

No. 03

# マレーシア国立電算機研修所事業 評価調査団報告書

田村 洋

平成2年11月

国際協力事業団

マレーシア国立電算機研修所事業評価調査団報告書

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マレーシア国立電算機研修所事業  
評価調査団報告書

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## 序 文

マレーシア国政府は、公共部門におけるコンピュータスタッフの需要の増加に対処するために、公務員研修所（INTAN）内に設置されているコンピューター・トレーニング・センターを母体として本格的汎用コンピューターの利用技術を備えた総合的な国立電算機研修所（NCI）の設立を計画し、我が国に対し、プロジェクト方式技術協力の要請を行った。

我が国は、この要請に応え、1985年11月、マレーシア側関係機関と本件実施に係わる討議議事録（R/D）の署名・交換を行ない、5年間にわたる技術協力を開始した。

今般、R/Dによる協力期間が、1990年11月12日をもって終了するのに先立ち、これまでの協力内容等の評価を行うとともに、マレーシア側とプロジェクトの終了に係る必要な協議を行うことを目的として、1990年8月1日から8月9日まで評価調査団を派遣した。

本報告書は、評価調査団の現地における調査及び協議内容をとりまとめたものである。

ここに、本調査団派遣に際し、御協力をいただいた在マレーシア日本大使館をはじめとする日本・マレーシア両国の関係各位に対して深甚なる謝意を表するとともに、今後とも本件技術協力の成功のために一層のご支援をお願いする次第である。

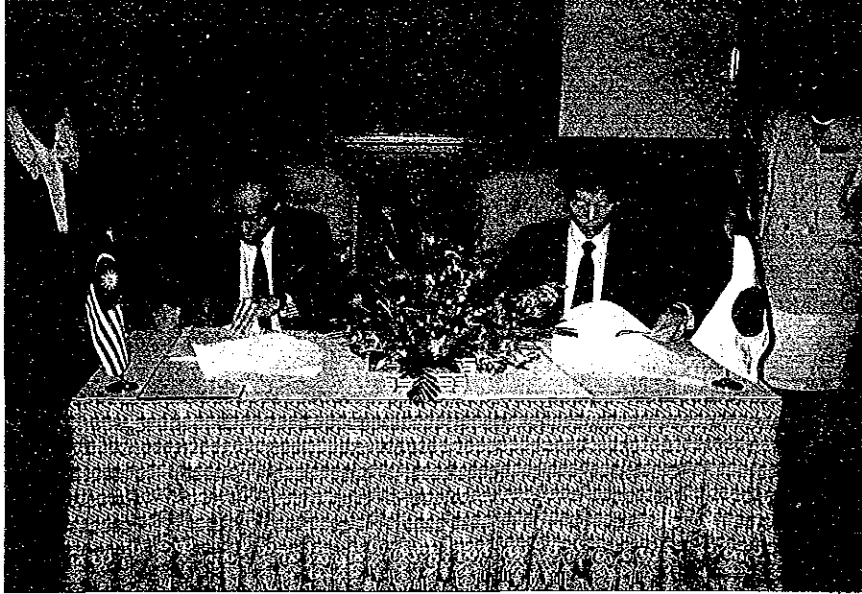
1990年11月

国際協力事業団

理事 田守 栄一







ジョイントエバリュエーションレポート署名 8月7日

写真 左 Dr. Johari Mat INTAN所長

右 山崎団長



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# 1. プロジェクトの概要

## 1-1 概要

- (1) 名称 マレーシア国立電算機研修所事業  
{ The Japanese Technical Cooperation for  
National Computer Institute Project in Malaysia }
- (2) R/D署名日 1985年(昭和60年)11月13日
- (3) 協力期間 1985年11月13日~1990年11月12日(5年間)
- (4) 所在地 クアラ・ Lumpur
- (5) 相手側協力機関 人事院公務員研修所国立コンピューター訓練センター  
{ Public Service Department(P S D) ,  
National Institute of Public Administration ( I N T A N ) ,  
National Computer Training Center ( N C T C ) }
- (6) 日本側協力機関 通商産業省、郵政省、(財) C I C C、(株)日立製作所、NTT
- (7) 目的・内容

マレーシア国における情報関連分野の発展に資すべく、公共部門における技術普及の中核として、国立電算機研修所(NCI: National Computer Institute)を人事院(P S D)公務員研修所(I N T A N)の中に設置し、コンピュータ言語、データベース、データコミュニケーション、システムアナリシス・システムデザイン、マネジメント等の分野の技術移転を行い、コンピュータ関連職員の養成を行う。さらに、これらのカウンターパートを講師として20のコンピュータ上級研修コースを開設する。

## 1-2 経緯

マレーシア国におけるコンピュータ設置台数は、1970年代後半に入り急増し、今後も年率25~30%の伸びが予想されている。

現在、普及しているコンピュータは、全般的にはミニ・コンピュータの割合が高いが、公共部門(連邦政府、州政府、教育研究機関等)では、大型機がかなり導入されている。

公共部門のコンピュータ訓練は、1974年からI N T A N(公務員研修所)において、政府職員を対象に実施されており、1982年には、コンピュータ訓練センター(C T C: Computer Training Center)、1987年には国立コンピュータトレーニングセンター(N C T C)と名称の変更を行うとともに訓練内容の向上を図ってきた。

しかしながら、上記センターは、ミニコン、パソコンベースの訓練教育であり、このため、マレーシア政府は、上記センターを母体として新規に、本格的な汎用コンピュータの利用技術を学

べる総合的な国立電算機研修所 (N C I : National Computer Institute) の設立を計画し、我が国に対し、技術協力の要請を行ったものである。

## 2. 評価調査団の派遣

### 2-1 調査団派遣の経緯と目的

本プロジェクトは、1985年11月13日から5年間の協力を実施中であり、この間我が国は、専門家の派遣、カウンターパートの受入れ、機材供与等を通し、順調に技術移転を実施してきた。

今般、1990年11月12日のプロジェクト終了に先立ち、

- (1) これまでの協力実績及び成果をレビューし、当初R/Dに記載されている技術協力目的の達成度を評価し、今後の協力方針を協議すること、
  - (2) 評価結果および協議結果をジョイント・エバリュエーション・レポートに取りまとめ署名・交換を行うこと、
  - (3) 評価結果から教訓、提言等を導出し、今後の協力の参考とすること、
  - (4) プロジェクト終了までのスケジュール作成を行うこと、
- を目的として、評価調査団を派遣することとした。

### 2-2 調査団の構成

団長	山崎 宗重	総 括	国際協力事業団 鉱工業開発協力部長
団員	植木 健一郎	技術協力計画	通商産業省 通商産業研究所 政策情報システム 調査官
団員	尾崎 常道	技術協力計画 (データ通信)	郵政省 電気通信局 電波部 移動通信課 第二技術係長
団員	中川 清秀	機 材 計 画	財団法人 国際情報化協力センター 振興部 コンサルタント
団員	山田 靖	計 画 評 価	国際協力事業団 鉱工業開発協力部 鉱工業開発技術課

2-3 調査日程

平成2年8月1日(水)～平成2年8月9日(木) (9日間)

日順	月.日	曜日	行 程	調 査 内 容
1	8. 1	水	東京→ クアラルンプール	移 動 (JL721、CX721) PM 日程打合せ
2	8. 2	木		AM INTAN本部所長表敬 INTAN NCTC視察 INTAN NCTC職員との懇談 PM 専門家との会議
3	8. 3	金		INTAN副所長及びNCTC C/Pと の協議
4	8. 4	土		専門家との会議
5	8. 5	日		資料整理
6	8. 6	月		AM INTAN副所長及びNCTC C/Pとの協議 PM INTAN本部にて合同委員会
7	8. 7	火		AM Joint Evaluation Report の作成 PM Joint Evaluation Report 署名交換
8	8. 8	水	クアラルンプール →	AM JICA事務所報告 日本大使館報告 PM 移 動 (JL722)
9	8. 9	木	←東京	AM 移 動 (JL722)

2-4 主要面談者

(1) マレーシア側

INTAN 所 長	Dr. Johari Bin Mat
副所長	Mr. Mohd. Yusof Mohd. Johor
NCTC Unit Chief	Mr. Mohd. Adzman Musa (所長代行)
”	Ms. Chan Yet Meng
”	Ms. Zaharah Ali
”	Mr. Lau Boon Ling
”	Mr. Mohd Azli Lee



(2) 日本側

日本大使館	臨時代理大使（公使）	天木 直人
	二等書記官	伊藤 友孝
	二等書記官	赤木 利行
マレーシア事務所	次 長	湊 芳郎
”		山下 良恵
専 門 家	チーフアドバイザー	岩崎 晋
	調 整 員	齊藤 正史
		西田 洋一郎
		武重 勉
		小柳 和子
		駒田 健二

### 3. 要約

- (1) 本調査団は、公務員研修所 (INTAN) Johari 所長、Yusof 副所長を始めとするマレーシア側関係者と本プロジェクトについて、当初の R/D に基づく専門家の派遣計画、機材の供与計画、研修員の受入計画及びコースの開発計画と実績との比較及びカウンターパートへの技術移転状況の把握を行い、総合的に合同評価を行った。その結果、本プロジェクトは当初の目的を達成したものと判断されるので、双方は当初の R/D 通り 1990 年 11 月 12 日をもって 5 年間の協力を終了することに合意した。
- (2) 本プロジェクトが終了する 1990 年 11 月 12 日までの 3 ヶ月間に、
  - i) 現在作成中の S I S (Student Information System) を完成させること、
  - ii) 最近のコンピュータ関連の応用技術をテーマとするセミナーを開催すること、
  - iii) プロジェクトの引渡しを行うこと、等について、双方確認した。
- (3) 合同評価報告書には、プロジェクト終了後もマレーシア政府がセンターを良好な状態で運営していくことが期待される旨、記載された。また、マレーシア側より、日本側の協力に感謝するとともに、同じく情報関連分野において、将来の協力についての希望が表明された。
- (4) プロジェクト終了後の計画として、マレーシア側より、
  - i) マレーシアにおいて、シンガポールの N C B (National Computer Board) を参考として情報政策の中核となるべき N I T B (National Information Technology Board) の設立が計画中であること、
  - ii) 本プロジェクトの関連で第三国研修の要請を行っており、また、別途スキームにてミニプロ要請を行っていること、について表明があった。日本側は、第三国研修、ミニプロとも実施部署が当事業部ではないため、その可否についてコメントできないことを説明した上で、各スキームについて、留意事項の説明を行った。

## 4. プロジェクトの当初計画

### 4-1 相手国の要請とわが国の対応

#### (1) 技術協力の要請

マレーシア政府は、公務員研修所（INTAN）に設置されているコンピュータ・トレーニング・センター（CTC）を母体として、本格的な汎用コンピュータの利用技術を学べる総合的な国立電算機研修所（National Computer Institute : NCI）を設立し、コンピュータ分野における人材養成を行うことを目的として、我が国に対して、技術協力要請を行った。

#### (2) 事前調査団の派遣

上記要請を受け、我が国は、1984年（昭和59年）10月に、事前調査団を派遣した。

本調査により、本件要請の背景及び内容の確認、マレーシア側実施体制の確認、協力構想についての意見交換、及び、マスタープラン策定に必要な関連事項についての調査を行った。

その結果、技術協力の妥当性が確認され、今後、NCIの組織上の位置付けを明確化させるとともに、R/Dのマスタープランの策定に向け、研修内容等について、調査を行うこととされた。

#### (3) 長期調査員の派遣

1985年（昭和60年）9月、2名の長期調査員を派遣し、本プロジェクトの基本計画案、研修内容等について調査・協議を行った。

### 4-2 プロジェクトの成立

1985年（昭和60年）11月に、事前調査、長期調査結果に基づき、本件技術協力に関する具体的協力内容について、マレーシア側と協議を行ない、これらを討議議事録（R/D）にとりまとめ署名交換を行う目的で、実施協議調査団が派遣された。

その結果、1985年11月13日より、1990年11月12日まで5年間にわたり技術協力を行うことで合意され、その協力内容は、討議議事録（R/D）として取りまとめられ、人事院（PSD）総裁との間で署名交換が行われた。

### 4-3 技術協力の内容

#### (1) プロジェクトの目的

人事院（Public Service Division）の公務員研修所（INTAN）内に「国立電算機研修所」（NCI）を設立し、マレーシアにおける情報処理技術関連分野において、技術面、専門面、管理面に精通した人材を養成することにより、マレーシアの社会・経済の発展に寄与する。

## (2) 協力内容

下記の協力分野において、開設予定の各研修コースの講師を養成すること（トレーナーズ・トレーニング）

### i) 協力分野

- ① コンピュータ言語／オペレーティングシステム（OS）
- ② データベース（DB）／データコミュニケーション（DC）
- ③ システム・アナリシス（SA）／システム・デザイン（SD）
- ④ マネジメント

### ii) 協力対象の研修コース

- |                        |                    |
|------------------------|--------------------|
| ① マネージメントコース           | (2コース) No.4、No.5   |
| ② アドバンスト・プログラマー・コース    | (5コース) No.12～No.17 |
| ③ アドバンスト・システムアナリスト・コース | (6コース) No.18～No.23 |
| ④ アドバンスト・マネージメント・コース   | (2コース) No.26～No.27 |
| ⑤ 特別セミナー               | (4コース) No.28～No.31 |

## 5. プロジェクトの実績

### 5-1 プロジェクトの投入実績

本プロジェクトに対する投入実績の概略は表1～4の通りである。

#### (1) 専門家派遣 (表1, 2)

プロジェクト期間を通じ、日本側は、長期専門家14名、短期専門家42名（長期調査員2名を含む）及び調査団7チームの派遣を行った。

長期専門家については、1986年度から派遣が開始され（1986年5月）、当初はチーフ・アドバイザー、業務調整と8分野（コンピュータ言語、オペレーティングシステム、データベース、データ通信、システム・アナリシス、システム・デザイン、マネジメント、パーソナル・コンピュータ）の計10名体制とした。その後、技術移転の進捗と新規分野の必要性を考慮し、1988年度には、コンピュータ言語、パーソナルコンピュータ、システムデザイン担当を削減し、データベース分野に代えてメインフレーム分野を派遣することとし、7名体制となった。

1989年度以降、マネジメント分野及びメインフレーム分野については、専門家の任期終了に伴い、短期専門家にて対応することとした。また、データ通信分野及びシステムアナリシス／システムデザイン分野については、技術移転の終了に伴い、それぞれ1990年4月及び8月に帰国した。

短期専門家については、

- i) 研修センターのコンサルテーション
- ii) ハードウェア及びソフトウェアの据付、調整、指導
- iii) コース開発及びコース改善の指導
- iv) セミナー講師
- v) 情報システムの開発

等のために、1985年度に2名（長期調査員）、1986年度に13名、1987年度に5名、1988年度に5名、1989年度に12名、1990年度に5名の計42名を派遣している。

#### (2) 研修員受入 (表3)

研修員の日本研修については、当初R/Dでは約20名とされたが、プロジェクト終了まで計28名の研修員の受け入れを行うこととなる。

年度別に見ると、1985年度5名、1986年度3名、1987年度5名、1988年度4名、1989年度8名、1990年度3名となる。

主な研修先は、日立教育センター（23名）とJICA沖縄国際センター（3名）であり、その他高級及び準高級研修員としてINTANの所長及び副所長の2名を受入れた。

(3) 機材供与(表4)

供与機材の総額は、CIFで約5億2千万円程度となる。

機材の据え付けに必要なスペース及び施設は、マレーシア側で準備され、さらにより良いプロジェクト運営を図るために、マレーシア側自らプロジェクションテレビ、プロジェクター等を導入している。

日本側は、R/Dで定められた機材をすべて供与し、さらに、プロジェクトの進捗に合わせ、新たに必要性の認められた機材も追加供与している。

利用状況は概ね良好である。

また、情報関連の書籍が1,364冊供与されており、専門家及びカウンターパートにとって、コース開発の一助となっている。

表1 調査団の派遣実績

年度	調査団名 (期間)	分野	氏名	所属先
1984	事前調査 (84/10/8 -84/10/17)	総括 兼ソフト技術 技術協力計画 ハード技術  データ通信 業務調整	栗山 榮治 目黒 孝敏 小嶋 一正  二宮 肇 佐藤 幸次	通商産業省大臣官房調査統計部 調査統計企画室長 外務省経済協力局技術協力課 通商産業省特許庁総務部 電子計算機業務課 日本電信電話公社データ通信本部 国際協力事業団鉦工業開発協力部 鉦工業開発技術課
1985	実施協議 (85/11/6 -85/11/14)	総括 カリキュラム (組織等) カリキュラム (人員配置) ハード・付帯 設備等 業務調整	岩崎 晋章 丸川 章 福本 吉高 浅見 隆幸 塩澤 克利	通商産業省計量研究所システム研究室長 通商産業省機械情報産業局総務課 課長補佐 郵政省通信政策局情報管理課 課長補佐 財団法人国際情報化協力センター 国際協力事業団鉦工業開発協力部 鉦工業開発技術課
1987	計画打合 (87/4/3 -87/4/10)	総括 アドバイザー(技術 協力政策) 技術協力計画 (実施体制) 業務調整	隅田 栄亮 横田 宏 大矢 浩 塩澤 克利	国際協力事業団鉦工業開発協力部調査役 通商産業省通商政策局経済協力課長  郵政省放送行政局技術課係長 国際協力事業団鉦工業開発協力部 鉦工業開発技術課
	巡回指導 (88/3/28 -88/4/5)	総括 技術協力政策  技術協力計画 業務調整	坂田 武穂 井上 正 橋本 雅汎 江成 克己	国際協力事業団鉦工業開発協力部調査役 通商産業省機械情報産業局電子機器課 係長 N T T国際部開発協力部門担当部長 国際協力事業団鉦工業開発協力部 鉦工業開発技術課
1988	巡回指導 (89/3/23 -89/3/30)	総括兼 技術協力計画 訓練計画  業務調整	窪田 明 今井 龍吉 山口 公章	通商産業省通機械情報産業局電子機器課 課長補佐 郵政省通信政策局国際協力課 第三国際協力係 国際協力事業団鉦工業開発協力部 鉦工業開発技術課課長代理
1989	計画打合 (89/12/7 -89/12/15)	総括 技術協力政策  技術協力計画 業務調整	坂田 武穂 小貫 秀治 伊藤 勉 山田 靖	国際協力事業団鉦工業開発協力部調査役 通商産業省機械情報産業局電子政策課 企画係長 N T T国際部開発協力部門担当課長 国際協力事業団鉦工業開発協力部 鉦工業開発技術課
1990	評価 (90/8/1 -90/8/9)	総括 技術協力計画  技術協力計画 (データ通信) 機材計画  計画評価	山崎 宗重 植木健一郎 尾崎 常道 中川 清秀 山田 靖	国際協力事業団鉦工業開発協力部長 通商産業省通商産業研究所 政策情報システム部 調査官 郵政省電気通信局電波部移動通信課 第二技術係長 財団法人国際情報化協力センター 振興部コンサルタント 国際協力事業団鉦工業開発協力部 鉦工業開発技術課

表2 専門家派遣実績

## (1) 長期専門家

No.	専門家氏名	指導分野	派遣期間	所属先
1	岩崎 晋	チーフ・アドバイザー	1986. 5. 1~1990. 11. 12	(財) 国際情報化協力センター
2	斉藤 正史	業務調整	1986. 5. 1~1990. 11. 12	(財) 国際協力サービスセンター
3	生田 修	コンピュータ言語	1987. 1. 28~1989. 1. 27	N T T
4	佐藤 泰助	オペレーティング・システム	1986. 11. 17~1989. 3. 31	(株)日立製作所
5	武重 勉	オペレーティング・システム	1989. 3. 29~1990. 11. 12	(株)日立製作所
6	藤井 健	データベース	1986. 5. 23~1988. 5. 22	日立ソフトウェアエンジニアリング(株)
7	竹内 荘司	データ通信	1986. 5. 1~1988. 4. 30	N T T
8	橋本 雅汎	データ通信	1988. 4. 25~1990. 4. 24	N T T
9	鈴木 誠	システム・アナリシス/ システム・デザイン	1986. 5. 23~1988. 5. 22	通産省
10	西田洋一郎	システム・アナリシス/ システム・デザイン	1988. 5. 11~1990. 8. 10	通産省
11	宮川 純一	システム・アナリシス	1986. 12. 19~1988. 12. 18	通産省
12	木戸 恭彦	マネージメント	1986. 5. 23~1989. 5. 22	(株)日立製作所
13	佐立 一範	パーソナル・コンピュータ	1986. 12. 5~1988. 12. 4	(株)日立製作所
14	山本 昌彦	メインフレーム	1988. 5. 11~1990. 5. 10	日立ソフトウェアエンジニアリング(株)



## (2) 短期専門家

年度	専門家氏名	指導分野	派遣期間	所属先
1985	小嶋 一正 竹内 荘司	(長期調査員) "	1985. 9. 23~1985. 10. 3 "	通商産業省 NTT
1986	中川 清秀 浅見 隆幸 和田 健 " " 若林 徹 桑野 裕次 比留川直人 永谷 光行 竹内 茂明 中川 清秀 稲田 修一 林 昭夫 堀内 一	研修センターのコンサルテーション " " " 機材据付 (メインフレーム) " " システム・ジェネレーション " " No.28セミナー 機材据付 (パソコン) " No.28セミナー	1986. 4. 27~1986. 5. 4 " " 1986. 9. 29~1986. 10. 4 1986. 12. 18~1987. 1. 15 " " 1987. 1. 11~1987. 1. 25 " 1987. 1. 15~1987. 1. 22 1987. 3. 24~1987. 3. 29 " 1987. 3. 25~1987. 4. 7	(株)日立製作所 " " " " " " " " " " 郵 政 省 (株)日立製作所 "
1987	田中 豪 岡田 晃 高橋 富雄 葉木 洋一 酒井 博敬	No.16コース改善 機材据付 No.29セミナー " No.21/22コース改善	1987. 7. 30~1987. 8. 8 1987. 9. 7~1987. 9. 14 1987. 9. 26~1987. 10. 4 " 1988. 2. 3~1988. 2. 15	N T T (株)日立製作所 郵 政 省 (株)日立製作所 京都産業大学
1988	酒井 博敬 堀内 一 足立 知子 蛸崎 信喜 水上 勉 大里 立夫	No.30セミナー " No.12コース改善 機材据付 (リモートターミナル) 機材据付 (プロジェクター) 機材据付 (ワークステーション)	1988. 6. 5~1988. 6. 12 " 1988. 9. 4~1988. 9. 11 1988. 11. 21~1988. 11. 26 " 1989. 3. 28~1989. 4. 9	京都産業大学 (株)日立製作所 " " " "
1989	市来 齐 合田ノゾム 小国 力 山崎 政志 水上 勉 蛸崎 信喜 竹内 成明 荻田 昭司 堀内 一 水上 勉 駒田 健二	マネジメント No.31セミナー " No.26コース改善 機材据付 (ビデオディスプレイ オプション) 機材据付 (メインフレーム OS) 指導 ( " ) 調整 (メインフレームOS) No.18A 機材据付 (ビデオディスプレイ オプション) マネジメント	1989. 6. 22~1990. 3. 22 1989. 6. 30~1989. 7. 9 " 1989. 7. 30~1989. 8. 9 1989. 9. 4~1989. 9. 9 1989. 9. 25~1989. 10. 1 1989. 9. 25~1989. 10. 4 1989. 9. 27~1989. 10. 4 1989. 10. 7~1989. 10. 14 1990. 2. 5~1990. 2. 9 1990. 2. 24~1990. 9. 30	(株)日立製作所 N T T (株)日立製作所 " " " " 日立システム エンジニアリング(株) (株)日立製作所 " " "
1990	小柳 和子 福地 豊 西川 泰蔵 遠藤 誠 岸本登美夫	メインフレーム No.16コース改善 特別セミナー " "	1990. 4. 20~1990. 11. 12 1990. 7. 23~1990. 8. 2 1990. 10. 21~1990. 10. 24 1990. 10. 22~1990. 10. 27 1990. 10. 22~1990. 10. 27	日立ソフトウェア エンジニアリング(株) ファコム・ハイテック(株) 通商産業省 (株)日立製作所 N T T

No.12 : システム・プログラミング/オペレーティング・システム

No.16 : データベース・プログラミング

No.18A : ストラクチャード・システムアナリシス

No.21 : データベース・デザイン

No.22 : データベース・マネジメント・システム

No.26 : コンピュータセンター・マネジメント

No.28 : システム・セキュリティ/システム・オウディティンク

No.29 : コンピュータ・ハードウェア/ソフトウェア/ニューディベロップメント

No.30 : インフォメーション・システム・プランニング

No.31 : コンピュータパフォーマンス・エバリュエーション

表3 研修員受入実績

年度	氏名、役職	受入期間	受入先
1985	MR. MOHD. ADZMAN BIN MUSA (SYSTEM ANALYST)	1986. 3. 17~1986. 7. 15	日立教育センター
	MS. LIEW YET MENG (SYSTEM ANALYST)	1986. 3. 17~1986. 6. 10	"
	MR. MAZLAN BIN HARUN (SYSTEM ANALYST : 89年4月異動)	1986. 3. 17~1986. 7. 31	"
	MR. MOHD. NOORDIN BIN ABD. RAHIM (PROGRAMMER)	"	"
	MS. SUSIE DORAI RAJ (SYSTEM ANALYST)	"	"
1986	DR. MAZLAN BIN AHMAD (DIRECTOR OF INTAN: 88年2月異動)	1986. 10. 5~1986. 10. 16	JICA (高級)
	MR. MOHD. AZLI LEE ABDULLAH (SYSTEM ANALYST)	1987. 2. 9~1987. 4. 28	日立教育センター
	MR. AB. RASHID BIN AB. RAHIM (SYSTEM ANALYST : 90年3月異動)	"	"
1987	MR. AHMAD AMIN ESA (SYSTEM ANALYST : 89年6月異動)	1987. 9. 14~1987. 12. 4	日立教育センター
	MR. HASIM BIN BUJANG (SYSTEM ANALYST)	"	"
	MS. NOR' INI BT. ABD. RAHMAN (SYSTEM ANALYST)	1988. 2. 13~1988. 4. 28	"
	MS. ZAHARAH BT. ALI (SYSTEM ANALYST)	"	"
	MS. AZIZAH BT. ABD. MANAN (SYSTEM ANALYST : 88年5月異動)	"	"
1988	MR. MOHD. YUSOF AHMAD (PROGRAMMER)	1988. 7. 15~1988. 11. 4	沖縄国際センター
	MS. MEDAH MOHAMAD (PROGRAMMER : 89年6月異動)	1989. 1. 9~1989. 4. 1	日立教育センター
	MS. MAZNUM MOHD. ARIF (PROGRAMMER)	"	"
	MR. MOHD. ALI BIN RABANI (PROGRAMMER)	"	"
1989	MR. MOHD NAHROWI B. AHMAD (PROGRAMMER)	1989. 5. 8~1989. 9. 25	沖縄国際センター
	MS. SALMAH KHAI RUDDIN (SYSTEM ANALYST)	1989. 10. 12~1989. 12. 24	日立教育センター
	MS. CHEN YOKE YING (SYSTEM ANALYST)	"	"
	MS. NURIZAN HASHIM (SYSTEM ANALYST : 90年4月異動)	"	"
	MR. HUAN KWEE CHAI (SYSTEM ANALYST)	"	"
	MR. LAU BOON LING (SYSTEM ANALYST)	1990. 1. 23~1990. 4. 1	"
	MS. ROSNI ABDUL MALEK (SYSTEM ANALYST)	"	"
	MR. MOHD YUSOF MOHD JOHOR (DEPUTY DIRECTOR OF INTAN)	1990. 3. 28~1990. 4. 14	JICA (準高級)
1990	MS. MARISA YEE FONG LING (PROGRAMMER)	1990. 4. 5~1990. 9. 8	沖縄国際センター
	MS. HAFIZAH BT OTHMAN (OPERATOR)	1990. 8. 28~1990. 10. 7	日立教育センター
	MS. KHATIJAH BTE ALI (OPERATOR)	"	"

表4 機材供与実績

## (1) 供与機材

年度	機材名	数量	到着日	金額 C.I.F 【千円】		
1986	中央制御装置	2	1986. 12	366, 861		
	コンソール・ディスプレイ (プリンターを含む)	2	"			
	統合ディスク制御装置	2	"			
	ディスク駆動装置	2	"			
	ラインプリンター	2	"			
	フロッピーディスク入出力装置	2	"			
	磁気テープ制御装置	2	"			
	磁気テープ装置	2	"			
	端末制御装置	8	"			
	ビデオ・データ・ターミナル	70	"			
	同プリンター	10	"			
	データエントリ装置	10	"			
	パーソナル・コンピューター	30	1987. 3			
	システムソフト	2セット	1986. 12			
1987	ラインプリンター	2	1987. 9	60, 411 (3, 609)		
	プリンター	10	"			
	ターミナルコントローラ	4	1988. 3			
	ビデオデータターミナル	12	"			
	高精細投射形ディスプレイ	1	"			
	PC用ソフトウェア	12セット	1987. 11/1988. 1 (現地調達)			
	エンジニアリング・ワーク・ベンチ 一式(ソフトウェアを含む)	1セット	1988. 3 (現地調達)			
	パーソナルコンピューター	1	1988. 3 (現地調達)			
	同プリンター	1	1988. 3 (現地調達)			
	1988	ワークステーション(2050) (ソフトウェアを含む)	2セット		1989. 1 1989. 4	54, 344 (3, 036)
フロッピーディスク入出力装置		2	"			
システム拡張機構		1	1989. 4			
増設主記憶装置		2	"			
カラー電子イメージ・システム		2セット	1988. 9 (現地調達)			
レーザープリンター		1	1988. 10 (現地調達)			
モデム		1	1988. 11 (現地調達)			
ダム端末		2セット	1989. 2 (現地調達)			
ワークステーション用ソフト		1セット	1989. 2/1989. 3 (現地調達)			
1989		70インチ・プロジェクター増設機器	1セット	1989. 8	31, 166 (21, 497)	
		ディスプレイ・ユニット	2	1989. 12		
	ディストリビュータ	2	"			
	ワークステーション(2050) (ソフトウェアを含む)	2	1989. 9/1990. 3 (現地調達)			
	パーソナルコンピューター	50	1989. 9/1989. 11 /1990. 3(現地調達)			
	インクジェットプリンター	1	1989. 9 (現地調達)			
	レーザープリンター	1	1989. 9 (現地調達)			
	ドットプリンター	11	1990. 3 (現地調達)			
	プリンター	1	" (現地調達)			
	ミニ・コンピュータ	1	" (現地調達)			
	合計		(現地調達)			512, 782

## (2) 携行機材

年度	機 材 名	数 量	到 着 日	金額(千円)
1986	電子黒板	1	1986. 7	3,689
	ビデオ、カラーテレビ等	1セット	1986. 8	
	ビデオカメラ	1セット	1986. 12	
	スライドプロジェクター	1セット	1987. 3	
	複写機	2	1986. 7/1987. 3 (現地調達)	
	書 籍			
1987	マニュアルハンガー	2セット	1987. 4	5,900
	ワープロ	1セット	1987. 6	
	ビデオテープ	7	1987. 9	
	OHP	2セット	1987. 12	
	マニュアルワゴン	2セット	"	
1988	パソコンソフト 書 籍	1セット	1989. 1	948
1989	書 籍			927
合計				11,464

※ 書籍については専門家の派遣時等に、技術移転に必要なものを適宜供与した。

## 5-2 プロジェクトの活動実績

## (1) 研修コースの開設

- 1) R/Dにおいて、開設予定の31コースのうち、20コースを日本側が担当することとされた。
- 2) その後、1988年度にカリキュラムの重複を解消し、改訂を行った結果、日本側は別表21コースを担当することとされた。
- 3) 当初の開設予定コース及びセミナーは、1990年6月29日をもって終了し、必要なコースについては、リピートコースが開設されている。
- 4) プロジェクト終了まで開発コース、リピートコースを合わせ、28コースが実施され、887名参加の予定。セミナーについては、5セミナー（最終セミナーを含む）が実施され、372名参加の予定。

## Management Course

No. 4 Information System Management

(R/Dでは Planning for Computerization)

No. 5 Office Automation

(R/Dでは Office Automation and Microcomputers.)

#### Advanced Programmer Course

- No.12 Systems Programming and Operating Systems
- No.13 Structured Programming  
(R/Dでは Structured Program Design)
- No.14 Programming Languages
- No.15 Software Packages
- No.16 Database Programming  
(R/Dでは DB/DC Systems Programming (1st Module))
- No.17 Data Communication Programming  
(R/Dでは DB/DC Systems Programming (2nd Module))

#### Advanced System Analyst Course

- No.18A Structured Systems Analysis
  - No.18B Structured Systems Design
  - No.19 Systems Design for Microcomputers
  - No.20 Systems Management and Operating Systems
  - No.21 Database Design
  - No.22 Database Management Systems
  - No.23 Data Communication and Computer Network
- R/Dでは  
Structured Systems Analysis and Design

#### Advanced Management Course

- No.26 Management of Computer Centers
- No.27 Project Management

#### Special Seminar

- No.28 Systems Security and Auditing  
(R/Dでは System/Data Security and Auditing)
- No.29 Computer Hardware/Software New Developments  
(R/Dでは Computer Hardware/Software New Developments and Evaluation)
- No.30 Information Systems Planning
- No.31 Computer Performance Evaluation

#### (2) 技術移転手法

当初2年間は、Reading Circle Method(合同評価報告書 Annex 10 参照)を用いたが、有効な結果が得られなかったため1988年に技術移転のためのガイドラインを開発(合同評価報告書 Annex 11、12参照)し、カウンターパートの部分的フルタイム化、すなわちコース開発を行う3カ月前からカウンターパートがコース開発に専念できる体制を築くよう努めた結果、その後の技術移転が一層スムーズに行われることとなった。

## 6. プロジェクトの評価

### 6-1 プロジェクト当初計画と実績の比較

長期専門家、短期専門家、研修員の受入、コース（セミナー）の開設等、本プロジェクト協力実施計画と実績を表5にまとめた。

R/Dに定められた各分野について長期専門家が派遣され、日本側専門家の指導により開設されることとされた20のコース（コースの再編成により最終的には21コース）が、いずれも協力期間内に開設された。

供与機材については、R/D当初予定された機材はすべて供与され、さらに、プロジェクトの進捗に合わせ、必要性の認められる機材についても追加供与され、コース開設及び専門家の技術移転に大きく寄与した。

研修員の受入れについては、協力終了までに、当初予定の20名を越え、研修員28名の受け入れを行った。

表5 協力計画と実績

5-1 長期専門家

■■■ : 計画  
 ■■■ : 実績  
 { 1線、1名

投入	年次		1年目		2年目		3年目		4年目		5年目	
	1985 11/13	1986 11/13	1987 11/13	1988 11/13	1989 11/13	1990 11/13	1991 11/13	1992 11/13	1993 11/13	1994 11/13	1995 11/13	1996 11/13
プロジェクト協力期間												
専門分野												
① チーフ・アドバイザー	4/5 5/1											
② 業務調整	5/1											
③ システム・アナリシス	5/28			5/11 5/22								8/10
④ システム・デザイン		12/19							12/18			
⑤ データ・ベース	5/28			5/22								5/10 (4/20)
⑥ データ・コミュニケーション	5/1			4/30								4/24
⑦ オペレーティング・システム		11/17							3/29			
⑧ コンピュータ言語		1/28							1/27			
⑨ マネージメント	5/28								5/22 (6/22)			8/21 (9/30)
⑩ パーソナル・コンピュータ (追加)		12/5										12/4
各年度派遣分野数	計画	9	9	9	9	9	9	9	9	8	7	7
	実績	10	10	10	10	10	10	10	10	7	6	6

注：括弧内は短期専門家





5-3 研修員

■■■ : 計画  
 ■■■ : 実績  
 { 1線 : 1名

投入	年次		1年目		2年目		3年目		4年目		5年目	
	1985 会計年 11/13	11/13	1986 11/13	11/13	1987 11/13	11/13	1988 11/13	11/13	1989 11/13	11/13	1990 11/12	
分野												
(1) 言語・OS	■■■■■ ■■■■■ ■■■■■		■■■■■ ■■■■■	■■■■■ ■■■■■ (沖縄)	■■■■■ ■■■■■ (沖縄)	■■■■■ ■■■■■ ■■■■■	■■■■■ ■■■■■ ■■■■■	■■■■■ ■■■■■ ■■■■■	■■■■■ ■■■■■ ■■■■■	■■■■■ ■■■■■ ■■■■■	■■■■■ ■■■■■ ■■■■■	(9)
(2) DB・DC	■■■■■ ■■■■■ ■■■■■		■■■■■ ■■■■■	■■■■■ ■■■■■	■■■■■ ■■■■■	■■■■■ ■■■■■	■■■■■ ■■■■■	■■■■■ ■■■■■	■■■■■ ■■■■■	■■■■■ ■■■■■	■■■■■ ■■■■■ (沖縄)	(0)
(3) SA・SD	■■■■■ ■■■■■		■■■■■ ■■■■■	■■■■■ ■■■■■	■■■■■ ■■■■■	■■■■■ ■■■■■	■■■■■ ■■■■■	■■■■■ ■■■■■	■■■■■ ■■■■■	■■■■■ ■■■■■	■■■■■ ■■■■■	(-2)
(4) マネージメント	■■■■■		■■■■■	■■■■■	■■■■■	■■■■■ ■■■■■	■■■■■ ■■■■■	■■■■■ ■■■■■	■■■■■ ■■■■■	■■■■■ ■■■■■	■■■■■ ■■■■■	(0)
(5) 視察				■■■■■ (高級)							■■■■■ (準高級)	(1)
各年度合計人数	計画	5	4	3	3	3	3	3	3	3	2	総計: 20
	実績	5	3	5	5	4	4	4	8	3	3	28

5-4 コース(セミナー)

開発コース  
 リピートコース

投入	1 年 目		2 年 目		3 年 目		4 年 目		5 年 目	
	1985 会計年 11/13	1986 11/13	1987 11/13	1988 11/13	1989 11/13	1990 11/12				
計画	コース		4 I期 4.5.16.18.13.19.21.22	4 II期 12.17.26 14.15.20.23.27	10	7 III期 (延長による修正) 15.20				
	セミナー	28	29	30	31				特	
実績	コース番号									
	4									
	5			2						
	16			2						3
	18					A	A <sub>2</sub>	B		
	13					2	3	4		
	19			2						3
	21									
	22									
	I									
II	12									
	17									
	26									
	14									
	28									
27										
III										
15										
20										
セミナー	28	29	30	31						
各年度 実施コース数	1	12	7	6	7					

計33コース

## 6-2 プロジェクト運営管理の適正度

プロジェクトのマレーシア側実施機関であるINTANは、プロジェクトの実施に対して積極的に努力した結果、スムーズなプロジェクト運営・管理が達成された。

プロジェクトの運営・管理に関し、日本側とマレーシア側でその必要性に応じ下記のとおり各種会議が開催されたが、これも効果的なプロジェクト運営・管理達成の一助となっている。

### プロジェクト運営・管理のための会議

会議名	目的・内容	頻度	メンバー	
			日本側	マ側
① Joint Committee	両国代表による計画・立案・修正等	年1回	R/D通り	
② Management Meeting	プロジェクト実施に関する運営・管理	2ヶ月に1回	チーフアドバイザー (コーディネータ) 技術委員長	INTAN 所長 " 次長 NCTCのHead
③ NCI・Project・Meeting	プロジェクトの具体的な運営・管理	月1回	チーフアドバイザー コーディネータ 必要な専門家 (議題による)	NCTCのHead 各Unitのチーフ
④ Computer Utility Committee	コンピュータの利用率向上	必要に応じ	担当専門家 (UTC委員)	UTC 委員
⑤ 専門家会議(日)	専門家間の連絡、報告、討議 他	週1回	全専門家	×
⑥ 技術委員会(日)	特別な技術的問題の検討	必要に応じ	技術委員長 専門家	×

## 6-3 技術移転の達成度

すべての開設コース、リピータコース及び、セミナーについて、評価を行ったところ、全体評価としては、コース内容、テキスト、演習及びケーススタディ、理論とも良好であり、有効かつ有益な手法が導入されているとの評価結果が得られている。

必要な改善点としては、

- i) マレーシアの実態に即した現実的かつ包括的なケーススタディの採用、
- ii) 実践面におけるコンピュータ環境の改善、が挙げられている。

各コースのコース毎全体評価の概略は、表6のとおり。

表6 NCI プロジェクトコース 開発コースと評価

評価 F : Fair G : Good E : Excellent No.1

Course No.	Course Name	Date	Japanese Expert		Malaysian Counterpart		受講者数	評価結果	
			On Duty	Assistant	Leader	Sub-Leader			Members
4	Information System Management (※1)	'87/ 4/20~ 4/24	Kido		Adzman	Azizah	Amin, Rosni	22	G
5	Office Automation (※2)	'87/ 6/27~ 6/29	Kido		Chan	Amin	Rosni, Azli, Susie	24	G
		'87/ 9/ 7~ 9/10	Kido		Chan	Amin	Rosni, Azli, Susie	23	G
12	Systems Programming and Operating Systems	'88/ 9/26~10/ 7	Sato	Sadachi	Azli	Nurizan	Amin, Maznum Susie, Noordin, Zaharah	18	G
13	Structured Program Design	'87/12/ 7~12/19	Miyagawa	Sato Suzuki	Azli	Nurizan	Maznum, Nahrowi Medah, Noordin	25	G
	Structured Programming (※3)	'88/11/21~12/ 2	Miyagawa	Sato Nishida	Azli	Medah	Maznum, Nahrowi Noordin	30	G
	Structured Programming	'89/10/23~11/ 3			Lau		Ali, Nahrowi	27	G
14	Programming Languages	'89/ 9/25~10/ 6	Yamamoto		Azli	Chen	Salmah	20	G
15	Software Packages	'90/ 6/18~ 6/29	Yamamoto Oyanagi		Lau		Salmah, Rodziah, Ali	19	E
16	Database Programming (※4)	'87/ 6/15~ 6/27	Takeuchi	Ikuta Sato	Azli	Hashim	Chan, Medah, Noordin Maznum, Hamdi, Yusof	22	G
		'88/ 2/22~ 3/ 5	Takeuchi	Ikuta Sato	Azli	Hashim	Chan, Medah, Noordin Yusof	27	G
17	Data Communication Programming (※5)	'88/ 9/ 5~ 9/16	Ikuta	Sato	Chan	Rosli	Hashim, Nahrowi, Mazlan Medah, Sabri	27	G
18	Structured Systems Analysis and Design	'87/ 4/ 6~ 4/18	Suzuki	Sadachi	Adzman	Rashid	Norini, Zalena Susie, Hamdi	22	G
18A	Structured Systems Analysis (※6)	'89/ 3/13~ 3/24	Nishida		Adzman	Rashid	Norini	30	E
18A	Structured Systems Analysis	'89/12/11~12/20	Nishida		Adzman	Rashid	Norini	20	G
18B	Structured Systems Design (※7)	'90/ 5/21~ 6/ 1	Nishida		Adzman		Norini, Huan, Maznum	13	G
19	Systems Design for Microcomputers	'87/11/23~12/ 5	Sadachi		Adzman	Norini	Rashid, Rosni Susie, Hamdi	21	G
		'88/ 3/14~ 3/26	Sadachi		Adzman	Norini	Rashid, Rosni Susie, Yusof	22	G
20	Systems Management and Operating Systems	'90/ 6/11~ 6/20	Takehige		Zaharah		Rosni, Susie	18	E

Note : 1. Course names had been changed from (on R/D) (※1) Planning for Computerization, (※2) Office Automation and Microcomputers (※3) DB/DC Systems Programming (1st Module), (※4) DB/DC Systems Programming (2nd Module), (※5) DB/DC Systems Programming (3rd Module), (※6) DB/DC Systems Programming (4th Module), (※7) DB/DC Systems Programming (5th Module).  
 2. Course names and contents had been changed to reflect local needs efficiently as far as (※3, 6, and 7)

表6 NCI プロジェクトコース 開発コースと評価

評価 F : Fair G : Good E : Excellent No.2

Course No.	Course Name	Date	Japanese Expert		Leader	Malaysian Counterpart		受講者数	評価結果
			On Duty	Assistant		Sub-Leader	Members		
21	Database Design	'87/ 8/10~ 8/22	Fujii		Chan	Mazlan	Rosli, Zaharah, Rashid Norini	25	G
		'88/ 6/20~ 7/ 2	Fujii Yamamoto		Chan	Mazlan	Zaharah, Rosli Rashid, Norini, Salmah	25	G
22	Database Management Systems	'87/11/23~12/ 5	Fujii		Chan	Zaharah	Rosli, Hashim Mazlan	19	G
23	Data Communication and Computer Network	'89/ 8/ 7~ 8/18	Hashimoto		Chan	Mazlan	Rosli, Hashim	30	G
26	Management of Computer Centers	'89/ 9/ 4~ 9/ 8	Takeshige	Yamazaki	Lau	Sabri	Huan, Susie	26	G
27	EDP Project Management	'88/11/14~11/25	Kido	Sato	Zaharah	Rosni	Norini, Huan Salmah, Chen	23	G

(Special Seminar)

28	Systems Security and Auditing (※8)	'87/ 3/25~ 3/27	Kido		Chan			101	G
29	Computer Hardware/Software New Developments (※9)	'87/ 9/29~10/ 2	Sato		Adzman			54	F
30	Information Systems Planning	'88/ 6/ 6~ 6/10	Kido	Sadachi	Adzman	Amin		75	G
31	Computer Performance Evaluation	'89/ 7/ 3~ 7/ 6	Yamamoto	Kido	Amin	Huan		88	G

Note : 3. Course names had been changed from (on R/D) (※8) System/Data Security and Auditing  
(※9) Computer Hardware/Software New Developments and Evaluation

#### 6-4 評価の総括

本プロジェクトの実施運営にあたっては、NCIが独立機関として設立できないという組織的問題、技術移転手法についての問題等、当初想定できなかった課題が幾つか発生したが、その都度、専門家及びカウンターパートの努力により、これを克服し、R/Dにて計画された20の研修コースを開設し、その教師となるべきカウンターパートの養成を行うことができた。さらに、各開設コースの評価についても、一応合格点が得られており、本プロジェクトはR/D当初の目標を達成したことを、日・マ双方にて確認した。

#### 6-5 結論

日本・マレーシアの双方が合意した本件プロジェクトに対する合同評価の主な結論は下記のとおりである。

- 1) プロジェクトは、R/Dにおいて計画されたコース（セミナーを含む）をすべて開発し、成功裡に終了に向け進捗している。
- 2) コース開発は、公共部門の技術者の技術と知識の向上に貢献するとともに、管理者がコンピュータを用いた政策決定を行うことを可能とした。
- 3) 本プロジェクトはカウンターパートの各専門分野における技術及び知識の向上に有益であった。
- 4) 以上を検討した結果、双方は当初のR/D通り1990年11月12日をもって5年間の協力を終了することに合意した。
- 5) プロジェクト終了後は、マレーシア政府がセンターを良好な状態で運営していくことが期待される。

上記の合同評価結果を受け、マレーシア側より、日本側の協力に対する感謝とこの分野（情報関連分野）における将来の協力希望が表明された。

## 7. 協力終了後の課題

(1) 本プロジェクトは、当初、国立電算機研修所（NCI）を独立した機関として発足する予定であったが、マレーシア国の財政事情の悪化により、引き続き人事院（Public Service Department：PSD）公務員研修所（National Institute of Public Administration：INTAN）の下に置かれることとなり、また、カウンターパートについては、完全フルタイム化が達成しがたい状況にあった。

このような状況下、日本人専門家とカウンターパートの努力により、コース開発に関する具体的なガイドラインが作成された結果、専任期間等のスケジュール、分担が明確化し、部分的フルタイム化が達成された。また、マレーシア側は、それと共に配置転換によりカウンターパートの質の向上を図る等の努力を行っている。

今後も、継続的により良いプロジェクト運営に努めることにより、本プロジェクトが、さらに一層発展することが期待される。

(2) マレーシア側より、今回の協議において、プロジェクト終了後の計画として、以下のような表明があった。

i) マレーシアにおいて、シンガポールのNCB（National Computer Board）を参考に、情報政策の中核となるべきNITB（National Information Technology Board）の設立を計画していること。

ii) 本プロジェクトの関連で、第三国研修の要請を行っており、また、別途スキームにてミニプロ要請を行っていること。

調査団は、第三国研修、ミニプロとも実施部署が当事業部ではないため、その可否については、コメントできないことを説明した上で、各スキームについて留意事項の説明を行った。

第三国研修はカウンターパートの技術レベルの維持および修得技術の周辺国への伝播の観点から極めて有効なものと考えられるので、その実施が期待される。





附 属 资 料

Joint Evaluation Report



JOINT EVALUATION REPORT  
ON  
THE JAPANESE TECHNICAL COOPERATION  
FOR  
NATIONAL COMPUTER INSTITUTE PROJECT  
IN MALAYSIA

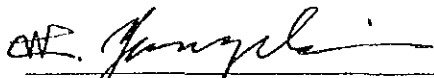
AUGUST 1990

Kuala Lumpur,  
MALAYSIA

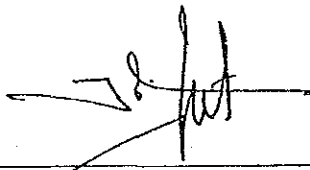
Mutually attested and submitted  
to all concerned

Kuala Lumpur, Malaysia

August 7, 1990



(MR. MUNESHIGE YAMAZAKI)  
Leader,  
Japanese Evaluation Team,  
Japan International  
Cooperation Agency  
JAPAN



(DR. JOHARI MAT)  
Director,  
National Institute of  
Public Administration,  
Public Services Department,  
MALAYSIA

Discussion meeting between the Evaluation Team of Japan International Cooperation Agency (JICA) and National Institute of Public Administration on the evaluation of the Technical Cooperation for the National Computer Institute Project.

Date : August 1 - August 7, 1990

Place: National Computer Training Center and  
National Institute of Public Administration

Attendance:

JAPANESE PANEL

Japanese Evaluation Team

- |  |  |
|--|--|
| 1. Mr. Muneshige YAMAZAKI<br>(Team Leader)   | Managing Director,<br>Mining & Industrial Development<br>Department,<br>Japan International Cooperation<br>Agency (JICA)   |
| 2. Mr. Kenichiro UEKI<br>(Technical Cooperation<br>Planning)                           | Staff Specialist for Computer,<br>Policy Planning Information<br>System Department,<br>Research Institute of MITI<br>(Ministry of International<br>Trade and Industry) |
| 3. Mr. Tsunemichi OZAKI<br>(Technical Cooperation<br>Planning)<br>(Data Communication) | Assistant Director,<br>Land Mobile Communications,<br>Division, Radio Department,<br>Telecommunications Bureau,<br>Ministry of Posts and<br>Telecommunications         |
| 4. Mr. Kiyohide NAKAGAWA<br>(Machinery Planning)                                       | Consultant,<br>Planning and Coordination<br>Division,<br>Center of the International<br>Cooperation for Computerization<br>(CICC)                                      |
| 5. Mr. Yasushi YAMADA<br>(Project Evaluation)  | Staff, Technical Cooperation<br>Division,<br>Mining & Industrial Development<br>Cooperation Department,<br>Japan International Cooperation<br>Agency (JICA)            |

Embassy of Japan

6. Mr. Toshiyuki AKAGI                      Second Secretary, Embassy of Japan
7. Mr. Tomotaka ITO                              Second Secretary, Embassy of Japan

JICA Malaysia Office

8. Mr. Yoshiro MINATO                          Deputy Resident Representative
9. Ms. Yoshie YAMASHITA                      Assistant Resident Representative

Japanese Expert

10. Mr. Susumu IWASAKI                      Chief Advisor, National Computer Institute Project
11. Mr. Yoichiro NISHIDA                      Expert, National Computer Institute Project
12. Mr. Tsutomu TAKESHIGE                      Expert, National Computer Institute Project
13. Dr. Kazuko OYANAGI                      Expert, National Computer Institute Project
14. Mr. Kenji KOMADA                          Expert, National Computer Institute Project
15. Mr. Masafumi SAITO                      Coordinator, National Computer Institute Project

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MALAYSIAN PANEL

National Institute of Public Administration (INTAN)

1. Dr. Johari Mat Director, INTAN
2. Mr. Mohd. Yusof Mohd. Johor Deputy Director, INTAN
3. Mr. Mohd. Adzman Musa Program Coordinator, INTAN
4. Mrs. Chan Yet Meng Program Coordinator, INTAN
5. Mr. Mohd. Azli Lee Abdullah Program Coordinator, INTAN
6. Mrs. Zaharah Ali Program Coordinator, INTAN
7. Mr. Lau Boon Ling Program Coordinator, INTAN
8. Mrs. Azian Mohamed Yusoff Administrative Officer, INTAN

Economic Planning Unit (EPU)

9. Mrs. Wan Normah Wan Daud Representative, EPU

*Yan*

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OBJECTIVE

The Japanese Evaluation Team (hereinafter referred to as the Team) organized by Japan International Cooperation Agency (JICA), and headed by Mr. Muneshige YAMAZAKI visited Malaysia from August 1 to 9, 1990 in order to jointly evaluate with the Malaysian authorities concerned the achievements of the Japanese Technical Cooperation for National Computer Institute Project on the basis of the Record of Discussions signed on November 13, 1985 between Implementation Survey Team and the authorities concerned of Malaysia.

The Team discussed and studied with the Malaysian counterpart personnel and Japanese experts on the aspects regarding the performance, the achievements and the activities of the said project.

Through careful studies and discussions, both parties summarized their findings and observations as described in the following chapters.



## C O N T E N T S

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I. INTRODUCTION

1. Background of the Project

- 1.1 Computer training started at the National Institute of Public Administration (INTAN) in 1974 with the six month Certificate in Programming Course. In the following year, the first Diploma in Systems Analysis and Design Course was initiated.
- 1.2 To upgrade computer training at INTAN, the Centre for Computer Training was set up on 1 January 1982. The objective of the Centre was to meet the training needs of technical and non-technical personnel in the public sector.
- 1.3 In recognition of the need to enhance and accelerate computer training in the public sector in line with projected personnel requirements, a proposal for the establishment of the National Computer Institute Project was made to the Japanese Government in 1982.
- 1.4 The objective of the Japanese Technical Cooperation is to transfer necessary knowledge and techniques to the Malaysian Counterpart personnel concerning operation of computer training courses in the following three areas:
  - (i) Computer Training for Management;
  - (ii) Basic Technical Training;
  - (iii) Advanced Technical Training.
- 1.5 In October 1984, the Government of Japan through JICA despatched the Preliminary Survey Team to Malaysia for the purpose of:
  - (i) Reconfirming the outline of the project proposal;
  - (ii) Clarifying problems to be solved, if any;

- (iii) formulating an appropriate master plan for Japan's cooperation;

not only through mutual discussion and exchange of views but also through fact-finding investigation in the relevant fields.

- 1.6 In September 1985, the Long Term Survey Team was despatched for discussion on the basic plan and details of the contents for the courses of the National Computer Institute Project to be developed.
- 1.7 As a result of discussions, a general purpose computer with the configuration of a Central Processing Unit, Console Display, Disk Drive Unit, Line Printer, Floppy Disk Unit, Magnetic Tape Controller, Drive, Terminal Controller and Video Data Terminals was recommended for the National Computer Institute Project by the Japanese Team for the exclusive use by the training centre.
- 1.8 In November 1985, the Implementation Survey Team was despatched to Malaysia to confirm the details of the Technical Cooperation Program. The Record of Discussions was signed on 13 November 1985 to initiate the National Computer Institute Project (hereinafter the Project).

## 2. Objectives of the Project

Objectives of the Project are:

- (i) To accelerate computerisation and optimize the use of computers in the public sector;
- (ii) To provide specialised training for computer personnel in the public sector;
- (iii) To provide computer training for managerial personnel in the public sector as the catalyst for computerisation in Malaysia.

3. Scope of Assistance

3.1 The Project is a five year technical cooperation program to provide training in the field related to information technology. Under the Project, the Government of Japan provided for the:

- (i) Despatch of Japanese Experts;
- (ii) Provision of Machinery and Equipment;
- (iii) Training of Malaysian personnel in Japan.

The Government of Malaysia as the recipient country provided:

- (i) Building;
- (ii) Local counterparts;
- (iii) Other facilities.

II. METHODOLOGY OF EVALUATION

1. In order to evaluate the past performance and achievement both quantitatively and qualitatively, the following items are adopted as reference.

- (i) The Record of Discussions;
- (ii) The official request made by the Government of Malaysia with respect to expert services, training of counterpart personnel in Japan and provision of equipment by means of A-1, A2-3, and A-4 Forms respectively;
- (iii) Minutes of Meetings and the Annual Work Plans agreed or accepted in the course of implementation of Project.

2. For the purpose of evaluation, both teams discussed various aspects of the Project and observed the buildings, machinery, equipment, facilities and utilities made available for the Project.

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### III. RESULT OF THE JOINT EVALUATION ON THE PROJECT

#### 1 Despatch of Japanese Experts

The Government of Japan through JICA has despatched experts for the project in the following fields:

- (i) Chief Advisor;
- (ii) Experts in:
  - (a) Computer Languages and Operating Systems;
  - (b) Database/Data Communication Systems;
  - (c) Systems Analysis and Systems Design;
  - (d) Management.
- (iii) Coordinator;
- (iv) Short term experts in different areas as and when necessary.

#### 1.1 Long Term Experts

Since May 1986 when the first batch of long term experts were despatched, a total of fourteen (14) experts which includes the Chief Advisor and Coordinator has been assigned to the Project. These long term experts were assigned for a minimum of two years and may be extended if necessary. The list of long term experts is shown in Annex 1.

Experts in the different technical fields were assigned to assist counterparts develop relevant courses in their related field of expertise.

Some initial problems were faced in the process of transfer of technology as some experts were not proficient in the English language and there was minimum social interaction. These problems have been minimised significantly through joint efforts by both sides after the second year.

Although Malaysian side recognised that most of the experts were highly competent in their areas of expertise, counterparts were not able to tap their expertise to the maximum due to unavailability of time.

Nevertheless the Malaysian side is appreciative of the efforts and contributions made by the long term experts towards the Project.

#### 1.2 Short Term Experts

A total of thirty seven (37) short term experts have been despatched in various capacities during the Project period for durations ranging from one to three weeks to assist in the Project. Their specialist areas may be summarised as follows:

- . Consultation on site preparation and counterpart training;
- . Hardware and software installation and generation;
- . Instruction on system hardware and software;
- . Course development and improvement;
- . Seminar;
- . Information system development.

The list of short term experts is shown in Annex 2.

The short term experts have contributed towards the Project in different areas which may be summarised as follows:

- . Enabled machinery and equipment provided under the Project to be correctly installed, generated and used by counterparts;
- . Assisted in development of the Courses of the project (hereafter, Courses) and advised on necessary improvements for the contents of courses;
- . Delivered lectures for the Seminars of the Project.

Malaysian side is appreciative of the contributory roles and contributions made by the short term experts. The only area that needed further improvement is short term experts despatched for the Seminars who should be more eloquent in the English language.

2 Staffing (Counterparts)

2.1 The head of the Project is the Director of INTAN. A total of thirty four (34) counterparts have been assigned to implement the Project. The list of the Project counterparts is shown in Annex 3.

2.2 In addition to the above, a total of twenty (20) support personnel have also been assigned to provide the necessary administrative and technical support.

The organisation chart of the National Computer Training Centre (NCTC) as at 31 March 1990 is shown in Annex 4.

2.3 Japan side noted Malaysian side's effort to provide sufficient number of counterparts for the Project although no full time counterparts could be assigned to the project as agreed in the Record of Discussions in the early stage of the Project. This problem had been overcome through the introduction of a Guideline for Course Development.

3 Provisions for the Project

3.1 Building and Facilities

INTAN has made available the Computer Tower at its campus in JALAN ELMU for the Project. Sufficient space was available for offices of the Japanese experts and counterparts, for machinery and equipment, meeting rooms, class rooms and seminar rooms and a library.

The following facilities were also provided on schedule by the Government of Malaysia for the installation of the computer equipment:

Facilities	Completion Date
1. Computer room ) 2. Terminal rooms ) 3. Data Entry room ) 4. Tape library ) 5. Supplies room ) 6. Microcomputer room )	October 1986
7. Air Conditioning System 8. Fire Protection System (Halon) 9. Uninterruptible Power Supply (UPS) 10. Power Distribution Board	September 1986 September 1986 November 1986 November 1986

Facilities for presentation purposes were enhanced in 1986 when Malaysian side provided at its own expenses:

- (i) One set of wide screen projection system (BARCO System);
- (ii) One set of hardware and software for the production of presentation materials (Videoshow);
- (iii) One set of slide projector (KODAK).

### 3.2 Machinery

All of the equipment agreed on the Record of Discussions and other additional machinery were provided by the Government of Japan to equip the NCTC with necessary hardware and software to conduct its training programs. The main types of machinery provided are summarised as follows:

- (i) Two (2) sets of Hitachi M240D mainframe computers with 70 monochrome and 12 colour visual display terminals;
- (ii) Thirty (30) sets of HITACHI B16-LCX portable microcomputers with printers;
- (iii) Two (2) sets of Laser Printers;
- (iv) Fifty (50) sets of 80286 microcomputers;
- (v) Four (4) sets of Hitachi 2050/32 super-microcomputers;



- (vi) One (1) set of SUN Sparc Station;
- (vii) One (1) electronic white board;
- (viii) Two (2) photocopy machines;
- (ix) Audio visual equipment like televisions, video tape recorder, VTR camera, slide projector, overhead projector and 70 inch projection system;
- (x) Two (2) sets of software for the mainframes;
- (xi) Software for microcomputers.

The full list of equipment is shown in Annex 5.

The provision of the machinery has enabled the NCTC to upgrade its training facilities. The provision of the large numbers of terminal equipment and microcomputers has made it possible for NCTC to achieve a 1:1 ratio between course participant and terminal device. Quality text books were produced using the laser printers and photocopy machines provided.

With the availability of supermicro computer systems the NCTC can keep in step with technological developments by conducting courses based on the UNIX operating system.

### 3.3 Books

In addition to hardware and software a total of 1,364 (including 320 Japanese books) books on a wide range of topics were supplied to the Project.

The books were the main source of reference for the Japanese experts and counterparts to develop the necessary course materials. The books provided have been used to set up a small library within NCTC.

## 4 Counterpart Training in Japan

- 4.1 About twenty (20) training places were agreed to be provided for counterpart training in Japan. Nevertheless by the end of the 1989 Japanese Fiscal Year, a total of twenty-five (25) training places have been provided to ensure all counterparts have an opportunity to be trained in Japan. Another three training places would be provided in the 1990 Japanese Fiscal Year.

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- 4.2 The aim of the Counterpart Training Program is to train the counterparts on the usage of the computers provided and upgrade their knowledge in the field of information technology to equip them as facilitators for the Courses. Although counterparts gained sufficient knowledge to enable them to use the computers provided for practical sessions in the NCTC Courses it was generally felt that some curricula were too wide in scope and too general to provide sufficient indepth knowledge to counterparts on specific fields in information technology.
- 4.3 Japan side also responded to Malaysia side's request to make available training places from sources other than the vendor's by providing places for training at the OKINAWA Training Centre.
- 4.4 Nevertheless the Malaysian side appreciated the continuous efforts made by the Japan side to improve the counterpart training programs.

The list of counterparts who attended training in Japan is as in Annex 6.

## 5 Courses

- 5.1 The course structure of the Project is listed in Annex 7.

The courses conducted with technical cooperation from the Japan side are:

- . Management Courses: Course No. 4-5
- . Advanced Programmers Courses: Course No. 12-17
- . Advanced Systems Analyst Courses: Course No. 18-23
- . Advanced Management Courses: Course No. 26-27

Course No. 28-31 are special seminars conducted by Japanese short term experts.

- 5.2 The number of participants were between 20 - 30 persons per course except for seminars which were open to a larger audience of up to over 100 participants.
- 5.3 All the scheduled courses and seminars have been successfully completed.

Some of the above courses have also been repeated to benefit those who were not able to attend the first course.

Two of the courses, Systems Design for Microcomputers (No. 19) and Structured Programming (No. 13) would be repeated in December 1990 and October 1990 respectively. As a result of the assistance provided under the NCI project to translate the textbooks into the Malay language, these two courses would be conducted in the national language for the first time.

- 5.4 By the end of the Project, a total of twenty eight (28) Courses would have been conducted for a total anticipated number of 887 participants.

A total of 5 seminars would have been conducted by the end of the project term. A total of 292 have attended Seminars and this is expected to increase to 372 by November 1990.

The details of the Courses and the Seminars conducted under the Project are shown in Annex 8 and 9.

- 5.5 Detail textbooks and corresponding transparencies have been developed for the Courses. Comprehensive reference materials were also supplied by Japanese short term experts who conducted the Seminars.

- 5.6 All the Courses conducted have been well received. Overall evaluation on the Courses may be generally summarised as follows:

- (i) Good course structure and contents;
- (ii) Good textbooks;
- (iii) Good exercises and case studies;
- (iv) Provided knowledge on concepts and theory;
- (v) Beneficial and useful guidelines and methodologies were introduced.

- 5.7 Comments received on areas that needed improvement may be summarised as follows:

- (i) To use actual live and comprehensive case studies based on Malaysian examples;
- (ii) To improve computer environment for practical sessions.

5.8 A comprehensive evaluation on the courses is given in Annex 8. The summary of the evaluation by participants is given in Annex 9.

## 6 Transfer of Technology

6.1 In the first two years of the Project, the transfer of technology was mainly done through the reading circle methodology. An outline of this methodology is shown in Annex 10.

6.2 However this method was found to be not very effective and as a result both Malaysian and Japanese sides worked together to develop the Guidelines for transfer of technology and course development. The guidelines are shown in Annex 11 and 12. These were implemented in 1988.

6.3 The new guidelines fostered a better working relationship between the Japanese experts and counterparts. The transfer of technology was also more effective through more direct interaction between both sides.

## 7 Joint Committee and Other Meetings

7.1 To facilitate the smooth implementation of the Project regular meetings are held in different forums between both parties. Such meetings include:

- (i) Joint Committee Meetings;
- (ii) NCI Project Management Meetings;
- (iii) NCI Project Meetings.

7.2 Joint Committee Meetings are held annually to discuss the programs of the Project and to formalize plans for the next Japanese fiscal year.

7.3 NCI Project Management Meetings are held once every two months to discuss policy issues and administrative matters.

7.4 NCI Project Meetings are held monthly to monitor the progress of the Project and to resolve any problems that may arise during the implementation of the Project.

Details regarding membership of the meetings are shown in Annex 13.

8. Summary of Major Events

Major events during the implementation of the Project are shown in Annex 14.

IV. CONCLUSION

1. The Project has succeeded to design and develop all the courses identified in the course structure as specified in the Record of Discussions.
2. All the scheduled seminars have been conducted by Japanese Short term experts with the assistance of local experts in some cases.
3. The Courses conducted under the Project have contributed towards the upgrading of the skill and knowledge of technical personnel in the public sector. These personnel are expected to contribute towards the computerisation of their respective organisations.
4. Managerial personnel have also gained from attending the Courses especially designed for this group, thereby equipping them to make more informed policy decisions regarding computerisation in the public sector at their respective levels.
5. Training and computer facilities at the NCTC have been enhanced to provide most of the state of the art facilities for computer training in the public sector.
6. Counterparts at the NCTC have also benefitted through an enhancing of their skill and knowledge in their respective fields as a result of the Project.
7. Taking into consideration the above observations, both parties agreed to terminate the project on 12 November 1990, in accordance with the Record of Discussions.
8. After the termination of the Project, it is hoped that the Malaysian Government will continue to manage the centre in good condition.

Malaysian side expressed its appreciation for the assistance given by the Japanese Government and hope that there will be future cooperation in this area.



A N N E X

- Annex 1 Long Term Experts
- Annex 2 Short Term Experts
- Annex 3 Counterparts
- Annex 4 NCTC Organisation Chart
- Annex 5 Machinery
- Annex 6 Counterpart Training in Japan
- Annex 7 NCI Project Course Structure
- Annex 8 NCI Course Evaluation
- Annex 9 Summary of NCI Course Evaluation
- Annex 10 Reading Circle Method for Transfer of Technology
- Annex 11 Guideline for Course Development
- Annex 12 Guideline for Implementation of NCI Project and NCTC Courses in 1989
- Annex 13 Membership of Meetings
- Annex 14 Summary of Major Events

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Long Term Experts

Annex 1

	Name	Field of in charge	Duration of despatch
1	Susumu IWASAKI	Chief Advisor	1. 5.86 ~ 12.11.90
2	Masafumi SAITO	Coordinator	1. 5.86 ~ 12.11.90
3	Shoji TAKEUCHI	Database and Data Communications	1. 5.86 ~ 30. 4.88
4	Yasuhiko KIDO	Management	23. 5.86 ~ 22. 5.89
5	Makoto SUZUKI	Systems Analysis and Design	23. 5.86 ~ 22. 5.88
6	Takeshi FUJII	Computer Languages and Operating Systems	23. 5.86 ~ 22. 5.88
7	Taisuke SATO	Operating Systems	17.11.86 ~ 31. 3.89
8	Kazunori SADACHI	Personal Computer	5.12.86 ~ 4.12.88
9	Junichi MIYAGAWA	Systems Analysis and Design	19.12.86 ~ 18.12.88
10	Osamu IKUTA	Computer Languages	28. 1.87 ~ 27. 1.89
11	Masahiro HASHIMOTO	Database and Data Communications	25. 4.88 ~ 24. 4.90
12	Yoichiro NISHIDA	Systems Analysis and Systems Design	11. 5.88 ~ 10. 8.90
13	Masahiko YAMAMOTO	Mainframe	11. 5.88 ~ 10. 5.90
14	Tsutomu TAKESHIGE	Operating Systems	29. 3.89 ~ 12.11.90



## Short Term Experts

Annex 2-1

	Name	Field of in charge	Duration of despatch
1	Kiyohide NAKAGAWA	Consultation	27. 4.86 ~ 4. 5.86
2	Takayuki ASAMI	Consultation	27. 4.86 ~ 4. 5.86
3	Takeshi WADA	Consultation	27. 4.86 ~ 4. 5.86
4	Takeshi WADA	Consultation	29. 9.86 ~ 4.10.86
5	Toru WAKABAYASHI	Mainframe Installation	18.12.86 ~ 15. 1.87
6	Yuji KUWANO	Mainframe Installation	18.12.86 ~ 15. 1.87
7	Naohito HIRUKAWA	Mainframe Installation	18.12.86 ~ 15. 1.87
8	Mitsuyuki NAGATANI	System Generation	11. 1.87 ~ 25. 1.87
9	Shigeaki TAKEUCHI	System Generation	11. 1.87 ~ 25. 1.87
10	Kiyohide NAKAGAWA	System Generation	15. 1.87 ~ 22. 1.87
11	Shuichi INADA	Seminar No.28 Computer/Data Security	24. 3.87 ~ 28. 3.87
12	Akio HAYASHI	Personal Computer	24. 3.87 ~ 28. 3.87
13	Hajime HORIUCHI	Seminar No.28 Computer/Data Security	25. 3.87 ~ 7. 4.87
14	Takeshi TANAKA	Course Improvement No.16 Database System Development	30. 7.87 ~ 7. 8.87
15	Akira OKADA	Machine Installation	7. 9.87 ~ 14. 9.87
16	Tomio TAKAHASHI	Seminar No.29 Computer Hardware /Software New Development	26. 9.87 ~ 3.10.87
17	Yoichi HAGI	Seminar No.29 Computer Hardware /Software New Development	26. 9.87 ~ 3.10.87
18	Hiroataka SAKAI	Course Improvement No.21 Database Design	3. 2.88 ~ 15. 2.88
19	Hiroataka SAKAI	Seminar No.30 Information Systems Planning	5. 6.88 ~ 12. 6.88
20	Hajime HORIUCHI	Seminar No.30 Information Systems Planning	5. 6.88 ~ 12. 6.88
21	Tomoko ADACHI	Mainframe Software (PAS,BASIS)	4. 9.88 ~ 10. 9.88
22	Nobuyoshi KARIZAKI	Machine Installation	21.11.88 ~ 25.11.88

## Short Term Experts

Annex 2-2

	Name	Field of in charge	Duration of despatch
2 3	Tsutomu MIZUKAMI	Machine Installation	21.11.88 ~ 25.11.88
2 4	Tatsuo OOSATO	Instruction of 2050 Workstation	3. 4.89 ~ 12. 4.89
2 5	Hitoshi ICHIKI	Management (Development of Management Information System)	22. 6.89 ~ 22. 3.90
2 6	Nozomu GODA	Seminar No.31 Computer Performance Evaluation	30. 6.89 ~ 9. 7.89
2 7	Tsutomu OGUNI	Seminar No.31 Computer Performance Evaluation	30. 6.89 ~ 9. 7.89
2 8	Masashi YAMAZAKI	Assistance of Course Development No.26 MCC	30. 7.89 ~ 9. 8.89
2 9	Tsutomu MIZUKAMI	Installation of Option for 70" Video Display(VCR)	4. 9.89 ~ 9. 9.89
3 0	Nobuyoshi KAKIZAKI	Installation of Mainframe OS	25. 9.89 ~ 1.10.89
3 1	Shigeaki TAKEUCHI	Instruction of Mainframe OS	25. 9.89 ~ 4.10.89
3 2	Masaaki YABUTA	Generation of Mainframe OS	27. 9.89 ~ 4.10.89
3 3	Hajime HORIUCHI	Course Improvement for No.18A SSA and No.18B SSD	7.10.89 ~ 14.10.89
3 4	Tsutomu MIZUKAMI	Installation of Option for 70" Video Display(2050)	5. 2.90 ~ 8. 2.90
3 5	Kenji KOMADA	Management (Development of Management Information System)	24. 2.90 ~ 30. 9.90
3 6	Kazuko OYANAGI	Mainframe	20. 4.90 ~ 12.11.90
3 7	Yutaka FUKUCHI	Database Programming	23. 7.90 ~ 1. 8.90

Counterparts

Annex 3

No.	Name	Unit&Post	'86	'87	'88	'89	'90
1	Mr. Abdul Aziz Mohd Yusof	Head of NCTC	*****	*****	*****	*****	*****
2	Ms. Nooriza Mohd Noordin	Admin. officer	*****	*****	*****	*****	30.4.90
3	Ms. Azian Mohd Yusoff	Admin. officer	*****	*****	*****	*****	2.5.90***
4	Mr. Mohd. Adzman Musa	System Md. SPC	*****	*****	*****	*****	*****
5	Ms. Chan Yet Meng	DB/DC SPC	*****	*****	*****	*****	*****
6	Ms. Zaharah Ali	Management SPC	*****	*****	*****	*****	*****
7	Mr. Mohd Azli Lee	Operation SPC	*****	*****	*****	*****	*****
8	Mr. Lau Boon Ling	Lang.&OS SPC	*****	*****	15.6.89	*****	*****
9	Mr. Ahmad Amin Esa	Operation SPC	*****	*****	*****	16.6.89	*****
10	Ms. Nor'ini Ab. Rahman	System Md. SSA	*****	*****	*****	*****	*****
11	Ms. Nurizan Hashim	Management SSA	*****	*****	*****	*****	30.4.90
12	Ms. Rosni Abdul Malek	Management SSA	*****	*****	*****	*****	*****
13	Ms. Chen Yoke Ying	DB/DC SSA	*****	*****	1.7.88	*****	*****
14	Ms. Salmah Khairuddin	Lang.&OS SSA	*****	2.2.88	*****	*****	*****
15	Mr. Sabri Omar	Operation SSA	*****	*****	1.7.88	*****	*****
16	Mr. Huan Kwee Chai	Operation SSA	*****	*****	1.7.88	*****	*****
17	Ms. Azizah Abdul Manan	Management SSA	*****	*****	31.5.88	*****	*****
18	Mr. Mazlan Harun	DB/DC SSA	*****	*****	*****	31.4.89	*****
19	Mr. Mohmed Rosli Saad	DB/DC SSA	*****	*****	*****	1.12.89	*****
20	Mr. Ab. Rashid Ab. Rahim	System Md. SSA	*****	*****	*****	*****	27.3.90
21	Ms. Nor Aliah Mohd Zahri	Operation SSA	*****	1.7.87	*****	31.5.88	*****
22	Ms. Rodziah Puteh	Lang.&OS SPG	*****	*****	*****	*****	2.4.90***
23	Mr. Hashim Bujang	DB/DC SA	*****	*****	*****	*****	*****
24	Ms. Susie Dorai Raj	Operation SA	*****	*****	*****	*****	*****
25	Ms. Maznum Mohd Arif	System Md. SPG	*****	*****	*****	*****	*****
26	Mr. Mohd Yusof Ahmad	DB/DC SPG	*****	1.4.87	*****	*****	*****
27	Ms. Marisa Yee	Lang.&OS SPG	*****	*****	*****	15.6.89	*****
28	Mr. Omar Yaakop	Management SPG	*****	2.3.87	*****	*****	*****
29	Mr. Ahmad Hamdi Maksom	Lang.&OS SPG	*****	*****	*****	31.5.88	*****
30	Ms. Medah Mohamad	Lang.&OS SPG	*****	*****	*****	*****	16.6.89
31	Mr. Md. Noordin Ab. Rahim	Operation PG	*****	*****	*****	*****	*****
32	Mr. Mohd Nahrowi Ahmad	Lang.&OS PG	*****	6.2.87	*****	*****	*****
33	Mr. Mohd Ali Rabani	Lang.&OS PG	*****	*****	*****	1.8.88	*****
34	Mr. Mohd Hafiz Selamat	Lang.&OS PG	*****	*****	*****	2.6.88	31.7.88
(Temporary Assignment)							
	Mr. Husin Abu Bakar	DB/DC --	1.8.86	*****	2.3.87	*****	*****
	Ms. Zalena Ahmad	System Md. --	1.8.86	*****	2.3.87	*****	*****

Abbreviation of post: SPC-Senior Program Coordinator, SSA-Senior System Analyst, SA-System Analyst, SPG-Senior Programmer, PG-Programmer

## Machinery

Annex 5-1

No.	ITEMS (Model & Specification)	QUANTITY	VALUE	Arrival Date
0001	Electronic White Board (BOARD FAX 1300)	1 set	¥ 625,000	9. 7.1986
0002	Copy Machine (RICOH FT-5010)	1 set	M\$ 21,600.00	21. 7.1986
0003	Monitor TV (National BT-D 2000PSN)	1 set	¥ 143,000	18. 8.1986
0004	Video Tape Recorder (National NV-780EM-A)	1 set	¥ 160,000	18. 8.1986
0005	Video Tape (VHS)	16 tapes	¥ 144,090	18. 8.1986
0006	Water Heater (Stainless Steel, 6 Gallon)	1 set	M\$ 656.00	15.10.1986
0007	Refrigerator (TOSHIBA GR-177D)	1 set	M\$ 599.00	11.11.1986
0008	Video Camera (HITACHI VW-500B)	1 set	¥ 260,000	16.12.1986
0009	Monitor TV (HITACHI CMT-1410A)	1 set	¥ 71,400	16.12.1986
0010	Carrying Case (HITACHI VM-CB25AR)	1 set	¥ 17,000	6.12.1986
0011	Tripod (VF-CS57)	1 piece	¥ 22,500	16.12.1986
0012	Zoom Lens (HITACHI VK-CL15T)	1 piece	¥ 15,300	16.12.1986
0013	Wide Lens (HITACHI VK-CL15W)	1 piece	¥ 15,300	16.12.1986
0014	Central Processing Unit (H-8840-D04V)	2 sets	¥144,886,000	18.12.1986
0015	Console Display with Printer (H-8802-1V)	2 sets	¥ 5,000,000	18.12.1986
0016	Integrated Disk Controller (H-8503-10V)	2 sets	¥ 7,080,000	18.12.1986
0017	Disk Drive Unit (H-8576-12M)	2 sets	¥ 22,864,000	18.12.1986
0018	Disk Drive Unit (H-8576-22M)	2 sets	¥ 18,492,000	18.12.1986
0019	Line Printer (H-8143-11V)	2 sets	¥ 14,418,000	18.12.1986
0020	Floppy Disk Input/Output Unit (H-8131-1)	2 sets	¥ 11,440,000	18.12.1986
0021	Magnetic Tape Controller (H-8481-A108)	2 sets	¥ 14,100,000	18.12.1986
0022	Magnetic Tape Unit (H-8487-A10)	2 sets	¥ 9,320,000	18.12.1986
0023	Terminal Control Equipment (HT-5602-L12A)	8 sets	¥ 16,000,000	18.12.1986
0024	Video Data Terminal (HT-5425-C142)	70 sets	¥ 23,800,000	18.12.1986
0025	Printer (HT-5325-141)	10 sets	¥ 5,000,000	18.12.1986
0026	Master Data Station (HT-5401-11C)	10 sets	¥ 7,270,000	18.12.1986
0027	Data Station (HT-5411-11C)	10 sets	¥ 3,130,000	18.12.1986
0028	System Software (42 softwares)	2 sets	¥ 29,300,000	18.12.1986
0029	Copy Machine (RICOH FT-4065)	1 set	M\$ 10,500.00	10. 3.1987
0030	Personal Computer & Printer (HITACHI B-16/LCX)	30 sets	¥ 30,000,000	19. 3.1987
0031	Slide Projector (AUTO CABIN)	1 set	¥ 136,300	25. 3.1987
0032	Manual Hanger (Type FA 5)	2 sets	¥ 92,400	27. 4.1987
0033	Wordprocessor with Softwr. (HITACHI Wordpal 450)	1 set	¥ 515,000	21. 6.1987
0034	Computer Desk (Artwright)	1 set	M\$ 160.00	29. 6.1987
0035	Computer Chair (Boston)	1 set	M\$ 180.00	29. 6.1987
0036	Typewriter (Brother DELUXE 562 TR)	1 set	M\$ 400.00	13. 7.1987
0037	Line Printer (H-8143-11V)	2 sets	¥ 14,418,000	22. 9.1987
0038	Printer (HT-5325-141)	10 sets	¥ 5,000,000	22. 9.1987
0039	Line Printer Adapter (H-F8208-61V)	2 sets	¥ 450,000	22. 9.1987
0040	Video Tape (CICC VHS)	7 tapes	¥ 438,000	24. 9.1987
0041	Personal Computer Software	2 sets	M\$ 3,590.00	9.11.1987
0042	Overhead Projector (CABIN 15F)	2 sets	¥ 303,320	24.12.1987
0043	Manual Wagon (Lion MW-2)	2 sets	¥ 140,400	24.12.1987
0044	Personal Computer Software	10 sets	M\$ 26,700.00	8. 1.1988
0045	" (IBM PC-DOS V3.30)	1 set	M\$ 450.00	1. 3.1988
0046	Information Enginrg. Workbench (Planning Module)	1 set	M\$ 10,800.00	1. 3.1988
0047	Personal Computer (IBM PS/2 Model 50)	1 set	M\$ 21,991.00	1. 3.1988
0048	Printer for IBM Personal Computer (EPSON FX1000)	1 set	M\$ 2,100.00	2. 3.1988
0049	Terminal Control Equipment (HT-5602-R142A)	4 sets	¥ 5,600,000	21. 3.1988
0050	Display Terminal (HT-5425-C242L)	12 sets	¥ 12,320,000	21. 3.1988
0051	Modem Interface Switch (H-8615-1)	4 sets	¥ 560,000	21. 3.1988
0052	Synchronous Communication Adapter (H-8771-30)	8 sets	¥ 4,680,000	21. 3.1988
0053	VDT Display (70" Projection System C70-2000R)	1 set	¥ 12,800,000	21. 3.1988
0054	White Board	1 set	M\$ 360.00	10. 6.1988
0055	Personal Computer Software (Small Talk V)	1 set	M\$ 280.00	4. 8.1988

## Machinery

Annex 5-2

No.	ITEMS (Model & Specification)	QUANTITY	VALUE	Arrival Date
0056	Colour Electronic Imaging System (Magnabyte)	2 sets	M\$ 13,000.00	23. 9.1988
0057	Laser Printer (Laserjet Series II)	1 set	M\$ 8,629.00	6.10.1988
0058	Floating Point Co-processor(chip)	1 piece	M\$ 1,200.00	28.10.1988
0059	MODEM (Datacraft 5098 1 set 2 pieces)	1 set	M\$ 6,500.00	19.11.1988
0060	Personal Computer Software (Pagemaker)	1 set	M\$ 2,775.00	25. 1.1989
0061	Super Micro Hardware (HITACHI Workstation 2050)	1 set	¥ 3,257,000	25. 1.1989
0062	Printer (HT-4377-11T)	1 set	¥ 577,000	25. 1.1989
0063	Super Micro Software (HI-UX, COBOL, C)	1 set	¥ 527,000	25. 1.1989
0064	Floppy Disk Input/Output Unit (H-8131-1)	2 units	¥ 11,440,000	25. 1.1989
0065	Carrying Case for B-16/LCX	15 pieces	¥ 135,000	25. 1.1989
0066	Dumb terminal (TELEVIDEO TV 9220)	2 sets	M\$ 4,000.00	9. 2.1989
0067	Super Micro Software (UNIPLEX II)	1 set	M\$ 12,650.00	27. 2.1989
0068	Super Micro Software (Multiplex, ACCELL)	1 set	M\$ 16,608.75	21. 3.1989
0069	M-240 D Extention Hardware	1 unit	¥ 25,310,000	14. 4.1989
0070	M-240 D Extention Software (COBOL/TD, TDBASE)	2 units	¥ 3,000,000	14. 4.1989
0071	Super Micro Hardware (HITACHI Workstation 2050)	1 set	¥ 5,377,000	14. 4.1989
0072	Super Micro Software (HI-UX, COBOL, C)	1 set	¥ 527,000	14. 4.1989
0073	VDT Display (70" Projection System) Option (VTR)	1 set	¥ 8,020,000	24. 8.1989
0074	Super Micro Hardware (HITACHI Workstation 2050)	1 set	M\$ 38,139.20	20. 9.1989
0075	Super Micro Software (HI-UX, Utility, C, Multiplex)	1 set	M\$ 16,000.00	20. 9.1989
0076	Printer (TOSHIBA 216 CPS)	1 set	M\$ 3,000.00	20. 9.1989
0077	Personal Computer (ALR 286/8 MODEL 40)	15 sets	M\$ 73,500.00	20. 9.1989
0078	PC-AT Connections & Cable	21 sets	M\$ 33,425.00	20. 9.1989
0079	Baseband Modem	12 sets	M\$ 15,120.00	20. 9.1989
0080	Ink Jet Printer (HP Painjet C/W Draw Applause)	1 set	M\$ 3,800.00	26. 9.1989
0081	Laser Jet Printer (HP Laserjet Series II)	1 set	M\$ 7,700.00	26. 9.1989
0082	Information Enginerng. Workbench (Design Module)	1 set	M\$ 18,600.00	3.10.1989
0083	Information Eng. Workbench (Construction Module)	1 set	M\$ 9,400.00	3.10.1989
0084	Personal Computer (ALR POWERFLEX MODEL 40)	5 sets	M\$ 37,500.00	15.11.1989
0085	Information Engnrng. Workbench (Planning Module)	1 set	M\$ 14,700.00	30.11.1989
0086	Audio System for 70" Projection System	1 set	M\$ 4,793.00	7. 2.1990
0087	Super Micro Hardware (HITACHI Workstation 2050)	1 set	M\$ 38,139.20	1. 3.1990
0088	External Hard Disk	4 sets	M\$ 47,872.00	1. 3.1990
0089	Cassette MT Drive	1 set	M\$ 7,207.20	1. 3.1990
0090	Super Micro Software (HIUX, Utility, C, Cobl, Multpx)	1 set	M\$ 14,820.00	1. 3.1990
0091	PC-AT Connections (inclndg. installation charge)	4 sets	M\$ 7,000.00	1. 3.1990
0092	Dotmatrix Printer (EPSON)	11 sets	M\$ 7,150.00	1. 3.1990
0093	Printer (TOSHIBA 216 CPS)	1 set	M\$ 3,000.00	1. 3.1990
0094	Mouse	4 sets	M\$ 700.00	1. 3.1990
0095	Mini Computer (Sun Sparcstation 1)	1 set	M\$ 49,990.00	28. 3.1990
0096	Personal Computer (ALR 286/10 MODEL 20)	30 sets	M\$ 135,000.00	28. 3.1990
Total			¥479,197,010	
			M\$ 752,284.35	

## Counterpart Training in Japan

Annex 6-1

1986 Japanese Fiscal Year (4.1986 ~ 3.1987)

Name of participant	Field of study	Training duration	Training Facility
1. Mr. Mohd. Adzman bin Musa	System Methodology	17. 3.86-15. 7.86	HITACHI
2. Ms. Liew Yet Meng	Data Communication	17. 3.86-10. 6.86	ditto
3. Ms. Susie Dorai Raj	Data Base	17. 3.86-31. 7.86	ditto
4. Mr. Mohd. Noordin bin Abdul Rahim	Language/OS	17. 3.86-31. 7.86	ditto
5. Mr. Mazlan bin Harun	Data Communication	17. 3.86-31. 7.86	ditto
6. Dr. Mazlan bin Ahmad	Visit to Computer Training Facility	4.10.86-16.10.86	JICA Headquarters
7. Mr. Mohd. Azli Lee bin Abdullah	Data Base/Data Communication	9. 2.87-28. 4.87	HITACHI
8. Mr. Abdul Rashid bin Ab. Rahim	System Analysis/ System Design	9. 2.87-28. 4.87	ditto

1987 Japanese Fiscal Year (4.1987 ~ 3.1988)

Name of participant	Field of study	Training duration	Training Facility
9. Mr. Mohd. Amin bin Esa	Operating System	14. 9.87- 4.12.87	HITACHI
10. Mr. Hashim bin Bujang	Data Base	14. 9.87- 4.12.87	ditto
11. Ms. Azizah bt. Abd. Manan	Computer Management	13. 2.88-28. 4.88	ditto
12. Ms. Zaharah bt. Ali	Operating System	13. 2.88-28. 4.88	ditto
13. Ms. Norini bt. Abd. Rahman	System Methodology	13. 2.88-28. 4.88	ditto

## 1988 Japanese Fiscal Year(4.1988 ~ 3.1989)

Name of participant	Field of study	Training duration	Training Facility
14. Mr.Mohd Yusof Ahmad	Programming	14. 7.88~ 4.11.88	OKINAWA Intern'l Center
15. Ms.Medah Mohamad	ditto	10. 1.89~ 1. 4.89	HITACHI
16. Mr.Mohamad Ali bin Rabani	ditto	10. 1.89~ 1. 4.89	ditto
17. Ms.Maznum Mohd Arif	ditto	10. 1.89~ 1. 4.89	ditto

## 1989 Japanese Fiscal Year(4.1989 ~ 3.1990)

Name of participant	Field of study	Training duration	Training Facility
18. Mr.Mohd Nahrowi b. Ahmad	Programming	8. 5.89-25. 9.89	OKINAWA Intern'l Center
19. Ms.Salmah Khairuddin	Language/ Operating System	12.10.89-24.12.89	HITACHI
20. Ms.Chen Yoke Ying	ditto	12.10.89-24.12.89	ditto
21. Ms.Nurizan Hashim	Computer Management	12.10.89-24.12.89	ditto
22. Mr.Huan Kwee Chai	Operating System	12.10.89-24.12.89	ditto
23. Mr.Lau Boon Ling	Language/ Operating System	23. 1.90~ 1. 4.90	ditto
24. Ms.Rosni Abdul Malek	Computer Management	23. 1.90~ 1. 4.90	ditto
25. Mr.Mohd Yusof Mohd Johor	Visit to Computer Training Facility	28. 3.90-14. 4.90	JICA Headquarters

## 1990 Japanese Fiscal Year(4.1990 ~ 3.1991)

Name of participant	Field of study	Training duration	Training Facility
26. Ms.Marisa Yee Fong Ling	Database System Design	5. 4.90~ 8. 9.90	OKINAWA Intern'l Center
27. Ms.Hafizah bt Othman	Computer System Operation	28. 8.90~ 7.10.90	HITACHI
28. Ms.Khatijah bte Ali	ditto	28. 8.90~ 7.10.90	ditto

NCI PROJECT COURSE STRUCTURE

Course No.	Course Name
Management Course	
1	Introduction to Computers
2	Introduction to Programming
3	Microcomputer Workshop
4	Planning for Computerization
5	Office Automation and Microcomputers
Basic Course	
6	Certificate in Programming
7	Diploma in Systems Analysis and Design Qualification
8	Basic Console Operator Course
9	Basic Machine Operator Course
10	Basic Programmer Course
11	Basic Systems Analyst Course
Advanced Programmer Course	
12	Systems Programming and Operating Systems
13	Structured Program Design
14	Programming Languages
15	Software Packages
16	DB/DC Systems Programming (1st Module)
17	DB/DC Systems Programming (2nd Module)
Advanced System Analyst Course	
18	Structured Systems Analysis and Design
19	Systems Design for Microcomputers
20	Systems Management and Operating Systems
21	Data Base Design
22	Data Base Management Systems
23	Data Communication and Computer Network
24	Hardware Acquisition and Evaluation
25	Documentation Standards
Advanced Management Course	
26	Management of Computer Centres
27	Project Management
Special Seminar	
28	System/Data Security and Auditing
29	Computer Hardware/Software New Developments and Evaluation
30	Information Systems Planning
31	Computer Performance Evaluation



DETAIL AND EVALUATION OF COURSE NO. 4

## I. DETAIL

1. Course Title: Information Systems Management
2. Implementation Date: 20 - 25 April, 1987
3. Participants:  
 (1) No. of Participant/Applicant: 22/116  
 (2) Qualification: a) Middle class Manager to senior level
4. Counterpart: Mr. Md. Adzman Musa, Mr. Ahmad Amin Esa,  
 Ms. Azizah Ab. Manan, Ms. Rosni Ab. Malek

5. Japanese Expert: Mr. Y. Kido

## 6. Curriculum:

(1) Objective: Upon completion of this course, the participants will be able to:

- a) Understand concept of information systems,  
 b) Understand and apply organizational issues related to information systems,  
 c) Understand and apply information systems life-cycle methodology, and  
 d) Be aware of future trends of information technology.

(2) Contents: Contents and their allotted hours are as follows:

Contents	Hours
a) Introduction	1
b) Social Issues	2
c) Organisational issues	4
d) Technological issues	14
Total	21

(3) Training Technique:

Technique	Hours	%
a) Lecture	21	67
b) Exercise/Practical	2	7
c) Case Study/Group Discussion	6	19
d) Others (Video/Film)	2	7
Total	31	100

II. EVALUATION (F: Fair, G: Good, E: Excellent)

	Item	Evaluation
(1) Achievement of Objective	a. Objective a) in item 6-(1) above	G
	b. " b) "	G
	c. " c) "	G
	d. " d) "	G
(2) Course Contents	a. Choice of topics	G
	b. Relationship between topics	G
	c. Emphasis on theory	G
	d. Emphasis on practical	F
(3) Training Technique	a. Lecture	G
	b. Case Study	G
	c. Group Discussion	G
	d. Visit	G
	e. Film	E
4) Course effectiveness to participants	a. Knowledge on subject	G
	b. Ability to solve problems with regard to course contents	G
(5) Total Evaluation		G
(6) Points of Improvement	a. More local examples should be collected.	
	b. The contents of the separate in-depth courses, including seminars, should be taken.	

DETAIL AND EVALUATION OF COURSE NO. 5(1st)

I. DETAIL

1. Course Title: Office Automation
2. Implementation Date: 29 June - 1 July, 1987
3. Participants:  
(1) No. of Participant/Applicant; 24/88  
(2) Qualification: a) Management Officers
4. Counterpart: Mrs. Chan Yet Meng, Mr. Md. Azli Lee Ab.,  
Mr. Ahmad Amin Esa, Mrs. Azizah Ab. Manan  
Mrs. Rosni Ab. Malek, Ms. Susie Dorai Raj

5. Japanese Expert: Mr. Y. Kido

6. Curriculum:

- (1) Objective; Upon completion of this course, the participants will be able to:
- a) Understand concept and development of OA,
  - b) Plan and implement OA system in the organisation, and
  - c) Select components of OA for the organization.

- (2) Contents; Contents and their allotted hours are as follows:

Contents	Hours
a) History and Concept of OA	1.5
b) Infrastructure	1.5
c) Implementation of OA	2
d) OA's components	4.25
e) Cost Justification	1
f) Future of OA	1.25
Total	12

- (3) Training Technique;

Technique	Hours	%
a) Lecture	12	62.
b) Exercise/Discussion	3	15.
c) Others	4.25	22.
Total	19.25	100

II. EVALUATION (F: Fair, G: Good, E: Excellent)

	Item	Evaluation
(1) Achievement of Objective	a. Objective a) in item 6-(1) above	E
	b. " b) "	G
	c. " c) "	G
(2) Course Contents	a. Choice of topics	G
	b. Relationship between topics	G
	c. Emphasis on theory	G
	d. Emphasis on practical	G
(3) Training Technique	a. Lecture	G
	b. Exercise/Discussion	G
	c. Film	G
4) Course effectiveness to participants	a. Knowledge on subject	G
	b. Ability to solve problems with regards to course contents	G
(5) Total Evaluation		G
(6) Points of Improvement	a. More local examples should be collected.	
	b. A visit should be included.	

DETAIL AND EVALUATION OF COURSE NO. 5(2nd)

I. DETAIL

1. Course Title: Office Automation
2. Implementation Date: 7 - 10 September, 1987
3. Participants:
  - (1) No. of Participant/Applicant; 27/35
  - (2) Qualification; a) Management Officers
4. Counterpart: Mrs. Chan Yet Meng, Mr. Md. Azli Lee Ab.,  
Mr. Ahmad Amin Esa, Mrs. Azizah Ab. Manan,  
Miss Susie Dorai Raj
5. Japanese Expert: Mr. Y. Kido
6. Curriculum:

(1) Objective; Upon completion of this course, the participants will be able to:

- |    |   |                        |
|----|---|------------------------|
| a) | } | Same as the 1st course |
| b) |   |                        |
| c) |   |                        |

(2) Contents: Contents and their allotted hours are as follows:

Contents	Hours
a) History and concept of OA	1.5
b) Components	2.25
c) Infrastructure	1.00
d) Implementation	2.5
e) Cost Justification	1.25
f) Future of OA	1
Total	10

(3) Training Technique;

Technique	Hours	%
a) Lecture	10	45
b) Exercise/Discussion	5	23
c) Film/Visit	5	23
d) Others	2	9
Total	22	100

II. EVALUATION (F: Fair, G: Good, E: Excellent)

	Item	Evaluation
(1) Achievement of Objective	a. Objective a) in item 6-(1) above	E
	b. " b) "	G
	c. " c) "	G
(2) Course Contents	a. Choice of topics	G
	b. Relationship between topics	G
	c. Emphasis on theory	G
	d. Emphasis on practical	G
(3) Training Technique	a. Lecture	G
	b. Practical	G
	c. Visit	E
	d. Film	G
4) Course effectiveness to participants	a. Knowledge on subject	G
	b. Ability to solve problems with regards to course contents	G
(5) Total Evaluation		G
(6) Points of Improvement	a. More local examples should be collected.	
	b. OA facilities should be provided.	

DETAIL AND EVALUATION OF COURSE NO. 12

I. DETAIL

1. Course Title: System Programming and Operating System
2. Implementation Date: 26 September - 7 October, 1988
3. Participants:
  - (1) No. of Participant/Applicant; 20/54
  - (2) Qualification; a) System Analyst/Senior Programmer with basic knowledge
4. Counterpart: Mr. Md. Azli Lee Ab., Mr. Ahmad Amin Esa,  
Ms. Zaharah Ali, Ms. Nurizan Hashim,  
Mr. Md. Noordin Ab. Rahim, Ms. Maznum Md. Ariff  
Ms. Susie Dorai Raj
5. Japanese Expert: Mr. T. Sato
6. Curriculum:
  - (1) Objective; Upon completion of this course, the participants will be able to:
    - a) Understand and describe major functions of typical operating system,
    - b) Set up specific operating environment,
    - c) Measure and improve performance of operating system, and
    - d) Understand role of a system programmer.

(2) Contents;

Contents and their allotted hours are as follows:

Contents	Hours
a) Introduction to OS and NCTC systems	3.5
b) Facilities	12
c) Virtual Machine	3.5
d) System	13.5
e) Program Design	2.5
<b>Total</b>	<b>35</b>

(3) Training Technique;

Technique	Hours	%
a) Lecture	35	55
b) Exercise/Practical	20.5	32
c) Visit	5	8
d) Others	3.25	5
<b>Total</b>	<b>63.75</b>	<b>100</b>

II. EVALUATION (F: Fair, G: Good, E: Excellent)

	Item	Evaluation
(1) Achievement of Objective	a. Objective a) in item 6-(1) above	G
	b. " b) "	G
	c. " c) "	G
	d. " d) "	G
(2) Course Contents	a. Choice of topics	G
	b. Relationship between topics	G
	c. Emphasis on theory	G
	d. Emphasis on practical	G
(3) Training Technique	a. Lecture	G
	b. Practical	G
	c. Visit	G
	d. Video	G
4) Course effectiveness to participants	a. Knowledge on subject	G
	b. Ability to solve problems with regards to course contents	G
(5) Total Evaluation		G
(6) Points of Improvement	a. More emphasis and time should be given to systems programming session.	
	b. Some of the topics should be covered in greater details.	



DETAIL AND EVALUATION OF COURSE NO. 13(1st)

I. DETAIL

1. Course Title: Structured Programming Design
2. Implementation Date: 7 - 19 December, 1987
3. Participants:
  - (1) No. of Participant/Applicant; 25/41
  - (2) Qualification;
    - a) System Analyst
    - b) Senior Programmer with at least 5 years experience in programming
4. Counterpart:
 

Mr. Md. Azli Lee Abd.,	Ms. Nurizan Hashim,
Ms. Medah Md.,	Ms. Maznum Md. Ariff,
Mr. Md. Noordin,	Mr. Md. Nahrowi
5. Japanese Expert: Mr. J. Miyagawa, Assist: Mr. T. Sato
6. Curriculum: Mr. M. Suzuki

(1) Objective; Upon completion of this course, the participants will be able to:

- a) Understand program design methodology and software engineering;
- b) Design modules by structured program design methods;
- c) Design logical procedures of each module;
- d) Describe the program specification; and
- e) Code structure-oriented program in COBOL or other languages

(2) Contents; Contents and their allotted hours are as follows:

Contents	Hours
a) Overview of system development	7
b) Design phase	16
c) Implementation	9
d) Exercise	7
e) Hands-on/Practical	10
f) Project work	14
g) Others	3
<b>Total</b>	<b>66</b>

(3) Training Technique;

Technique	Hours	%
a) Lecture	32	50
b) Exercise/Practical	17	25
c) Project	14	21
d) Others	3	4
<b>Total</b>	<b>66</b>	<b>100</b>

II. EVALUATION (F: Fair, G: Good, E: Excellent)

	Item	Evaluation
(1) Achievement of Objective	a. Objective a) in item 6-(1) above	G
	b. " b) "	G
	c. " c) "	G
	d. " d) "	E
	e. " e) "	E
(2) Course Contents	a. Choice of topics	E
	b. Relationship between topics	E
	c. Emphasis on theory	E
	d. Emphasis on practical	G
(3) Training Technique	a. Lecture	G
	b. Case Study	E
	c. Practical	G
	d. Group Discussion	E
4) Course effectiveness to participants	a. Knowledge on subject	G
	b. Ability to solve problems with regards to course contents	G
(5) Total Evaluation		G
(6) Points of Improvement	<p>a. According to the change in Structured Systems Analysis and Design Course, this should be changed to a Programming Course.</p> <p>(The course No. 13 has been changed and carried out as Structured Programming Course since 1988).</p>	

DETAIL AND EVALUATION OF COURSE NO. 13(2nd)

I. DETAIL

1. Course Title: Structured Programming
2. Implementation Date: 21 November - 2 December, 1988
3. Participants:  
 (1) No. of Participant/Applicant; 30/30  
 (2) Qualification; a) same as 1st  
 b)
4. Counterpart: 1. Mr. Mohd Azli Lee Abdullah 2. Mrs. Medah Mohamad  
 3. Mrs. Mazum Md. Ariff 4. Mr. Mohd Noordin  
 5. Mr. Mohamad Ali Rabani 6. Mr. Mohd Nahrowi
5. Japanese Expert: Mr. Junichi Miyagawa
6. Curriculum:  
 (1) Objective; Upon completion of this course, the participants will be able to:  
 a) Understand structured programming concepts;  
 b) Produce structured programs; and  
 c) Code structured programs in COBOL.

- (2) Contents; Contents and their allotted hours are as follows:

Contents	Hours
a)	
b)	
c)	
d)	
e)	
f) same as 1st	
g)	
Total	

- (3) Training Techniques;

Technique	Hours	%
a)		
b)		
c)		
d)		
Total		

II. EVALUATION (F: Fair, G: Good, E: Excellent)

	Item	Evaluation
(1) Achievement of Objective	a. Objective a. in item 7-(1) above	G
	b. " b. "	G
	c. " c. "	G
(2) Course Contents	a. Choice of topics	G
	b. Relationship between topics	G
	c. Emphasis on theory	G
	d. Emphasis on practical	G
(3) Training Technique	a. Lecture	G
	b. Case Study	G
	c. Practical	G
	d. Group Discussion	G
	e. Project	G
	f. Visit	G
	g. Film/Video	G
4) Course effectiveness to participants	a. Knowledge on subject	G
	b. Ability to solve problems with regards to course contents	G
(5) Total Evaluation		G
(6) Points of Improvement	a. More skilled personnel should be selected as participants.	
	b. Course duration should be extended two or three days.	

DETAIL AND EVALUATION OF COURSE NO.13(3rd)

I. DETAIL

- 1. Course Title: Structured Programming
- 2. Implementation Date: 23 October - 3 November, 1989
- 3. Participants:
  - (1) No. of Participant/Applicant: 27/46
  - (2) Qualification; a) Systems Analysts and Programmers with at least 2 years working experience
- 4. Counterpart: Mr. Lau Boon Ling, Ms. Marisa Yee Fong Ling  
Mr. Md. Ali Rabani, Mr. Md. Nahrowi Ahmad

5. Japanese Expert:

6. Curriculum:

- (1) Objective: Upon completion of this course, the participants will be able to:
  - a) Understand structured programming concepts,
  - b) Produce structured programs that can be easily understood and maintained; and
  - c) Code structured programs in COBOL.

(2) Contents: Contents and their allotted hours are as follows:

Contents		Hours
a)	} same as the 2nd repeat	
b)		
c)		
d)		
e)		
f)		
g)		
Total		

(3) Training Technique;

Technique	Hours	%
a)		
b)		
c)		
d)		
Total		

II. EVALUATION (F: Fair, G: Good, E: Excellent)

	Item	Evaluation
(1) Achievement of Objective	a. Objective a) in item 6-(1) above b. " b) c. " c) "	E E E
(2) Course Contents	a. Choice of topics b. Relationship between topics c. Emphasis on theory d. Emphasis on practical	E G E G
(3) Training Technique	a. Lecture b. Case Study c. Practical d. Discussion e. Project Study f. Film	G G G G G E
4) Course effectiveness to participants	a. Knowledge on subject b. Ability to solve problems with regards to course contents	G G
(5) Total Evaluation		G
(6) Points of Improvement	a. Increase number of practical exercises. b. Extend course duration.	

DETAIL AND EVALUATION OF COURSE NO.14

I. DETAIL

1. Course Title: Programming Languages
2. Implementation Date: 25 September - 6 October, 1989
3. Participants:  
 (1) No. of Participant/Applicant; 20/46  
 (2) Qualification; a) System Analyst with at least 3 years experience  
 b) Senior Programmer with at least 3 years experience
4. Counterpart: Mr. Md. Azli Lee Ab., Ms. Chen Yoke Ying,  
 Ms. Salmah Khairuddin

5. Japanese Expert: Mr. M. Yamamoto

6. Curriculum:

- (1) Objective: Upon completion of this course, the participants will be able to:
- a) Understand concepts and components of programming languages,
  - b) Understand basic structure of language processes and program execution, and
  - c) Evaluate and consider the most appropriate language for their organization

- (2) Contents: Contents and their allotted hours are as follows:

Contents	Hours
a) Introduction	8
b) Simple Data Structures	12
c) Control Structures	17
d) Compound data structures	10
e) Others	19
Total	66

- (3) Training Technique:

Technique	Hours	%
a) Lecture and Exercises	34.5	52
b) Practical	24.5	37
c) Others	7.0	11
Total	66.0	100

II. EVALUATION (F: Fair, G: Good, E: Excellent)

	Item	Evaluation
(1) Achievement of Objective	a. Objective a) in item 6-(1) above	G
	b. " b) "	G
	c. " c) "	G
(2) Course Contents	a. Choice of topics	G
	b. Relationship between topics	G
	c. Emphasis on theory	G
	d. Emphasis on practical	G
(3) Training Technique	a. Lecture	E
	b. Case Study	G
	c. Exercises	G
	d. Discussion	G
	e. Project Study	E
	f. Film	G
4) Course effectiveness to participants	a. Knowledge on subject	G
	b. Ability to solve problems with regards to course contents	G
(5) Total Evaluation		G
(6) Points of Improvement	a. More data processing related exercises are needed.	
	b. Training on algorithm design is necessary.	



DETAIL AND EVALUATION OF COURSE NO. 15

I. DETAIL

1. Course Title: Relational Database Software Packages
2. Implementation Date: 18 - 29 June, 1990
3. Participants:  
(1) No. of Participant/Applicant; 19/94  
(2) Qualification; a) System Analyst or Programmer with at least 2 years of experience
4. Counterpart: Mr. Lau Boon Ling  
Ms Salmah Khairudin  
Ms Rodziah Puteh  
Mr. Mohamad Ali Rabani
5. Japanese Expert: Mr. M. Yamamoto, Dr. K. Oyanagi
6. Curriculum:  
(1) Objective; Upon completion of this course, the participants will be able to:  
a) Understand the characteristics of RDBMS packages,  
b) Make comparisons between several RDBMS, and  
c) Implement relational database application system using one of the packages.

(2) Contents;

Contents and their allotted hours are as follows:

Contents	Hours
a) Outline of RDBMS and DB Design	2
b) Evaluation criteria details	11
c) Comparisons on RDBMS's	14
d) Practical sessions and case study	16
Total	43

(3) Training Technique;

Technique	Hours	%
a) Lecture & Exercise	13	21
b) Practical	30	48
c) Visit & Reviews	14	22
d) Others	5.5	9
Total	62.5	100

II. EVALUATION (F: Fair, G: Good, E: Excellent)

	Item	Evaluation
(1) Achievement of Objective	a. Objective a) in item 6-(1) above	E
	b. " b) "	E
	c. " c) "	G
(2) Course Contents	a. Choice of topics	E
	b. Relationship between topics	E
	c. Emphasis on Theory	E
	d. Emphasis on practical	E
(3) Training Technique	a. Lecture	E
	b. Case Study	G
	c. Practical	E
	d. Group Discussion	G
	e. Visit	G
	f. Film/Video	G
4) Course effectiveness to participants	a. Knowledge on subject	E
	b. Ability to solve problems with regards to course contents	G
(5) Total Evaluation		E
(6) Points of Improvement	a. Extend the course duration.	
	b. Include more RDBMS's for the purpose of comparison.	
	c. Use a better RDBMS for the practical sessions.	

DETAIL AND EVALUATION OF COURSE NO. 16(1st)

I. DETAIL

1. Course Title: Data Base Programming
2. Implementation Date: 15 - 27 June, 1987
3. Participants:  
 (1) No. of Participant/Applicant; 23/44  
 (2) Qualification; a) Computer personnel with at least 3 years experience in programming or System Analysis and Design
4. Counterpart: Mrs. Chan Yet Meng, Mr. Md. Azli Lee Ab.,  
 Mr. Hashim Bujang, Mrs. Medah Mohd.,  
 Mr. Ahmad Hamdi Maksom, Mrs. Maznum Md. Ariff,  
 Mr. Md. Noordin Rahim, Mr. Yusof Ahmad
5. Japanese Expert: Mr. S. Takeuchi
6. Curriculum:

- (1) Objective; Upon completion of this course, the participants will be able to:
- a) Understand Database concepts,
  - b) Acquire skill in Database Programming, and
  - c) Implement maintenance procedures in Database programming environment.

- (2) Contents; Contents and their allotted hours are as follows:

Contents	Hours
a) Introduction - hardware & facilities	2
b) Introduction - database systems	4
c) Relational Database Programming & Ex.	28
d) Network Database Programming & Ex.	14
e) Outline database design	2
f) Others	5
Total	75

- (3) Training Technique;

Technique	Hours	%
a) Lecture	27	36
b) Exercise/Practical	12	16
c) Project	28.5	38
d) Others	7.5	10
Total	75.0	100

II. EVALUATION (F: Fair, G: Good, E: Excellent)

	Item	Evaluation
(1) Achievement of Objective	a. Objective a) in item 6-(1) above	G
	b. " b) "	G
	c. " c) "	G
(2) Course Contents	a. Choice of topics	G
	b. Relationship between topics	G
	c. Emphasis on theory	G
	d. Emphasis on practical	G
(3) Training Technique	a. Lecture	G
	b. Practical	G
	c. Visit	G
	d. Film	G
4) Course effectiveness to participants	a. Knowledge on subject	G
	b. Ability to solve problems with regards to course contents	G
(5) Total Evaluation		G
(6) Points of Improvement	a. All exercises should be tested. b. More time should be allocated to network DB programming session.	

DETAIL AND EVALUATION OF COURSE NO. 16(2nd)

I. DETAIL

1. Course Title: Database Programming
2. Implementation Date: 23 February - 5 March, 1988
3. Participants:
  - (1) No. of Participant/Applicant; 27/33
  - (2) Qualification; a) Computer Personnel with at least 3 years experience in programming or System Analysis and Design
4. Counterpart: Mrs. Chan Yet Meng, Mr. Md. Azli Lee Ab.,  
Mr. Hashim Bujang, Mrs. Medah Mohd.,  
Mr. Yusof Ahmad, Mr. Md. Noordin Rahim
5. Japanese Expert: Mr. S. Takeuchi
6. Curriculum:

(1) Objective; Upon completion of this course, the participants will be able to:

- a)
  - b)
  - c)
- } Same as the 1st course

(2) Contents; Contents and their allotted hours are as follows:

	Contents	Hours
a)		
b)		
c)		
d)		
e)		
f)		
g)		
	Total	

(3) Training Technique;

	Technique	Hours	%
a)			
b)			
c)			
d)			
	Total		

II. EVALUATION (F: Fair, G: Good, E: Excellent)

	Item	Evaluation
(1) Achievement of Objective	a. Objective a) in item 6-(1) above	E
	b. " b) "	G
	c. " c) "	G
(2) Course Contents	a. Choice of topics	G
	b. Relationship between topics	G
	c. Emphasis on theory	G
	d. Emphasis on practical	E
(3) Training Technique	a. Lecture	G
	b. Practical	E
	c. Discussion	G
	d. Film	G
4) Course effectiveness to participants	a. Knowledge on subject	G
	b. Ability to solve problems with regards to course contents	G
(5) Total Evaluation		G
(6) Points of Improvement	a. More time should be allocated to exercises and practicals.	
	b. A group type of exercise should be developed.	

DETAIL AND EVALUATION OF COURSE NO. 17

I. DETAIL

1. Course Title: Data Communication Programming
2. Implementation Date: 05 - 16 September, 1988
3. Participants:
  - (1) No. of Participant/Applicant: 27/75
  - (2) Qualification: a) Programmers with at least 2 years experience in COBOL
4. Counterpart:
 

Mrs. Chan Yet Meng,	Mr. Md. Rosli Saad,
Mr. Mazlan Harun,	Mr. Sabri Omar,
Mr. Hashim Bujang,	Mrs. Medah Mohd.,
Mr. Nahrowi Ahmad	
5. Japanese Expert: Mr. O. Ikuta, Assist: Mr. K. Sadachi
6. Curriculum:

- (1) Objective: Upon completion of this course, the participants will be able to:
  - a) Understand the concepts of online systems and functions of the Data Communication package,
  - b) Define the screen formats for technical display
  - c) Create a message processing program and debug,
  - d) Create a program to access a database using a DB/DC packages

- (2) Contents: Contents and their allotted hours are as follows:

Contents	Hours
a) Data Transmission technique	20
b) DCCM 3 and XMAP	8
c) Data communication equipment	4
d) UAP design and code	7
e) X MAP and UAP practice	20
f) Network	4
<b>Total</b>	<b>63</b>

- (3) Training Technique:

Technique	Hours	%
a) Lecture	37	54
b) Exercise/practice	22	33
c) Visit	2	3
d) Others	7	10
<b>Total</b>	<b>68</b>	<b>100</b>

II. EVALUATION (F: Fair, G: Good, E: Excellent)

	Item	Evaluation
(1) Achievement of Objective	a. Objective a) in item 6. (1) above	G
	b. " b) "	G
	c. " c) "	G
	d. " d) "	G
(2) Course Contents	a. Choice of topics	G
	b. Relationship between topics	G
	c. Emphasis on theory	G
	d. Emphasis on practical	G
(3) Training Technique	a. Lecture	G
	b. Case Study	G
	c. Practical	G
	d. Discussion	G
	e. Project Study	G
	f. Visits	G
	g. Film	G
4) Course effectiveness to participants	a. Knowledge on subject	G
	b. Ability to solve problems with regard to course contents	G
(5) Total Evaluation		G
(6) Points of Improvement	a. Exercise should be enriched and systematized.	
	b. Computer Turnaround Time should be shortened.	



DETAIL AND EVALUATION OF COURSE NO. 18

I. DETAIL

1. Course Title: Structured Systems Analysis and Design
2. Implementation Date: 6 - 18 April, 1987
3. Participants:
  - (1) No. of Participant/Applicant: 22/48
  - (2) Qualification; a) System Analyst with at least 3 years experience
4. Counterpart: Mr. Md. Adzman Musa, Miss Nor'ini Ab. Rahman,  
Ms. Susie Dorai Raj, Mr. Ahmad Hamdi Maksom
5. Japanese Expert: Mr. M. Suzuki, Assist: Mr. K. Sadachi
6. Curriculum:

- (1) Objective; Upon completion of this course, the participants will be able to:
  - a) Understand the techniques in S.S.A.D. methodology,
  - b) Analyse systems using structured methodology,
  - c) Design systems using structured methodology, and
  - d) Have a positive attitude towards teamwork in creating a quality end-product.

- (2) Contents; Contents and their allotted hours are as follows:

Contents	Hours
a) Overview	3.5
b) System analysis	16.75
c) System design	17.75
d) Implementation	6.0
e) Practical - Case Study	32.0
Total	76.00

- (3) Training Technique;

Technique	Hours	%
a) Lecture	44	57.9
b) Case Study	32	42.1
Total	76	100

II. EVALUATION (F: Fair, G: Good, E: Excellent)

	Item	Evaluation
(1) Achievement of Objective	a. Objective a) in item 6 (1) above	G
	b. " b) "	G
	c. " c) "	G
	d. " d) "	G
(2) Course Contents	a. Choice of topics	E
	b. Relationship between topics	G
	c. Emphasis on theory	G
	d. Emphasis on practical	G
(3) Training Technique	a. Lecture	G
	b. Case Study	G
	c. Group Discussion	G
4) Course effectiveness to participants	a. Knowledge on subject	G
	b. Ability to solve problems with regards to course contents	G
(5) Total Evaluation		G
(6) Points of Improvement	a. This course should be divided into two one for System Analysis and the other for System Design. (This course has been divided into Structured System Analysis and Structured System Design, and carried out since 1989).	
	b. Simpler case study should be developed.	

DETAIL AND EVALUATION OF COURSE NO. 18-A(1st)

I. DETAIL

1. Course Title: Structured System Analysis
2. Implementation Date: 13 - 21 March, 1989
3. Participants:
  - (1) No. of Participant/Applicant: 19/58
  - (2) Qualification:
    - a) System Analyst with at least 3 years experience and, in addition, have some experience in system analysis and design of application systems.
4. Counterpart:
 

Mr. Md. Adzman Musa,      Mr. Ab. Rashid Ab. Rahim,  
Miss Nor'ini Ab. Rahman
5. Japanese Expert: Mr. Y. Nishida
6. Curriculum:

- (1) Objective:
 

Upon completion of this course, the participants will be able to:

  - a) Review basic concepts of Structured Systems Analysis,
  - b) Depict systems specifications practically according to structured systems analysis methodology and techniques,
  - c) Understand the general view of transition from structured systems analysis to subsequent phases of system development, and
  - d) Have a positive attitude towards group work to achieve an end-product.

- (2) Contents:
 

Contents and their allotted hours are as follows:

Contents	Hours
a) Introduction	5.25
b) Tools of Structured Systems Analysis	6.25
c) Information Modeling	6.25
d) Essential modeling	6.25
e) Linkage with Structured Systems Design & Implementation	4.00
f) Information Engineering Software Demonstration	1.5
g) Case Study	14.25
Total	43.75

- (3) Training Technique:

Technique	Hours	%
a) Lecture	19.00	43.43
b) Exercise/Practical	9.00	20.57
c) Project	14.25	32.57
d) Others (IEW Demonstration)	1.5	3.43
Total	43.75	100

II. EVALUATION (F: Fair, G: Good, E: Excellent)

	Item	Evaluation
(1) Achievement of Objective	a. Objective a) in item 6-(1) above	E
	b. " b) "	E
	c. " c) "	E
	d. " d) "	E
(2) Course Contents	a. Choice of topics	E
	b. Relationship between topics	E
	c. Emphasis on theory	E
	d. Emphasis on practical	E
(3) Training Technique	a. Lecture	E
	b. Case Study	E
	c. Practical	E
	d. Group Discussion	E
	e. Project	E
4) Course effectiveness to participants	a. Knowledge on subject	G
	b. Ability to solve problems with regards to course contents	G
(5) Total Evaluation		E
(6) Points of Improvement	a. Increase time for case study and practical. b. Use the examples for the same system. c. Use examples from government developments.	

DETAIL AND EVALUATION OF COURSE NO.18-A(2nd)

I. DETAIL

1. Course Title: Structured System Analysis
2. Implementation Date: 13 - 22 December, 1989
3. Participants:
  - (1) No. of Participant/Applicant: 20/31
  - (2) Qualification:
    - a) Same as the 1st course
4. Counterpart: Mr. Md. Adzman Musa, Ms. Nor'ini Ab. Rahman,  
Mr. Ab. Rashid Ab. Rahim
5. Japanese Expert: Mr. Y. Nishida
6. Curriculum:

(1) Objective: Upon completion of this course, the participants will be able to:

- a)
  - b)
  - c)
  - d)
- } same as the 1st course

(2) Contents: Contents and their allotted hours are as follows:

	Contents	Hours
a)		
b)		
c)		
d)		
e)		
f)		
g)		
	Total	

(3) Training Technique:

	Technique	Hours	%
a)			
b)			
c)			
d)			
	Total		

(I. EVALUATION (F: Fair, G: Good, E: Excellent)

	Item	Evaluation
(1) Achievement of Objective	a. Objective a) in item 6-(1) above	E
	b. " b) "	E
	c. " c) "	G
	d. " d) "	G
(2) Course Contents	a. Choice of topics	E
	b. Relationship between topics	G
	c. Emphasis on theory	G
	d. Emphasis on practical	G
(3) Training Technique	a. Lecture	G
	b. Case Study	E
	c. Practical	E
	d. Film/Video	G
4) Course effectiveness to participants	a. Knowledge on subject	G
	b. Ability to solve problems with regards to course contents	G
(5) Total Evaluation		G
(6) Points of Improvement	a. More case study	
	b. More facilitators or guest lecturers	
	c. Make visits to departments using the methodology	

DETAIL AND EVALUATION OF COURSE NO. 18-B

I. DETAIL

1. Course Title: Structured Systems Design
2. Implementation Date: 14 - 23 May, 1990
3. Participants:
  - (1) No. of Participant/Applicant; 13/44
  - (2) Qualification; a) Systems Analysts who have attended the Structured Systems Analysis course.
4. Counterpart: Mr. Md. Adzman Musa, Miss Nor'inj Ab. Rahman,  
Mr. Huan Kwee Chai, Ms. Maznum Md. Arif
5. Japanese Expert: Mr. Y. Nishida
6. Curriculum:

- (1) Objective; Upon completion of this course, the participants will be able to:
  - a) Understand the basic idea of S.S.D.,
  - b) Transform a new logical model into a structured design specification,
  - c) Transform an ER-Model into a logical data model,
  - d) Understand linkage from Design phase to implementation phase, and
  - e) Have a positive attitude towards group work to achieve an end-product.
- (2) Contents; Contents and their allotted hours are as follows:

Contents	Hours
a) Introduction to Structured Design	3.00
b) Creating Structure Charts	12.50
c) Database Design, Input/Output, Security	8.25
d) Case Study Design	17.50
e) Demonstration of a CASE Tool-IEW	2.00
f) Guest Lecturer-Sample Application System	2.00
g) Video	1.45
Total	46.50

- (3) Training Technique;

Technique	Hours	%
a) Lecture	19	40.9
b) Exercise/Practical	8.75	18.8
c) Case Study	17.5	37.6
d) Others - Video	1.25	2.7
Total	46.5	100

II. EVALUATION (F: Fair, G: Good, E: Excellent)

	Item	Evaluation
(1) Achievement of Objective	a. Objective a) in tem 6-(1) above	E
	b. " b) "	G
	c. " c) "	E
	d. " d) "	E
	e. " e) "	E
(2) Course Contents	a. Choice of topics	E
	b. Relationship between topics	G
	c. Emphasis on theory	G
	d. Emphasis on practical	G
(3) Training Technique	a. Lecture	E
	b. Case Study	G
	c. Practical	G
	d. Film/Video	G
4) Course effectiveness to participants	a. Knowledge on subject	G
	b. Ability to solve problems with regards to course contents	G
(5) Total Evaluation		G
(6) Points of Improvement	a. Use real-life examples and exercises.	
	b. Visit to an organisation which has implemented the Structured Techniques.	



DETAIL AND EVALUATION OF COURSE NO. 19(1st)

I. DETAIL

1. Course Title: Systems Design for Microcomputer
2. Implementation Date: 23 November - 5 December, 1987
3. Participants:
  - (1) No. of Participant/Applicant: 21/61
  - (2) Qualification:
    - a) System Analyst with at least 2 years experience
    - b) Senior Programmer with at least 8 years experience
    - c) Manager for designing systems using microcomputers
4. Counterpart:
 

Mr. Md. Adzman Musa,	Ms. Rosni Ab. Malek
Mr. Ab. Rashid Ab. Rahim,	Ms. Nor'ini Ab. Rahman
Ms. Susie Dorai Raj,	Mr. Ahmad Hamdi Maksom
5. Japanese Expert: Mr. K. Sadachi
6. Curriculum:

- (1) Objective:
 

Upon completion of this course, the participants will be able to:

  - a) Understand microcomputer architecture,
  - b) Design a system using a microcomputer,
  - c) Implement a system using a microcomputer, and
  - d) Expose to the latest microcomputer technology.

- (2) Contents: Contents and their allotted hours are as follows:

Contents	Hours
a) Overview	2
b) Microcomputer hardware	8.5
c) Microcomputer software	16
d) System design and related topics	17.5
e) Case Study	16.5
f) Video	2
<b>Total</b>	<b>62.5</b>

- (3) Training Technique:

Technique	Hours	%
a) Lecture	31	50
b) Exercise	13	21
c) Case Study	16.5	26
d) Video	2	3
<b>Total</b>	<b>62.5</b>	<b>100</b>

II. EVALUATION (F: Fair, G: Good, E: Excellent)

	Item	Evaluation
(1) Achievement of Objective	a. Objective a) in item 6-(1) above	G
	b. " b) "	G
	c. " c) "	G
	d. " d) "	G
(2) Course Contents	a. Choice of topics	G
	b. Relationship between topics	G
	c. Emphasis on theory	G
	d. Emphasis on practical	G
(3) Training Technique	a. Lecture	G
	b. Case Study	E
	c. Practical	E
	d. Group Discussion	G
4) Course effectiveness to participants	a. Knowledge on subject	G
	b. Ability to solve problems with regards to course content	G
(5) Total Evaluation		G
(6) Points of Improvement	a. More time should be allocated to case study and hands-on session.	

II. EVALUATION (F: Fair, G: Good, E: Excellent)

	Item	Evaluation
(1) Achievement of Objective	a. Objective a) in item 6-(1) above	E
	b. " b) "	E
	c. " c) "	E
(2) Course Contents	a. Choice of topics	E
	b. Relationship between topics	E
	c. Emphasis on theory	E
	d. Emphasis on practical	E
(3) Training Technique	a. Lecture	E
	b. Practical	E
	c. Video	E
4) Course effectiveness to participants	a. Knowledge on subject	E
	b. Ability to solve problems with regards to course contents	G
(5) Total Evaluation		E
(6) Points of Improvement	<ul style="list-style-type: none"> <li>a. More lectures on Systems Management (theory).</li> <li>b. Increase duration of the course.</li> <li>c. Include comparison of current OS in the market.</li> <li>d. Invite speakers from outside to share their experiences.</li> </ul>	

DETAIL AND EVALUATION OF COURSE NO. 20

I. DETAIL

1. Course Title: System Management and Operating Systems

2. Implementation Date: 11 - 20 June, 1990

3. Participants:

(1) No. of Participant/Applicant: 18/65

(2) Qualification; a) System Analysts with at least 2 years experience  
b) Senior Programmers

4. Counterpart:

Mrs. Zaharah bt. Ali  
Mrs. Rosni Abdul Malek  
Miss Susie Dorai Raj

5. Japanese Expert:

Mr. T. Takeshige

6. Curriculum:

(1) Objective;

Upon completion of this course, the participants will be able to:

- a) Understand systems management functions of OS,
- b) Plan and control computer resources, and
- c) Evaluate computer performance in terms of overa processing and resource utilization.

(2) Contents;

Contents and their allotted hours are as follows:

Contents	Hours
a) Overview	2
b) Resource Management	4
c) Operation Management	4
d) Supermicro Management	22
e) Mainframe OS	11
Total	43

(3) Training Technique;

Technique	Hours	%
a) Lecture	22	50
b) Practical	21	48
c) Others	1	2
Total	44	100

II. EVALUATION (F: Fair, G: Good, E: Excellent)

	Item	Evaluation
(1) Achievement of Objective	a. Objective a) in item 6-(1) above	G
	b. " b) "	G
	c. " c) "	G
	d. " d) "	G
(2) Course Contents	a. Choice of topics	G
	b. Relationship between topics	G
	c. Emphasis on theory	G
	d. Emphasis on practical	G
(3) Training Technique	a. Lecture	G
	b. Case Study	G
	c. Practical	G
	d. Group Discussion	G
	e. Project	G
	f. Film	G
4) Course effectiveness to participants	a. Knowledge on subject	G
	b. Ability to solve problems with regards to course contents	G
(5) Total Evaluation		G
(6) Points of Improvement	a. System design session should be emphasized more.	
	b. More time should be allocated to case study.	

DETAIL AND EVALUATION OF COURSE NO. 19(2nd)

I. DETAIL

1. Course Title: Systems Design for Microcomputer
2. Implementation Date: 14 - 26 March, 1988
3. Participants:
  - (1) No. of Participant/Applicant; 22/57
  - (2) Qualification; a) Same as No. 19(1st)+ 2 participants from the private sector (Central Bank and Concrete Premix Company)
4. Counterpart:
 

Mr. Md. Adzman Musa,	Ms. Rosni Ab. Malek,
Mr. Ab. Rashid Ab. Rahim,	Ms. Susie Dorai Raj,
Mr. Ahmad Hamdi Maksom,	Mr. Md. Yusof Ahmad
5. Japanese Expert: Mr. K. Sadachi
6. Curriculum:

(1) Objective; Upon completion of this course, the participants will be able to:

- |  |   |                        |
|--|---|------------------------|
| <ol style="list-style-type: none"> <li>a)</li> <li>b)</li> <li>c)</li> <li>d)</li> </ol> | } | Same as the 1st course |
|--|---|------------------------|

(2) Contents; Contents and their allotted hours are as follows:

	Contents	Hours
a)		
b)		
c)		
d)		
e)		
f)		
g)		
	Total	

(3) Training Technique;

	Technique	Hours	%
a)			
b)			
c)			
d)			
	Total		

DETAIL AND EVALUATION OF COURSE NO. 21(1st)

I. DETAIL

1. Course Title: Database Design
2. Implementation Date: 10 - 22 August, 1987
3. Participants:  
 (1) No. of Participant/Applicant; 25/59  
 (2) Qualification; a) System Analysts & Programmers
4. Counterpart: Mrs. Chan Yet Meng, Mr. Mazlan Harun,  
 Mrs. Zaharah Ali, Mrs. Nor Aliah Md. Zahri,  
 Mr. Ab. Rashid Ab. Rahim,  
 Ms. Nor'ini Ab. Rahman
5. Japanese Expert: Mr. T. Fujii
6. Curriculum:

- (1) Objective: Upon completion of this course, the participants will be able to:
- a) Understand basic concepts of database design,
  - b) Understand and design the structure of databa
  - c) Exposure to new concepts and development of database design

- (2) Contents; Contents and their allotted hours are as follows:

Contents	Hours
a) Principles of DB Design	2
b) Requirement analysis and specification	2
c) Conceptual data modeling	7
d) Data structure design	10
e) Further topics	12
<b>Total</b>	<b>33</b>

- (3) Training Technique;

Technique	Hours	%
a) Lecture	33	53
b) Exercise/Practical	20.25	32
c) Project	5.25	8
d) Others	4	6
<b>Total</b>	<b>62.5</b>	<b>100</b>

II. EVALUATION (F: Fair, G: Good, E: Excellent)

	Item	Evaluation
(1) Achievement of Objective	a. Objective a) in item 6-(1) above	E
	b. " b) "	E
	c. " c) "	G
(2) Course Contents	a. Choice of topics	E
	b. Relationship between topics	E
	c. Emphasis on theory	E
	d. Emphasis on practical	G
(3) Training Technique	a. Lecture	G
	b. Case Study	G
	c. Practical	G
	d. Discussion	G
	e. Project Study	G
	f. Visit	G
	g. Film	G
4) Course effectiveness to participants	a. Knowledge on subject	G
	b. Ability to solve problems with regards to course contents	G
(5) Total Evaluation		G
(6) Points of Improvement		



DETAIL AND EVALUATION OF COURSE NO. 21(2nd)

I. DETAIL

1. Course Title: Database Design
2. Implementation Date: 20 June - 2 July, 1988
3. Participants:
  - (1) No. of Participant/Applicant: 25/30
  - (2) Qualification: a) System Analysts & Programmers
4. Counterpart: Mrs. Chan Yet Meng, Mr. Mazlan Harun,  
Miss Norini Ab. Rahman, Mr. Ab. Rashid Ab. Rahim  
Mrs. Zaharah Ali, Miss Salmah Khairuddin,  
Mrs. Nor Aliah Md. Zahri,
5. Japanese Expert: Mr. T. Fujii, Mr. M. Yamamoto
6. Curriculum:

- (1) Objective: Upon completion of this course, the participants will be able to:
  - a) Understand basic concepts of database design
  - b) Understand and design the structure of database
  - c) Exposure to new concepts and development of database design.

- (2) Contents; Contents and their allotted hours are as follows:

Contents	Hours
a) Principles of DB Design	3
b) Requirement analysis & specification	3
c) Conceptual data modeling	7
d) Data structure design	10
e) Further topics	4
<b>Total</b>	<b>27</b>

- (3) Training Technique;

Technique	Hours	%
a) Lecture	27	41
b) Exercise/Practical	7	11
c) Project	29	45
d) Others	2	3
<b>Total</b>	<b>65</b>	<b>100</b>

II. EVALUATION (F: Fair, G: Good, E: Excellent)

	Item	Evaluation
(1) Achievement of Objective	a. Objective a) in item 6-(1) above	G
	b. " b) "	G
	c. " c) "	E
(2) Course Contents	a. Choice of topics	G
	b. Relationship between topics	G
	c. Emphasis on theory	G
	d. Emphasis on practical	G
(3) Training Technique	a. Lecture	G
	b. Case Study	G
	c. Practical	G
	d. Group Discussion	G
	e. Project Study	G
	f. Visit	G
	g. Film	G
4) Course effectiveness to participants	a. Knowledge on subject	G
	b. Ability to solve problems with regards to course contents	G
(5) Total Evaluation		G
(6) Points of Improvement	a. More exercise and case study.	

DETAIL AND EVALUATION OF COURSE NO.22

I. DETAIL

1. Course Title: Database Management System
2. Implementation Date: 23 November - 5 December, 1987
3. Participants:
  - (1) No. of Participant/Applicant: 19/25
  - (2) Qualification;
    - a) System Analysts with at least 2 years experience.
    - b) System Analysts with knowledge of high level language programming and file system.
4. Counterpart: Ms. Chan Yet Meng, Mr. Md. Rosli Saad,  
Mr. Mazlan Harun, Ms. Zaharah Ali,  
Ms. Nor Aliah Md. Zahri, Ms. Nurizan Hashim
5. Japanese Expert: Mr. T. Fujii
6. Curriculum:

- (1) Objective; Upon completion of this course, the participants will be able to:
  - a) Explain role and general structure of Relational DBMS and its future scope,
  - b) Illustrate structure of physical data organization and evaluate features,
  - c) Utilize the basic facilities of query processing concurrency control and recovery management in DBMS, and
  - d) Understand concept of distributed DBMS and transaction management.
- (2) Contents; Contents and their allotted hours are as follows:

Contents	Hours
a) DBMS functions	13
b) Physical data organization	9
c) Query languages and query optimization	24
d) Currency control and recovery	24
e) Distributed DMBS	8
Total	68

- (3) Training Technique;

Technique	Hours	%
a) Lectures	28	41
b) Exercises	5	8
c) Case Study	13	19
d) Machine Practice	22	32
Total	68	100

II. EVALUATION (F: Fair, G: Good, E: Excellent)

	Item	Evaluation	
(1) Achievement of Objective	a. Objective a) in 6(1) above	G	
	b. " b) "	G	
	c. " c) "	G	
	d. " d) "	G	
(2) Course Contents	a. Choice of topics	E	
	b. Relationship between topics	E	
	c. Emphasis on theory	E	
	d. Emphasis on practical	G	
(3) Training Technique	a. Lecture	E	
	b. Case Study	G	
	c. Practical	G	
	d. Discussion	G	
	e. Project Study	G	
	f. Visits	G	
	g. Film	E	
	4) Course effectiveness to participants	a. Knowledge on subject	G
		b. Ability to solve problems with regard to course contents	G
(5) Total Evaluation		G	
(6) Points of Improvement	a. Visit should be allocated more time and in separate groups (hierarchical, network and relational).		

DETAIL AND EVALUATION OF COURSE NO. 23

I. DETAIL

1. Course Title: Data Communication and Computer Network
2. Implementation Date: 7 - 18 August, 1989
3. Participants:
- (1) No. of Participant/Applicant; 30/60
- (2) Qualification; a) System Analysts with at least one year experience  
b) Preference is given to those from departments with data communication systems or who are planning to implement them
4. Counterpart: Ms. Chan Yet Meng, Mr. Mazlan Harun,  
Mr. Md. Rosli Saad, Mr. Hashim Bujang
5. Japanese Expert: Mr. M. Hashimoto
6. Curriculum:

- (1) Objective; Upon completion of this course, the participants will be able to:
- a) Understand the concepts and components of data communication systems and computer network,
- b) Design computer networks, and
- c) Estimate the performance of a data communications system.

- (2) Contents; Contents and their allotted hours are as follows:

Contents	Hours
a) Data communication	4
b) Data Transmission	8
c) Design network	15
d) Performance estimation	12
e) Network management	4
f) Computer network	6
g) Advanced network	3.5
Total	52.5

- (3) Training Technique;

Technique	Hours	%
a) Lecture	41	65
b) Exercise	15	23
c) Visit	4	7
d) Others	4	6
Total	64	100

II. EVALUATION (F: Fair, G: Good, E: Excellent)

	Item	Evaluation
(1) Achievement of Objective	a. Objective a) in item 6-(1) above	E
	b. " b) "	G
	c. " c) "	G
(2) Course Contents	a. Choice of topics	E
	b. Relationship between topics	G
	c. Emphasis on theory	G
	d. Emphasis on practical	G
(3) Training Technique	a. Lecture	G
	b. Case Study	G
	c. Practical	G
	d. Discussion	G
	e. Project Study	G
	f. Visit	G
	g. Film	G
4) Course effectiveness to participants	a. Knowledge on subject	G
	b. Ability to solve problems with regards to course contents	G
(5) Total Evaluation		G
(6) Points of Improvement	<p>a. Study existing data networks in departments to obtain 'live' cases for analysis of performance.</p> <p>b. Need more computer network topics including PC to host link.</p> <p>c. Have a case study that cover all topics in the course.</p>	

DETAIL AND EVALUATION OF COURSE NO. 26

I. DETAIL

1. Course Title: Management of Computer Center
2. Implementation Date: 4 - 8 September, 1989
3. Participants:
  - (1) No. of Participant/Applicant: 26/60
  - (2) Qualification:
    - a) Data Processing Managers
    - b) Senior System Analysts. or Equivalent
4. Counterpart:
 

Mr. Ahmad Amin Esa ,	Mr. Lau Boon Ling
Mr. Sabri Omar,	Mr. Huan Kwee Chai
Ms. Susie Dorai Raj	
5. Japanese Expert:
 

Mr. T. Takeshige,	Mr. Y. Kido
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6. Curriculum:

- (1) Objective;
 

Upon completion of this course, the participants will be able to:

  - a) Contribute to the effective and efficient running of a computer center, and
  - b) Understand the concepts of organisational structure, management control and operations of a computer center.

- (2) Contents;
 

Contents and their allotted hours are as follows:

Contents	Hours
a) Computer Center Processing	7
b) Computer Center Performance	4
c) Computer Center Auditing	2
d) Visit	4
e) Case Study	2
f) Presentation	1.5
g) Others	5
Total	25.5

- (3) Training Technique;

Technique	Hours	%
a) Lecture	18	70
b) Visit	4	16
c) Case Study	2	8
d) Presentation	1.5	6
Total	25.5	100

II. EVALUATION (F: Fair, G: Good, E: Excellent)

	Item	Evaluation
(1) Achievement of Objective	a. Objective a) in item 6-(1) above	G
	b. " b) "	G
(2) Course Contents	a. Choice of topics	G
	b. Relationship between topics	G
	c. Emphasis on theory	G
	d. Emphasis on practical	G
(3) Training Technique	a. Lecture	G
	b. Case Study	G
	c. Visit	E
4) Course effectiveness to participants	a. Knowledge on subject	G
	b. Ability to solve problems with regards to course contents	G
(5) Total Evaluation		G
(6) Points of Improvement	<p>a. Invite guest lecturers to share their experiences on selected topics.</p> <p>b. Actual and practical examples in Malaysia should be discussed.</p>	



DETAIL AND EVALUATION OF COURSE NO. 27

I. DETAIL

1. Course Title: EDP Project Management
2. Implementation Date: 14 - 25 November, 1988
3. Participants:
  - (1) No. of Participant/Applicant: 23
  - (2) Qualification;
    - a) System Analysts with at least 3 years experience
    - b) Non-EDP Personnel with at least 3 years experience in EDP projects
4. Counterpart:
 

Mrs. Zaharah Ali,	Ms. Rosni Ab. Malek,
Ms. Norini Ab. Rahman,	Ms. Salmah Khairuddin,
Ms. Chen Yoke Ying,	Mr. Huan Kwee Chai.
5. Japanese Expert: Mr. Y. Kido, Assist: Mr. T. Sato
6. Curriculum:
  - (1) Objective;
 

Upon completion of this course, the participants will be able to:

    - a) Understand EDP project management and control principles,
    - b) Have skills in using EDP project management techniques, and
    - c) Aware of importance of positive attitude to produce a quality end-product.

(2) Contents;

Contents and their allotted hours are as follows:

Contents	Hours
a) Introduction	7
b) Project planning process	18
c) Project administration and control	11
d) PM software packages	11
e) Behavioral aspect of PM	3
f) Others	14
<b>Total</b>	<b>64</b>

(3) Training Technique;

Technique	Hours	%
a) Lectures	30	47
b) Case Study	10	15
c) Practical/Exercise	15	23
d) Others	9	14
<b>Total</b>	<b>64</b>	<b>100</b>

II. EVALUATION (F: Fair, G: Good, E: Excellent)

	Item	Evaluation
(1) Achievement of Objective	a. Objective a) in item b.(1) above	E
	b. " b) "	G
	c. " c) "	E
(2) Course Contents	a. Choice of topics	E
	b. Relationship between topics	G
	c. Emphasis on theory	G
	d. Emphasis on practical	G
(3) Training Technique	a. Lecture	G
	b. Case Study	G
	c. Practical	G
	d. Group Discussion	G
	e. Project	G
	f. Visit	G
	g. Film/Video	G
4) Course effectiveness to participants	a. Knowledge on subject	G
	b. Ability to solve problems with regards to course contents	
(5) Total Evaluation		G
(6) Points of Improvement	a. To use more relevant and meaningful examples.	
	b. To be given by more experienced lectures.	
	c. To have more case study.	

DETAIL AND EVALUATION OF COURSE NO. 28(SEMINAR)

I. DETAIL

1. Course Title: Security and Auditing
2. Implementation Date: 25 - 27 March, 1987
3. Participants:
  - (1) No. of Participant: 101
  - (2) Qualification:
    - a) Manager involved with information systems
    - b) EDP Manager and other technical personnel
4. Speaker: Mr. S. Inada, Mr. H. Horiuchi
5. Counterpart: Mrs. Chan Yet Meng
6. Japanese Expert: Mr. Y. Kido
7. Curriculum:
  - (1) Objectives:
 

Upon completion of this seminar, the participants will be able to:

    - a) Understand the concepts and objectives of computer Security and Auditing
    - b) Acquire knowledge and skills, and
    - c) Maintain adequate security measures and auditing features.

- (2) Contents: Contents and their allocated hours are as follows:

Contents	Hours
a) Security concepts	3
b) Security control	3.5
c) Auditing concepts	1.5
d) Auditing control	4
Total	12

- (3) Training Techniques:

Technique	Hours	%
a) Lecture	12	75
b) Discussion	4	25
Total	16	100

II. EVALUATION (F: Fair, G: Good, E: Excellent)

	Item	Evaluation
(1) Achievement of Objective	a. Objective a ) in item 7-(1) above	G
	b. " b ) "	G
	c. " c ) "	G
(2) Course Contents	a. Choice of topics	G
	b. Relationship between topics	G
	c. Emphasis on theory	G
	d. Emphasis on practical	G
(3) Training Technique	a. Lecture	G
	b. Discussion	G
4) Course effectiveness to participants	a. Knowledge on subject	G
	b. Ability to solve problems with regards to seminar contents	G
(5) Total Evaluation		G
(6) Points of Improvement	<p>a. The topics of this seminar should be reflected in future courses.</p> <p>b. Examples should match the present status in Malaysia.</p>	

DETAIL AND EVALUATION OF COURSE NO. 29(SEMINAR)

I. DETAIL

1. Course Title: Computer Hardware/Software New Development
2. Implementation Date: 29 September - 2 October, 1987
3. Participants: 54
  - (1) No. of Participant;
  - (2) Qualification:
    - a) EDP Managers
    - b) Senior System Analysts
4. Speaker: Japanese; Mr. Y. Hagi, Mr. Takahashi  
Local; Mr. Patrick Lee, Mr. David Goh, Mr. Rohert Teo
5. Counterpart: Mr. Md. Adzman Musa, Mrs. Azizah Ab. Manan
6. Japanese Expert: Mr. T. Sato
7. Curriculum:

- (1) Objective; Upon completion of this seminar, the participants will be able to:
- a) Get an update on the latest development in computer hardware and software.
  - b) Identify possible areas of application in public sector, and
  - c) Assess the probable implications of these new developments.

- (2) Contents; Contents and their allocated hours are as follows:

Contents	Hours
a) New development in hardware	11
b) " in software	5
c) " in communication	4
Total	20

- (3) Training Techniques;

Technique	Hours	%
a) Lecture	20	84
b) Video	2	8
c) Demonstration	2	8
Total	24	100

II. EVALUATION (F: Fair, G: Good, E: Excellent)

	Item	Evaluation
(1) Achievement of Objective	a. Objective a) in item 7-(1) above	F
	b. " b) "	F
	c. " c) "	F
(2) Course Contents	a. Choice of topics	G
	b. Relationship between topics	G
	c. Emphasis on theory	G
	d. Emphasis on practical	F
(3) Training Technique	a. Lecture	F
	b. Case Study	F
	c. Discussion	F
	d. Video	G
	e. Demonstration	G
4) Course effectiveness to participants	a. Knowledge on subject	G
	b. Ability to solve problems with regards to seminar contents	G
(5) Total Evaluation		F
(6) Points of Improvement	a. Speaker should speak on overall trends and developments; AI and Expert Systems etc.	

DETAIL AND EVALUATION OF COURSE NO. 30 (SEMINAR)

I. DETAIL

1. Course Title: Information Systems Planning
2. Implementation Date: 7 - 10 August, 1988
3. Participants:
  - (1) No. of Participant: 75
  - (2) Qualification: a) Management and DP personnel
4. Speaker: Japanese; Prof. H. Sakai, Mr. H. Horiuchi  
Local; Prof. Anuar Maarof, Dr. Ab. Rahim Daud
5. Counterpart: Mr. Md. Adzman Musa, Mr. Ahmad Amin Esa,
6. Japanese Expert: Mr. Y. Kido, Mr. K. Sadachi
7. Curriculum:
  - (1) Objective: Upon completion of this seminar, the participants will be able to:
    - a) Expose to the management concepts and strategies of ISP,
    - b) Be aware of the methodologies and tools, and
    - c) Initiate and guide an ISP study in their organizations.

- (2) Contents: Contents and their allocated hours are as follows:

Contents	Hours
a) Background and problems of ISP in Malaysia	1.5
b) Strategies in implementation of IRM in Malaysia	1.5
c) Introduction of IRM	4.0
d) Data-oriented design	6.0
e) Object-oriented approach	3.5
Total	16.5

- (3) Training Techniques:

Technique	Hours	%
a) Lecture	16.5	75
b) Discussion	5	23
c) Others	5	2
Total	22.0	100

II. EVALUATION (F: Fair, G: Good, E: Excellent)

	Item	Evaluation
(1) Achievement of Objective	a. Objective a) in item 7-(1) above	G
	b. " b) "	G
	c. " c) "	G
(2) Course Contents	a. Choice of topics	G
	b. Relationship between topics	G
	c. Emphasis on theory	G
	d. Emphasis on practical	G
(3) Training Technique	a. Lecture	G
	b. Case Study	G
	c. Discussion	G
	d. Film/Video	G
4) Course effectiveness to participants	a. Knowledge on subject	G
	b. Ability to solve problems with regards to seminar contents	G
(5) Total Evaluation		G
(6) Points of Improvement	a. The topics of this seminar should be reflected in future courses. b. More case study and practical should be given.	



DETAIL AND EVALUATION OF COURSE NO. 31 (SEMINAR)

I. DETAIL

1. Course Title: Computer Performance Evaluation
2. Implementation Date: 3 - 6 July, 1989
3. Participants:
  - (1) No. of Participant: 83
  - (2) Qualification:
4. Speaker: Dr. T. Oguni, Mr. N. Gohda
5. Counterpart: Mr. Md. Azli Lee Ab., Mr. Huan Kwee Chai
6. Japanese Expert: Mr. M. Yamamoto
7. Curriculum:

(1) Objective;

Upon completion of this seminar, the participants will be able to:

- a) Obtain concepts and processes in computer performance evaluation.
- b) Be aware of methodologies and tools involved, and
- c) Have ability to initiate and guide evaluation of the performance of computers.

(2) Contents;

Contents and their allocated hours are as follows:

Contents	Hours
a) Outline and overview	4
b) Evaluation of on-line and network system	3
c) Measurement of computer performance	3
d) Evaluation of application software	6
Total	16

(3) Training Techniques;

Technique	Hours	%
a) Lecture	16	76
b) Discussion	3	14
c) Others	2	10
Total	21	100

II. EVALUATION (F: Fair, G: Good, E: Excellent)

	Item	Evaluation
(1) Achievement of Objective	a. Objective a) in item 7-(1) above	G
	b. " b) "	G
	c. " c) "	G
(2) Course Contents	a. Choice of topics	G
	b. Relationship between topics	G
	c. Emphasis on theory	G
	d. Emphasis on practical	F
(3) Training Technique	a. Lecture	F
	b. Exercise	F
	c. Discussion	F
	d. Film/Video	G
	e. Visit	G
4) Course effectiveness to participants	a. Knowledge on subject	G
	b. Ability to solve problems with regards to seminar contents	G
(5) Total Evaluation		G
(6) Points of Improvement	a. Introduce real case and practical examples.	
	b. Include practical session on computer performance evaluation.	

APPENDIX 9-1

EVALUATION OF NCI COURSES

No.	Course Name (Course No.)	Date	No. Attended/ Applied	Evaluation of Participants	Points of Improvement
1.	Structured Systems Analysis and Design (No. 10)	6. 4.87 - 18. 4.87	22 systems analysts/125	(i) Complete and good textbook. (ii) Suitable case study for theory. (iii) Too difficult Case Study emphasis and time for practicals. (iv) Insufficient.	(i) This course should be divided into two, one for system analysis and the other for system design. (ii) Simpler case study should be developed.
2.	Information System Management (No. 4)	20. 4.87 - 24. 4.87	22 management & DP personnel/118	(i) Good contents, target audience and textbook. (ii) Suitable examples to theory (iii) Insufficient time for technical issues. (iv) Better case study is necessary.	(i) More local examples should be collected. (ii) The contents of the separate in-depth courses, including seminars, should be taken.
3.	Database Programming (No. 16)	15. 6.87 - 27. 6.87	22 programmers & system analysts/144	(i) Good course contents. (ii) Sufficient exercises and practicals. (iii) Insufficient time for certain topics. (iv) Exercises not fully tested.	(i) All exercises should be tested. (ii) More time should be allocated to network DB programming session.
4.	Office Automation (No. 5)	27. 6.87 - 29. 6.87	24 management & DP personnel/88	(i) Good course contents and textbook. (ii) Suitable examples, topics and coverage. (iii) Insufficient time for implementation aspects. (iv) No visit to OA site.	(i) More local examples should be collected. (ii) OA facilities should be provided.
5.	Database Design (No. 21)	10. 9.87 - 22. 8.87	25 systems analysts/59	(i) Good approach and topics. (ii) Good examples, case study and textbook. (iii) Weak presentation by some facilitators.	
6*	Office Automation (No. 5)	7. 9.87 - 10. 9.87	23 management personnel/35	(i) Good topics. (ii) Informative visits. (iii) No hands-on. (iv) Insufficient examples.	(i) OA facilities should be provided in NCTC.

No.	Course Name (Course No.)	Date	No. Attended/ Applied	Evaluation of Participants	Points of Improvement
7.	Database Management Systems (No. 22)	23.11.87 - 5.12.87	19 systems analysts & programmers/25	(i) Good course contents and presentation. (ii) Good textbook, exercise and case study. (iii) Too short duration. (iv) Insufficient machine practices.	(i) A visit should be included.
8.	Systems Design for Microcomputers (No. 19)	23.11.87 - 5.12.87	21 management systems analysts & programmers/61	(i) Good textbook. (ii) Good case study and hands-on. (iii) Too many topics. (iv) Too short duration.	(i) More time should be allocated to case study and hands-on session.
9.	Structured Program Design (No. 13)	7.12.87 - 19.12.87	25 systems analysts & programmers/41	(i) Good approach and topics. (ii) Too short duration. (iii) Improve presentation.	(i) According to the changes in item No. 1 this should be changed to a programming course.
10.	Database Programming (No. 16)	22. 2.88 - 5. 3.88	27 programmers & systems analysts/33	(i) Good course contents. (ii) Effective exercises and practicals. (iii) Insufficient time for exercises and practicals. (iv) Too short duration.	(i) More time should be allocated to exercises and practicals. (ii) A group type of exercise should be developed.
11.	Systems Design for Microcomputers (No. 19)	14. 3.88 - 26. 3.88	22 systems analysts, programmers & users/57	(i) Comprehensive textbook. (ii) Good methodology for systems design. (iii) More users as participants. (iv) More emphasis on systems design.	(i) System design session should be emphasized more. (ii) More time should be allocated to case study.
12.	Database Design (No. 21)	20. 6.88 - 2. 7.88	25 systems analysts/30	(i) Good course contents and textbook.	
13.	Data Communication Programming (No. 17)	5. 9.88 - 16. 9.88	27 programmers & systems analysts/75	(i) Good course contents and presentation. (ii) Good exercises. (iii) Too long turnaround time for program compilation.	(i) Exercises should be enriched and systemized. (ii) Turnaround time should be shorter.

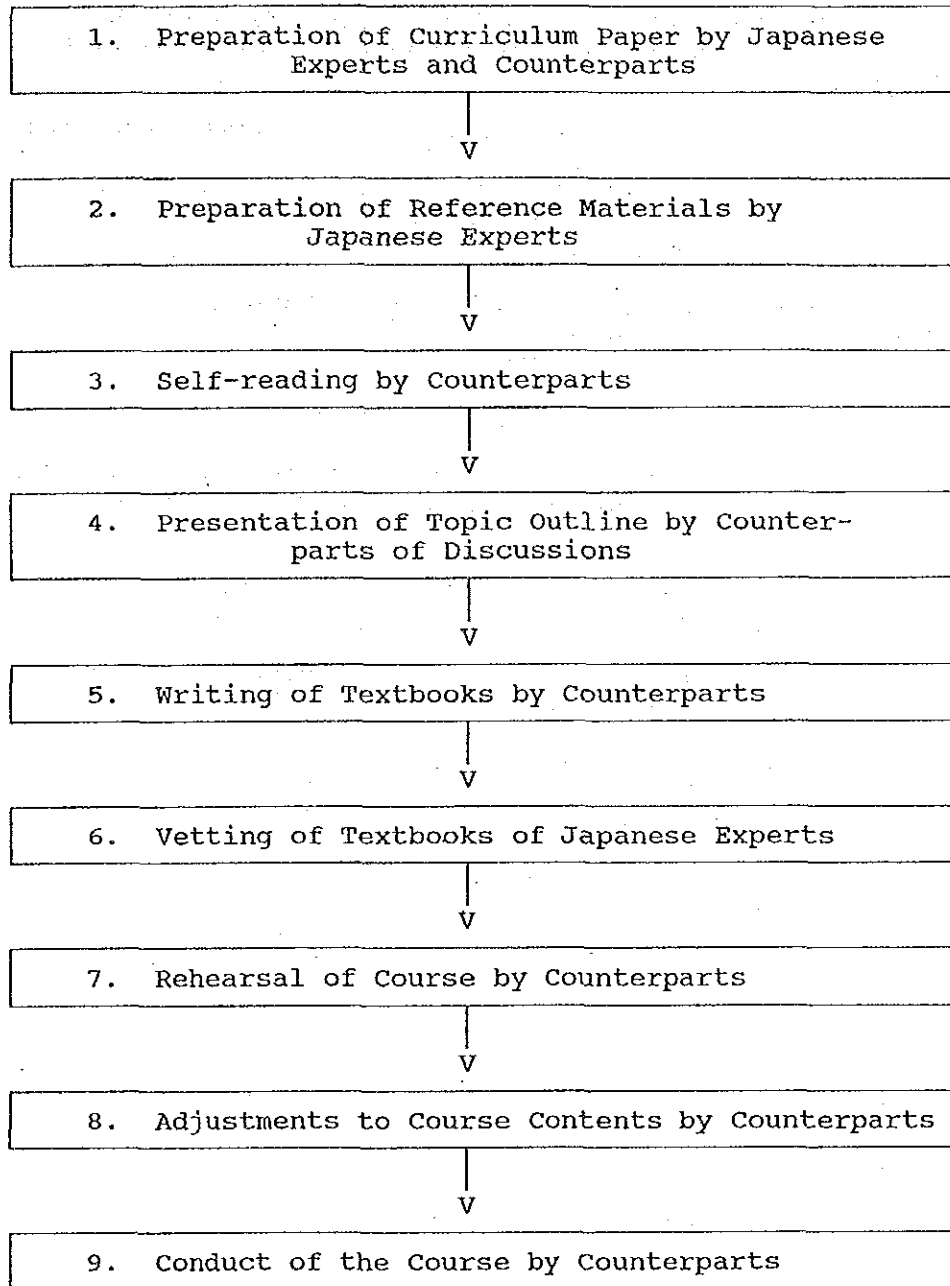
Annex 9-3

No.	Course Name (Course Name)	Date	No. Attended/ Applied	Evaluation of Participants	Points of Improvement
14.	Systems Programming and Operating Systems (No. 12)	26. 9.88 - 7. 10.88	18 programmers & systems analysts/54	(i) Good textbook. (ii) Suitable practicals for theory. (iii) Too short duration. (iv) Improve presentation.	(i) More emphasis and time should be given to systems programming session.
15.	EDP Project Management (No. 27)	14.11.88 - 25.11.88	23 management & systems analysts/60	(i) Cover EDP management concept and gave knowledge on EDP Project Management techniques. (ii) Opportunity for useful discussions.	(i) Improve on the English and use more relevant and meaningful examples. (ii) Have more case studies.
16.	Structured Programming (No. 13)	21.11.88 - 2.12.88	30 programmers/ 30	(i) Too short duration.	(i) More skilled personnel should be selected as participants. (ii) Course duration should be extended two or three days.
17.	Structured Systems Analysis (No. 18A)	13. 3.89 - 21. 3.89	19 systems analysts/58	(i) Successful in providing the basis for using the structured methodology back in the office. (ii) Response from participants who forward questions to be discussed. (iii) Insufficient time for some topics.	(i) Increase the time for case study/practical. (ii) Use the examples for the same system. (iii) Use examples from government department.
18.	Data Communication and Computer Network (No. 23)	7. 8.89 - 18. 8.89	30 systems analysts and programmers/80	(i) Gives basic knowledge on data communication and computer networks. (ii) Good and Complete notes and transparencies.	(i) Study existing data networks in departments to obtain live cases for analysis for performance. (ii) Need more computer network topics including PC to Host Link. (iii) Have a case study that cover all topics in the course.

Annex 9-4

No.	Course Name (Course No.)	Date	No. Attended/ Applied	Evaluation of Participants	Points of Improvement
19.	Management of Computer Centres (No. 15)	4. 9.89 - 8. 9.89	28 management and systems analysts/	(i) Effective theories and concept were introduced in the course. (ii) Comprehensive course contents, useful visits and case studies.	(i) Invite guest lecturers to share their experiences on selected topics. (ii) Actual and practical examples in Malaysia should be discussed.
20.	Programming Languages (No. 14)	25 September -5 October 1989 25. 9.89 - 6.10.89	20 programmers/	(i) Detailed course contents and interesting cases and exercises. (ii) Good presentation, (iii) Have more simple exercises.	(i) More data processing related exercises are needed. (ii) Training on algorithm design is necessary.
21.	Structured Programming (No. 13)	23.10.89 - 3.11.89	27 programmers/	(i) Upgraded knowledge in understanding of program specifications and ability to write structured programs using good techniques. (ii) Introduction to PAD facilitated easier coding.	(i) Increase number of practical exercises. (ii) Extend course duration.
22.	Structural Systems Analysis (No. 18A)	13.12.89 - 22.12.89	21 systems analysts/31	(i) Exposure to a disciplined approach for systems development. (ii) Good exercises	(i) Have more case studies and practical examples. (ii) Relate methodology with government examples
23.	Structured System Design (No. 18B)	14. 5.90 - 23. 5.90	13 systems analysts/42	(i) Good case study and exercises	(i) Reduce number of topics and theory. (ii) Have more real-life examples and exercises
24.	Systems Management and Operating Systems (No. 20)	11. 6.90 - 22. 6.90	18 systems analysts and programmers/63	(i) Provided guideline and clear picture regarding computer system usage (ii) Complete notes (iii) Exposure to UNIX Operating System	(i) More time for 'Systems Management' (ii) Divide course into two modules: Systems Management and Operating Systems

READING CIRCLE METHOD FOR TRANSFER OF TECHNOLOGY



GUIDELINE FOR COURSE DEVELOPMENT

1. NCI Project Meeting approves Japanese Experts, (hereinafter JE.) and counterparts (Leader, Sub-leader and members) of NCI project courses.
2. NCI Project meeting approves member of course Technical Committee (TC) for each course. Members of TC shall consist of officers from other departments (clientele of INTAN), counterparts and JEs. Functions of TC are as follows:
  - (a) Discuss requirements from other departments;
  - (b) Discuss course contents;
  - (c) Discuss curriculum of course.
3. JE proposes course outline to discuss in TC.
4. JE assists Counterparts (CP) to prepare curriculum paper and to get approval from Curriculum Development Committee of INTAN.
5. JE proposes draft "course development schedule". Model time line is shown in the next page.
6. JEs and CPs finalise course development schedule. Course leader is responsible for the compliance to the schedule.
7. JE explains course framework and contents to CP.
8. Leader assigns topics to CPs after discussion.
9. JE specifies references for CPs.
10. JE lectures on main and selected topics to CPs.
11. CPs carry out research on assigned topics.
12. CPs present their research.
13. JEs and CPs review and comment on presentation.
14. CPs proceed, if necessary, on further research.
15. JE and CPs prepare case studies, exercises and solutions.



16. CPs write lecturer's text.
17. JEs and CPs review and comment on lecturer's text.
18. CPs amend lecturer's text.
19. JEs and CPs review and comment on rehearsal.
20. CPs make students' text.
21. Leader decides on lecturers and assistants for machine practice, case studies and others.
22. CPs conduct the course and other CPs and JE attend the lecture.
23. CPs. and JEs. evaluate course.
24. CPs and JEs propose course improvements.
25. Improvements for repeat course follow above steps.

GUIDELINE FOR THE IMPLEMENTATION OF  
NCI PROJECT AND NCTC COURSES IN 1989

1. OBJECTIVE

1.1 The objective of this paper is to provide a guideline for the implementation of the NCI Project and NCTC courses for 1989.

2. BACKGROUND

2.1 The first NCI Project course was conducted in April 1987. Since then, eleven (11) such courses have been conducted along with other NCTC courses. During this period, a number of issues has been raised. Among others are as follows:

- (i) The NCI Project course preparation was not done in accordance with the recommended time frame by the Malaysian Counterpart (CP), because they have to conduct NCTC courses and other tasks at the same time. The NCI Project course preparation is usually carried out during the last 2-3 months before the actual course begins;
- (ii) Most of the Japanese Experts (JEs) takes a long time to settle down and to familiarise with the subject matter assigned to them; and
- (iii) JEs claimed that the Malaysian CPs are always busy and do not have time for the NCI Project Course.

3. PROPOSAL

3.1 With regard to the issues raised above, the proposed implementation of the NCI Project course should comply with the following terms:

- (i) During three (3) months before a new NCI course begins:
  - (a) Counterparts assigned to the NCI Project shall dedicate themselves to develop only one course;

- (b) CPs should not:
  - organize any NCTC courses
  - give any lectures
  - do any consultancy tasks
  - do any R & D tasks except for NCI course
  - do any other ad hoc tasks
- (c) However, CPs are allowed to attend relevant meetings when required, such as PPs meetings, meetings with TP(A) and NCTC officers meetings.

(iii) If possible, team members should come from the same Unit;

(iv) CPs should conduct repeat courses;

(v) During the period of a course development, transfer of personnel from NCTC should be avoided as far as possible. In case of transfer of personnel for new course team members, TT should be done by JE and CPs. With respect to repeat course, TT should be done by CPs;

(vi) The course leader should be responsible for the overall course development.

3.2 Part-time CP is also allowed, whereby NCI Project course preparation can be carried out once the team members have been identified (assigned).

#### 4. JAPANESE EXPERTS (JEs)

4.1 JEs should be able to design and develop the course curriculum and transfer technology in accordance with the course schedule agreed upon by both parties. JE should be given sufficient time to settle down and familiarise with Malaysian culture and customs.

#### 5. TIME FRAME FOR COURSE DEVELOPMENT

5.1 Time frames for NCI project course development are as follows:

(i) Counterparts for new courses:

(a) One (1) month part-time for course curriculum design and development should be conducted at least six (6) months before the actual course starts;

- (b) Three (3) months part-time for the following activities to be conducted at least six (6) months before the new course begins:
  - TT from JE
  - R & D for course contents
  - Outlining of course contents including case studies and exercises
- (c) Three (3) months before the new course begins for detailed activities in including the following:
  - Research and Development for course contents
  - Lecturer's Text Writing
  - Rehearsal
  - Modification of Lecturer's Text after rehearsal
  - Writing of Student's Text
  - Preparation of Exercises and Case Studies
- (ii) Two (2) months before a repeat course begins CPs should dedicate themselves to the following activities:
  - Review of the course curriculum
  - Revision on current Lecturer's Text
  - Research & Development on course contents
  - Modification of Lecturer's Text
  - Rehearsal
  - Modification of Lecturer's Text after rehearsal
  - Modification of Student's Text
  - Modification of Exercises and Case Studies
- (iii) Duration and activities of the part-time CP for new and repeat courses will depend on the arrangement made among the team members and JE.

6. GUIDELINES FOR NEW COURSE DEVELOPMENT

- (i) The same guideline which was agreed upon by both parties will be used for course development, as in Annex 11;
- (ii) Part-time duration of activities 2 - 9 is one (1) month;

- (iii) Part-time duration of activities 10 - 11 is at least three (3) months;
- (iv) Duration of activities 12 - 21 is three (3) months before the course begins;
- (v) Part-time CP will depend on the arrangement made among the team members and JE throughout the year;
- (vi) Model 'Time Line' of detailed activities of the three (3) months period before a new course begins.

<u>Week</u>	<u>Main Activities</u>
14	Research and Development for course contents
10	Lecturer's Text Writing
7	Rehearsal
5½	Modification of Lecturer's Text after rehearsal
5	Preparation of Exercises and case studies
4	Writing of Student's Text
0	Course Implementation for two weeks

- (vii) TT from JE should start at least six (6) months before the course.

7. CONCLUSION

It is hoped that the proposal will provide a better guideline for the implementation of NCI Project and NCTC courses in 1989.

MEMBERSHIP OF MEETINGS

I. Joint Committee Meeting

- (1) Chairman: Director of INTAN
- (2) Malaysian side:
  - (a) Head of NCTC
  - (b) Representative from Economic Planning Unit, Prime Minister's Department
  - (c) Counterpart personnel designated by the Director of INTAN
- (3) Japanese side:
  - (a) Chief Advisor
  - (b) Experts designated by Chief Advisor
  - (c) Resident Representative of JICA Office Kuala Lumpur
  - (d) Personnel concerned to be despatched by JICA, if necessary

Note: Officials of the Malaysian Government and the Embassy of Japan may attend the Joint Committee as observers.

The Chairman may accept other persons related to the project to Joint Committee.

II. Management Meeting

- (1) Chairman: Director of INTAN
- (2) Malaysian side:
  - (a) Head of NCTC
  - (b) Representative of Counterpart
- (3) Japanese side:
  - (a) Chief Advisor
  - (b) Coordinator
  - (c) One representative of Japanese Experts, if necessary

III. Project Meeting

- (1) Chairman: Head of NCTC and Chief Advisor, alternately
- (2) Malaysian side:
  - (a) Heads of Units, NCTC
  - (b) Administrative Officer
- (3) Japanese side:
  - (a) All Japanese Experts

SUMMARY OF MAJOR EVENTS

Events	
13.11.85	Signing of Record of Discussion by Director General of Public Services Department, Malaysia and Leader of Japanese Implementation Survey Team.
1. 5.86	Arrival of the first long term experts team.
5.10.86 -	Visit to computer training facilities in Japan by Director of INTAN (Dr. Mazlan).
16.10.86	Arrival of mainframe computers; video data terminals data entry system, and other machinery.
18.12.86	
14. 1.87	Completion of installation of mainframe computers.
19. 3.87	Arrival of personal computers.
3. 4.87 -	Visit by JICA Consultation Team.
10. 4.87	
6. 4.87	Official opening of National Computer Training Center (NCTC) and National Computer Institute Project.
7. 4.87	The first (1st) Joint Committee Meeting
2 - 4. 3.88	The first (1st) technical exchange with JSIST in Singapore
28. 3.88 -	Visit by JICA Technical Advisory Team
5. 4.88	
31. 3.88	Second (2nd) Joint Committee Meeting
10. 1.89 -	Second (2nd) technical exchange with JSIST in Singapore
12. 1.89	
23. 3.89 -	Arrival of JICA Technical Advisory Team
30. 3.89	
28. 3.89	Third (3rd) Joint Committee Meeting
14. 9.89	Attending Top Management Seminar in Singapore
7.12.89 -	Arrival of JICA Consultation Team
14.12.89	
12.12.89	Fourth (4th) Joint Committee Meeting
15. 3.90 -	Third (3rd) technical exchange with JSIST in Singapore
17. 3.90	
1. 8.90 -	Arrival of Evaluation Team
9. 8.90	
6. 8.90	Evaluation Meeting







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