business Organisation (3) Organisation Division & Performance Appraisal (4) Q.C. Circle (Work Improvement)	Polytechnic
14	31 (Sat)	Evaluation of the Course by participants	Polytechnic
15	April 1 (Sun)	Departure	-

ANNEX II

A SCHEDULE OF IMPLEMENTATION OF THE COURSE

Month	Singaporean Side	Japanese Side
Late in September 1983	Signing of Record of Discussion	Signing of Record of Discussion
Early in October 1983	Submission of Form A-1 and A-2-3	Recruitment of experts
Late in October 1983	Distribution of G.I.	Acceptance of participant
Middle of January 1984	(1) Submission of the Bill of Estimate of Expenses (2) Receipt of applications	
Middle of February 1984	Notification of acceptance	Payment of expenses
Middle of March 1984	Conduct of the Course	
Late in March 1984		Dispatch of experts
Late in April 1984	(1) Submission of Statement of Expenditures (2) Submission of Course Report	







JICA