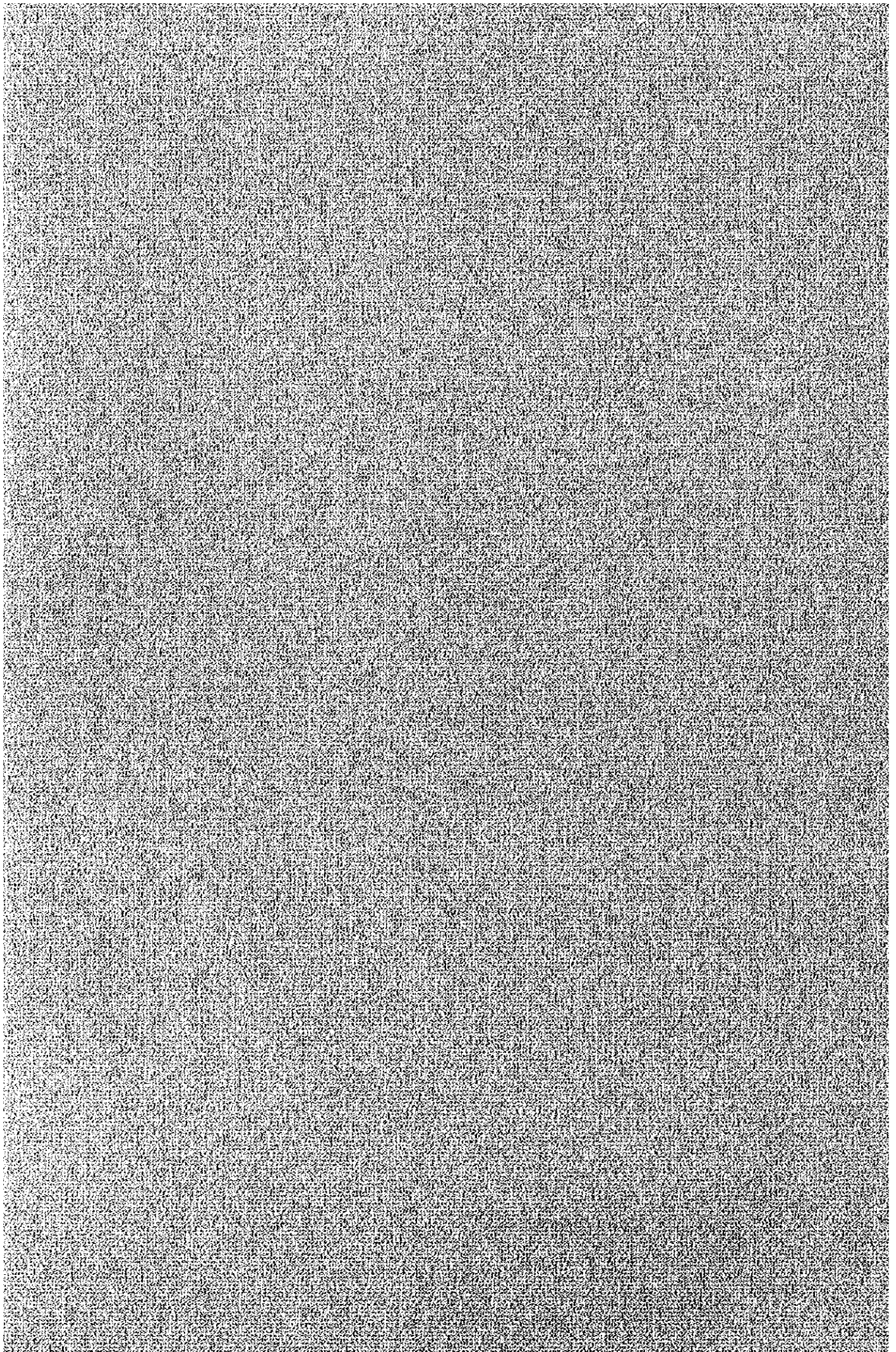


添 付 資 料 Ⅰ

プロジェクトフレームワーク



プロジェクト・フレームワーク

MARAKAアランブール

開発目標	指標	実績	当初設定した重要な前提条件	事業計画時に観察された当初の前提条件の変化
<ul style="list-style-type: none"> ・ 熟練技術者供給による電気、電子工業の成長 ・ マレーシア雇用増大への貢献 	<ul style="list-style-type: none"> ・ 電気、電子工業の成長と熟練技術者需要との相関関係 ・ マレーシア雇用の増大（%成長分野）の推移とMARAKL卒業生との関係 	<ul style="list-style-type: none"> ・ 中級技術者の供給を同じ当該工業専用に算入 ・ 訓練生は全員マレーシア人 	<ul style="list-style-type: none"> ・ 電気、電子工業が成長分野であり、向産業にとって熟練技術者がボトルネックである ・ プリントラ部品が観察される ・ マレーシア雇用増大が重要政策であり、技術者の雇用増大は重要である 	<ul style="list-style-type: none"> ・ 電気、電子工業は依然として成長分野であるが、他分野の重要度が相対的に高まっている（機械、自動車等） ・ プリントラ部品は依然として重要な成長分野であり、供給不足が懸念されている ・ マレーシア雇用増大への期待が大きい
<ul style="list-style-type: none"> ・ プロジェクトの目的（効果） ・ 電気、電子分野の熟練技術者の継続的供給体制の確立と強化 ・ [MARAKLのステータスを高める] 	<ul style="list-style-type: none"> ・ 電気、電子分野の熟練技術者需要に対するMARAKLの貢献度 ・ 卒業生の就職率と定着率 ・ MARAKLの他の機関関係機関の中での地位づけ 	<ul style="list-style-type: none"> ・ 中級技術者として就職率は100%で、電気、電子に限らず広く工業全般に人材供給 ・ 技能レベルの評価高い（NVTC中級） ・ NVTC合格者中、初級50%、中級55%、上級100%を占める ・ MARAKLのステータスは高い 	<ul style="list-style-type: none"> ・ 電気、電子分野の技術者ニーズに資し、最終的に大きな変化がない ・ MARAKLの技能者養成に占める役割が変化しない 	<ul style="list-style-type: none"> ・ 電気、電子分野の技術者を必要とする工業分野が広がった ・ 技術変化によって必要とされる技能レベルが予想をこえて高レベル化 ・ MARAKLの技能者養成に占める役割は依然として大きい ・ 訓練生の高学歴化によって訓練内容も変化
<ul style="list-style-type: none"> ・ プロジェクトの成果 ・ マレーシアによる訓練の実施が可能となる ・ 電気、電子分野訓練のシラバスの確立と教材の開発 ・ 指導員の教育の向上と確保 ・ 教材の質量の改善と維持 ・ [技術変化をキャッチアップするシステムが確立される] ・ [組織の健全な運営がなされる] 	<ul style="list-style-type: none"> ・ コースの推移 ・ コース別訓練生数の推移 ・ 定員充足率 ・ 訓練生の資格取得率 ・ 教材の開発 ・ 訓練生対指導員比率の推移 ・ 指導員の定員充足率、定着率 ・ 施設・教材の利用度 ・ [運営委員会の効果] ・ [予算と支出の推移] 	<ul style="list-style-type: none"> ・ 当初3コースが現在7コースに増加 ・ 当該各訓練生は当初に比べ増加 ・ 応募者が定員を大幅に超過する（MARAKL全体） ・ 初級55%、中級40%、上級20%（NVTC） ・ MARAKL本部に専門セクションあり ・ 14時）で一定 ・ 56名（91）確保に苦心 ・ 教材の利用度高いが旧式が多い ・ 民間人が参加する/R&Dセクションが設立される ・ 開発予算と運営予算も毎年増加し不足せず 	<ul style="list-style-type: none"> ・ 指導員のレベル（人数、質）が維持される ・ 適切な募集、広報を実施 ・ 反応によって応募者が変化しない ・ 教材レベルの確立化はおこなない ・ 訓練生の生活（経済的）条件が改善と変わらない 	<ul style="list-style-type: none"> ・ 募集方法の効率化実施 ・ 募集の要約によって応募者が増加 ・ 民間企業の労働力不足によって訓練の参加がないが全体としてIKMの定員は充足 ・ 入学者の教育レベルが上昇した ・ 教材の老朽化・陳腐化が進む
<ul style="list-style-type: none"> ・ プロジェクトの活動 ・ 教材の供給 ・ 専門家の派遣 ・ 電子系、電気系 2コース ・ 研修の実施 ・ [マレーシアによるMARAKLの運営] 	<ul style="list-style-type: none"> ・ 援助国： ・ 供与教材 2名（49MMM） ・ 専門家 7名（49MMM） ・ 研修員受入 7名（7ブローカー） 	<ul style="list-style-type: none"> ・ 収入 ・ (百万円) ・ 114 ・ 20 	<ul style="list-style-type: none"> ・ 格差の研修は技術的に必要であり、研修後当該訓練に定着する ・ 専門家には適切な技術を提供する ・ 教材の維持管理が適切 ・ 民間、公務員の給与水準に大きな格差なし ・ 訓練生の給与水準に大きな格差がある 	<ul style="list-style-type: none"> ・ 官民の給与格差が縮小を誘発する程大きい
<ul style="list-style-type: none"> ・ 援助国： ・ 土地、建物、設備 ・ カウンタパート 28名 ・ 運営委員 	<ul style="list-style-type: none"> ・ 基本的な前提条件 ・ マレーシア政府はプロジェクトに必要な資金、人員を配置する 	<ul style="list-style-type: none"> ・ MS 2.6 Million (1992年) 	<ul style="list-style-type: none"> ・ 基本的な前提条件 ・ マレーシア政府はプロジェクトに必要な資金、人員を配置する 	<ul style="list-style-type: none"> ・ 官民の給与格差が縮小を誘発する程大きい

[] 内はマンインシアの活動

プロジェクト・フレームワーク

MARAJYOホールハル

開発目標	指標	実績	当初想定した重要な前提条件	事業開始時に観察された当初の前提条件の変化
<ul style="list-style-type: none"> ・ 熟練技能者供給による造船関連工業の復興 ・ マレー人雇用増大への貢献 	<ul style="list-style-type: none"> ・ 造船関連工業の成長と同分野の熟練技能者需要との関係 ・ マレー人雇用増大(当該分野)と MARA JB 常態化との関係 	<ul style="list-style-type: none"> ・ 中級技能者の供給を通じて当該工業振興に貢献 ・ 訓練生は全員マレー人 	<ul style="list-style-type: none"> ・ 造船関連工業が成長産業であり、同工業によって熟練技能者供給がボトムアップ ・ マレー人雇用増大が重要政策であり、中でも技能者雇用増大は重要である 	<ul style="list-style-type: none"> ・ 造船関連工業における技能者需要はあまり大きく伸びず、他分野での需要の伸びが大きい ・ プリミティブな産業は堅持されている
<p>プロジェクトの目的(効果)</p> <ul style="list-style-type: none"> ・ 船舶機械、メッキ、溶接分野の熟練技能者の継続的供給体制の確立と強化 ・ [MARAJYO 職前ステータスを高める] 	<ul style="list-style-type: none"> ・ 同分野の技能者需要に対する MARA JB の貢献度 ・ 卒業生の技能水準と合格率 ・ [MARAJYO の他の技能者養成機関の中で上位を占める] 	<ul style="list-style-type: none"> ・ 中級技能者として就職率は 100% で、造船関連に偏らず広く工業全般に人材供給 ・ 技能レベルの評価高い(NVTC 中級) ・ NVTC 合格者中、初級 30%、中級 35%、上級 100% を占める ・ MARA のステータスは高い 	<ul style="list-style-type: none"> ・ 造船関連産業の技能者ニーズは依然として人による変化はない ・ 他産業への卒業生の取組はある程度存在する ・ MARA の技能者養成に占める役割が変化しない 	<ul style="list-style-type: none"> ・ 造船所の技能者採用数が減少(下請け使用の増加) ・ 技術変化によって必要とされる技能レベルが高層化 ・ 当初、半官半民の造船所としてスタートしたが国営化され、さらに民営化された
<p>プロジェクトの成果</p> <ul style="list-style-type: none"> ・ マレーによる訓練の実施が可能となる ・ 指導員の質の向上と確保 ・ 機材の質の改善と[維持] ・ [技術変化をキャッチアップするための確立] ・ [組織の健全な運営がなされる] 	<ul style="list-style-type: none"> ・ コースの推移 ・ コース別訓練生数の推移 ・ 定員充足率 ・ 訓練生の資格取得率 ・ 教材の開発状況 ・ 訓練生に対する指導員比率の推移 ・ 指導員の定員充足率、定着率 ・ 施設・機材の利用度 ・ [運営委員会の効果] ・ [予算と支出の推移] 	<ul style="list-style-type: none"> ・ 当初のコースが現在 10 コースに増加 ・ 当該学科訓練生は当初に比べ増加(定員が 200 倍を超える) ・ (MARA 全体) ・ 初級 55%、中級 40%、上級 20% (NVTC) ・ MARA 本部に専門セッションあり ・ 14 対 1 で一定 ・ 94 名(91)確保に苦心 ・ 機材の利用度が高いが旧式が多い ・ 民間人が参加する/R&D セッションが設立される ・ 開発予算と運営予算も毎年増加し不足せず 	<ul style="list-style-type: none"> ・ コースの急増が対応に窮する程急速でない ・ 機械が急速に陳腐化することはない ・ 訓練生を取り巻く諸環境が大きく変化しない ・ 資格のステータス、条件は大きく変化しない ・ 必要な教材の開発が困難な条件が生じない ・ 指導員をとりまく諸条件が大きく変化しない ・ 外部の技術変化が対応のレベルをこえる程急速でない ・ MARA への予算配分が大きく変化しない 	<ul style="list-style-type: none"> ・ 他分野の工業の技術者ニーズが急増 ・ コースの改革に機材の見直しが必要となり、又は高度な機材が必要となる ・ 訓練が最近 5 年程で陳腐化した ・ 訓練の需給バランスが変動し、圧倒的に需要過剰 ・ 指導員の引き抜きが顕著する
<p>プロジェクトの活動</p> <ul style="list-style-type: none"> ・ 資機材の供給 ・ 専門家の派遣 ・ 船舶(修理)・電気メッキ・内務機関 3 コース ・ 研修の実施 ・ [マレーによる MARAJYO の運営] 	<p>援助国:</p> <ul style="list-style-type: none"> 機材供与 専門家 9 名 240M\$ 研修生受入 6 名 <p>援助国:</p> <ul style="list-style-type: none"> 運営経費 土地・建物 カウンタパート 9 名 	<p>入</p> <p>(百万円)</p> <p>295</p> <p>MS 1 Million MS 3.5 Million</p>	<ul style="list-style-type: none"> ・ 指導員の研修は技術的に妥当であり、研修後造船初に卒業する ・ 専門家は適切な技術を提供する ・ 機材の維持管理が適切 ・ 民間、公務員の給与水準に大きな格差がない ・ 組織運営が適切になされ、柔軟性がある <p>基本的な前提条件</p> <p>マレーシア政府はプロジェクトに必要な資金、人員を配属する</p>	<ul style="list-style-type: none"> ・ 官民の給与格差が縮小を誘発する程大きい

[] 内はマレーシア側の活動

プロジェクト・フレームワーク

CIAST

開発目標	指標	実績	当初想定した重要な前提条件	事後評価時に観察された当初の前提条件の変化
<ul style="list-style-type: none"> ・ 職員の指導員養成体制を作り、技能者養成の体系を確立する ・ CIAST訓練受業者の供給を通じて、企業に人材供給がする ・ アセアン人並りプロフェッショナルを創出し、国内競争力に貢献する 	<ul style="list-style-type: none"> ・ CIAST訓練受業者指導員の職制活動への貢献度 (技能内容・定着率) ・ CIAST訓練受業者の所属企業への貢献度 (技能内容・定着率) ・ アセアン参加者の帰国後における波及効果 	<ul style="list-style-type: none"> ・ CIAST卒業の指導員は年間300人に達し派遣先の評価も高い ・ 卒業生の技能向上は評価されている ・ CIASTレベルが大幅に向上 ・ CIASTフォローアップ強化で確認し、人並り可能 	<ul style="list-style-type: none"> ・ 職制による技能者養成体制が実現できず、理工系の技術変化が激しい ・ 工業化の進展に伴う監督者・上級技能者需要が高くなり、また技術内容も変化 ・ アセアンプロフェッショナルへの協力体制が弱い 	<ul style="list-style-type: none"> ・ 職制による技能者養成体制が対応できない ・ 工業化の進展に伴う監督者・上級技能者需要が高くなり、また技術内容も変化 ・ アセアンプロフェッショナルへの協力体制が弱い
<ul style="list-style-type: none"> ・ 職制指導員の職制体制の確立と強化を図る ・ 監督者・上級技能者の訓練体制の確立と強化を図る ・ アセアンから積極的に研修生を受け入れる ・ CIASTを職制制度の頂点の機関として確立する 	<ul style="list-style-type: none"> ・ 公共職制指導員全体に対するCIAST卒業生のシニア ・ 指導員の技術的レベル ・ 上級技能者の全体に対するCIAST卒業生のシニア ・ アセアンからの受講者実績 ・ CIASTの職制体制の中での位置づけ 	<ul style="list-style-type: none"> ・ CIASTの対する指導員訓練はニーズをカバーしていない ・ 訓練成果に一定の差 (MARA) ・ 民間ニーズのごく一部しか満たしていない ・ 根本的なコースは好評 ・ 7年間で157名のみ、91年にはゼロ ・ CIASTでは変化している技術に対応できず、GMIやATC等が確立される 	<ul style="list-style-type: none"> ・ 公共職制指導員の訓練ニーズがCIASTの能力を超える程高い ・ 企業内監督者・上級技能者のニーズが予想以上に高い ・ 職制全体が工業の近代化への対応を遅れている 	<ul style="list-style-type: none"> ・ 公共職制指導員の訓練ニーズがCIASTの能力を超える程高い ・ 企業内監督者・上級技能者のニーズが予想以上に高い ・ 職制全体が工業の近代化への対応を遅れている ・ アセアン各企業が研修生を送らない ・ CIAST以外に上級技能者育成機関が確立される (GMIやATC)が、需要に比べて能力に小さい ・ 職制の近代化が計画される
<ul style="list-style-type: none"> ・ プロジェクトの成果 ・ マメによる監督者・上級技能者訓練 ・ 指導員訓練の実施が可能となる ・ マメによるモジュール開発が可能となる ・ 技術変化をキャッチアップするシステムが確立される 	<ul style="list-style-type: none"> ・ コースの推移 ・ コース別受講者数 ・ 定員充て足率 (定員超過) ・ 指導員人数/定員 ・ モジュール開発の進捗 ・ モジュールの汎用性 ・ (ジョイント委員会の効果) 	<ul style="list-style-type: none"> ・ 毎年増加 81 (86) → 168 (91) ・ 毎年増加 (7年で倍) 定員 6,538名 ・ 指導員・監督者コースは100%以上、上級者は定員超過 ・ 61名 (90) 定員率はよいが常に不足 ・ 7年間で147モジュール ・ 技術変化に対応した改訂ができていない ・ 過去1回のみの開催、普及ではない 	<ul style="list-style-type: none"> ・ 適切な広範な募集活動が実現される ・ 技術ニーズ変化に対応してコースの新設が必要となる (コースの拡張) ・ 技術のニーズ変化に対応してモジュールが作られる ・ 技術のニーズ変化に対して施設・機材の更新が必要 	<ul style="list-style-type: none"> ・ 募集活動が強く企業への知名度が高い ・ 技術のニーズの変化が激しく機材の更新が必要
<ul style="list-style-type: none"> ・ プロジェクトの活動 ・ 施設建設 ・ 機材の供給 ・ 専門家派遣による訓練 ・ 指導員訓練 ・ 監督者訓練 ・ 上級技能者訓練 ・ カリキュラムソフト開発 ・ カウンタパート研修の実施 ・ [マメによるCIASTの運営] 	<ul style="list-style-type: none"> ・ 機材の供給 ・ 施設 (建物・機材) ・ 技術協力機材 ・ 機材供与 (運送分) ・ 専門家 長期延べ92人、短期延べ36人 ・ 研修生受入 延べ66人 	<ul style="list-style-type: none"> ・ 機材 (百万円) ・ 3,800 ・ 122 ・ 194 	<ul style="list-style-type: none"> ・ 施設・機材の維持管理が適切に行われる ・ 専門家の研修技術が適当 ・ 研修生が定着する ・ 公務員・民間企業の給与水準に大きな格差がない ・ 期成運営が適切になされ、柔軟性がある 	<ul style="list-style-type: none"> ・ 施設の給与水準が低く職を誘発する程大きい
<ul style="list-style-type: none"> ・ 表本的な前提条件 ・ マネージン政府はプロジェクトに必要資金、人員を確保する 	<ul style="list-style-type: none"> ・ 表本的な前提条件 ・ マネージン政府はプロジェクトに必要資金、人員を確保する 	<ul style="list-style-type: none"> ・ MS 9.8 Million ・ MS 11.8 Million 	<ul style="list-style-type: none"> ・ 表本的な前提条件 ・ マネージン政府はプロジェクトに必要資金、人員を確保する 	<ul style="list-style-type: none"> ・ 表本的な前提条件 ・ マネージン政府はプロジェクトに必要資金、人員を確保する

[] 内はマインシアの活動

1. 開発計画における職業訓練の位置付け

マレーシアにおいては技能労働者の養成が工業化のために必要であることはかなり早い時期から認識されてきており、さらに近年の工業化の急速な進展に伴って政府の重要政策のひとつと位置付けられている。特に第4次マレーシア計画及び第5次マレーシア計画の中において、政府が職業教育や職業訓練を一層強化する施策を取ってきた。

1990年から始まる第2次長期総合計画OPP2では、サービス業において新規の雇用に創設でき、高質の人材投入が必要であることと並び、専門・技術職の需要が増加し（エンジニア、アシスタントエンジニア：2000年までに15万3,000人が必要）、土木、機械、電気、電子の分野で特に人的供給が必要となり、研究開発に従事する科学者や工学専門家への需要の高まりが予測されている。

従ってこうした「需要増に対応すべく、教育・訓練機関や施設の拡充・強化が重点施策となる。なかでも科学技術に関連する教育・訓練を最重要施策として取り組む」ことが示唆されている。

さらに、1991～95年を期間とする第6次マレーシア計画では、引き続き職業訓練の重要性が強調され、

- 1) 新たに5校のポリテクニク（工業専門学校）が設立され、既存校が拡張される。ポリテクニクでは diploma 課程の増設と並んで電気通信、コンピュータ技術、テキスタイル工学等の工学分野が一層履修されるようになる。
- 2) MARA技術大学（MIT）はケダ、クランタン、マラッカ、ヌグリスンピラン、ペラク、ペナンの各州に分校を増設する等が示されている。

2. 公共職業訓練の現状と課題

マレーシアにおける公共の職業訓練の実施は文部省、人材省、マレー殖産公社、青年スポーツ省の4機関が分担して行っている。文部省は職業高校・技術高校・ポリテクニクを通して職業教育や技術教育を、労働省は職業訓練所（ITI）と職業訓練指導員上級訓練センターを、マレー殖産公社はMARA職業訓練所を、青年スポーツ省は青年訓練所を各々管轄して労働者への技能訓練を行っている。

また、政策立案、計画調整を担当する機関としては、経済計画庁（EPU）及び全国職業訓練評議会

(NVTC)がある。EPUには人的資源局があり、職業訓練に関する政策立案を担当している。またNVTCは、1989年にNITTCB (National Industrial Training Trade Certification Board) から改組され、議長を人材省大臣として設立された。NVTCは、これまでに53の職種について技能標準、カリキュラム、教材の統一及び資格試験の実施等を行っている。

各実施機関別の職業訓練の概況は次の通りである。

1) 文部省の職業教育・技術教育

マレイシアにおいては中学3年の終了時に、L.C.E. (Lower Certificate of Education) と呼ばれる資格を得るための中学終了試験が行われ、その成績により普通高校・技術高校・職業高校への進路選択が行われる。また、高校修了時にはテストにより職業高校については、M.C.V.E. (Malaysia Certificate of Vocational Education)、技術高校についてはM.C.E. (Malaysia Certificate of Education) という資格が与えられる。職業高校では機械・電気・建築・商業など十数種のコースがあり、実技が授業時間の7割であり修了者はそのまま就職する者が多い。技術高校は普通高校の一般教科の他、建築・工・商・農の技術教科があり、修了者はポリテクニクなどの上級学校への進学者が多い。ポリテクニクでは更に高度の技能教育が与えられ、卒業すると修了証(サーティフィケート)を買うことができる。なお、テクニシャンとしての最も高い資格であるディプロマは、ポリテクニクの特別コースを修了しても得られるが、主として大学に併設されているディプロマ課程修了者に授与されている。

2) 労働省の職業訓練

労働省の管轄する職業訓練施設としては、職業訓練所 (Industrial Training Institute: ITI) と職業訓練指導員上級訓練センター (Center for Instructor and Advanced Skill Training: CIASF) がある。職業訓練所 (ITI) は全国に5ヶ所あり、徒弟訓練 (National Apprenticeship Scheme: NAS) と就職前訓練 (Preparatory Trade Course: PTC) という主として2方式により技能訓練が行われている。NASは、雇い主から派遣された若年労働者に3年間の体系的訓練コースを通して各職種の技能を身につけさせるもので、費用は雇い主が負担する。訓練への参加は本人・雇い主・政府機関の三者の合意による。

訓練はITIと工場の間を3~6ヶ月単位で往來する方式で行われ、訓練終了後試験に合格すればNVTC (National Vocational Training Council) の中級技能者に認定される。一方、PTCコースは、学校からの新規卒業生又は失業者を対象に行われ、ここで技能を身につけ職を得ることができるようにす

ることを目指している。職業訓練所で6～12ヶ月、協力工場で6ヶ月の実習訓練を受け、費用は政府が負担する。この他技能向上訓練コース（SUC）やインストラクター・トレーニング・コース（TITC）もある。

職業訓練指導員・上級技能者訓練センター（CIAS）は日本の援助によって設立された労働省傘下の最もレベルの高い職業訓練機関であり、その役割は公共職業訓練施設の指導員の養成と民間企業の現場監督者や上級技能者の技術能力の向上を図ることにある。

3) マレイ殖産公社の職業訓練

マレイ殖産公社は農村のプミブトラの人達に技能訓練を施し近代産業の労働者として力をつけさせるためにMARA職業訓練所（MARA Vocational Institute：IKM）を1986年までに9校開校している。これはプミブトラの人達の地位向上を目的としたもので、小学校卒業以上の学歴を持つ者を対象とし、IKM内で2年、協力工場で6ヶ月の訓練を受ける。職種はITIの対象範囲より広く、土木、美、理容、縫製加工なども含まれている。

4) 青年スポーツ省の職業訓練

青年スポーツ省の管轄する職業訓練機関である青年訓練所（Youth Training Center）は1986年までに3校できており、学校中退の青年に3～6ヶ月の職業訓練を施すものである。ここでも電気・機械・金属加工から商業・調理まで幅広い職種での訓練が行われているが、ここでは技能の訓練だけでなく軍隊への体験入学など精神・肉体面での鍛練も重視されている。

上記の政府各機関の行っている職業訓練は目的や内容が各々異なり、特に文部省管轄の職業高校や技術高校では職業教育や技術教育が中心で、他の政府機関の行っている職業訓練とは内容が異なる。

政府機関の実施する職業訓練は量的にみると、職業高校が最も多数のテクニシャンを養成しており、ついでITI・MARA職業訓練所・ポリテクニクという順序となっている。マレイシア政府は今後ともこれ等の機関を技能職につく人材の重要な育成機関として位置付けていく方針である。

一方マレイシア政府は、職業訓練の内容について、国家開発計画、中でも工業開発計画の要請に応える必要があるという基本的な考え方をもち、工業振興のため技術の吸収や同化能力を強化する職業教育や技術教育を実施していこうとしている。具体的には、特に文部省傘下の職業高校・技術高校・ポリテクニクにおいて、技術の基礎となっている考え方を生徒に理解させ、変化し進歩していく技術に対応できるようにするという方針をとり、より高度な教育や訓練を与える方向が志向されてい

る。特に電気・電子・機械・コンピュータなどの分野を重視するという考えが職業教育・技術教育の実施プログラムの中に反映されておりさらに、産業化社会の中での“技術”の重要性についての行政レベルでの認識が高まる中で、職業教育や技術教育に対するマレーシア社会の通念を要革させ、より積極的に対応していこうとする改革も行われてきている。技能訓練の場においても、高度化してゆく産業社会が求める人材を供給していくことが最も重要な課題であると考えられており、産業第一線で必要とされる技能を身につけさせること、生産性の高い有能な労働者としての力を発揮できる態度や働く習慣を身につけさせることなどが目標とされている。

3. 職業訓練部門の将来の方向

1980年代前半に、従来のマレーシア経済が伝統的に依存してきたゴム・スズなどの一次産品価格の大幅な下落と、不況にともなう電子・電気産業の部品輸出の過度の米回市場依存が問題になり、工業化戦略自体も資源加工・農産品加工等、より着実な方向へ目が向けられるようになった。また、従来の公営企業中心の考え方にも変化が見られるようになり、民営化の方向が模索され始めた。このような変化に対応して、公的セクター向きであった人材育成にも変化が現われつつある。かつて政府・公的セクターへの人材供給を目的とした高等教育レベルの人材養成は、過剰投資気味で大学卒の失業者が生じている。しかしその一方で、熟練・半熟練の技術者・補助技術者等は民間市場において不足しており、この分野への積極的な投資が行われねばならないという認識が高まっている。

しかし、このような対応を行うに際して、人材供給体制にも問題がある。すなわち、従来の人材育成計画づくりの体制が上述のように公的セクター向きになっていたため、民間のニーズを政策に反映する仕組みになっていない事である。これまで民間セクターの人材養成は公的には副次的に扱われて来ており、従って主に民間の自助努力により行われて来たため、人材養成の内容は民間の組織の資本力の差・緊急度等により格差が生じている。

これに対して、マレーシア政府は、1991年5月にCabinet Committee on Training による工業開発の為の人材育成について報告書を発表し、その中で 1) 公共訓練の民間部門の訓練ニーズへの適応性を改善すること、2) 訓練における民間部門の役割の増大、3) 技術変化と訓練との関連性強化を提言している。この報告書はマレーシア政府の将来の職業訓練分野における長期的な政策を示しており、既にITIの民営化を含む措置が実施に移されつつある。また、MARAはすでに民間活力を生かして上級技能訓練を行うため、ドイツ政府の協力により、非政府職業訓練機関としてGMI (German Malaysia Institute) の開設の準備を進めている。GMIは上級技能者訓練を行う他、コマーシャルベースによる民間企業内

のトレーニングを実施する。また、優秀な指導員を確保する為に民間ベースの給与を支給する計画である。

GMIは、Board of Directorsのメンバーに産業界の代表を加えて民間ニーズの吸収に努めるほか、さらに企業法人としての形態をとって、財政的組織的な柔軟性を確保している。MARAは今後GMIに続き、FMI (French Malaysia Institute) の設立も計画している。

一方、産業界ではこれまで主として自力で人材の養成を図ってきており、その方法も社内のトレーニング計画に基づくものが多かったが、個々の企業を越えた業界および国や地域による特定分野の人材養成のニーズが高まってきている。例えば、ITIにおける電子産業コースの開講、マレーシア電子システム学院 (Malaysian Institute of Micro Electronics System : MIMES) の設置などが既に開始されている。

さらに、ペナンでは、深刻化する人材不足に対応するための日系企業も含んだ30社が設立メンバーとなり、ペナン技能開発センター (Penang Skills Development Center : PSDC) が組織され、技能及び経営教育を行っている。メンバー企業だけでなく、広く、教育機会の門戸を広げている。GMIとPSDCの概要は以下の通りである。

GMI (German Malaysia Institute) 概要

- 開校予定 : 1992年7月
- 場 所 : Cheras in KL
- 面 積 : TFA (総床面積) = 10,000m²
- 訓練分野 : (1) PRODUCTION TECHNOLOGY
(2) INDUSTRIAL ELECTRONICS
(3) 特別コース : 1週間 - 6ヶ月の向上訓練
- 訓練期間 : 3年間
- 入学資格 : LOWER SECONDARY (中学校卒) LCE取得者 15~16才
- 卒業資格 : DIPLOMA
- 養成目標 : NEW TECHNOLOGYに対応できるテクニシャン養成
90% PRACTICAL : 10% THEORY
- 学生数 : 150名/学年 3学年計450名
- 指導員数 : 初年度20名
- 指導員対学生比率 : 1 : 7.5を目標
- 民間企業との関わり : (1) 3年目の学生は民間企業からGMIに委託されたPROJECTに従事する。
GMIはFEEを受取る。
(2) 民間企業内のトレーニングを行なう。GMIはコマーシャルベースのFEEを受取る。
- 組 織 : A. FOUNDING MEMBERS : MARA (Majlis Amanah Rakyat)
MGCC (Malaysian-German Chamber of Commerce)
- B. BOARD of DIRECTORS のメンバー :
- (1) 産業界 : MICCI (Malaysian International Chamber of Commerce and Industry)
FMM (Federation of Malaysian Manufacturers)
HICOM (Heavy Industry Company of Malaysia)
MGCC (Malaysian-German Chamber of Commerce)
- (2) 職訓機関 : MARA (Majlis Amanah Rakyat)
NVTC (National Vocational Training Council)
GTZ (German Agency for Technical Cooperation)

(3) 政 府 : EPU (Economic Planning Unit)

EFRGL (Embassy of the Federal Republic of Germany)

—GMIは非政府機関であることが強調されている。

法人形態 : Company Limited by Guarantee

ドイツによる協力: 協力期間 : 10年 (1991年1月開始)

費用分担 : マ政府 : 土地・建物提供および学校の運営費負担

ドイツ政府 : 専門家派遣

マレーシア人指導員研修

機器類の設備費 (約35百万マレーシアドル=約17億円) は両政府で折半負担。

その他 : (1) 指導員の給与は民間ベースを基準とする。

PSDC (Penan Skills Development Center) 概要

設立 : 1989年7月
開校 : 1990年7月28日
場所 : ペナン州 Bayan Lepas FTZ (敷地 5,000平方フィート)
組織 : Founder Members : 30社 (入会金 M\$ 15,000)
Full Members : 1社 (入会金 M\$ 10,000)

(いずれも外資系企業が中心)

- 特徴 :
- (1) 民間企業のニーズに素早く対応すること
 - (2) 最新技術に対応したコースを用意すること
 - (3) competitive price で高品質のコースを提供すること
 - (4) メンバー企業と州政府のfull support をとりつけること
 - (5) High profit を実現すること
 - (6) 公共訓練部門と民間とのリンク機関となること

意志決定機関 : Management Council

構成員 : 7 Founder Members

PDC (Penang Development Corporation)

State Secretariat

USM (Universiti Sains Malaysia)

SIRIM (Standards and Industrial Research Institute of Malaysia)

- 設立目的 :
- (1) メンバー企業の緊急な訓練ニーズを充たすこと (Generic Courses)
 - (2) 向こう3年間の中に、ペナン州最大の訓練セミナーとすること
 - (3) 1991年迄に財政的に自立できるセンターとすること
 - (4) 民間企業と諸機関の利用可能な資源を協働できるメカニズムを創ること

訓練分野 :

- ・ Electronics
- ・ Mechanical Engineering
- ・ Computer
- ・ CAD/CAM 他

訓練対象 : メンバー (及びメンバー外) 企業の従業員

No.	訪 問 日	訪 問 先
1.	2月18日	NVTC
2.	2月18日	労働省
3.	2月19日	CIAST
4.	2月20日	MARA本部
5.	2月20日	EPU人的資源局
6.	2月21日	MARAクアラルンプール職業訓練校
7.	2月24日	MARAジョホールバル職業訓練校
8.	2月24日	CIAST
9.	2月24日	Kurasni Engineering
10.	2月24日	MARAジョホールバル職業訓練校
11.	2月24日	NVTC
12.	2月24日	MSE
13.	2月25日	MARAジョホールバル職業訓練校
14.	2月25日	MARAクアラルンプール職業訓練校
15.	2月25日	GMI
16.	2月25日	ITI
17.	2月25日	MARA本部

2-2 教訓と課題

テーマ	問題点と教訓	短期的な課題 (1年以内)	中期的な課題 (1-3年)	長期的な課題 (5-5年)
開発目標	<ul style="list-style-type: none"> ・ 職訓をとりまくマレーシア側の政策的枠組みが近年の工業化の加速・技能者需要の逼迫という状況の中で技能者の急速な劣化を招くものになって大きく変化している中で、単体施設に対する協力に力を入れる ・ 職訓による技能者供給体制を構築する必要があり、公的セクターの人材供給への対応能力は必ずしも質的にも必要となっており、民間セクターの関与が必要となっており、民間セクターが人材供給を企業内で行うことをさらに奨励する方向に進む必要がある (政府のDDI(短期訓練)政策等の民間の職業訓練に対するインセンティブは手続きが煩雑であり、あまり利用されていない) 	<ul style="list-style-type: none"> ・ EPUに専門家を入れ、人的資源開発の進展づくりから関与できるようにする ・ 民間活力を生かした人材養成の様々な試みをローカルコンサルを使って調査しこれに基づいて今後の協力の方向を見いだす ・ マレーシアに輸出している民間企業の香加を得て、分野別に人材養成にどのような貢献できるかの研究会を開き、1年後に報告を出して、これに沿って協力を進める 	<ul style="list-style-type: none"> ・ 民間の企業内教育を推進するインセンティブを与える必要あり。 ・ PSDCのような民間の共同訓練機関に対する財政的支援・発助上の特別措置なども望ましい。 ・ 教育分野全体において職訓分野以外の教員の確保・教材開発・教育方法の開発などを検討する必要が有る。 	<ul style="list-style-type: none"> ・ 人材政策も含めたが部局域変化の状況を常時把握するための、政策中核への人材派遣モニタリング・システムの充実に努める ・ 民間企業 (特に日系企業が中心として) が、職業訓練に際して行う貢献に対して制度的な奨励を行う
アローポットの目的	<ul style="list-style-type: none"> ① 職訓システムのみにではなく、教育システムに関連しても職業界の必要とする人材供給が行えるよう、公的・民間セクターが協力して努力する必要がある ② 職訓の案件目標は(1)所定員訓練、(2)高級技能者訓練と二つ設定されているがその組織体制は上記のいづれにも特化したものとなっていないため、効果の発現と組織の活動との間に直接的な連携が得られない状況にあり、これが改善を下げている。 ・ 各職訓機関における外部条件の変化に対応するためのR&D機能が整備されていない。 	<ul style="list-style-type: none"> ・ 今後CIASTと同様の条件をASEAN等域外の速い速で実施するについては、プロジェクトの活動の一つとして、プロジェクトの外部条件の変化をモニタリングし、プロジェクトの方向を再調整するユニークな手段 (リサーチ&モニタリングユニット) を盛り込んでおく ・ 第3国研修者を利用してアローポット研修の継続的研修を促進させる。 	<ul style="list-style-type: none"> ・ 今後CIAST同様のプロジェクトを計画するに当たっては、案件目的を単一のものとし、それに見合った組織体制を整備する ・ 公共は指導員訓練のみに限定し、向上訓練は外部に委ねることとしてCIASTでは行わない等の整理が必要 ・ 職訓におけるR&D機能は重要でありこの部分に関する協力が必須 	<ul style="list-style-type: none"> ・ 職訓の協力をすすめるに当り、公共部門の行なう協力の範囲をより検討する必要がある。その上で公共部門のニーズに対して協力を進めようべきである

2-2 教訓と課題 (つづき)

フレームワークの成果	問題点と教訓	短期的な課題 (1年以内)	中期的な課題 (1-3年)	長期的な課題 (3-5年)
<ul style="list-style-type: none"> ・技術変化に対応した訓練を実施する組織的・制度的柔軟性が欠けている (CIAST) ・指導員の引き置き等により質の良い指導員の定着に一部困難がみられる (CIAST) ・MARA指導員の給付は指導員の質・量の確保のために大幅に改善される必要がある ・EPUによりCIASTの民間化が欲望される 	<ul style="list-style-type: none"> ・CIAST第1回研修を5年間実施、毎年定期的に新技術関連のコースをオプアーしCIAST指導員の技術レベルの向上を促す (ソフトウェアでのup-date) ・優秀の更新、ACC需要の確認を行なう ・CIASTのマネジメント、特に広域等民間企業への対応が課題している面があり、組織的な改善を必要とする ・向上訓練について費用回収が可能となるように私企業からチャージをとる、指導員の給与水準を民間並に上げる 	<ul style="list-style-type: none"> ・GMI指導員の給与が民間並に決められることがひとつの前提となり大きなインパクトとなる ・CIAST民間化の可否及び代替案について1年かけて検討する調査を実施する 	<ul style="list-style-type: none"> ・MARA, CIAST等で旧式になっている教材の更新を速行行なう ・MARAジョブマニュアルの給与教材はほぼ全て使いつくされている。使用能力については不安があるので、時代の要請に見合った教材を再提供とする ・当面必要な教材の需要を確認し、ACCとして供与する 	<ul style="list-style-type: none"> ・協力相手側を第3セクターとし、職員給与の改善、新技術対応コース開設へのインセンティブ付与等を容易にする ・変化するニーズに対応するためには、ソフトウェアを10年毎ではなくもつと頻りにするべきだ ・プロジェクト・ライブを周年にするが計画段階で決めるべきである ・(本格的な協力は不可能であるので当初計画の段階でこれを設定する)
<ul style="list-style-type: none"> ・研修生への受け入れが計画的に行なわれていない (日本の受入システムとMARAのトレーニング計画がかみあわない) ・スベアパーツが不足して稼働していない ・教材があった 	<ul style="list-style-type: none"> ・CIASTのマネジメントに民間の経営コンサルタントを入れ、CIASTの運営の活性化を図る ・Board of Directors を設立して民間人を含む民間企業を参加させる 	<ul style="list-style-type: none"> ・マレーシアでCIAST3プロジェクトについて5年毎に機材更新のためのACCを行なう ・日本への研修生の受け入れは、相手側の研修計画・人事発動をよく把握して人数等は中長期的に計画すること ・機材は現地に調達品調達しやすいものを供与することにも、マレーシアスベアパーツ供給システムを確立するようにさせる 	<ul style="list-style-type: none"> ・MARA, CIAST等で旧式になっている教材の更新を速行行なう ・MARAジョブマニュアルの給与教材はほぼ全て使いつくされている。使用能力については不安があるので、時代の要請に見合った教材を再提供とする ・当面必要な教材の需要を確認し、ACCとして供与する 	<ul style="list-style-type: none"> ・MARA, CIAST等で旧式になっている教材の更新を速行行なう ・MARAジョブマニュアルの給与教材はほぼ全て使いつくされている。使用能力については不安があるので、時代の要請に見合った教材を再提供とする ・当面必要な教材の需要を確認し、ACCとして供与する

MEETING BETWEEN JICA EVALUATION MISSION TEAM AND NVTC

Date: February 18, 1992
Time: 2.30pm
Venue: National Vocational Training Centre (NVTC)

- Attendance:
1. En. Rozikin Hamzah, Deputy Director General, NVTC
 2. En. Abdul Nasir
 3. Mr. Shohei Kasahara, Advisor NVTC
 4. Mr. Yoshio Koyama, JICA
 5. Mr. Takayuki Sahara, JICA
 6. Mr. Kimihiko Yanagisawa, JICA
 7. Mr. Hiroshi Shirato, JICA
 8. Mr. Ooi Peng Hong, Perunding Atur Sdn. Bhd.

Matters Discussed:

1. Mr. Koyama briefed the meeting on the purpose of the JICA Evaluation Mission, i.e. to conduct a post-evaluation study on three JICA assisted projects in Malaysia, i.e.
 - i. Centre for Instructor and Advanced Skill Training (CIAST)
 - ii. MARA Vocational Institute, Kuala Lumpur
 - iii. MARA Vocational Institute, Johor Bharu

The main purpose of this post-evaluation study is to:

- i. evaluate whether the objectives of the project are fulfilled during as well as after the project.
- ii. evaluate the contribution of the project objectives to the higher policy level and the changes made in the projects in response to the changes in objectives, if any.

There are four areas to be examined in this study:

- i. attainment of project purpose
- ii. impact of project
- iii. efficiency of implementation
- iv. sustainability of the project
- v. relevance of the project planning

2. Mr. Rozikin mentioned that the purpose of NVTC is to plan, promote and coordinate vocational training strategy and programme corresponding to the national economy and technology development needs.
3. En. Rozikin mentioned that NVTC could furnish the number of people who sat and passed the NVTC certificates programme in 1973. However, the NVTC is only computerised 5 years ago and it might be difficult to obtain those data in the early years.
4. En. Rozikin mentioned that there are 2 types of training programme in Malaysia:
 - i. Basic and intermediate skill training implemented by IKM and other agencies
 - ii. skill upgrading training implemented by CIAST
5. The NVTC coordinate 2 aspects of training:
 - i. provide opportunity for instructor to continuously upgrade their skill
 - ii. assist certain agencies who are lagging behind to equip or improve their facilities.
6. As far as vocational training in Malaysia, NVTC has a major role in determining the curriculum development on these training. Other aspects of curriculum like leadership and religion are left to the individual agencies.
7. The second meeting is tentatively arranged at 10.00 a.m. on Monday, February 24, 1992 in NVTC.

MEETING BETWEEN JICA EVALUATION MISSION TEAM
AND MANPOWER DEPARTMENT

Date: February 18, 1992
Time: 3.30pm
Venue: Manpower Department

- Attendance:
1. Tuan Haji Asnan Pii
 2. Mr. Shohei Kasahara, Advisor NVTS
 3. Mr. Yoshio Koyama, JICA
 4. Mr. Takayuki Sahara, JICA
 5. Mr. Kimihiko Yanagisawa, JICA
 6. Mr. Hiroshi Shirato, JICA
 7. Mr. Ooi Peng Hong, Perunding Atur Sdn. Bhd.

Matters Discussed:

1. Mr. Koyama briefed the meeting on the purpose of the JICA Evaluation Mission, i.e. to conduct a post-evaluation study on three JICA assisted projects in Malaysia, i.e.
 - i. Centre for Instructor and Advanced Skill Training (CIAST)
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There are four areas to be examined in this study:

- i. attainment of project purpose
- ii. impact of project
- iii. efficiency of implementation
- iv. sustainability of the project
- v. relevance of the project planning

2. Tuan Haji mentioned that Ministry of Human Resources, Ministry of Youth and Sports, Ministry of Education and MARA are involved in the national vocational training.
3. Tuan Haji briefed the meeting on the budgetary control in Malaysia. The operating budget of vocational training is under the auspices of the Economic Planning Unit (EPU). Further he mentioned the double tax relief. Industry might request for double tax relief for training of new skill in increasing the productivity if the training institute approved by the government. This relief is administered by MIDA. Besides, construction sector is allowed for double tax relief if the construction cost exceeds 1 million ringgit and the training is provided at site. Manpower Department administered this relief. A Human Resource Fund is proposed to be set up whereby manufacturing companies contribute 1% of their total payroll for industrial training. It would be administered by the Ministry of Human Resources.
4. Besides the existing instructor/supervisory training and advance skill training provided by CIIAST, Tuan Haji mentioned that two new programmes are being introduced:
 - i. establishment of a vocational training research unit, and
 - ii. regular instructor training to cater for Manpower Department and other agencies.

Touching on the privatisation of CIIAST, Tuan Haji commented that CIIAST should not be privatised for the following reasons:

- i. being the only national body for vocational training
- ii. being a contribution from Japanese Government
- iii. enough mechanism available for close inter-relationship between public and private sector

CIIAST has greater future potential than what is being conducted now. The existing limitation of CIIAST are:

- i. like other government agencies, staff recruitment is limited by Treasury budgetary control
- ii. no provision of research fund. However, it was given \$2 million to recruit special local or foreign instructor in 1990. At the moment, there are four contract instructors:
 - a. 1 US instructor in computer
 - b. 1 Canadian instructor in plastic and mould making

- c. 1 Malaysian instructor in foundry/metal
- d. 1 Malaysian instructor in supervisory training

The future requirement of instructors are in the instrumentation and supervisory training sector.

With regard to the ASEAN cooperation programme, it is not so successful unless the other ASEAN countries make a concerted commitment and effort in sponsoring the programme.

Tuan Haji suggested that CIIAST should be given special fund/grant or able to receive donation from private sector as well as given flexibility (within bounds) in tendering, staff recruitment, etc.

- 5. Tuan Haji suggested that basic skill training required by small and medium industry should be provided by government while advance skill training should be conducted and sponsored by the private sector. Primarily, it is because the small and medium industry could not afford to sponsor the training at the moment.
- 6. According to Tuan Haji the government has done two things on the issue of foreign workers:
 - i. register illegal foreign workers by June 1992 at the Immigration Department
 - ii. the Ministry of Human Resources is to determine the number and type of foreign workers to be legalised in the construction, plantation, manufacturing and may be in the service sector as well
- 7. The Manpower Department is currently conducting a national survey to determine the labour shortage in the manufacturing and service (hotel/restaurant) sector.

MEETING BETWEEN JICA EVALUATION MISSION TEAM AND MARA HQ

Date: February 20, 1992
Time: 8.30am
Venue: MARA HQ, Vocational Training Division

- Attendance:
1. Cik Meriyam Abd. Majid, Personnel Officer
 2. En. Lutfi Yusof, R & D Officer
 3. Mr. Zainul Ariff, Assistant Development Officer, MARA
 4. Mr. Yoshio Koyama, JICA
 5. Mr. Takayuki Sahara, JICA
 6. Mr. Kimihiko Yanagisawa, JICA
 7. Mr. Hiroshi Shirato, JICA
 8. Mr. Ooi Peng Hong, Perunding Atur Sdn. Bhd.

Matters Discussed:

1. Mr. Koyama briefed the meeting on the purpose of the JICA Evaluation Mission, i.e. to conduct a post-evaluation study on three JICA assisted projects in Malaysia, i.e.
 - i. Centre for Instructor and Advanced Skill Training (CIAST)
 - ii. MARA Vocational Institute, Kuala Lumpur
 - iii. MARA Vocational Institute, Johor Bharu

The main purpose of this post-evaluation study is to:

- i. evaluate whether the objectives of the project are fulfilled during as well as after the project.
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There are four areas to be examined in this study:

- i. attainment of project purpose
- ii. impact of project
- iii. efficiency of implementation
- iv. sustainability of the project
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2. MARA major roles are in entrepreneurship and education of Bumiputra.
3. Till to-date there are nine IKM, one new IKM will be set up in Trengganu in July 1992 and by 1995 there will be a total of eleven IKM. The latest policy is for IKM to conduct advanced skill training in future. Besides, the German-Malaysia Institute (GMI) for technocrat will be set up in July or December 1992. Other cooperation programme including FMI, BMI.
4. MARA evaluates the need to change the curriculum based on the ILO and IMP reports.
5. MARA has set up a R & D section in 1991 to evaluate the ex-trainee and research on new trade.
6. MARA IKM has initiated joint venture with private sector for example MARA-Toyota corner in Melaka IKM where Toyota provide grant to purchase equipment and MARA provide site and instructor. Other joint venture include BOCCARD, AIROD, PETRONAS and ESSO.
7. MARA agreed to assist in obtaining information for the questions of the post evaluation study.
8. All MARA trades in each IKM does not change till 1990. However, from 1991 changes in trade and level occurred.
9. MARA sent all teacher/instructor to CIIAST for refreshment training after 10 years of teaching.

MEETING BETWEEN JICA EVALUATION MISSION TEAM AND EPU

Date: February 20, 1992
Time: 11.00am
Venue: Human Resource Section, EPU

- Attendance:
1. En. Zainal Rashid, Director, Human Resource Section, EPU
 2. Cik Margaret Ho Poh Yeok, Principal Assistant Director, Industry Section, EPU
 3. En. Mohd. Sani Mistam, Assistant Director, External Assistance Section, EPU
 4. En. Alias Abdullah, Assistant Director, Social Services Section, EPU
 5. Mr. Yap Kim Lian, Principal Assistant Director, Human Resource Section, EPU
 6. Mr. Yoshio Koyama, JICA
 7. Mr. Takayuki Sahara, JICA
 8. Mr. Kimihiko Yanagisawa, JICA
 9. Mr. Hiroshi Shirato, JICA
 10. Mr. Ooi Peng Hong, Perunding Atur Sdn. Bhd.

Matters Discussed:

1. Mr. Koyama briefed the meeting on the purpose of the JICA Evaluation Mission, i.e. to conduct a post-evaluation study on three JICA assisted projects in Malaysia, i.e.
 - i. Centre for Instructor and Advanced Skill Training (CIAST)
 - ii. MARA Vocational Institute, Kuala Lumpur
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The main purpose of this post-evaluation study is to:

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There are four areas to be examined in this study:

- i. attainment of project purpose
 - ii. impact of project
 - iii. efficiency of implementation
 - iv. sustainability of the project
 - v. relevance of the project planning
2. Human resource development is given higher priority in the OPP2 compared to previous plan.
 3. Human resources is maintained as one of the nine challenges in the Vision 2020 speech by Prime Minister of Malaysia. As part of the plan, a minimum number of 30,000 engineers and 120,000 technicians are required for Malaysia in order to achieve the developed nation status. With this emphasis, vocational and technical training is emphasized.
 4. The present education system incorporates the subject of living skill from Form 1 to Form 3 (lower secondary school level) in order to prepare those dropout to join the labour market. Another major feature of this system involves compulsory school system of 11 years. In this system, after 9 years of education (Form 3), the students are divided into 3 streams:
 - i. academic stream
 - ii. vocational stream
 - iii. trade streamdepending on the academic records. Those in the later two streams will be taking the NVTC Basic I examination, with the aim to prepare them for polytechnic or IKM certificate ITI courses. For advance skill training in the Advance Skill Training Centre in Sepang under the Ministry of Youth and Sports, the minimum requirement is NVTC or IKM intermediate level while the entry level of GMI is Form 5.
 5. Under the 6th Malaysia Plan, five new polytechnic will be constructed and 1 existing polytechnic will be converted to a technical instructor training centre. Besides, 700 schools are setting up vocational wing and university are expanding their engineering faculty especially in computer areas.

6. Under the OPP2, government encourage private sector to venture into technical training by giving Federal aid for example, the PSDC in Penang is applying for aid and Johor and Selangor are in the process of applying too while Perak has indicated its interest in setting up a ceramic centre. Private companies like MBA, FMM Plastic Association, etc. are also interested in setting training centre. For example, Master Builder Association (MBA) is setting up a construction academy with link to Australian University. SIRIM is setting up a foundry centre in Ipoh in this year or early 1993.
7. Recently, government allowed private sector training school to employ foreign instructor due to unavailability of instructors here.
8. At present, R & D agencies are allowed and encouraged to commercialise their research by joint-venture with private sector or set up associated companies.
9. Presently, government encourages the setting up of Technical Advisory Board in the training centre which includes amongst others, industrial sector in order to accommodate the changes in technology into the curriculum.
10. Training centres are now encouraged to allow the private sector use their facilities during holiday or at night. They are also allowed to undertake external jobs.
11. Regarding privatisation, ITI Kuantan and Prai will be privatised this year. At the moment, privatisation of IKM is politically sensitive hence status quo is maintained.
12. On CIASST, EPU encourages its privatisation for the following reasons:
 - i. as long as CIASST remains as government agencies, it will be facing difficulty in recruiting capable and experienced instructor with the present low salary scale
 - ii. with privatisation, the facilities at CIASST would be more fully utilised in order to maximise returns
 - iii. if CIASST is privatised under a body with diversified industry base, it is possible for the industry to transfer obsolete equipment in CIASST for training purposes. Otherwise, government need to fund any new or replacement of equipment.

**MEETING BETWEEN JICA EVALUATION MISSION TEAM
AND IKM KUALA LUMPUR**

Date: February 21, 1992
Time: 8.30am
Venue: IKM KL

- Attendance:
1. En. Tajuddin Zain, Principal IKM
 2. En. Baharuddin, Deputy Principal IKM
 3. Mr. Yoshio Koyama, JICA
 4. Mr. Takayuki Sahara, JICA
 5. Mr. Kimihiko Yanagisawa, JICA
 6. Mr. Hiroshi Shirato, JICA
 7. Mr. Ooi Peng Hong, Perunding Atur Sdn. Bhd.

Matters Discussed:

1. Mr. Koyama briefed the meeting on the purpose of the JICA Evaluation Mission, i.e. to conduct a post-evaluation study on three JICA assisted projects in Malaysia, i.e.
 - i. Centre for Instructor and Advanced Skill Training (CIAST)
 - ii. MARA Vocational Institute, Kuala Lumpur
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- i. evaluate whether the objectives of the project are fulfilled during as well as after the project.
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There are four areas to be examined in this study:

- i. attainment of project purpose
- ii. impact of project
- iii. efficiency of implementation
- iv. sustainability of the project
- v. relevance of the project planning

2. There are 9 courses offered by KL IKM

	<u>Course</u>	<u>Entry Level</u>
i.	Domestic and industrial electrical	SPM
ii.	Refrigeration and air-conditioning	SRP
iii.	Electronic instrument	SPM
iv.	Geomechanics	SPM
v.	Machinery	SRP
vi.	Gas and arc welding	SRP
vii.	Metal fabrication	SPM

SPM: Sijil Pelajaran Malaysia (MCE: Malaysian Certificate of Examination)

SRP: Sijil Rendah Pelajaran (SRP: Lower Certificate of Education)

The courses are for 2 years duration with 4 semesters where the last semester involves full-time industrial training.

The curriculum is structured such that 30% involves theory and 70% involves practical. The pass mark for MARA examination is 57%. During the 2 years course, the students will take 3 examinations, i.e. NVTC Basic and Intermediate Level Test and MARA Certificate Test.

3. In the initial phase of IKM, MARA send instructor to overseas for training and IKM produce their curriculum mainly based on the curriculum of City and Guild of London Institute. Now changes in curriculum or curriculum development is coordinated and conducted by NVTC.

4. There were about 20,000 - 30,000 applicants for IKM courses but IKM can only accept 2000 students. The others (not all) are admitted to other MARA training courses like GIAT. For example, there are 45 GIAT centres where each centre takes in 100-200 students.

5. Requirement to qualify as IKM teacher are as follows:

- i. age must be at least 28 years old
- ii. must undergo 2 years technical training in centre
- iii. must have 3 to 5 years working experience
- iv. must undergo 1 years teaching technique course in local or overseas centre like CIAST
- v. minimum academic qualification is MCE

6. Measures taken by IKM to recruit teachers:

- i. shortlisted current trainee and send for training after their 2 year course
- ii. send trainee to overseas for industrial training during their 4th semester

These measures necessitate the students to sign contract with MARA.

**MEETING BETWEEN JICA EVALUATION MISSION TEAM
AND IKM JOHOR**

Date: February 24, 1992
Time: 9.40am
Venue: IKM Johor

- Attendance:
1. En. Mohamed bin Ismail, Principal
 2. En. Ahmad Fawzi, Deputy Principal
 3. En. Zainal Arif bin Ibrahim,
Assistant Curriculum Development Officer
 4. Mr. Takayuki Sahara, JICA
 5. Mr. Yoshio Koyama, JICA
 7. Ms. Jayarein Nathan, Perunding Atur Sdn. Bhd.

Matters Discussed:

General Discussion

1. On the subject of BOCCARD, the team was informed that the company was in KL however the equipments are still based in MARA and are being utilised for training purposes. Training with BOCCARD machines normally last for 9 months. Using the said machines, we have had joint-venture projects with ESSO 3 to 4 times now. IKM Johor has drawn up a possible joint-venture with PETRONAS and is due to commence in April 1992.

BOCCARD machines cater for 6G (international standard) and higher level training in gas pipe welding. For this training, IKM just trains the employees sponsored by a certain company. This is because the 6G licence lasts for 6 months only. If a certain participant is not employed during the 6 months after training, he is required to sit for another exam because he is considered to have lost his skill. Therefore for this training, IKM has joint-venture with ESSO and PETRONAS.

Currently IKM JB also caters for ESSO using BOCCARD equipment. ESSO sends 60 students for training and IKM JB opens the other 20 for other companies.

However for PROMET joint-venture, the JICA aid machines will be used. However the machines are beyond repair. JICA has been informed and hope for follow-up from JICA. However they assured that the machines have been fully utilised.

Matters Discussed: (Officially at 10.00 a.m.)

1. Mr. Koyama briefed the meeting on the purpose of the JICA Evaluation Mission, i.e. to conduct a post-evaluation study on three JICA assisted projects in Malaysia, i.e.
 - i. Centre for Instructor and Advanced Skill Training (CIAST)
 - ii. MARA Vocational Institute, Kuala Lumpur
 - iii. MARA Vocational Institute, Johor Bharu

The main purpose of this post-evaluation study is to:

- i. evaluate whether the objectives of the project are fulfilled during as well as after the project.
- ii. evaluate the contribution of the project objectives to the higher policy level and the changes made in the projects in response to the changes in objectives, if any.

There are four areas to be examined in this study:

- i. attainment of project purpose
- ii. impact of project
- iii. efficiency of implementation
- iv. sustainability of the project
- v. relevance of the project planning

2. To the question of whether it is difficult to trace graduates, IKM JB has a record of this but it is not updated yet. The problem is students work in one company for one month or so and they shift to another and they loose track. Some however are loyal to the company. Only a few keep in touch. A worker is loyal if he is given benefits and good income. Some companies offer low salaries and no incentives, so employees leave. eg. some students feel exploited rather than treated as a co-worker. Due to this, they move jobs. Further, there are lots of staff pinching.

In Japan, the system is different. There is no reason to pinch staff. Employees are trained and promoted in the same company.

3. On the subject of migration of trainees, only a handful of IKM Johor graduates have migrated. After the graduates have finished their course, they either return to their own state or they go to Singapore. However, many of the normal workers migrate to Singapore. For other professions, it is difficult to obtain job there. Singapore requires a lot of skilled workers.

4. There are 11 courses offered by Johor IKM

Course

- i. Mechanical Drafting
- ii. Electronic Instrument
- iii. Electrical
 - Domestic
 - Industrial
- iv. Refrigeration and Air Conditioning
- v. Heavy Vehicle
- vi. Electroplating
- vii. Mechanics
- viii. Welding
- ix. General Mechanics
- x. Machinery
- xi. Radio and TV Servicing

The courses are for 2 years duration with 4 semesters where the last semester involves full-time industrial training.

The curriculum is structured such that 30% involves theory and 70% involves practical. The pass mark for MARA examination is 57%. During the 2 years course, the students will take 3 examinations, i.e. NVTC Basic and Intermediate Level Test and MARA Certificate Test.

Overall, there is no problem with ex-trainee. Market is open. Job is available because JB is fast developing. Lots of foreign investment. The industry demands skilled workers which is short of supply.

Industries have approached IKM on this but they are unable to comply because of financial constraint. IKM JB has been allocated 43 acres but only 20-25 acres is utilised. There is still space for expansion. If MARA provides funds, machinery can be bought. If compared, MARA cannot catch-up with technology advancement because it lacks machines. The existing ones are old machines. As such, it is only able to provide basic training. Advance training is in-plant. If MARA or JICA can give aid, IKM JB can expand. There will be no constraint in recruitment. Current intake is a problem due to lack of machinery.

There is also a shortage of instructors in electronics due to pinching problem. An instructor can easily earn \$1000/- elsewhere however MARA only pays about \$500 to \$600. Once their contract expires, Thus more than 50% opt for better pay.

Another reason is IKM JB is 5 years behind time. Technology wise, if they work with industry with new technology from overseas.

Year by year gap is widened in vocational school. IKM only acts as a training institute. Students are knowledgeable with basics only. Industrialists say at least the students have basic principle knowledge so that they can train the students further, normally 6 months in-plant training. Students are able to cope with industrial training.

If however companies are willing to offer equipment, then this is an ideal situation. Companies have been approached for unwanted equipment but only small workshops respond with obsolete equipments.

IKM JB feels this is unfair. Industry demands for training of students but is not providing the equipment. There are a few companies willing to train our trainers (eg. SONY in CD but we need not only training but raw material as well).

Meeting was adjourned at this moment as the Study Team wanted to visit MSE. Left for MSE at 11.45 am.

At the MSE office, a short discussion took place

To-date there are 80 instructors in IKM Johor. More than 50% are undergoing retraining. However, they are sent in phases. This year for example 2 instructors will be sent and 3 next year. They are mainly sent overseas through JICA - Look-East Policy and to Japan, Australia, Canada, etc.

MEETING BETWEEN JICA EVALUATION MISSION TEAM AND CIAST

Date : Feb. 24, 1992

Venue : CIAST

Time : 2.30p.m

Attendance: 1. En. Omar Yusof, CIAST
2. Mr. Kimihiko Yanagisawa, JICA
3. Mr. Hiroshi Shirato, JICA
4. Mr. Ooi Peng Hong, Perunding Atur Sdn. Bhd.

Matter Discussed:

1. The entry test for instructor (trainee) is mainly to confirm their level of competence besides selecting them. The percentage of unsuccessful candidates is only 1-2%.
2. For in house training of CIAST instructor, they undertake 2 years programme in Teaching Methodology I (TMI) course before being despatched to ITI. The course involves 1 year basic skill training, 3 months TMI and 9 months internship training. Prior to 1992, this TMI is a 1 year course but after feedback from ITI and other agencies, it is changed to 2 years course due to the need for basic skill training. This TMI certificate is recognised by Public Services Department (PSD).
3. Basically, there are three issues facing CIAST:
 - a. use of facilities
 - b. cope with technology change
 - c. self-sustainability

In order to cope with technology changes, CIAST is proposed to set up Vocational Training Research (VTR) Unit. Besides, CIAST is proposed to set up Business Industry Service Center (BISC) to provide custom-made training to company. However, this has to be approved by Treasury.

4. In 1991, CIAST has initiated evening classes. For example, they conducted PLC course from 6.30pm-9.30pm for 2 day a week. CIAST plans to conduct 4 evening course every year.
5. For in home training, CIAST for example, sent 2 instructors to company, such as Thompson Audio Electronic in Muar, Johor, to conduct training in 1991. Till to date (Feb, 1992) CIAST has received requests for 23 course to be conducted in house (at company). At the moment, the CIAST instructors can only claim meal and accommodation and mileage claim for in house training course.

6. Industry sector is aware of CIAST through:
 - a. trainee who has undergone training in CIAST.
 - b. CIAST promotion seminar every year.
 - c. visit by personnel from Training Affairs section to company.
 - d. advertisement of training schedule in December every year.

7. At the moment, the number of trainees in Instructor/Supervisory Training and Advance Skill Training are almost the same. Under the Instructor/Supervisory Training courses, the ratio of participants from public and private sector is 100 : 1.

8. Prior to 1987, only one Industry Committee Meeting (ICM) was held, possibly due to:
 - a. availability of Japanese expert in CIAST
 - b. capability of sending trainees to overseas for training.
 - c. no representative from invited company
 - d. only problems related to each representative company was discussed instead of general and overall issues.

In 1989, the last Joint Committee Meeting which plays the role of ICM was held. Now, effort is being done to set up Vocational Training Research (VTR) unit which is supposed to play the same role.

MEETING BETWEEN JICA EVALUATION MISSION TEAM AND SHAH ENGINEERING SERVICES

Date: February 24, 1992
Time: 3.00pm
Venue: Johor

- Attendance:
1. En. Abu Bakar bin Hj. Abdullah, Managing Director, SES
 2. En. Ahmad Fawzi, Deputy Principal, IKM JB
 3. En. Zainal Arif bin Ibrahim, MARA HQ
Assistant Curriculum Development Officer
 4. Mr. Takayuki Sahara, JICA
 5. Mr. Yoshio Koyama, JICA
 7. Ms. Jayarein Nathan, Perunding Atur Sdn. Bhd.

1. Mr. Sahara briefed on his visit to SES.
2. On the history of SES, Mr. Abu Bakar explained that he was a former participant of JICA. Offered to go to Japan in 1979. After JICA's project (after his return from Japan), he set up his own business. He constantly recruits IKM JB trainees. Company was established in 1981.

SES now has 12 skilled workers. 8 are from IKM JB. There is only one oldest graduate left. Normally these graduates leave for another project and then rejoin.

SES offers training skills on welding and metal fabrication. All 8 people employed are doing welding. Metal fabrication will be conducted at a later stage.

Basically, training is very wide. Not suited to certain industries as industries require special skills. Industries are also not willing to spend money on training. Training received from IKM is basic and not specialised training. Maybe IKM should introduce advance training at a later stage.

At SES, trainees are given one year training which covers:

- a. 6 months practical
- a. 6 months of in-plant training

After this 1 year training, trainees are expected to be independent. IKM JB sends about 5 or 6 candidates for training each year and SES recruits 3 to 4 candidates each year.

SES is not a big organisation. These trainees continue their training and after sometime they join bigger companies.

SES is more or less like a training ground for IKM JB and cannot be compared to other big organisations. Normally the longest the IKM graduates stay is for about 2 to 4 years. However, some of them are working for the past 10 years.

3. Images of where IKM graduates would go. If a group contains 50 graduates, how many would go to a big company and how many to a small company?

If they want to go to big companies, they cannot become a specialised worker. They have to be apprentice (in-house training) trained to the company's needs. About 70% go to big companies whilst only 30% cater for smaller companies. The advantage of joining a smaller company is they become an all-rounder (learn from a to z). Big companies offer specialised skills only.

4. Since the company started operation, has there been any activity change in the company for the past 10 years?

During the past 10 years there has been quite a few changes. Formerly dealing with small fabrication work. During the years the company is specialising in machining, garbage collection tanks, etc.

SES started as a small company. The market is now expanding. SES supplies both to Johor and KL. Orders for fabrication comes from all over and they deliver whatever amount.

SES also makes weighbridge and palm oil tanks. Recently a proposal was made to KTM on the railway tank and is now waiting for approval.

5. Regarding upgrading, after hiring IKM graduates, Mr. Abu Bakar picks the best worker and sends for supervisory training and MARA courses.

Types of institutions he sends his workers to:

- a. Johor State Development Institute - for supervisory and clerical courses in order to carry out staff promotion

These courses are on full time basis for about 3 to 4 days. To-date SES has sent 4 participants for supervisory skills and no employee has applied for evening classes.

For technical training, participants are sent to IKM where joint training is conducted using BOCCARD equipment. IKM takes in everybody else besides ESSO's needs.

6. How many people do you hire every year, not necessarily from IKM:

Most of the IKM graduates (90%) are recruited yearly. About 3 to 4. Recruiting a person from outside is difficult. It takes about 1 year on-the-job training. Out of every five recruited, 3 or 4 stays on.

If a certain job needs skills and if we lack the certain skill, they sub the project out. But we still have some people as the graduates go and come.

7. Organisation structure:

Production Supervisor - 2 Chargehands - Skilled workers (odd job workers)

One chargehand has 4 workers (normally for installation projects)

To start a business in this field needs a lot of courage. There need not be a criteria of money but should possess business inclination. No Bumi group specialising strictly in engineering is available. The smaller ones available probably cater for iron grills, etc.

Normally ex-IKM graduates go to smaller chinese companies. Those who go to bigger companies (about 80%) will stay on due to facilities/incentives provided by company. However the remaining 20% would look for better grounds. They either go to bigger companies or look out for smaller companies where they can hold a certain post.

8. Any recent change in business?

SES has expanded and at the same time merged with Koperasi Pemodalan Melayu Negeri Johor (Johor State Malay Capital Cooperative + JOINCO) which owns about 50% shares.

A small company cannot survive when too many contracts come in, so they increase paid-up-capital by joining JOINCO. Already have a new factory in Jalan Tahana and are planning of moving in June this year.

In 1991 SES expanded very rapidly due to:

- a. a lot of orders
- b. wanted to be affiliated with some big organisation. En. Abu Bakar was involved in production and had no time for marketing. With this merge, the marketing part will be handled by the JOINCO.

Next year SES anticipates more new workers as it will be dealing in a new product.

New product will be in:

- a. welding
- b. fabrication
- c. going into manufacturing rather than servicing. In Johor, capital investment is high. Need to change scope of business.

JOINCO is backed by the State Johor Government itself. SES sold shares worth \$1/- at \$5/-.

Do not expect much competition in the near future from a bumiputra company.

9. How do you cultivate market?

Mr. Abu Bakar was associated with Chinese. During this period learnt a lot. Also worked as a partner for another chinese company for about 6 years whilst operating his own. He still maintains relationship with the company.

9. Strong Points

- a. Want to do business with local people in order to give good and fast service
- b. Sometimes workers tend to stray but En. Abu Bakar is able to handle this situation thanks to training in Japan

10. Incentives offered to workers

Sometimes when projects are identified workers are given a basic salary as well as paid a certain percentage especially in production.

Now in the process of upgrading some staff. Mr. Abu Bakar himself is going for a Product Design Course at SIRIM on 3rd and 4th March, 1992.

11. Do you expect any problems?

No.

SES wants to spread its wings into manufacturing. It has already identified certain products to be launched next year and is now waiting for approval.

12. Is there shortage of labour?

Have to find workers with or without IKM training. Have to try in order not to face labour shortage. There are many competitors in the State of Johor especially in Pasir Gudang and Singapore where they are paid about S\$80 per day. Here they are being paid equivalent to big companies too.

13. Have you sent any worker to CIAST?

Have already written to CIAST for their pamphlet. Intend to send the Chargehand this year. No reply yet. Sent letter one to two months ago. Came to know of CIAST through MITEC, SIRIM during the incubation project.

14. On which projects do the graduates have a better chance?

With the BOCCARD machines, more trainees can go to IKM. Quality has also changed during the years. A lot of changes has also occurred in IKM recently.

The size of IKM classes has also increased. It started with 17 trainees. Now it has 3 classes totalling 42 trainees.

- a. Ordinary welding - 84 in one
- b. Marine welding intake

People are able to get good jobs from companies with good salaries. Students equipped with the knowledge of using BOCCARD machines (6G Welding) are paid up to \$5000 per month.

MARA has come up with 2 or 3 projects. One of which is MARA will pay small companies to train the students. The company that is willing to accept students is paid \$100 per student.

MEETING BETWEEN JICA EVALUATION MISSION TEAM AND EX IKM JOHOR GRADUATES

Date: February 24, 1992
Time: 4.25pm
Venue: IKM Johor

- Attendance:
1. En. Mohamed bin Ismail, Principal
 2. En. Ahmad Fawzi, Deputy Principal
 3. En. Zainal Arif bin Ibrahim,
Assistant Curriculum Development Officer
 4. Mr. Takayuki Sahara, JICA
 5. Mr. Yoshio Koyama, JICA
 7. Ms. Jayarein Nathan, Perunding Atur Sdn. Bhd.

Introduction

1. The Principal of IKM Johor, En. Mohamed bin Ismail introduced the JICA Mission team to the participants and informed them briefly of the purpose of the visit. He asked the members to put forward suggestions and discussions that could benefit JICA as the donor and MARA as the recipient. He then handed over to Mr. Koyama.
2. Mr. Koyama apologized for the delay and informed of purpose of meeting, i.e. to conduct a post-evaluation study on three JICA assisted projects in Malaysia, i.e.
 - i. Centre for Instructor and Advanced Skill Training (CIAST)
 - ii. MARA Vocational Institute, Kuala Lumpur
 - iii. MARA Vocational Institute, Johor Bahru

The main purpose of this post-evaluation study is to:

- i. evaluate whether the objectives of the project are fulfilled during as well as after the project.
- ii. evaluate the contribution of the project objectives to the higher policy level and the changes made in the projects in response to the changes in objectives, if any.

There are four areas to be examined in this study:

- i. attainment of project purpose
- ii. impact of project
- iii. efficiency of implementation

- iv. sustainability of the project
- v. relevance of the project planning

3. The participants then introduced themselves. They are as follows:

- a. En. Kamarudin Ujang, Senior Contractor
- b. Mahidin Zahaman, Technical Instructor
- c. Mohamed b. Mat Dom, Welding Instructor
- d. Mohd. Sabri b. Md. Razli, Electrical Senior Instructor
- e. Khalil b. Sulaiman, Welding Instructor
- f. Awaludin b. Baharom, Electronic Instructor
- g. Ahmad Awang b. Salleh, Welding Senior Instructor
- h. Mohd. Zakariah b. Pahreroji, Marine Instructor
- i. Zainudin b. Mohammad, Automotive Instructor
- j. Abdullah b. Hj. Hassan, Machine Shop Instructor
- k. Riduwan b. Hj. Shohada, Electro Plating

Most of the comments were similar, Problem areas are:

- No correspondence in the form of technical magazines from JICA. Hope JICA can send these magazines
- some of the machines are not usable because no maintenance especially in the mint and thick Hitachi machine. Some machines are obsolete and some machines are back-dated. Seeks help to repair some of the machines.
- spare parts cannot be obtained
- Training obtained not able to apply here because machines are different or because machines are not available to refer to.

4. Mr. Koyama then wanted to hear the situation of the ex-students, whether they were being promoted, how they are contributing to the industry, etc.

En. Mohd. Sabri mentioned that a number of his students are successfully employed. However he also said that a few are still neglected. Ex-students in the electrical fields have been promoted to engineers and are even employed in the government department and factories.

Most of the students who have completed training come back for reference especially in electrical contracting. Even ordinary school leavers are flourishing in this market. Many agree that skill brings a person to the top.

Mr. Koyama then requested for a list of good students who are doing well. They agreed to submit the same.

5. With reference to change in curriculum, there has been quite a number of changes. Changes of policy comes from HQ.
6. Mr. Koyama asked if it was possible to have feedback from place of work of graduates and then inform HQ of the changes.

One instructor said that he sent students for training for 6 months in a company in Klang. 2 or 3 of them have become managers. He has feedback but at an advanced level. This is where he said they need cooperation of some industries where they can send some of the students. The trainers themselves need advanced training.

When the trainers were sent to Japan, Japan technology was higher than Malaysia. At that time it could not be implemented here. At the moment we are in the process of changing the IKM process. Now, after 14 years the trainers cannot remember what they have learnt. Only now the change is occurring.

7. Mr. Koyama asked if they have tried utilising existing resources in the country. He also said that quite modern technology can be learnt from CIIAST.

To this they said that CIIAST is for advanced trainer course and it is an entirely modern equipment. Eventhough if they go through CIIAST courses, it is difficult to follow as those machines are not available in IKM JB. However they asked if JICA could assist in providing the course and machine.

To this Mr. Koyama replied that eventhough JICA could support IKM JB, other institutions have the same demands. It is the issue of MARA itself.

8. One of the instructors voiced that CIIAST does not have a course in advanced electroplating. Mr. Koyama then answered if CIIAST is unable to have such a course somewhere else. He asked to obtain the knowledge elsewhere and renew the system of teaching.

Mr. Ismail, the principal said that MARA's objectives is very clear. MARA has introduced courses up to advanced level but the problem is financial constraint. Again he said if they were to send a staff to Japan and upon his return there is no machine and his skill will be obsolete.

9. A few points were put forward by one of the instructor:
 - a. MARA must upgrade all trades so that training will be at full speed.
 - b. MARA should get feedback from trainees where they work whether the training is successful or not. MARA does not have a Business Planning Department.
 - c. JICA could send a Japanese expert in trades like welding even from MSE

10. Mr. Koyama touched on privatisation. He said probably MARA has to think along these lines to get aid from private sector.

They responded that as instructors, they need aid from JICA. They do not have the power to influence policy makers. Purchase of equipment involves money. Prices keep changing.

Conclusion

11. Mr. Koyama advised that MARA JB itself could create something new. The State Government has a lot of plans in industrial estate and industrial housing. Part of the budget can be spent on training purposes. He said that if there is a strong will to do something, JICA could help. However, it is an internal issue. JICA needs a very strong request in priority order and submitted to the Malaysia government.

Alternatively, he directed to JODC which has a subsidy from Japanese internal industry to send private trainers at a minimal fee or AOTS if a particular company wishes to be trained in Japan. JICA is on a government to government basis.

Several other alternatives such as Singapore which is ready to receive trainees from other institutes, sometimes free of charge.

Mr. Ismail then concluded saying MARA is progressing very slow and not up to standard that is required yet. However they will try their best to grow rapidly with JICA's assistance and with Vision 2020 where a lot of skilled men are required, he hoped JICA would also assist in this area.

MEETING BETWEEN JICA EVALUATION MISSION TEAM AND NVTC

Date : Feb. 24, 1992
Venue : NVTC
Time : 10.00p.m

- Attendance:
1. En. Rozikin Hamzah, Deputy Director General, NVTC
 2. Mr. Shohei Kasahara, Advisor NVTC
 3. Mr. Kimihiko Yanagisawa, JICA
 4. Mr. Hiroshi Shirato, JICA
 5. Mr. Ooi Peng Hong, Perunding Atur Sdn. Bhd.

Matters Discussed:

1. On the role of private VS public sector, En. Rozikin commented that government should provide basic skill training and not specialised skill unless in collaboration with private sector.
2. There is a proposal to expand CIIAST or set up another body as CIIAST could not meet the market need for instructor.
3. NITTCO was changed to NVTC because of
 - a. need to undertake planning and coordination of vocational training
 - b. need to involve more private sector.
4. It is informed that the shortcomings in CIIAST are as follows:
 - a. unable to keep capable instructor in CIIAST because of low salary scale.
 - b. lacking in staff strength and capability as the instructor are not as experienced as those in the industry sector.
 - c. shortage on promotion and advertising of CIIAST
 - d. difficult for private sector to release staff for long period.

**MEETING BETWEEN JICA EVALUATION MISSION TEAM
AND MALAYSIAN SHIPPING AND ENGINEERING SDN. BHD.**

Date: February 24, 1992
Time: 11.45pm
Venue: MSE, Johor

- Attendance:
1. Mr. M. Nishimoto, Engineer of Shipbuilding
JICA Senior Volunteer, MSE
 2. En. Abdul Rahim b. Dasmj, Personnel Officer (HRM), MSE
 2. En. Ahmad Fawzi, Deputy Principal, IKM JB
 3. En. Zainal Arif bin Ibrahim, MARA HQ
Assistant Curriculum Development Officer
 4. Mr. Takayuki Sahara, JICA
 5. Mr. Yoshio Koyama, JICA
 7. Ms. Jayarein Nathan, Perunding Atur Sdn. Bhd.

1. Mr. Koyama briefed on his visit to MSE in the Japanese language.

QUESTION & ANSWER SESSION WITH EN. ABDUL RAHIM

1. Do you have any idea how many MARA IKM graduates are working here?
Not off-hand, many come and go. I am not sure of the exact figures.
2. Any need for retraining?
They are trained further specially with regard to company's systems and procedures.
3. Is there any skill gap? Is what they do relevant to the job?
 - a. Sometimes they have more knowledge than we expect.
 - b. When we recruit a person, he is not specialised in one particular field. We want more general skill. Once they know in general, it is not difficult to include other things

Training is limited to one year. However, it depends on how many departments we have.

4. Do you expect a graduate to remain in one department or change from one to another?
We expect them to stay in one department but they can be transferred within sections. They can also be transferred out to other departments in similar post. In such a case, there is not much training involved. Normally, after one year training, they are able to familiarise with the company.

5. Any particular request to IKM that they develop any skill or are you satisfied with the present level of skill?
One area in JB IKM, i.e. scaffolding, safety principle, types of scaffolding, lifting engineering, rigging. This need not necessarily be conducted as a trade by itself but could be attached to others.
6. How long does scaffolding and lifting engineering take to master?
I do not know how long. People with experience take 10 full days each (8am-4.30pm) course for scaffolding and lifting engineering. A fresh person takes longer time.
7. Any particular scheme or agreement with MARA JB to give opportunity to make up with lacking skills, eg. to provide equipment?
No, we take people with some engineering skills only and provide on-job training.
8. On your side you don't provide any vocational training?
MARA's students do job-training for 6 months as part of syllabus. Some sign contract after that.
9. Do the graduates shift jobs?
So far they are quite loyal (about 80-90% stay on).
10. Any extra benefit attracting them?
Our benefit comes in package with letter of appointment. Eg. it is common that everyone pay Employees Provident Fund but our company provides 14%. We also have in-house courses, external courses and all staff are trained accordingly. External courses only applies after one year of in-house training.
11. Any typical career patterns? After one year internal and external courses, will they be upgraded?
External training is to enhance their skill further to be more efficient. These are short courses lasting for about one to 2 days. Promotion exercise is on a separate basis.
12. Do you select any particular institute for these courses?
Normally if there are about 15-20 applicants for a certain course, we bring the instructor to the company. However, for certain courses, our clients seek for certificates from a certain institute and we have to adhere.
13. Are graduates of MARA JB increasing in number?
I am not able to answer.
14. What is the training offered?
 - a. One year in-house training
 - b. External course or enhancement course
 - c. If a person wants to study on his own, he is able to apply for an interest free loan from MSE.

- d. The course is not given free as it is individual's interest. Participants have to sit for an exam after their course in order to get an increment.
15. Any way of IKM JB or any other to upgrade qualification through internal training? eg. if they are technician, acquire knowledge through internal training, apply for examination outside and become engineer.
All staff are able to sit for exams eg. last month welding certificate from UK. They sat for exam and sign contract for one year. Besides Welding Inspector certificate, Kejuruteraan Kota Aman in Malaysia certificate is recognised by most of our clients. However once they obtain a certificate, they do not get increment immediately. They have to sit for another basic examination.
16. Any other training opportunity?
This is all.
17. What do you mean by external courses?
External courses include both local and overseas courses.

The applicants for overseas courses is offered by Jabatan Perkhidmatan Awam (JPA/PSD: Public Service Department) and Colombo Plan. Normally duration of these courses depend on the subject of courses. Colombo Plan is a 1 year course while JPA sends out on 1 week course. These courses are just job familiarisation training and no degrees involved. Currently, we have a participant in Japan.
18. Does these training schemes provide good motivation to staff?
Yes, because training is not limited to managers. Training covers all aspects even the normal workers.
19. Is the selection very competitive?
No, not much. Normally very specialised level only. eg. Hydraulic machine. Not many department deals with it. The specific department can send one or two men only.
20. Are you satisfied with IKM's performance?
Yes.
21. How many men are you in charge of?
In my section, there is only myself and two assistants. We just coordinate actual training on job, get trainer.
22. How many people go through this training process?
Last year, about 60 recruitment. These trainees must go through one year basic training. In addition, senior staff will go through other training.

23. With reference to work load, comparing the 60 new ones to others, which constitute heavier load to you?
In-house courses is very difficult to manage. The 60 new recruits are left in the workshop to be trained.
24. How do you spot the training needs?
Normally the heads of department are called for meeting. From their needs, we analyze.
25. Do you observe any changes in training needs?
For 1991, needs are identified in 1990. 1992 needs are identified in 1991. Last year the needs were on team building, technical and some management. This year we need management, but stress more on technical, safety courses and supervisory course.
26. Is this a typical trend?
Few years back they slowed down because of recession.
27. Why do you suddenly require skilled training?
We have expanded and have recruited more men.
28. Do you offer training to your suppliers?
No. We just specify for spare parts from suppliers giving sizes, etc. and they deliver according to our specification. eg. Yamaha engine No.....
So far, there is no request for training to suppliers.
29. Any possibility of short modular courses? Maybe in evenings and maybe 3 times a week for 3 to 4 weeks. Do you have good communication channel with IKM JB?
There is not much communication channel because we go for higher level. For external courses we do not recruit instructor from IKM JB. We normally invite professionals.
30. How do you choose MARA trainees?
Normally State MARA officers inform us who they will send for training (Practical) for MARA students. After their 6 months of training, some trainees apply to MSE and are accepted. Most of the time the recruitment has been decided because during these 6 months of training, the efficient ones have already been identified. Most recruits are good workers. MARA trainees on practical training get an allowance of \$200 per month with overtime wages of \$2 per hour and are allowed to rent quarters subject to availability.

MEETING BETWEEN JICA EVALUATION MISSION TEAM AND IKM JOHOR

Date: February 25, 1992
Time: 8.30am
Venue: IKM Johor

- Attendance:
1. En. Mohamed bin Ismail, Principal
 2. En. Ahmad Fawzi, Deputy Principal
 3. En. Zainal Arif bin Ibrahim,
Assistant Curriculum Development Officer
 4. Mr. Takayuki Sahara, JICA
 5. Mr. Yoshio Koyama, JICA
 7. Ms. Jayarein Nathan, Perunding Atur Sdn. Bhd.

1. The questionnaire was referred to and Mr. Koyama wanted to know if anything was available at this stage. Mr. Sahara especially wanted to know if there was a future prospect to conduct joint-venture activities. To this the IKM JB replied that they have to refer to Cik Mariam or En. Lufti of KL HQ. They however promised to provide all available information pertaining to the questionnaire by March 6th to Perunding Atur Sdn. Bhd.

2. Touching on budget, the team was informed that eventhough budget is given in a certain amount, it is flexible. Allocation for a certain year is based on the previous year's budget depending on economic conditions. However, one never gets more or less than what is required.

1993 budget would be applied before the end of February 1992. Fiscal year starts in January. The application is collected from all centres and sent to EPU, Prime Minister's Department where amount will be set and tabled at a Parliamentary meeting around October-November. The process takes about 10 months.

3. Any chance of negotiation?

Only KL. A list of equipment needed to buy has to be submitted to HQ. Queries, if any, comes around June and has to be negotiated in KL. In HQ a specific trade is handled by one person.

MARA is not very eager to train outsiders or private sectors due to machine problem. Most machines are obsolete. Eg. a SONY company in Bangi asked MARA IKM to train trainees to their requirement and even booked other semester (14 in a class). Machines were bought but trainer is unable to use equipment so asked for instructor to be sent from SONY. To-date no one.

4. Technical Sustainability - No. of development modules, whether trend continued even after project completed.

In the process. Has already done 10 courses and upgraded to high technology. In the process of DACUM - only one curriculum. However after discussion, it is difficult to obtain money to buy equipment.

MARA HQ developed comprehensive learning trades and printed materials and sent to IKM. All in all there are about 5 to 6 trades.

How often is pamphlet printed?
Pamphlet printed annually.

Types of courses are shorter. Some trades become obsolete eg. brick laying, bar bending, clerk-of-works. Must do a study whether trade is feasible or too much in the market.

5. Technical training of staff
IKM JB is trying to find companies which are willing to take staff for training. KL has its own planning. Not all companies are willing to accept what we demand. This scheme only started last year (machining - CNC)

6. Exchange of Staff

One particular staff is transferred every 5 years, sometimes for 2 years depending on promotion, vacancies, opening of new schools.

7. General Promotion
Instructor - Senior Instructor - Division Head - Section Head - Curriculum Officer - Assistant Principal - Principal.

8. Are there any tests?
Yes. For Senior Instructor, the old system just interviews but now we are not sure yet.

9. Performance appraisal
Each Head reports to HQ.

10. Process of input
Machines are utilised to the fullest

11. Is there any linkage besides JICA?
a. BOCCARD
b. ESSO
c. PETRONAS
d. PROMET
No other linkage.

12. Any contact with ASEAN organisation?
No. Went to Singapore on study tour in 1988. Approved by KL (sent by KL). Normally procedure ask permission from KL.

Currently, one instructor is sent to Canada, 2 to Japan and one more is in the process of also applying to Canada for training.

Senior Instructors will inform when they want to attend a new course. If principal agrees, inform HQ.

13. Yearly Planning

This year's programme has been submitted to KL. Records are checked from personnel book. Priorities are submitted in a form. Principal evaluates. This is for local training only. Overseas training will be handled by KL. (KL prints a book on local training course for instructors - Program Latihan Kakitangan MARA '92) Before names are submitted, have to make sure the person has not attended the same course previously.

CIAST has its own programmes. MARA will try to set the dates. Date of courses being offered in the market. Most of the courses published are done by MARA (teacher training course). MARA has a staff training centre in KL. Plans to transfer the centre somewhere else. A team of specialised staff handles the training of staff. Lecturers are mostly from universities.

14. Facilities of Training Centre

Occupy one floor of the MARA HQ building (6th Floor). 6 large rooms only.

From JB, 1992, 20 teachers were trained at MARA at different dates and time.

All applications done by the HQ. Selection also in HQ. Participant's background is kept in JB. 1/4 of participants are female. IKM JB deals in heavy trades - depends on person. Electronics at one particular time 90% female dominated. However, companies prefer men.

15. Is there any changes in education background?

Before certain courses take in SRP. Now mostly MCE as MARA is upgrading most courses to advanced level.

Participants mostly possess MCE.

Applicants coming to IKM is generally 18 years. Policy of IKM, students must be 16-40 years of age. Because if there is retrenchment, some employees stand a chance to retrain in other fields, esp. suitable to ex-army personnel.

16. BOCCARD CASE

In 1987 (Malaysia Mining Corporation) thought of doing joint-venture and informed to BOCCARD. After discussion KL was informed. KL then approved the idea. BOCCARD sent all machineries. Overheads are paid by MARA/

Training was conducted for 3 months in 3 groups of 20 each. By 9 months managed to train about 80 graduates. All trainees were employed by MMC according to its requirement (in Gas Pipe Welding or Welders).

Currently minimum pay for welder is \$5000/- per month besides other incentives.

Total students trained for BOCCARD is 120.

There were 3 groups

- Class orientation (welding set in class)
- " "
- DC welding (using generator under sun)

Training for 1st and 2nd months are in class and 3rd month is outside.

After this, trainees were trained for ESSO and PETRONAS using BOCCARD.

For ESSO we have conducted 3 courses

- 3 years (89, 90, 91). All trainees were exposed to 6D (advanced) level using BOCCARD machines.

However, PETRONAS is still in discussion and hope that things would be materialised in April 1992.

JICA machines will be used for PROMET as they do not require an advanced level.

Each year we train a number of 12 groups in this field. Each group consists of 20 welding sets. ESSO only takes in one classroom. However, ESSO's training is different from BOCCARD.

BOCCARD training is:

- destructive test
- non destructive test (using gamma rays)

ESSO training is:

- destructive test
- die penetrant (last year's project)

ESSO employs experts from UK. Instructors train students. Expatriates will then train and approve licence under UK standard (international standard).

To-date 9 trainers have been trained during BOCCARD period. In BOCCARD case, students are in possession of 4 international standard licence. These students can go anywhere in the world to work in pipelines. However students with ESSO licence standard would probably have to be retested again.

BOCCARD has its own inspector.

IKM Lumut is another centre which offers welding course. Lumut offers advanced level in welding. IKM JB does not offer advance course at the moment but is in the process of changing for advance course. IKM JB does not have the experts yet. They sent one instructor in 1991 to CIAST to learn ultra-sonic testing and the instructor informed that he had passed this level. However he must go for another test to obtain certificate to qualify as instructor.

Other advanced courses:

- a. Electrical advance course - June 92
- b. Air conditioning advance course - 1993

On the issue of MLVK, all graduates take the test. Only recently the policy has been changed. Last year all students took MLVK and IKM exam. This year they will take IKM exam only. IKM certificate is an internal certificate and is equivalent to the MLVK standard. IKM certificate is accepted by the industry.

IKM started first before MLVK but MLVK wrote in to the government to recognise MLVK certificate.

IKM certificate however is not recognised by the government but factories accept IKM certificate.

MEETING BETWEEN JICA EVALUATIONAL MISSION TEAM AND IKM KL

Date : Feb. 25, 1992
 Time : 9.00a.m
 Venue : IKM KL

- Attendance:
1. Encik Badaruddin, Deputy Principal IKM
 2. Encik Sulaiman
 3. Encik Mansor, Administrative Officer, IKM
 4. Mr. Kimihiko Yanagisawa, JICA
 5. Mr. Hiroshi Shirato, JICA
 6. Mr. Ooi Peng Hong, Perunding Atur Sdn. Bhd.

Matter Discussed:

1. In general, IKM instructor are sent for training (refreshment) every 5 years or when the need arise.
2. The number of trainee as at December-May 1992 are as follow:

SEMESTER

Trade	1	2	3	4
Electrical	39	27	42	21
Refrigeration & Air-conditioning	16	15	27	11
Electronics	-	16	12	14
Gas & Arc Welding	16	14	28	14
Sheet and Metal Works	14	26	13	14
Machining	13	13	13	14
General Mechanics	-	26	41	14
Total	98	137	176	108

The norm is 1 teacher per 14 students and 1 machine per 2 students. Other wise, is due to drop out or additional trainee from other agencies. For instance if there are 16 trainee, it means 4 are IKM trainee while the other 2 are from other agencies like Ministry of Refence.

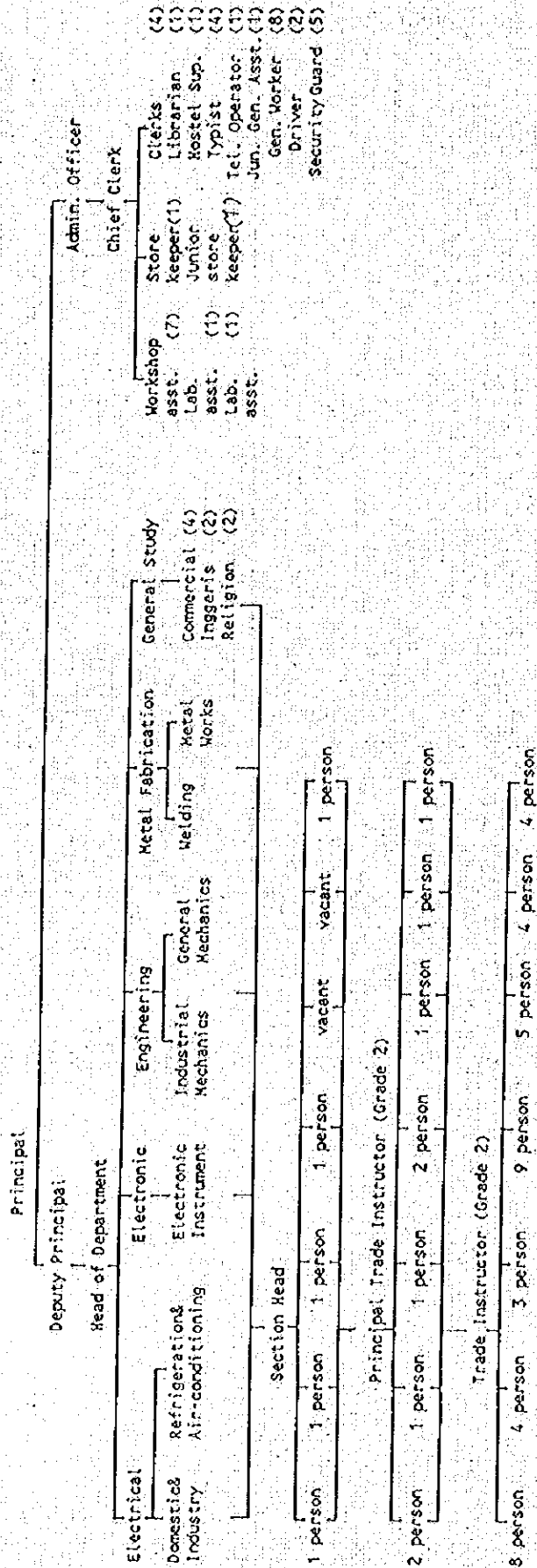
3. The electronic instrumentation is supposed to more to PJ IKM but till to date, not transfer yet. If there is not transfer by May 1992, IKM KL will take it students for this course.
 The General Mechanics will be upgraded to Industrial Mechanics by May 1992 in cooperation with Germany. Here MARA provide equipment while Germany provides one expert.

4. The number of Trainee Intake by year are as follow:

	January	July
1973	87	
1974	79	142
1975	-	180
1976	114	111
1977	125	135
1978	84	172
1979	261	161
1980	160	184
1981	171	174
1982	179	197
1983	198	240
1984	172	168
1985	152	187
1986	164	89
1987	188	177
1988	221	270
1989	118	256
1990	217	135

The total number of trainee by Dec. 1990 and June, 1991 are 5,333 and 5,668 respectively.

5. Organisation Chart of IKM KL



Total Officer & Staff = 105
 Instructor = 64
 Administrative Staff = 41

6. IKM KL conducts evening classes like, 4 classes of welding and electrical.
7. Start from June 1991, the entry test for IKM applicants is oral test (interview). After the results of examination is published. MARA officer will go to MARA state office and interview applicants. Basically, the applicants will be given trade according to their academic qualification.
8. In terms of budget, the total operating budget is \$2.6 million for 1992. The break down is as follows:

Operational/Emolument	\$1.60 million
Equipment/Training	\$0.90 million
Maintenance	<u>\$0.10 million</u>
Total	<u>\$2.60 million</u>

Each courses or department is given about \$135,000 each.
The operating budget for 1991 and 1990 are \$3.03 and \$2.75 million respectively.
Basically, the amount of budget depends on the number of students and activities.

**MEETING BETWEEN JICA EVALUATION MISSION TEAM
AND GERMAN-MALAYSIAN INSTITUTE (GMI)**

Date : Feb 25, 1992
Time : 11 a.m
Venue : GMI, Shamelin Building

- Attendance:
1. Mr. Jorg Wenzel, Director, GMI
 2. Mr. R.Sachs, Technology Transfer, GMI
 3. Mr. Kimihiko Yanagisawa, JICA
 4. Mr. Hiroshi Shirato, JICA
 5. Mr. Ooi Peng Hong, Perunding Sdn. Bhd.

Matter Discussed:

1. Mr. Yanagisawa briefed the GMI on the purpose of the visit to GMI.
2. Mr. Wenzel briefed the JICA team on GMI. At the moment, they are in the stage of preparatory works, i.e. set up of office, procurement of equipment, designing the curricula, employment and advanced training of instructors. There are 5 German experts till to date and 2 more experts will come at a later date.
3. In terms of students, the intake in June 1992 will be 100 students. The target intake is 150 students per year for a 3 years full time courses. The total students will be 450.
4. GMI plans to conduct short term course for industry.
5. GMI has already employed 14 instructor and MARA has sent 55 engineers for training in Germany last year.
6. The fields of specialization in GMI are as follows:

Production Technology:	Tool Making Mould Making Precision and CNC machining Tool Design Industrial Automation
Industrial Electronics:	Power Electronics Mechatronics Instrumentation and control Computer Electronics
7. GMI course are practical oriented where 80% is on practical and 20% on theory.

8. There are 4 departments in GMI

Production Technology
Industrial Electronics
Technology Transfer
Administration

9. The Technology Transfer department is to maintain linkages with Malaysian Industry. It will conduct in house training, such as short-term courses, and industry-support skills, development of curricula, upgrading of machinery and technical equipment and rendering services to industry.

10. GMI is legally incorporated as a company limited by Guarantee under the terms of the Companies Act. 1965.

Representatives of Industry:

- Malaysian International Chamber of Commerce and Industry (MICCI),
- Federation of Malaysian Manufacturers (FMM),
- Heavy Industry Company of Malaysia (HICOM),
- Malaysian-German Chamber of Commerce (MGCC),

Representatives of government training and development institutions:

- Majlis Amanah Rakyat (MARA)
- National Vocational Training Council (NVTC)
- German Agency for Technical Cooperation (GTZ)

Government representatives:

- Economic Planning Unit (EPU)
- Embassy of the Federal Republic of Germany

11. The running cost of GMI is at \$5 million every year. The cost per student per year is about \$20,000-\$30,000.

12. The entry for GMI instructor are:

- a. Degree/Diploma
- a. 3 years experience
- c. Industrial exposure
- d. additional training will be provided to the selected instructor.

MEETING BETWEEN JICA EVALUATION MISSION TEAM
AND INDUSTRIAL TRAINING INSTITUTE

Date: February 25, 1992
Time: 2.15pm
Venue: ITI, Pasir Gudang

- Attendance:
1. En. Wan Sha'amri b. Wan Abdul Kadir, Principal, ITI
 2. En. Zainal Arif bin Ibrahim, MARA HQ
Assistant Curriculum Development Officer
 3. Mr. Takayuki Sahara, JICA
 4. Mr. Yoshio Koyama, JICA
 5. Ms. Jayarein Nathan, Perunding Atur Sdn. Bhd.

1. Mr. Koyama briefed the meeting on the purpose of the JICA Evaluation Mission, i.e. to conduct a post-evaluation study on three JICA assisted projects in Malaysia, i.e.
 - i. Centre for Instructor and Advanced Skill Training (CIAST)
 - ii. MARA Vocational Institute, Kuala Lumpur
 - iii. MARA Vocational Institute, Johor Bharu

The main purpose of this post-evaluation study is to:

- i. evaluate whether the objectives of the project are fulfilled during as well as after the project.
- ii. evaluate the contribution of the project objectives to the higher policy level and the changes made in the projects in response to the changes in objectives, if any.

There are four areas to be examined in this study:

- i. attainment of project purpose
- ii. impact of project
- iii. efficiency of implementation
- iv. sustainability of the project
- v. relevance of the project planning

2. ITI is under the Ministry of Human Resources. There are 3 ITI's in Malaysia, 1st in Kuala Lumpur, 2nd in Prai and 3rd in Pasir Gudang.

ITI offers 10 courses:

- a. 5 courses in mechanical
 - i. General Mechanics
 - ii. General Machining
 - iii. Motor Vehicles Mechanic
 - iv. Welding
 - v. Structural Metal Preparer and Erector
- b. Electrical
 - i. Electrical Wireman
 - ii. Chageman
- c. Civil Engineering
 - i. Carpentry and Joinery
 - ii. Bricklaying
 - iii. Plumbing

Actually only 4 out of ten courses are in operation. Each course is held 6 times per year with two levels of skill, i.e. basic and intermediate.

These 4 courses are commonly known as:

- a. Welding
- b. Fabrication
- c. Electrical Wiremen/Motor Mechanic
- d. Brick Laying/Pipe & Carpentry

However there is a high demand for chageman.

There is 18.8 million allocation from government for the next 5 years. Of this allocation, 50% is for physical development (eg. building), 45% for equipment and 5% for staff development.

4 new courses are drawn in the next 5 years:

- a. Tool and Die
- b. Electronic (Industrial)
- c.
- d. Mechanical Drafting

3. Will JICA assist?

JICA is a government to government basis. If Malaysian government takes up a priority then Japan is ready.

Pasir Gudang is the most rapid industrial area in the world. State Development Economic Corporation (SEDC) holds data on this.

4. In a year about 250 participants. After plan is completed, there will be 700 per year because of high demand. Majority is for Johor area. New courses are for Johor state also.

Applicants selection is centralised. 80% are Johorians while only 20% are from other states. Certain courses not existing here, participants are sent elsewhere. Head Department decides on this.

5. Any contact with local industry?

Set up Advisory Committee. Secretary is Principal of ITI. Chairman is a Managing Director from Sime Sembawang (Singapore). 9 committee, one from a Japanese Company (Jiken Precision Engineering - high precision machines), one Korean (Kiswin Co.), Taiwan (Evergreen Heavy Industrial Co.), one from MSE Singapore (Sembawang), another from Antara Steel Mill (Malaysia) and finally a professor from a university.

6. There are about 1500 trainees per year. In order to increase output, good teaching staff is needed. The main concern here is to develop institute.

There are about 250 graduates per year. 500 are being trained per year. General Mechanics (40 students per group - 3 groups). Average number is 15.

There are 40 tutors and 20 administrative staff in ITI JB.

Transfer of tutors takes place every 5-7 years once or at times even 1 year depending on the course.

7. JB is the no.1 rapidly growing industry. Prai and Kuantan has been proposed to be privatised first. This has been published in the NST. If successful, they will privatise all other institutions.

8. If it is privatised what would you do?

We are allowed to choose either accept the offer or opt for retirement.

9. Is there possibility of privatisation?

Not sure

10. How do you operate charges?

Chargeman is the only special course. One season is charged \$2000/-. Mainly companies send their staff. Companies are charged, however it is free of charge to individual applicants. However this has resulted in companies asking employees to apply individually.

Probably under privatisation the system might change

11. Difference in courses in ITI and IKM

Almost the same. Certificate is of same standard (MVLK). ITI trains skilled workers for industry whereas IKM trains bumiputra only.

12. Upgrading of Training Schemes

ITI has customised course - depending on needs of customer.

- a. Duration is from 50 to 300 hours (6.30 am to 10pm)
- b. receive certificate of completion
- c. during semester breaks
- d. no age limit
- e. no qualification necessary
- f. tuition paid by companies
- g. \$12.50 per hour per group but not fixed (excluding material, includes theory and practical)

All monies received goes to central budget.

13. However companies are in the process of maximum capacity production. They cannot release staff. If they release staff, they loose production costs.

Another important criteria is the weekends. Government departments have their weekend on Thursday/Friday while private sector's weekend is on Saturday/Sunday.

14. Any incentives?

No incentive as not able to obtain anything as fees. All payments go to central. However tutors are paid overtime as follows:

Non degree holders	-	\$25 per hour
Degree holders	-	\$75 per hour
Diploma holders	-	\$45 per hour

ITI is now facing shortage of staff. It is a good incentive for staff to do overtime. Lecturers work about 40 hours per week.

A proposal is to be forwarded to HQ that we employ skilled workers for industry or recruit more staff or select good ones from industry to teach new recruits and pay them an allowance of \$50 per hour. Payment has to come from HQ or maybe JICA?

15. The principal took the team on a short tour of the Institute.

MEETING BETWEEN JICA EVALUATION MISSION TEAM AND MARA

Date : Feb. 25, 1992
Time : 2.30p.m
Venue : MARA HQ

- Attendance:
1. Hj. Abdul Aziz Hj. Abdul, Deputy Director (Management), MARA
 2. En. Lutfi Yusof, R & D Officer, MARA
 3. Mr. Kimihiko Yanagisawa, JICA
 4. Mr. Hiroshi Shirato, JICA
 5. Mr. Ooi Peng Hong, Perunding Sdn. Bhd.

Matter Discussed:

1. In the overall concept, GMI or FMI will, hopefully and eventually form part of the MARA Advanced Vocational Institute (IKTM).
2. There is a proposal, to upgrade the MARA courses to 3 years period till advanced level.
3. Under OISCA programme, MARA has already sent 400-500 trainees to Japan. In 1992, MARA will send another 30 trainees to Japan.
4. Besides OISCA, MARA also cooperates with other agencies like Japanese Institute of Management (JIM) where in May 1991, they will send the first batch of trainee to Japan. MARA also sent 36 trainees to France in early 1992.
5. Even though MARA main objective is to upgrade Bumiputera but its policy is not to compromise quality with this social objective. For example, at the moment, they only provide basic skill training in line with the competence level of the students.
6. En. Lutfi will furnish JICA with additional data by next week in addition to the data supplied till to date.

添付資料 4

MARA及びCIAST関連データ図表

表A.1	MARA IKM全校の訓練実績
表A.2	MARA KL及びJB訓練校の予算
表A.3	IKMの指導員数の推移
表A.4	IKMにおける職種別ポスト (1991)
表A.5	MARA IKMの入学資格
表A.6	CIASTの訓練生の推移
表A.7	CIASTの定員充足率の推移
表A.8	CIASTのコース数の推移
表A.9	アセアントレーニング実績
表A.10	CIASTの運営予算実績
表A.11	各訓練機関別NVTC技能資格取得状況
図A.1	MARA機構図
図A.2	MARA職業訓練局機構図
図A.3	MARAクアラルンプール校組織図
図A.4	MARA IKMの訓練コース
図A.5	MARA職業訓練プログラムのレベル
図A.6	IKMの訓練課程
図A.7	CIASTの組織図 (1992年)
図A.8	CIASTの情報キャッチシステム
図A.9	EPU機構図
図A.10	NVTC機構図

表A.1 MARA IKM全校の訓練実績 (I)

No.	1985		1986		1987		1988		1989		1990		Total	
	P	T	P	T	P	T	P	T	P	T	P	T	P	T
1	137	108	82	110	100	125	166	55	98	142	168	112	751	652
2	174	156	103	148	187	159	169	132	84	184	168	168	885	947
3	21	41	20	17	21	13	33	22	28	21		28	123	142
4	107	97	165	90	167	127	218	166	112	191	196	196	965	867
5	27	26	26	27	24	26	40	28	28	36	56	28	201	173
6	27	28	27	25	22	28	39	27	28	37	56	28	199	173
7	28	27	28	28	39	26	28	28	14	36	28	28	165	173
8	83	76	74	73	77	70	108	70	70	94	140	140	552	523
9	25	31	14	19	38	27	42	24	14	20	28	28	161	149
10	220	197	222	192	268	211	290	227	168	272	308	252	1,476	1,351
11	28	28	28	27	29	34	27	16	14	27	28	28	154	160
12	14	26	14	25	23	14	34		28	30	28	28	141	123
13	13	14	12	13	16	14	12	10	7	17	20	20	80	88
14	13	14	14	13	13	14	25	30	14	12	28	28	107	111
15			14		28	28	35	14	28	48	84	84	189	174
16	230	195	280	199	307	236	289	213	140	288	336	280	1,582	1,411
17	52	57	56	44	54	52	84	50	42	76	84	56	372	335
18	16	19	23	16	18	15	19	20	14	16	28	28	118	114
19	12	21	12	14	15	15	17	19	14	14	20	20	90	103
20	186	169	166	159	229	170	236	170	140	247	224	224	1,181	1,139
21	28	7	2	22	11	14	23	13	14	23	14	14	92	93
22	20	15	12	14	17	14	16	15	14	18	28	28	107	104
23	28	28	26	28	27	28	43	25	28	40	84	84	236	233
24	179	178	186	165	250	187	227	192	98	211	252	224	1,192	1,157
25	175	180	183	166	243	187	253	175	126	215	224	224	1,204	1,147
26	22	27	27	22	27	28	41	26	28	44	56	28	201	175
27	128	128	128	115	184	124	156	124	98	172	196	168	890	831
28	25	50	59	28	64	61	63	47	42	78	56	56	309	320
29													0	27
30													0	57
31													0	26
TOTAL	2,018	2,053	2,003	1,799	2,498	2,047	2,733	1,938	1,533	2,611	2,938	2,630	13,723	13,078

P: Intake T: Output

表A.1 MARA IKM全校の訓練実績 (2)

No	1985			1986			1987			1988			1989			1990			Total				
	P	T	P	P	T	P	P	T	P	P	T	P	P	T	P	P	T	P	P	T	P		
	1 ELECTROPLATING	24	28	27	24	24	24	26	32	25	28	28	30	28	28	28	30	28	28	28	28	28	163
2 RADIO AND TV MECHANICS	51	45	96	47	51	47	47	70	50	30	30	57	128	96	426	342							
3 ELECTRONIC INSTRUMENTATION	49	48	96	45	88	60	111	71	30	87	32	32	406	343									
4 INDUSTRIAL ELECTRONIC				15	49	31	0	16	64	64	113	126											
5 ENGINEERING DRAUGHTING	201	170	192	186	202	185	205	172	116	218	224	224	1,140	1,155									
6 ARCHITECTURAL DRAUGHTING	149	71	143	107	176	152	163	134	74	196	184	184	889	844									
7 CIVIL STRUCTURAL DRAUGHTING	70	16	78	51	98	94	66	56	42	106	112	112	466	435									
TOTAL	544	378	632	460	639	579	696	539	320	710	772	740	3,603	3,406									

P: Intake T: Output

Advanced

No	1985			1986			1987			1988			1989			1990			Total				
	P	T	P	P	T	P	P	T	P	P	T	P	P	T	P	P	T	P	P	T	P		
	1 BRICK LAYING AND PLASTERING							0	0	0	0	0	0	0	0	0	14	14	14	14	14	14	14
2 CARPENTRY AND JOINERY							0	0	0	22	14	14	14	14	14	36							
3 FURNITURE MAKING				15	15	0	14	14	14	14	14	14	29	43									
4 TOOL AND DIE MAKING				0	0	0	0	0	0	14	14	14	14	14									
5 REFRIGERATION AND AIR-CONDITIONING				15	15	0	0	0	0	14	14	14	29	29									
6 PIPE INSTALLATION				14	14	0	26	14	14	14	14	14	28	54									
7 GAS AND ARC WELDING				17	17	0	0	0	0	14	14	14	31	31									
8 MOTOR MECHANICS				13	0	0	0	0	0	11	14	14	27	25									
TOTAL	0	0	0	0	0	0	0	74	61	0	73	112	112	186									

P: Intake T: Output

表A.2 MARA KL及びJB訓練校の予算

	76-80	1980	1981	1982	1983	1984	1985	80-85	1986	1987	1988	1989	1990	86-90	1992	91-95
Kuala Lumpur																
Unit: 1,000M\$																
Development Budget																
Construction		350	2,900	1,250	500	500	5,000		1,370	1,745	375		3,490		1,242	
Equipment				220	220	154	594		981	684	353	323	314	2,655		11,420
Land Acquisition		550					550		66				66			
Others							0		846	141	50	94	16	1,147		
Sub-total	1,000	0	900	2,900	1,470	720	154	6,144	1,893	2,195	2,148	792	330	7,358	n.a.	12,862
Operating Budget																
Salary		1,108	1,163	610	1,282	1,347	5,510								1,400	
Transport		32	32	17	37	39	157								200	
Public Utilities		80	84	54	92	96	406									
Supply		440	462	242	509	534	2,187								990	
Maintenance		48	51	26	56	59	240								100	
Others		108	113	60	124	130	535									
Sub-total	n.a.	0	1,816	1,905	1,009	2,100	2,205	9,035	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	2,690	n.a.
Johor Bahru																
Development Budget																
Construction		300	700				1,000		189	1,874	2,249	375		4,687		2,654
Equipment		120	400	400	200	200	220	1,540	1,406	1,263	1,986	802	892	6,349		8,200
Land Acquisition							0		98	309	115	16		538		
Others							0							0		
Sub-total	2,000	120	700	1,100	200	200	220	2,540	1,693	3,446	4,350	1,193	892	11,574	n.a.	10,854
Operating Budget																
Salary		779	1,113	1,168	1,227	1,288	1,352	6,927								
Transport		21	32	33	35	37	39	197								
Public Utilities		50	71	75	79	82	87	444								
Supply		204	286	301	316	331	348	1,786								
Maintenance		22	27	28	30	31	33	171								
Others		103	93	100	105	110	116	627								
Sub-total	n.a.	1,179	1,622	1,705	1,792	1,879	1,975	10,152	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

表A.3 IKMの指導員数の推移 (退職者も含む各期間中の採用者数)

Bil.	IKM	Year	1970 - 1975	1976 - 1980	1981 - 1985	1986 - 1990	1991 - 1992	Total
1.	Kuala Lumpur		12	22	20	10	1	65
2.	Johor Bahru		6	20	30	15	3	74
3.	Sg. Petani		6	22	31	12	0	71
4.	Petaling Jaya		7	8	6	10	4	35
5.	Sarawak		5	21	27	23	0	76
6.	Jasin		12	23	34	13	0	82
7.	Lumut		8	30	50	20	0	108
8.	Alor Setar		3	10	9	6	0	28
9.	Pekan		6	29	31	17	0	83
TOTAL:			65	185	238	126	8	622

SOURCE: Research And Development Department (MARA) 1992 March.

表A.4 IKMにおける職種別ポスト (1991) (1)

POST	SALARY GRADE	PL	SP	JB	KL	LTM	AS	PKN	SWK	MLK	BESUT	TOTAL
1 PRINCIPAL	A10/A12/I1, A18/22/24	1	1	1	1	1	1	1	1	1	(1)	10
2 DEPUTY PRINCIPAL	A18/11/B01	1	1	1	1	1	1	1	1	1	-	9
3 ASSISTANT ADMINISTRATIVE OFFICER	B04/B11	1	1	1	1	1	1	1	1	1	(1)	10
4 CHIEF CLERK	C03	-	1	1	1	1	-	1	1	1	-	7
5 WORKSHOP/ LABORATORY ASSISTANT	C07/C11	4	8(1)	11	7	13	4	14	8	10	(6)	85
6 STORE KEEPER	C11	1	1	1	1	1	1	1	1	1	(1)	10
7 LIBRARIAN	C11	1	1	1	1	1	1	1	1	1	(1)	10
8 CLERK	C11	2	4	4	4	4	2	4	3	4	(2)	33
9 MACHINE OPERATOR/ TECHNICIAN	C14-1/C07	-	1	1	1	1	1	1	1	1	(2)	10
10 JUNIOR STORE KEEPER	D11	1	2	1	2	1	1	3	-	1	(1)	13
11 TYPIST	D11	2	4	4	4	4	2	4	3	4	(2)	33
12 JUNIOR GENERAL ASSISTANT (LABORATORY)	D27	-	1	-	1	-	-	-	-	1	-	3
13 JUNIOR GENERAL ASSISTANT (OFFICE)	D27	1	1	1	1	1	1	1	1	1	(1)	10
14 JUNIOR GENERAL ASSISTANT (HOUSE KEEPER)	D27	-	1	1	1	1	1	1	-	-	-	6
15 DRIVER	D43-1	2	3	3	3	3	2	4	3	3	(2)	28
16 SECURITY GUARD	D46	1	6	5	6	5	6	5	6	6	-	46
17 ASSISTANT	D47	3	8	10	4	9	3	10	8	10	-	65

表A.4 IKMにおける職種別ポスト (1991) (2)

POST	SALARY GRADE	PL	SP	JB	KL	LTM	AS	PKN	SWK	MLK	BESUT	TOTAL
18 HOSTEL SUPERVISOR	C11	-	1	1	1	1	1	1	1	1	-	8
19 JUNIOR GENERAL ASSISTANT (HOSTEL)	D27	-	6	8	4	5	2	6	4	5	-	40
<u>INSTRUCTOR</u>												
<u>A) TECHNICAL</u>												
20 HEAD OF COURSE	A18/11/22/24	2	2	3	2	2	-	2	-	2	-	16
21 SPECIAL GRADE I/ HEAD OF DEPARTMENT	B03	1	3	5	3	5	2	4	2	3	-	28
22 FACTORY MANAGER	B03	-	-	-	-	-	-	1	-	-	-	1
23 GRADE I/UNIT HEAD/ ADVANCED COURSE INSTRUCTOR	B08/B09	8	11	17	11	19	5	17	8	12	-	108
24 SPECIAL GRADE II	C02/C03	6	12	12	8	19	5	14	15	14	-	105
25 GRADE II	C07/C11	27	51	48	32	82	20	54	59	66	(21)	460
<u>B) GENERAL STUDY</u>												
26 SPECIAL GRADE I COMMERCIAL TEACHER/HEAD OF DEPARTMENT	B03	-	-	-	1	1	-	-	-	1	-	3
27 COMMERCIAL TEACHER	B09	2	4	4	3	3	2	4	4	3	(1)	30
28 SENIOR ENGLISH LANGUAGE TEACHER	C02	-	-	-	-	1	-	-	-	-	-	1
29 ENGLISH LANGUAGE TEACHER	C08	2	3	2	2	2	2	2	3	3	(1)	22
30 RELIGION TEACHER	B08,C08	2	3	3	2	3	2	2	3	3	(1)	24
TOTAL		71	142	150	109	191	69	160	138	160	(44)	1,234

NOTE () - VACANT POST

表A5 MARA IKMの入学資格 (1)

NO	COURSE NAME	(I) VOCATIONAL CERTIFICATE STAGE (TRADE) INTERMEDIATE STAGE (2 YEARS)				TEST/ CERT. (1)	(II) VOCATIONAL CERTIFICATE STAGE (TRADE) ADVANCED STAGE (1 YEAR)		TEST/ CERT. (4)
		ACADEMIC / TECHNICAL QUALIFICATION OF APPLICANT					ACADEMIC / TECHNICAL QUALIFICATION OF APPLICANT LCE + NVTC (INT.) MCE/MCE (V) + OR IKM CERT. (3)	SPECIALISED SUBJECT	
		PASSED LCE	LCE SUBJECT PASS	PASSED MCE/MCE(V)	MCE/MCE(V) SUBJECT PASS				
1	Building Construction	X	Mathematics (Credit)			X	General (2)	X	
2	Painting & Decoration	X				X	General	X	
3	Pipe Installation	X	Mathematics (Credit)						
4	Air Conditioning			X	Mathematics/ Science	X		1. Industrial Refrigeration or 2. Industrial Air-Cond	
5	Timber Milling	X				X		1. Mill Wright or 2. Timber Drving	
6	Timber Processing	X				X	General	X	
7	Furniture Making	X				X	General	X	
8	Cushion & Canvas Works	X				X	General	X	
9	Carpentry & Joinery	X				X	General	X	
10	Industrial Mechanics			X	Mathematics/ Science	X		1. Plant Repair/Maintenance (Production Line) or 2. Mechanical Rep/Maintenance or 3. Machine Tool Rep/Maintr	
11	General Machining			X	Mathematics/ Science	X		1. Precision machining or 2. Mould making (Acuan) or 3. Auto machinist or 4. Alar Tekan (Press Tools)	

表A-5 MARA IKMの入学資格 (2)

NO	COURSE NAME	(1) VOCATIONAL CERTIFICATE STAGE (TRADE) INTERMEDIATE STAGE (2 YEARS)					(II) VOCATIONAL CERTIFICATE STAGE (TRADE) ADVANCED STAGE (1 YEAR)				TEST/ CERT. (4)	
		ACADEMIC / TECHNICAL QUALIFICATION OF APPLICANT					TEST/ CERT. (1)	ACADEMIC / TECHNICAL QUALIFICATION OF APPLICANT				SPECIALISED SUBJECT
		PASSED LCE	LCE SUBJECT PASSED	MCE/MCE(V) SUBJECT PASSED	MCE/MCE(V) SUBJECT PASS	MCE/MCE(V) SUBJECT PASS		LCE + NVTC (INT.) OR IKM CERT. (3)	MCE/MCE (V) + NVTC (INT.) OR IKM CERT. (3)	MCE/MCE (V) + NVTC (INT.) OR IKM CERT. (3)		
12	Foundry & Modelling			X	Mathematics/ Science	X		X		1. Foundry or 2. Modelling	X	
13	Motor Mechanics			X	Mathematics/ Science	X		X		1. General or 2. Electric Automotive	X	
14	Marine Mechanics			X	Mathematics/ Science	X		X		1. General or 2. Electric Automotive	X	
15	Marine Mechanics			X	Mathematics/ Science	X		X		1. General of 2. Electric Automotive	X	
16	Heavy Commercial Vehicle Mechanics	X				X	X			General	X	
17	Panel Beating Supply Painting	X				X	X			General	X	
18	Welding					X	X			General	X	
19	Metal Fabrication			X	Mathematics	X		X		General	X	
20	Motor Cycle Mechanics	X	Mathematics			X		X		General	X	
21	Tailoring	X				X		X		General	X	
22	Sheet/Metal Plate Works			X	Mathematics	X		X		General	X	
23	Electric			X	Mathematics/ Science	X		X		1. Wiring Phase 3, or 2. Charge-man A0 or A4	X	
24	RTV Mechanics			X	Mathematics/ Science	X		X		1. General or 2. Computer Mechanics	X	
25	Electronic Instrumentation Mechanics			X	Mathematics/ Science	X		X		1. General or 2. Computer Mechanics	X	

表A.5 MARA IKMの入学資格 (3)

NO	COURSE NAME	(1) VOCATIONAL CERTIFICATE STAGE (TRADE) INTERMEDIATE STAGE (2 YEARS)						(2) VOCATIONAL CERTIFICATE STAGE (TRADE) ADVANCED STAGE (1 YEAR)			TEST/ CERT. (4)	
		ACADEMIC / TECHNICAL QUALIFICATION OF APPLICANT						ACADEMIC / TECHNICAL QUALIFICATION OF APPLICANT	SPECIALISED SUBJECT			
		PASSED LCE	LCE SUBJECT PASS	PASSED MCE/MCE(V)	MCE/MCE(V) SUBJECT PASS	TEST/ CERT. (1)	LCE + NVTC (INT.) OR IKM CERT. (3)			MCE/MCE (V) + NVTC (INT.) OR IKM CERT. (3)		
26	Industrial Electronic Mechanics			X			Mathematics/ Science	X		X	1. General or 2. Computer Mechanics	X
27	Mechanical Engineering Draughting			X			Mathematics/ Science	X		X	Processing (Oil & Gas) (5)	X
28	Architectural Draughting			X			Drawing or Mathematics/ Science	X		X	General	X
29	Civil Engineering Draughting			X			Mathematics/ Science	X		X	General	X
30	Electroplating			X			Chemistry	X		X	General	X

NOTE

- 1) Final test for Intermediate Stage Certificate purposes will be carried out at end of third semester as practiced now.
- 2) "General (UNLUM)" means corresponding courses for advanced level.
- 3) Or same standard
- 4) Final test for Advanced Stage Certificate purposes will be conducted at end of fourth semester
- 5) Piping/Instrumentation/Electrical or Piping/Instrumentation/Structural Subjects.

表A.6 CIASTの訓練生の推移

	1984	1985	1986	1987	1988	1989	1990	1991	Total
指導員コース									
公共		122	238	137	135	258	172	152	1214
民間		22	30	27	124	98	100	145	546
計	(100)	144	268	164	259	356	272	297	1860
監督者コース									
公共		33	17	65	163	97	61	152	588
民間		12	41	65	188	135	103	277	821
計	(0)	45	58	130	351	232	164	429	1409
上級技能者コース									
公共		120	184	252	222	318	424	371	1891
民間		30	116	147	141	198	213	364	1209
計	(12)	150	300	399	363	516	637	735	3100
公共		275	439	454	520	673	657	675	3693
民間		64	187	239	453	431	416	786	2576
計	(112)	339	626	693	973	1104	1073	1461	6269

* 合計の数値は1985～1991年迄の累計で、これに1984年度分112名とアセメントレーニン157名を加えて総計6,538人となる。

表A.7 CIASTの定員充足率の推移

	1984	1985	1986	1987	1988	1989	1990	1991	Total
	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
1. Instructor	109	103	124	100	90	107	108	83	100
2. Supervisor		56	88	76	81	84	91	115	89
3. Automotive	60	77	69	86	75	59	82	69	73
4. Machine operation & die making		50	49	55	45	52	59	84	62
5. Forging and heat treatment		40	35	56	38	44	19	63	45
6. Welding & metal fabrication		10	53	53	72	68	77	80	69
7. Press work		13		30	53	38	42	80	45
8. Foundry & casting		60	28	46	36	34	36	44	37
9. Rubber moulding			40	43	10		81	93	37
10. Plastic moulding		43	45	30	42	66			67
11. Electrical		53	69	53	52	60	72	71	69
12. Electronic		40	40	53	27	46	59	21	59
13. Instrumentation & automatic control		50	66	53	44	49	48	81	53
Total		68	77	67	68	73	78	88	

表A.8 CIASTのコース数の推移

	1984	1985	1986	1987	1988	1989	1990	1991	Total
指導員コース		11	16	13	24	27	21	30	142
監督者コース		7	6	16	36	23	15	31	134
上級技能者コース		30	59	79	81	102	113	107	571
計	0	48	81	108	141	152	149	168	847

表A.9 アセアントレーニング実績

Module Name	1st. (7th. Feb. - 5th. March 1988)			2nd. (7th. Nov. - 2nd. Dec. 1988)			Sub Total	Indonesia	Philippines	Thailand	Malaysia	Singapore	Brunei	Sub Total	
	Indonesia	Philippines	Thailand	Malaysia	Singapore	Brunei									
Fuel Injection System Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Contact Circuit Relay Maintenance and Repair	3	2	3	3	3	0	12	2	2	2	2	2	1	10	0
Electronic Fuel Injection System	0	0	0	0	0	0	0	1	2	2	2	1	1	8	0
Motor Automatic Control	0	0	0	0	0	0	0	2	1	2	3	1	1	9	0
Feedback Control & Introduction to Distributed Control System	0	0	0	0	0	0	0	1	2	1	1	1	2	7	0
NC Machining	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Training Administration	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Module Training System Design	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Plastic Mould Making	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gauging & Resizing System in Foundry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TIG Arc welding	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Plastic Injection Moulding Technique	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shaping Die Making	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Automatic Transmission Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ultrasonic Testing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	6	5	7	6	0	0	24	6	7	7	9	5	0	34	

Module Name	3rd. (13th. Aug. - 29th. Oct. 1988)			4th. (3rd. Sept. - 26th. Oct. 1990)			Sub Total	Indonesia	Philippines	Thailand	Malaysia	Singapore	Brunei	Sub Total	Total of ASEAN Training			
	Indonesia	Philippines	Thailand	Malaysia	Singapore	Brunei									Indonesia	Philippines	Thailand	
Fuel Injection System Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Contact Circuit Relay Maintenance and Repair	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Electronic Fuel Injection System	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Motor Automatic Control	2	1	2	1	1	1	10	6	4	4	6	4	2	26	0	21	0	
Feedback Control & Introduction to Distributed Control System	2	3	3	1	1	0	10	0	4	4	5	4	2	25	0	19	0	
NC Machining	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Training Administration	1	3	3	3	3	0	16	0	1	0	3	3	0	16	0	10	0	
Module Training System Design	3	3	3	3	3	0	18	0	2	2	3	3	0	18	0	12	0	
Plastic Mould Making	2	1	3	1	1	0	8	0	0	1	3	0	1	7	0	7	0	
Gauging & Resizing System in Foundry	3	1	3	1	1	0	9	0	0	3	1	3	0	9	0	8	0	
TIG Arc welding	3	2	2	2	2	0	14	0	2	2	2	2	0	14	0	9	0	
Plastic Injection Moulding Technique	2	2	3	1	1	0	9	0	0	2	2	2	1	9	0	7	0	
Shaping Die Making	0	0	0	0	0	0	0	2	2	2	1	1	1	8	0	8	0	
Automatic Transmission Services	0	0	0	0	0	0	0	0	2	2	2	1	1	7	0	7	0	
Ultrasonic Testing	0	0	0	0	0	0	0	0	2	2	2	2	0	8	0	7	0	
Total	18	16	22	11	4	0	71	7	7	8	3	3	0	28	37	44	29	157

表A.10 CIAST の運営予算実績

	1985	1986	1987	1988	1989	1990	1991
Salary and Wages	745,132.20	882,058.24	861,172.23	789,453.72	982,010.67	1,061,373.26	1,085,212.84
Fixed Allowances	74,243.70	73,752.83	72,296.49	66,174.19	73,465.00	112,908.91	164,892.08
Additional Personal costs	43,198.00	48,072.00	46,272.00	45,594.00	54,310.00	61,749.00	72,348.00
Overtime Allowances	5,746.09	8,969.00	5,361.95	7,167.00	6,116.40	7,049.04	8,025.76
Other Financial benefit	40.00	40.00	20.00	20.00	20.00	40.00	40.00
Sub-total (1)	868,359.99	982,892.07	985,123.27	908,408.91	1,115,922.07	1,243,120.21	1,330,478.68
Transportation of persons and expenditure on subsistence	10,939.52	30,173.52	23,449.80	44,669.24	50,008.32	79,480.71	95,909.84
Transportation of things	1,572.05	3,824.00		843.00	384.00	4,130.00	2,809.63
Communication and Utility	149,213.81	162,781.82	157,201.77	160,596.41	170,080.55	180,414.67	188,253.37
Rental	1,030.00	1,072.00	1,637.00	2,866.00	2,559.65	5,896.00	8,670.60
Raw material and Maintenance	16,691.02	252,466.00	186,121.38	149,638.01	266,693.94	260,961.36	281,224.72
Supplies and others	257,975.50	51,500.00	90,500.62	89,293.15	86,871.61	103,122.42	106,155.72
Minor service and maintenance	51,689.40	76,390.83	71,912.17	71,551.95	104,192.92	155,959.89	199,408.68
Professional services and hospitality	16,436.65	24,917.76	22,181.36	24,588.74	54,169.05	46,896.74	79,565.69
Sub-total (2)	505,547.95	603,125.93	553,004.10	544,046.50	734,960.04	836,861.79	961,998.25
Building and Repair of Buildings					9,110.00		7,380.00
Facilities and repair of Facilities	2,203.00		19,590.00	4,550.00		4,044.00	1,675.00
Other assets		9,380.00	4,989.00	683.65	10,970.16	13,729.57	19,712.71
Sub-total (3)	2,203.00	9,380.00	24,579.00	5,233.65	20,080.16	17,773.57	28,767.71
Grand Total	1,376,110.94	1,595,398.00	1,562,706.37	1,457,689.06	1,870,962.27	2,097,755.57	2,321,244.64
				Annual Average			1,754,552

表A.11 各類職業訓練(NVTC)技能發展取錄情況 (1990年)

ITI	MARA												Ministry of Vocational Training Center												Ministry of Private Agriculture Company												Rest of Theory												Total																																																																																																																																																							
	Youth				Defence				Individual				Others				Agriculture Company				Agriculture Company				Theory				Theory																																																																																																																																																																											
	U	L	U	L	U	L	U	L	U	L	U	L	U	L	U	L	U	L	U	L	U	L	U	L	U	L	U	L	U	L	U	L																																																																																																																																																																								
Basic																																																																																																																																																																																																								
AUTOMOTIVE TRADES	380	174	754	364	185	90	598	195	155	74	23	4	59	14	379	161	148	55	401	155	412	150	3494	1436	214	142	747	381	204	127	269	130	31	14	17	7	8	2	50	22					188	73	1728	903	778	594	687	426	324	252	1524	672	78	38	96	35	59	23	50	35			9	0	127	63	1753	753	1181	675	1917	1061	203	73	1212	342	51	17	78	44	39	12	110	23			225	74	363	173	5379	2499	76	50	355	193	143	83					243	128					60	19			407	193	225	89	1509	754	588	226															5	5			13	9	11	7	29	21	2768	1691	5697	2973	1403	813	4020	1509	336	162	532	241	179	59	796	335	148	55	2215	878	2210	837	20244	9453																												
TOTAL																																																																																																																																																																																																								
Intermediate																																																																																																																																																																																																								
AUTOMOTIVE TRADES	247	131	530	272	121	69	594	194	117	60	14	3	25	4	286	135	111	46	291	105	302	116	2838	1125	146	104	450	277	181	119	251	135	24	12	17	7	4	0	32	18					184	61	1239	723	148	79	534	252	102	58	270	85	17	16	41	12	8	2	58	25			9	0	90	49	1297	578	512	425	431	279	154	132	1516	670	55	33	62	30	43	27	50	36			349	350	574	204	4246	2186	816	503	1366	859	178	66	1180	332	40	16	53	29	29	9	103	25			211	71	316	159	4292	2089	50	39	329	180	136	80					176	90					51	15			203	105	127	54	1072	563	493	189																			13	9	6	5	19	14	1869	1242	3874	2167	1065	624	3947	1486	253	137	388	182	111	42	580	254	111	46	1595	650	1591	672	15384	7502				
TOTAL																																																																																																																																																																																																								
Advanced																																																																																																																																																																																																								
AUTOMOTIVE TRADES	133	43	224	92	54	21	4	1	38	14	9	1	22	9	93	26	37	9	110	50	110	34	844	300	58	38	287	102	23	8	18	5	7	2					18	4							54	17	479	178	67	27	286	110	30	20	4	2	4	3	8	0	4	1	17	10							37	14	457	187	256	159	256	147	170	120	8	2	23	5	34	5	16	1					292	87	261	47	1326	583	365	172	540	197	25	7	32	10	11	1	25	15	10	3	7	3			14	3	47	14	1076	425	26	11	26	13	7	3					67	36					9	3			204	88	98	35	437	191	95	37															5	5					5	2	10	7	999	449	1714	696	338	189	73	23	83	25	143	59	56	18	216	61	37	9	620	228	619	165	4798	1940
TOTAL																																																																																																																																																																																																								
U: 受檢者數																																																																																																																																																																																																								
T: 合格者數																																																																																																																																																																																																								

圖A.1 MARA機構圖

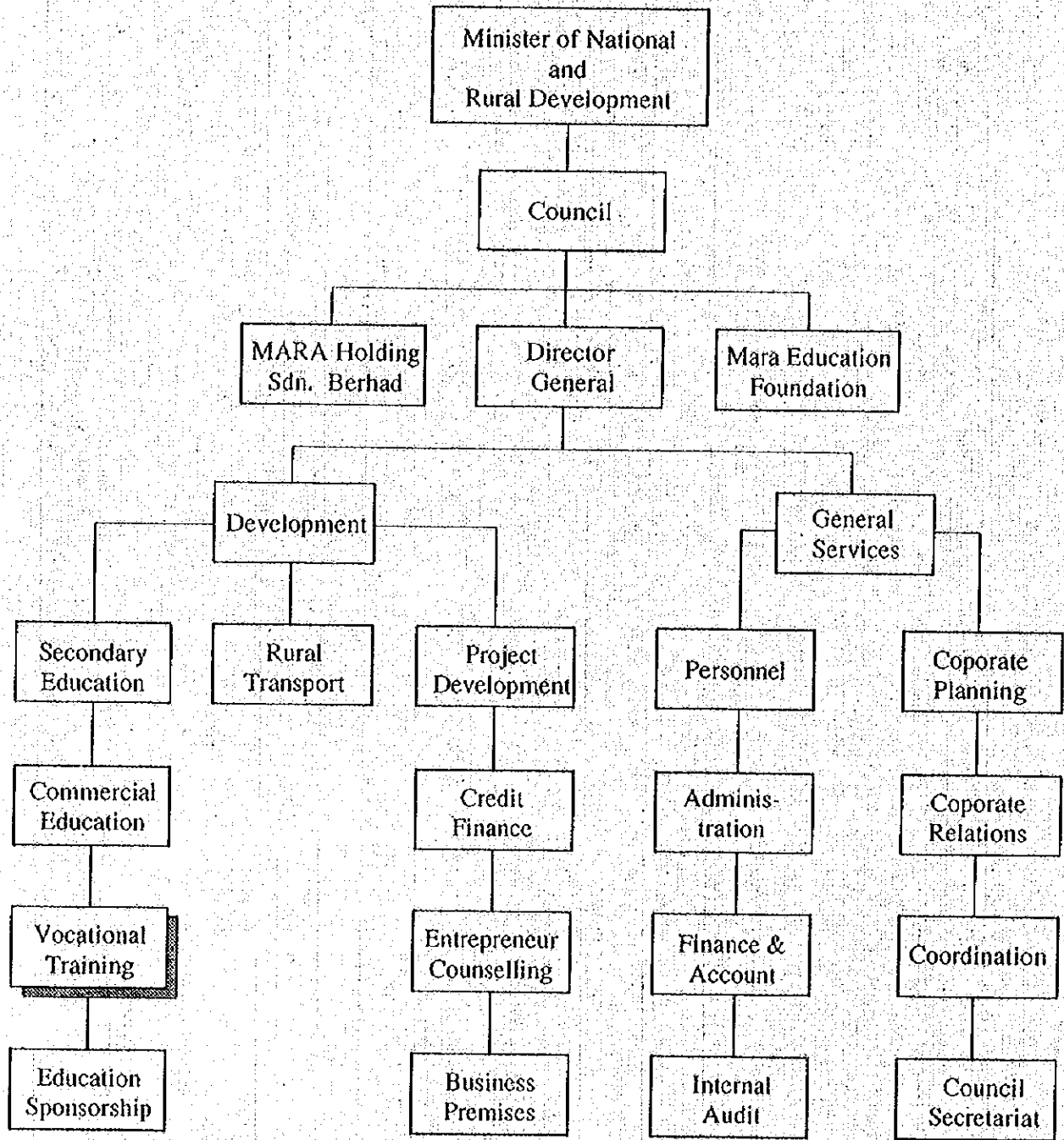
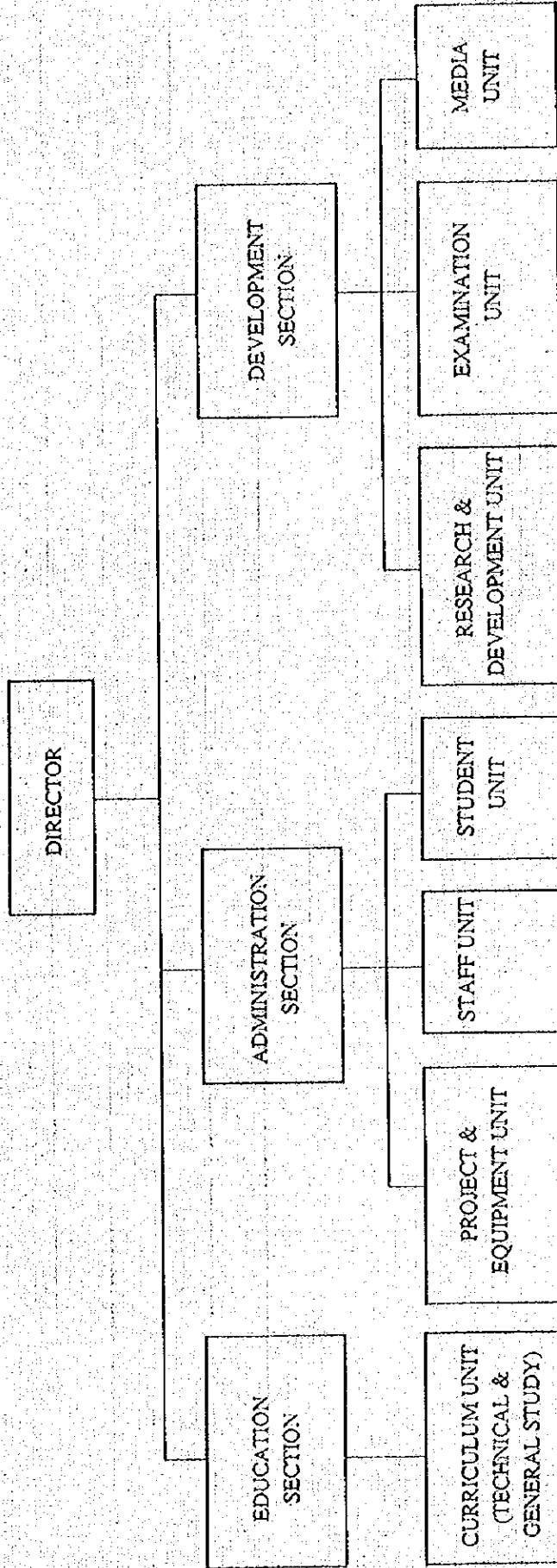
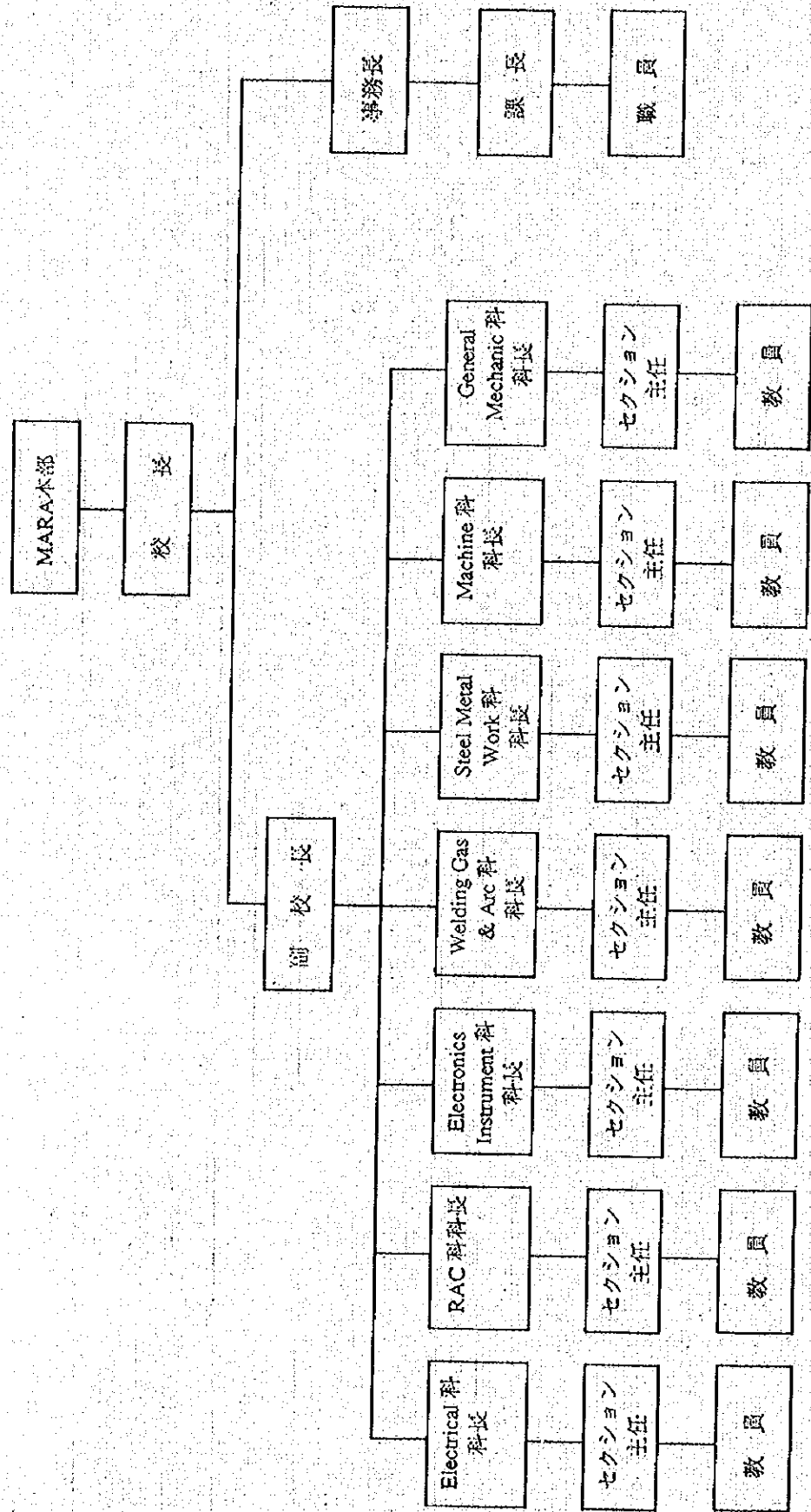


圖 A.2 MARA 職業訓練局機構圖

VOCATIONAL TRAINING



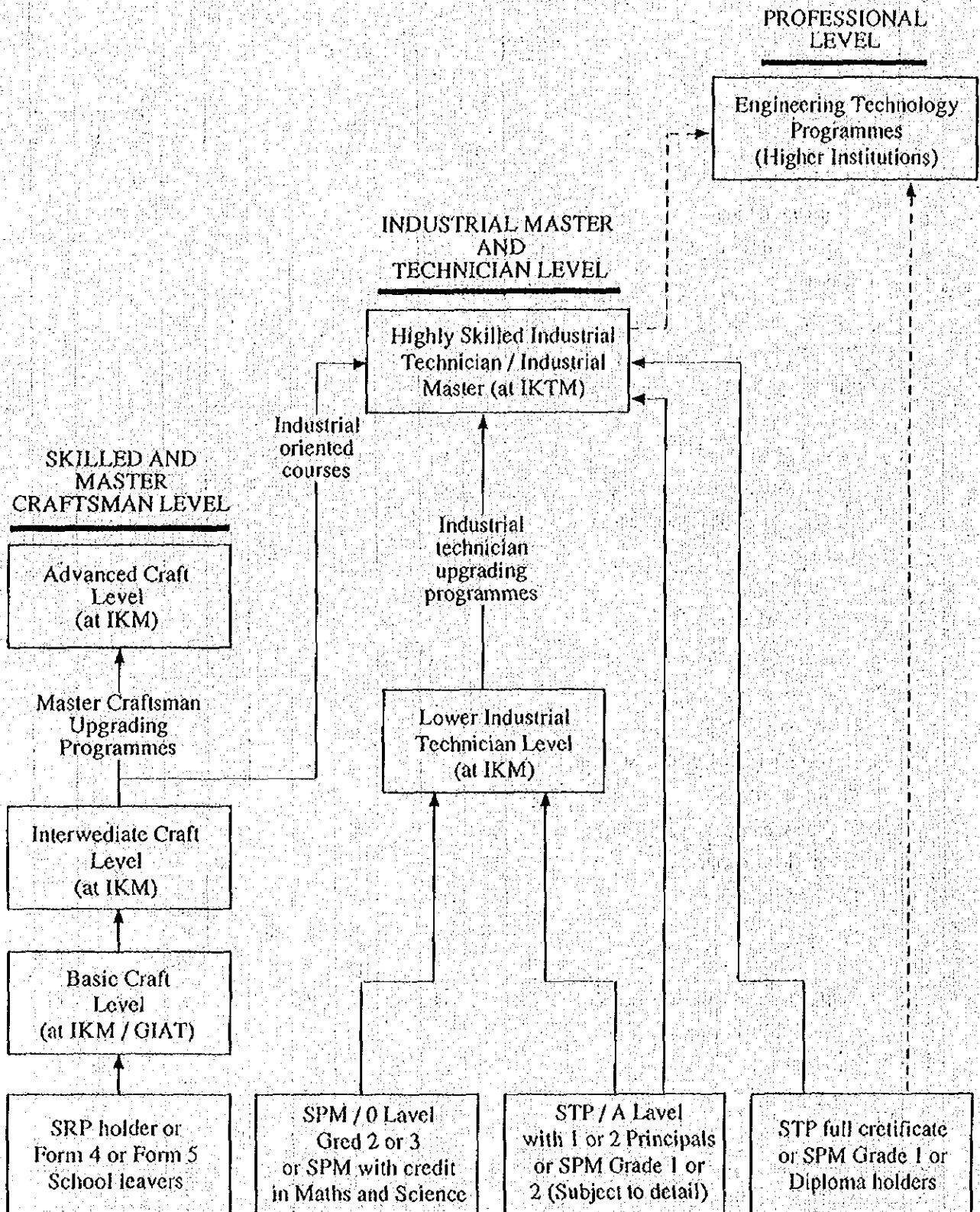
図A.3 MARAクアラルンプール校組織図



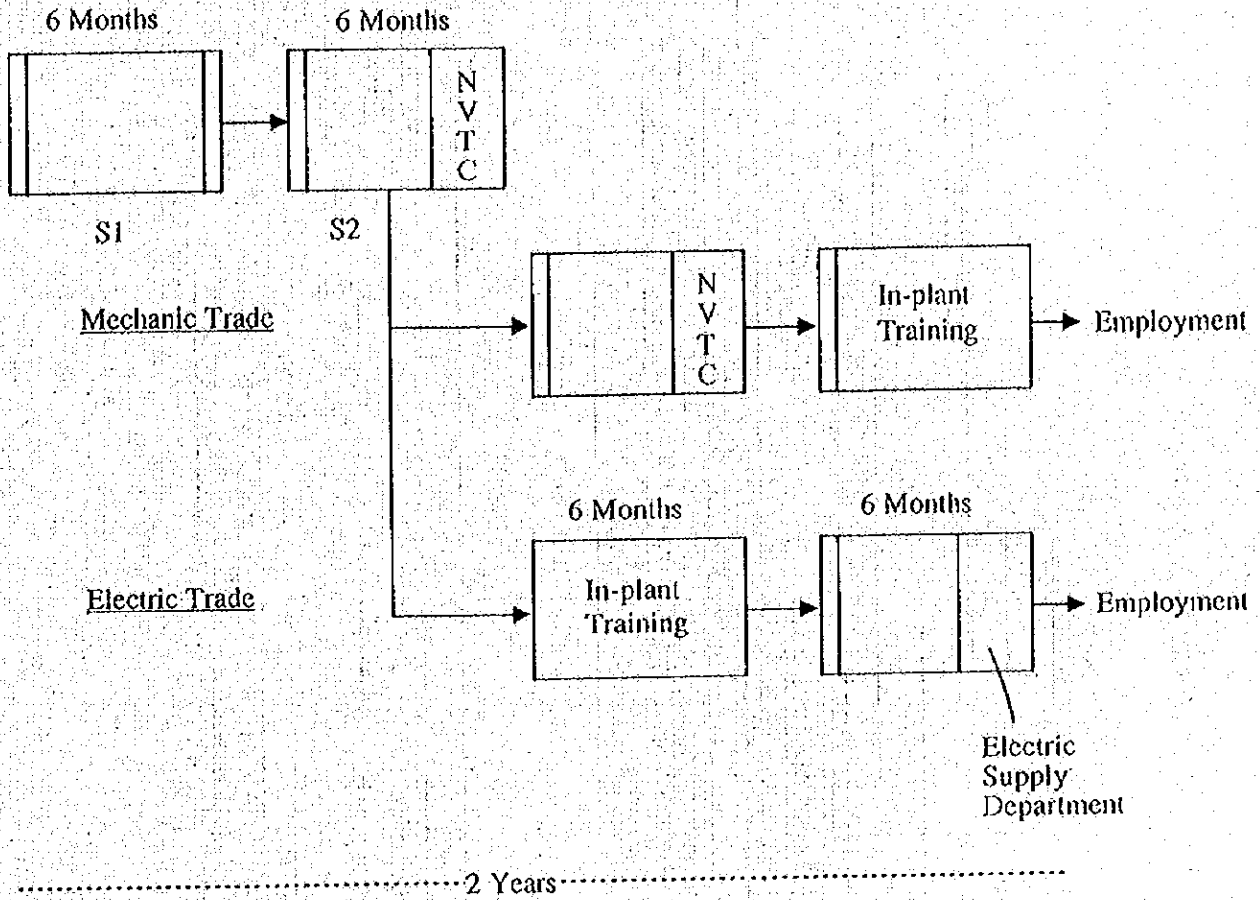
図A.4 MARA IKMの訓練コース

CRAFTSMAN	COURSES	LOCATION											
		NOS	Sarawak	K. Lumpur	P. Jaya	Jasin	J. Bahru	Pekan	Lumut	S. Petani	A. Setar	Berseri	Besut
Building	1 Building Technology		●					●	●	●	●		
	2 Carpentry and Joinery		●					●	●	●	●		
	3 Pointing and Decoration									●			
	4 Plumbing		●					●	●	●			
Wood Work	5 Furniture and Cabinet Making		●					●	●	●	●		
	6 Wood Processing Technology							●					
	7 Upholstery								●	●			
	8 Sawmill Operation							●					
Mechanics	9 General Machining			●		●		●	●				
	10 Industrial Mechanics			●									
	11 Sheet and Metal plate Fabrication			●									
Metal Work	12 Welding		●	●		●		●	●				●
	13 Metal Fabrication								●			●	●
	14 Electroplating						●						
	15 Foundry and Pattern Marking								●				
	16 Motor Mechanics		●			●			●				
Automotive	17 Heavy Machinery Mechanics					●							
	18 Heavy Commercial Vehicle Mechanics						●						
	19 Marine Mechanics						●					●	
	20 Panel Beating and Spray Painting		●			●			●				
	21 Motorcycle Mechanics		●			●							
	22 Electric Automotive					●							
Electric	23 Electric Chagemon		●	●		●		●		●			
	24 Electric Wireman		●			●		●	●			●	●
	25 Refrigeration and Air Conditioning			●			●					●	●
Electronic	26 Radio & TV Mechanics						●					●	
	27 Electronic Instrumentation			●	●		●					●	●
	28 Industrial Electronic			●	●							●	
Drafting	29 Computer Mechanics				●								
	30 Engineering Drafting				●	●	●	●	●				●
	31 Architectural Drafting				●			●	●	●			
Tailoring	32 Civil Structural Drafting								●	●			
	33 Tailoring					●							

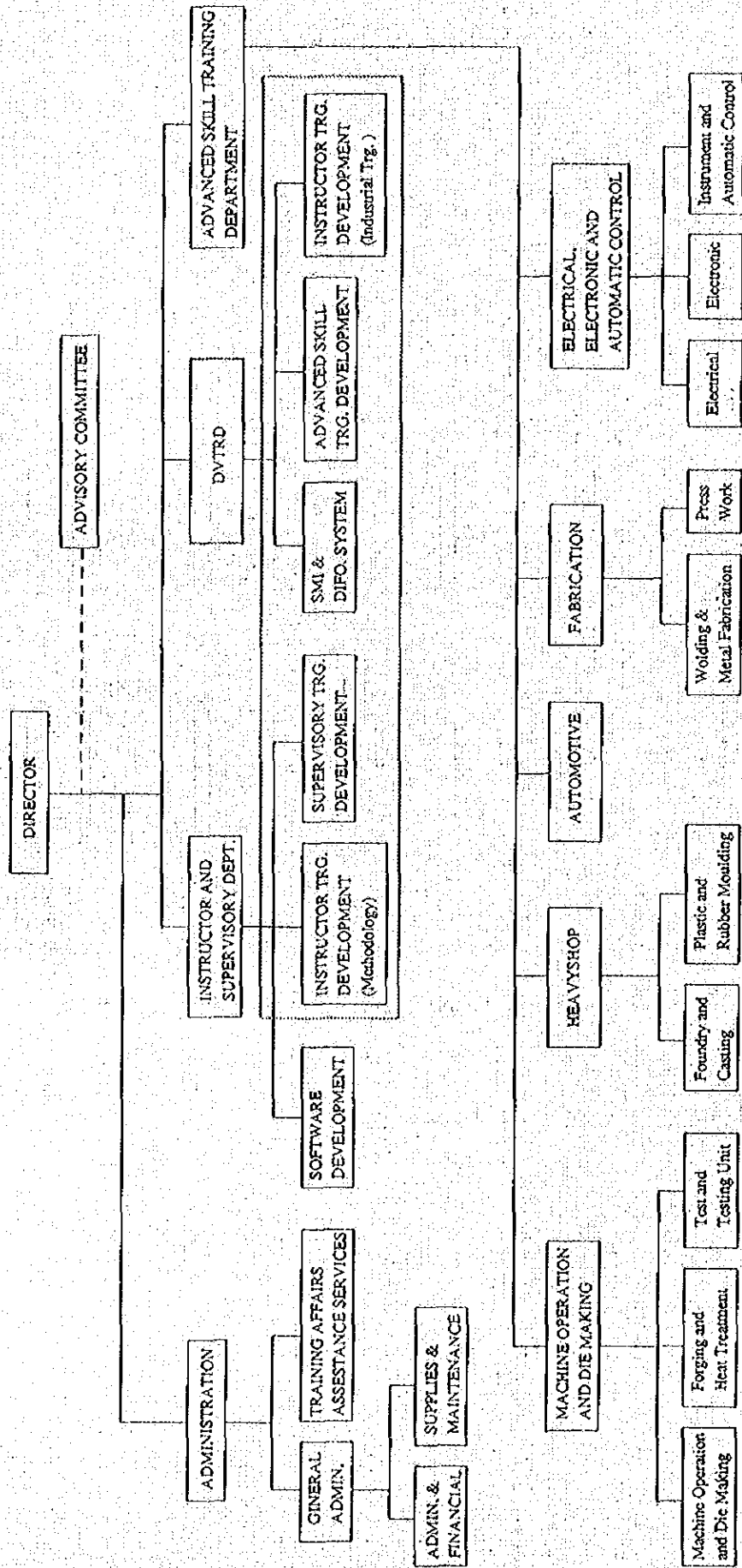
図A.5 MARA 職業訓練プログラムのレベル



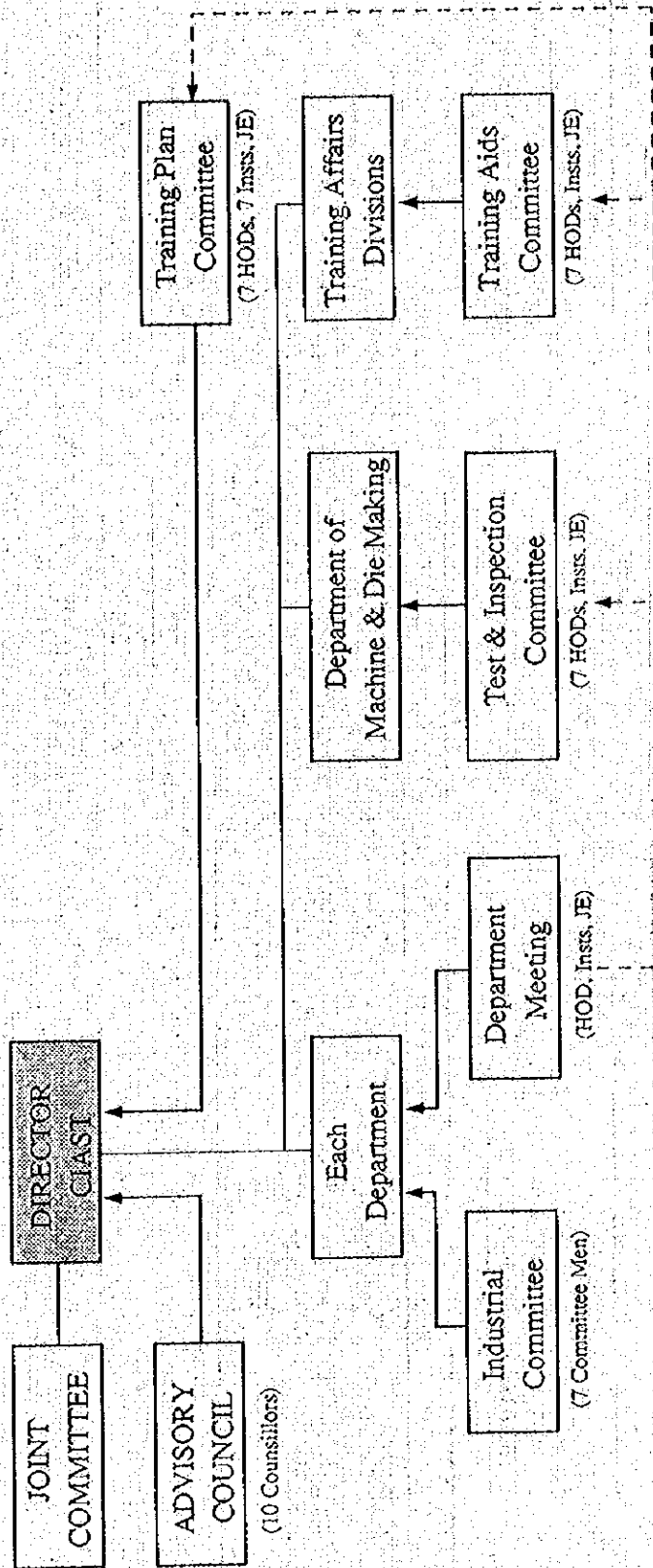
図A.6 IKMの訓練過程



図A.7 CIASTの組織図 (1992年)



図A.8 CIASTの情報キャッチシステム



NOTE:

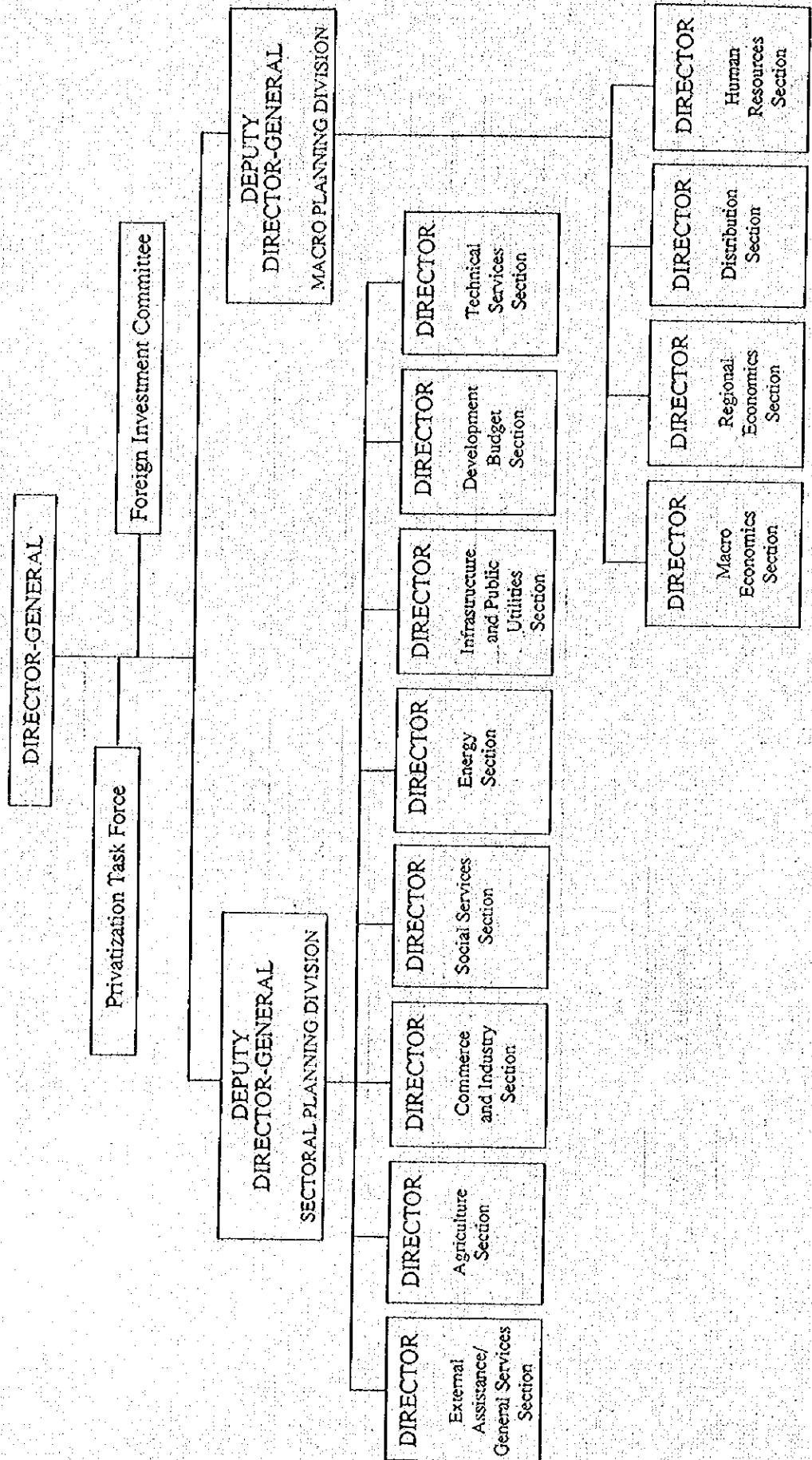
1: SHOWS THE RELATION OF DIRECTING

2: SHOWS THE RELATION OF ADVISING

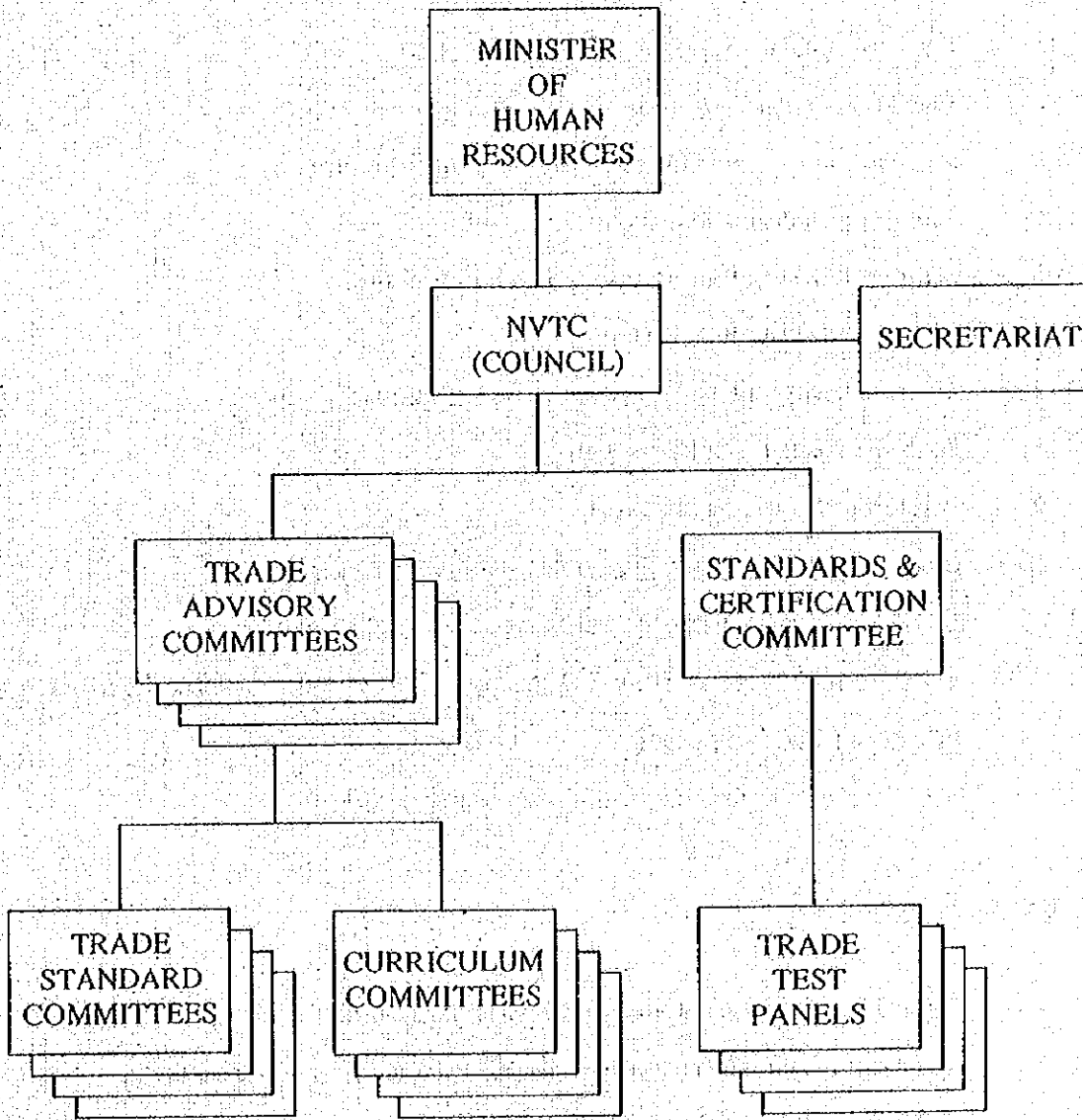
3: SHOWS RELATION OF SENDING REPRESENTATIVES

4: TRAINING PLAN COMMITTEE IS RESPONSIBLE FOR REPORTING AND ADVISING ON SUCH MATTERS COMMON IN ALL DEPARTMENT AS (1) TRAINING NEED FROM INDUSTRIAL SOCIETY, (2) TRAINING CURRICULUM DEVELOPMENT, (3) TRAINING EQUIPMENT UTILIZATION, (4) TRAINING EVALUATION, (5) PUBLIC RELATIONS, ETC TO DIRECTOR

図 A.9 EPU 機構図



圖A.10 NVTC 機構圖



添付資料 5

収集資料リスト

1. マクロ政策・開発計画経済関連資料

- 1-1 The Second Outline Perspective Plan, 1991-2000, 1991
- 1-2 Third Malaysia Plan, 1976-1980, 1976
- 1-3 Mid-Term Review of the Fifth Malaysia Plan, 1976-1980, 1979
- 1-4 Forth Malaysia Plan, 1981-1985, 1981
- 1-5 Mid-Term Review of Forth Malaysia Plan, 1981-1985, 1984
- 1-6 Fifth Malaysia Plan, 1986-1990, 1986
- 1-7 Mid-Term Review of Fifth Malaysia Plan, 1986-1990, 1989
- 1-8 Sixth Malaysia Plan, 1991-1995, 1991
- 1-9 Privatization Masterplan, EPU, 1991
- 1-10 Economic Report 1976/1977~1991/1992, Ministry of Finance
- 1-11 第2次長期総合開発計画の要旨, JICAマレーシア事務所, 1991年
- 1-12 第2次長期総合開発計画 (OPP2) と第6次マレーシア計画における高等教育の位置付け, JICA マレーシア事務所, 1991
- 1-13 マレーシアハンドブック'88, マレーシア日本商工会議所, 1988

2. 職業訓練部門関連資料

- 2-1 Constitution of the National Vocational Training Council, NVTC, 1989
- 2-2 Report of the Cabinet Committee on Training, EPU/Ministry of Education, 1991
- 2-3 PSDC Annual Report 1990/91, PSDC, 1991

3. MARA職業訓練所関連資料

- 3-1 MARA Vocational Training, MARA, 1991
- 3-2 Taklimat Bahagian Kemahiran, MARA, 1991
- 3-3 A Society In Transition, MARA
- 3-4 Program Latihan Kakitangan MARA 1992, MARA, 1992

- 3-5 GMI German Malaysian Institute, GMI
- 3-6 MARA - TOYOTA Joint Training Program, A Briefing Notes, MARA

4. CIIAST 閱連資料

- 4-1 Guide to CIIAST, CIIAST
- 4-2 Rainbow Contents Summary of CIIAST Module Contents, CIIAST, 1989
- 4-3 Report on Regional Workshop on Promotional Activities of Vocational Training for Advanced Skill Supervisory Skill and Instructor Training, CIIAST, 1989
- 4-4 The Eighth Joint Committee Meeting, September 27 to October 7, 1989, CIIAST, 1989
- 4-5 Kertas Penerangan, CIIAST
- 4-6 A Report on the First Industrial Committee Meeting for Rubber Moulding Group, CIIAST, 1986
- 4-7 A Report on the First Industrial Committee Meeting for Electrical and Electronic Group, CIIAST, 1985
- 4-8 A Report on the First Industrial Committee Meeting for Welding and Metal Fabrication Group, CIIAST, 1986
- 4-9 A Report on the First Industrial Committee Meeting for Plastic Group, CIIAST, 1986
- 4-10 A Report on the First Industrial Committee Meeting for Foundry & Casting Group, CIIAST, 1986
- 4-11 A Report on the First Industrial Committee Meeting for Automotive Department, CIIAST, 1986
- 4-12 A Report on the First Industrial Committee Meeting for Metal and Machining Group, 1985

JICA