

第三国集団研修事前調査団報告書

—フィリピン、建築現場管理—

1992年9月

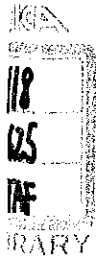
国際協力事業団
研修事業部

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第三国集団研修事前調査団報告書—フィリピン、建築現場管理—

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国際協力事業団



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1992年9月

国際協力事業団
研修事業部

国際協力事業団

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序 文

フィリピン国政府は、アジア太平洋地域の建築現場管理者に建設管理技術を向上させる機会を与えることを目的として我が国に第三国集団研修「建築現場管理」コースに関する技術協力を要請して来ました。国際協力事業団はこの要請を受けて、平成4年8月18日から8月26日まで国際協力事業団研修事業部研修第一課課長代理大塚正明を団長とする事前調査団を現地に派遣しました。

同調査団は、本プロジェクトの要請背景等について、フィリピン国政府関係者と協議及び現地調査を行いました。

本報告書は、同調査団による協議結果等についてとりまとめたものであり、今後、本第三国研修実施の検討に当たり広く活用されることを願うものです。

終わりに、この調査にご協力とご支援を頂いた内外の関係各位に対し、心より感謝の意を表します。

平成4年9月

国際協力事業団
研修事業部
部長 諏訪 龍

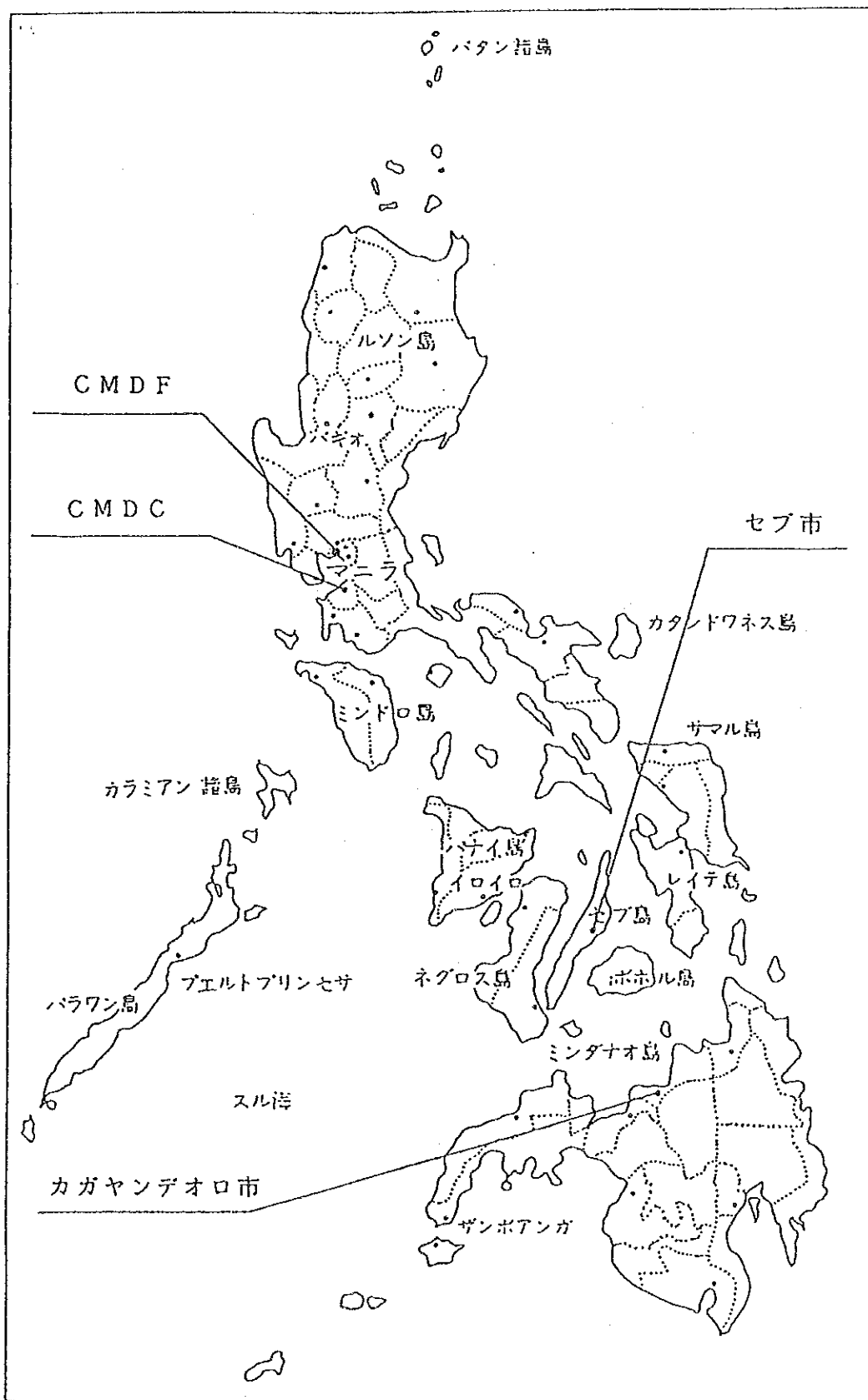


CMD Fにおけるミニッツ署名
右よりP. A. Pichay (CMD F 管理部長)、木下専門家、
R. C. Menguita (CMD C 所長)、大塚団長、久保団員、
花井団員。



第三国研修の成功を祈っての握手
左より大塚団長、R. C. Menguita。

フィリピン共和国



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1. 事前調査団の派遣

1.1 派遣の経緯と目的

フィリピン農村地域の開発の担い手となる技術者の養成を目的として、フィリピン人造りセンター（PHRDC）計画が、1981年9月から1991年3月まで実施された。

本プロジェクトは4つのプログラムから構成され、うちプログラムⅢでは貿易工業省建設人材養成基金（CMD F）配下の建設人材養成センター（CMD C）において建設技術者の養成訓練事業が行われた。

1984年12月には無償資金協力によりCMD Cの施設が建設され、1985年から本格的に、建設機械整備・運転、溶接、配管、建築電気、鉄骨、鉄筋、ブロック等の訓練コースが実施された。本プロジェクトはまた、ASEAN人造りセンターの一環として設置された経緯からASEAN域内協力を重視し、プログラムⅢにおいても建設機械分野で2回、建築現場管理分野で1回、それぞれASEAN域内研修を過去において実施している。

現在CMD Cは比国唯一の建設技術センターであり、プロジェクト終了後も一部の分野、特に鉄筋溶接に関して独自の施工技術基準を開発し、建築現場における試験的訓練を実施するなど、建設産業界に高い評価を得ている。しかし、比国の建設産業界は、非効率的な施工、工期の遅延等の多くの問題を今なお抱かえており、建設産業重視の中期経済開発計画（1987～1992）のもと、建設現場における施工技術基準類の整備・普及促進を目的として新たにプロジェクト方式技術協力が要請され、1991年5月の事前調査を経て、本年度から「建設生産性向上」プロジェクトがCMD Cにおいて開始される予定である。

かかる状況を背景に、第三国研修についても1991年3月に「建築現場管理」コースの実施要請が行われ、今回事前調査団を派遣するに至った次第である。

1.2 調査団の構成

団 長	大 塚 正 明	総 括	J I C A 研修事業部研修第一課 課長代理
団 員	久 保 絃 一	建築現場管理	建設省大臣官房官庁営繕部監督課 建設専門官
団 員	花 井 淳 一	計画・運営	J I C A 研修事業部研修第一課 職員

1.3 調査日程

日数	月/日(曜日)	宿泊地	調査・協議内容
1	8月18日(火)	マニラ	東京 10:00 → マニラ 13:05 PR431 大使館表敬、JICA事務所打ち合わせ 木下専門家(CMDC)と打ち合わせ
2	19日(水)	"	国家経済開発庁(NEDA)・貿易工業省(DTI)表敬 建設人材養成基金(CMDF)訪問、関係者と協議
3	20日(木)	"	建設人材養成センター(CMDC)訪問、関係者と協議
4	21日(金)	"	"
5	22日(土)	"	団内打合せ、ミニッツ(案)作成
6	23日(日)	"	"
7	24日(月)	"	ミニッツ(案)最終協議
8	25日(火)	"	ミニッツ署名、JICA事務所・大使館報告
9	26日(水)	"	マニラ 14:15 → 東京 19:20 JL742

1.4 主要面談者

建設人材養成基金(CMDF)

Mr. Rodolfo C. Menguita	Caretaker-Deputy Exec. Director
Mr. Philip A. Pichay	Manager, Administrative Group
Mr. Jeffrey C. Zamora	Division Chief, Industrial Construction Works
Mr. Ricardo C. Fernandez	Assistant Div. Chief, Heavy Equipment Works
Mr. Florencio G. Sison	Program Officer, Program Development and Management Group (PDMG)
Mr. Arnel L. Rojo	Marketing Officer, PDMG
Mr. Fatima C. Nueva	Program Coordinator, PDMG

在フィリピン日本国大使館

池田拓也 一等書記官

専門家

木下友敬 個別派遣専門家（建設機械）

JICAフィリピン事務所

飯島正孝 所長

莉木絵美子 所員

2. 要 請 の 背 景

2.1 周辺国の研修ニーズ

すでにCMD Cではフィリピン人造りセンタープロジェクトのフォローアップ期間中に、建築現場監督者を対象に「Building Construction Project Management」というテーマでASEAN域内研修を実施しており、周辺ASEAN諸国より12名の参加者を得ている。(別添1参照)本コースのカリキュラムが、基本的にこのASEAN域内研修と似通っていることから考えると、少なくともASEAN諸国においては、本コースに対する研修ニーズが存在すると思われる。

また、その他のアジア太平洋地域諸国についても、本邦実施の集団研修「建設施工管理者」コース等への応募状況から潜在的なニーズが認められる。

2.2 実施国の当該分野の現状

フィリピンにおける建設産業は、国民総生産の4～10パーセントを占め重要な産業として位置づけられており、首都マニラに見られるように近代的な中高層建築も立ち並んでいる。しかしながらこれらの近代的な中高層建築については、外国資本により建設されたものが多く、その技術がフィリピン国内に定着しているとは言い難い現状である。

このような背景から、1981年当時の鈴木総理により提唱されたASEAN人造りセンター計画の一環としてCMD Cが設立され、途中マルコス大統領失脚の政変を経験しながら1991年までの間、建設技術について日本からの技術移転を行うとともに同時に建設技術の普及に必要な指導者の育成が行われ、既に1,000人以上の研修生を送り出している。その間にCMD Fについても貿易工業省(DTI)の一部局に昇格され、現在ではその組織がフィリピンの行政機関の一つとして確立されている。このような経緯の中でCMD F及びCMD Cは優秀なスタッフを擁するようになってきており、教材も充実されてきている。その技術力及び影響力は強力なものとなってきており、今後ともCMD F及びCMD Cはフィリピン国内の建設技術の向上に大きく貢献していくものと思われる。一方で、フィリピン国内の建設産業は、技術基準類の未整備、発注方式の不統一、現場施工管理者に対する資格制度の未整備、品質に見合った価格の設定方法の未整備等が見られ、必ずしも生産性が高いとはいえない現状である。今後このような面の強化が望まれる所である。

3. 要請の内容（第三国研修基本計画）

本基本計画は、CMDP/CMDC側より提示されたプロポーザルをもとに協議し、ミニッツ中のR/D（DRAFT）にとりまとめたものである。（別添2参照）

3.1 コース名

和文：建築現場管理上級コース

英文：Sinior Course on Construction Project Management

3.2 目的

アジア太平洋地域の建築現場管理者に、建設管理技術を向上させる機会を与え、その知識を普及させることによって参加国の建設産業に寄与することを可能にする。

3.3 到達目標

本研修の参加者には、研修終了時に以下のことが求められている。

- (1) アジア地域の建設産業に対するより明確な展望の獲得
- (2) 建設業の特質を考察及び理解し、その目的とするところを建設プロジェクトに関連させる能力
- (3) 建設プロジェクトのために効率的な実施・資材調達計画を準備する能力
（工程、施工計画、施工要領、資材調達計画等）
- (4) 工程、コスト、品質及び安全の適切な計画管理によって、効果的に建設現場を組織し運営する能力
- (5) 建設現場において生産性向上のための計画を準備し実施できる能力

3.4 時期・期間

協力期間は1992年から1996年までの5年間とする。

研修期間は毎年約6週間とし、第1回コースは、平成5年1月25日～平成5年3月6日とする。

3.5 カリキュラム

(1) 主 題

5年間を通じて建築現場管理（Construction Supervision）を主題とする。

(2) 構成

週5日、午前中3時間、午後2時間半の1日5時間半で構成する。

(1.5hr+1.5hr+1.5hr+1hr)

第1週：管理のコンセプト、基本及び技術(Management Concepts, Principles & Techniques)

第2週：管理手法 (Management Tools)

第3週：施工方法の分析 (Construction Methods Analysis)

第4週：事前工事計画 (Pre-Construction Planning)

第5週：価値分析手法(VE)紹介 (Value Engineering Presentation)

第6週：総括 (Integration)

一方的に知識を与えるのではなく、参加各国の建築現場管理についての情報をカントリーレポートの発表を通じて引き出し、グループ討論等で問題点を浮き彫りにするとともに解決策を探ることによって、全員の建設管理技術をレベルアップさせていく。

3.6 割当国

インドネシア、タイ、マレーシア、シンガポール、ブルネイ、バングラデシュ、スリ・ランカ、パキスタン、ネパール、ヴィエトナム、ラオス、カンボディア、パプア・ニューギニア、フィジー、キリバス、ヴァヌアツ (計16ヶ国)

3.7 定員

周辺国より16人、実施国6人、計22人

実施国からの参加は、技術交流のために必要であり、ルソン、ビサヤ、ミンダナオの各地方から2名ずつ参加させることが必要。

3.8 実施場所

建設人材養成センター

Construction Manpower Development Center (CMD C)

3.9 応募資格

- (1) 自国政府から所定の応募手続によって推薦されたもの
- (2) 28才以下
- (3) 建築に十分な経験を有する技術系大卒者、もしくは建設プロジェクトに直接従事し5年間の適当な経験を有する大卒者
- (4) 英語に堪能で心身共に健康な者

3.10 募集手続

- (1) 各国政府は研修開始60日前までにフィリピン国政府に要請書を送付する。
- (2) フィリピン国政府は、研修開始30日前までに受入回答を各国政府に通報する。

3.11 フィリピン国外務省、CMD F / CMD C 及び日本政府の分担事項

フィリピン国外務省

- (1) 割当国政府へのG. I. の送付
- (2) 要請書の受領
- (3) 選考結果の各国政府及びJICA事務所への通報

CMD F / CMD C

- (1) カリキュラムの作成
- (2) G. I. の作成・印刷
- (3) 研修実施に必要なスタッフの配置
- (4) 研修施設・機器の提供
- (5) 研修員の選考とフィリピン国外務省及びJICAフィリピン事務所への結果通報
- (6) 研修員宿泊施設の手配
- (7) 航空券の手配、空港送迎
- (8) 研修旅行に関する手配
- (9) 日本側負担分を除く必要経費に対する予算措置
- (10) 修了証書の発給
- (11) 研修員の目標達成度、研修内容、カリキュラム及び研修運営管理状況における評価
- (12) 実施報告書および精算報告書の提出（研修終了後30日以内）
- (13) その他の研修に関する諸問題の調整

日本政府

- (1) 短期専門家の派遣（必要が生じた場合）
- (2) 経費の負担
 - ① 周辺国研修員の国際航空運賃および日当・宿泊費
 - ② 外部講師謝金、会議費、研修旅費、教材費

3.12 経費の授受手続

日本政府からの経費の支出は以下の手続に従い行うこととする。

- (1) CMD F / CMD Cは銀行口座を新設し、JICA事務所に通報する。
- (2) CMD F / CMD Cは、研修開始の60日前までに経費の見積書をJICA事務所に提出す

る。

- (3) JICAは見積書受領後30日以内に査定し、送金する。
- (4) CMDF/CMDCは、研修修了後30日以内に精算書をJICA事務所に提出する。
- (5) 経費で残金が生じた場合、CMDF/CMDCはJICAの規定に基づき残金を返納する。
なお、航空賃、日当は、他の目的のためには使用できない。
- (6) CMDF/CMDCは、JICAからの照会があった場合に上記(4)で述べられている支出を証明するため、全ての領収書及び証拠書類を保管しておく。

4. 第三国研修実施体制

4.1 実施機関の組織および事業概要

(1) 組織

実施機関は建設人材養成センター (Construction Manpower Development Center : CMD C) である。

CMD Cはフィリピン人造りセンター計画プログラムⅢのために日本側の無償資金協力により新設されたもので、貿易工業省 (Department of Trade and Industry : DTI) 内部の建設人材養成基金 (Construction Manpower Development Foundation : CMD F) の配下となっている。

従って、各種人材研修はCMD Fの統括の基にCMD Cで実施する体制となっている。

CMD FのオフィスはMetro Manilaの中心地区Makatiに、CMD CはMakatiから約35 km南方のCavite州Dasmarinasに位置している。

(2) 運営委員会

① Board of Directors

CMD F / CMD CはBoard of Directors (運営管理委員会) を別に有しており、CMD F / CMD Cの活動の基本方針はこの委員会により決定されている。

② Exective Committee (EXCOM)

EXCOMは財政的・法的認可が必要な事項についての調査・評価を行う。運営管理委員会の議長、所長 (E/D) 及び各Group manager (部長) で構成される。

③ Management committee (MANCOM)

CMD F / CMD Cの活動全般の企画・計画及び評価を行うため、MANCOMが週1回開催されている。E/Dが議長、各Group Manager (部長)、Division Manager (課長) がメンバーとなっている。

(3) 事業部

CMD F / CMD Cのスタッフは、1992年8月現在65名である。

E/Dの下に、プログラム開発・運営部 (PDMG : Program Development & Management Group) 及び、管理部 (AG : Administration Group) が、Deputy Executive Director : DE/Dの下に研修・認定部 (TCG : Training & Certification Group) が組織されている。

以下に各部各課における業務の概要を示す。

① PDMG

◦ Program Development and Evaluation Division (PDED)

研修の企画、研修のプログラムの開発・評価

◦ Marketing and Placement Assistance Division (MPAD)

研修生の募集・選考、研修費の徴収、研修生の就職斡旋

② TCG

◦ Mechanical Trades Training Division (MTTD)

建設機械、溶接及び配管分野の研修実施

◦ Building Construction and Electrical Trades Training Division (BCETTD)

建築及び電気分野の研修実施

◦ Testing and Certification Division (TCD)

研修性の終了試験の実施及び教材作成

③ AG

◦ Finance and Administrative Division (FAD)

CMDF/CMDCの事務管理

◦ Facilities Management Division (FMD)

CMDCの施設の管理運営

最新の組織図を別添3に示す。

4.2 実施機関の関連組織及びその支援体制

(1) DTIとの関係

CMDFは、建設産業関連の包括的人材養成機関として、1981年7月大統領令1746号によりDTIにConstruction Industry Authority of the Philippines: CIAPが新設されたことに伴い、その一部門として設立された。

その後、1987年2月にDTIの組織改革が決定され、CMDFは同年7月にそれまでのIndustry and Investment Group内のCIAP傘下から独立し、Policy Planning and Special Concerns Group内の一部局に格上げされ、CIAPと同格となった(図1)。

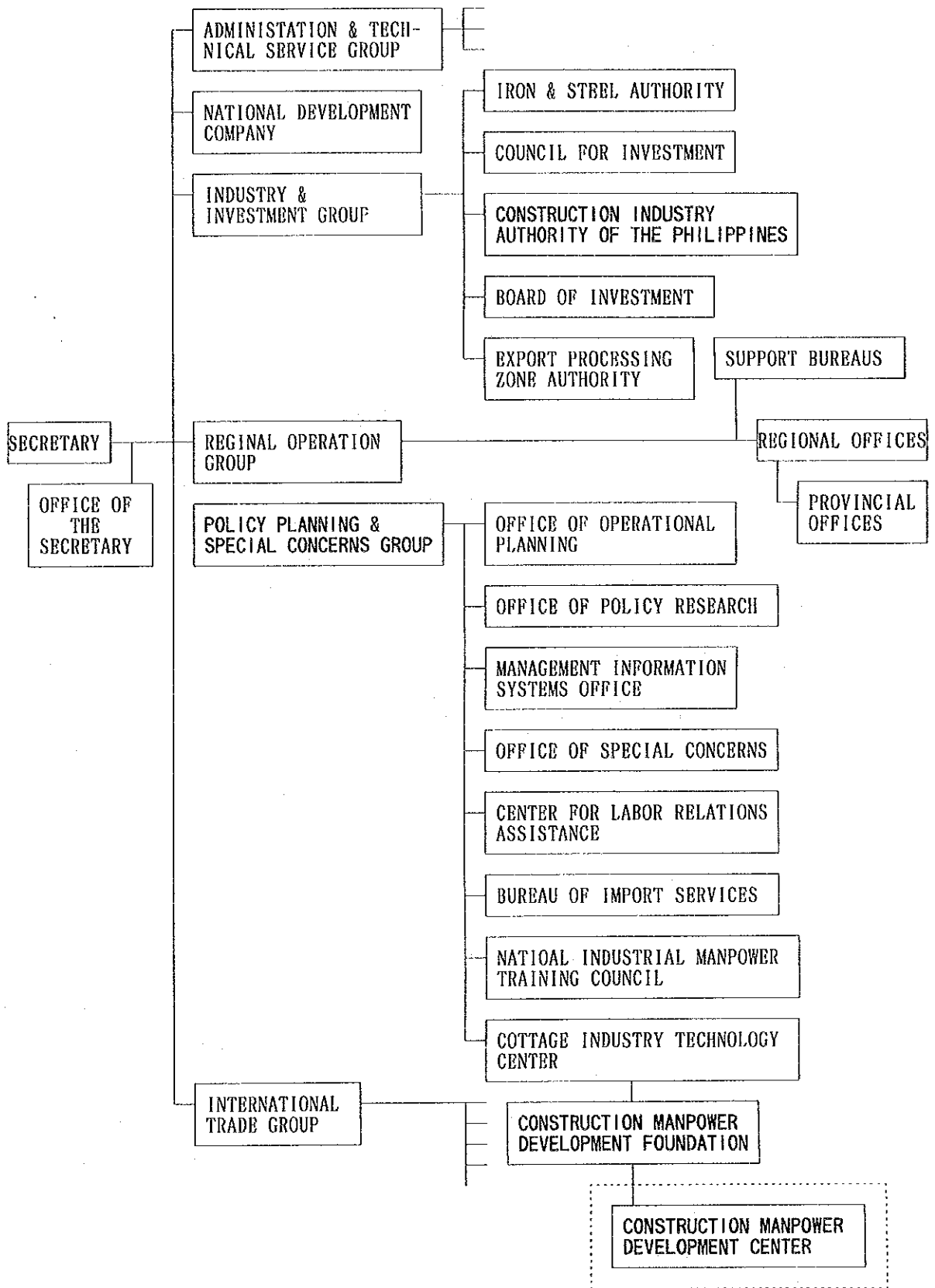


图1 DTI 組織図

(2) 建設産業界との関係

CMD F / CMD Cは、1988年以降T S I / T C N計画の実施によりD P W H、N I A等関係省庁及びP C A、A C E L等業界団体との協力関係を築くとともに、多大な成果を挙げてきている。

4.3 実施機関の研修指導能力および運営管理能力

CMD Cでは、比国唯一の建設技術センターとして現在以下のプログラムが実施されている。

- (1) Labor Resource Development Program (L R D P)
- (2) Construction Management Development Program (C M D P)
- (3) Productivity Development Program (P D P)

(2)のC M D Pは、建設現場の監督者等を対象として、効率的な現場管理に必要な知識・技術をモジュール化した比較的短期間のコースで訓練する研修プログラムであり、Project Management Series (P M S) とSupervisory Development Course (S D C) からなる。(別添4、5参照)。

S D Cはさらに、S D C Freshmen、S D C Intermediate、S D C Seniorの3つのグレードに分かれる。比側によれば、本件第三国研修のカリキュラムは、基本的にS D C Seniorコースのカリキュラムをもとにしているとのことである。C M D Cは、1991年から1992年7月までに計676名の国内研修員をこのS D Cプログラムに受け入れており、このことから技術的な面においてC M D Cのスタッフは十分な研修指導能力を持つと思われる。(別添6参照)

また、C M D F / C M D Cは研修員の目標達成度を測る独自のシステム(Grading System)を持っており、これは本件第三国研修にも適用可能である。(別添7参照)

4.4 実施機関の施設・建物等

(1) 施設・建物

1983年7月に締結されたExchange of Note : E / N (交換公文) で、無償資金協力によるC M D Cの施設(管理・教室棟、実習棟、寮等)の建設と、建設機械、試験機等訓練機材の供与が決定された(総額14億1千万円)。施設の建設工事は同年12月に開始され、1984年12月に完成している。

また、1988年4月に締結されたE / Nにより、追加無償資金協力による新寮の建設と湿地型ブルドーザー及びマイクロバスの供与が決定された(総額3億9千8百万円)。新寮は同年9月に建設工事が開始され、1989年3月に完成した。

C M D Cの施設概要は以下のとおり(図2)。

1. 位置 Salitran, Dasmariñas, Cavite
2. 敷地面積 8.9 ha

3. 設計／監理 (株)日建設計

4. 施 工 (株)熊谷組

6. 建 物

- ・管 理 棟 RC造2F建、延床1, 986㎡
- ・実 習 棟 RC造1F建、延床4, 013㎡
- ・旧 寮 RC造2F建、延床 534㎡ (64ベッド) — 当初無償資金協力
- ・機 械 室 RC造1F建、延床 56㎡
- ・警備員詰所 RC造1F建、延床 5㎡
- ・新 寮 RC造2F建、延床2, 021㎡ (84ベッド) — 追加無償資金協力

計 8, 615㎡

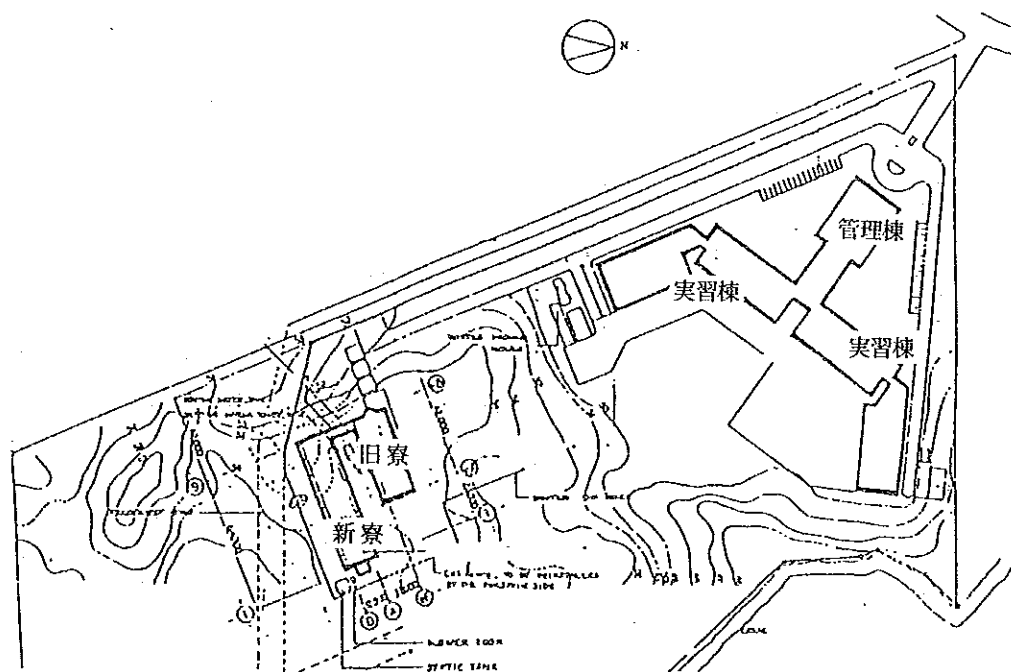


図2 CMD Cの配置図

4.5 第三国研修実行予算

今回の協議を通じて、比側は、約28万ペソの予算を負担するとしている。

5. 日本の他の経済協力との関係

(1) フィリピン人造りセンター（PHRDC）計画

1981年、当時の鈴木首相により提唱されたASEAN人造りセンター計画により、フィリピン人造りセンターでは1982年9月から1991年3月までプロジェクト方式技術協力が実施された。農村地域の自立促進及び生産性の向上を目的として、農村関連工業振興のため革新的かつ適切な技術の伝播普及に必要な技術指導者・普及員の養成、訓練を行なうため、フィリピン人造りセンターは4つのプログラムを実施したが、そのうちのプログラムⅢにおいて建設現場施行管理者を養成・訓練することを目的として、1984年に我が国の無償資金協力によって建設人材養成センター（CMDC）を設立した。

また1990年5月までの技術協力期間中には延べ12人の長期専門家と、46人の短期専門家が派遣され、本邦への研修員受入総数は37名となっている。

技術供与は、建設機械、試験機器など研修実施に必要となる訓練機材について、総額約1億円が供与されている。

(2) 建設生産性向上計画

現在CMDCは比国唯一の建設技術センターであり、上記(1)のプロジェクト終了後も鉄筋・溶接に関して独自の施工技術基準を開発し、建築現場における試験的訓練を実施するなど、建設産業界に高い評価を得ている。しかし比国の建設産業界は、非効率的な施工、工期の遅延等の多くの問題を今なお抱かえており、建設産業重視の中期経済開発計画（1987～1992）のもと、建設現場における施工技術基準類の整備・普及促進を目的として新たに技術協力が要請され、1991年5月の事前調査を経て、本年度から建設生産性向上プロジェクトがCMDCにおいて開始される予定である。

6. 第三国研修実施の妥当性

フィリピン人造りセンター計画における第3回ASEAN域内研修への参加状況等から考えると、本コースに対するニーズは高いと考えられる。また、4. で検討したように研修実施体制も、本コース実施にあたって充分であると判断される。

以上のことから、本コース実施については十分な妥当性が認められる。

7. 日本側の協力

7.1 協力の目的と必要性

技術的な面について言えば本コースは基本的に比側のみで実施可能であり、これは10年以上にわたるプロジェクト方式技術協力の成果であるといえる。

第三国研修はまた、実施国に対する技術協力の最終段階であると同時に、周辺国に対するより効果的な技術協力でもある。

そのためには、主として財政面における日本側の協力が必要不可欠である。

7.2 経費分担

経費分担の案はR/D (DRAFT)にある通りであり、比側は全経費の約12%を負担することになっている。5年間を通して比側の負担する割合を漸増させていくことも、本コースの自立発展のためには必要かもしれない。

7.3 専門家派遣

基本的に、日本人専門家は不要であるが、最新のトピックスについての講義が必要な場合には派遣を検討する必要がある。

8. 協 議 内 容

8.1 協議経過

CMDFに建設機械専門家として個別派遣されている木下友敬専門家を通じ、調査団到着前に日本側の意向、第三研修の枠組み等についてかなりの程度比側が理解していたこともあり、協議は終始スムーズに進行した。

日本側で作成したR/D案に基づき協議を行なった結果、基本的なところでは双方合意、8月24日CMDFにおいて、日本側調査団長、比側CMD C所長との間でR/Dドラフトを含むミニッツを署名・交換した。

8.2 主たる協議概要・変更点

(1) コース名称

日本側の案で合意。

(2) 目的

比提出の正式要請書に記載の目的 (General Objectives)をシンプルな形にまとめるという日本側の案で合意した。

(3) 達成目標

正式要請書記載の目標 (Special Objectives)で基本的に合意した。コース終了時にクエスチョネアを配布・回収し、研修員により目標達成度を自己評価させることを確認した。

(4) カリキュラム

比側提出の実施計画案(その1)では、第1回及び第2回において建築管理(Building Construction Supervision)を、第3回では重機管理 (Heavy Equipment Management) を第4回及び第5回では産業建設管理 (Industrial Construction Supervision)をそれぞれ主題としていた。

しかし、5年間で十分な人材をアウトプットするためには主題の絞り込みが必要であるという意見が日本側より出され、比側も最終的には合意した。

(5) 研修期間

比側によれば、G. I. (案) (別添8参照)は既に出来上がっており、9月中にR/Dが締結できればすぐに発送できるとのことであり、比側の実施計画案どおり1月開始とすることで合意した。

(6) 割当国

比国は当初、本コースをASEAN域内研修の延長とみていたふしがあり、割当国についてもASEAN以外の国は考慮していなかった。しかし、日本側よりニーズが存在すると思われる南アジア、大洋州諸国、また、これから協力が重要になっていくであろうインドシナ3国を

提示した結果、これらの国についても割当国に加えることに合意した。

(7) 定員

当初比側は周辺国16人、実施国8人の計24人を定員としていた。一方、日本側は予算の都合もあり実施国からの参加を絞り込むよう提案した。比側は、実施国からの参加は技術交流のため必要であり、少なくともルソン、ピサヤ、ミンダナオの各地方から2名ずつ参加させることが必要だと主張し、最終的には周辺国16人、実施国6人の計22人の定員とすることで合意した。

(8) 資格要件

比側実施計画案どおりで合意。

(9) 研修機関

CMDCが実施機関であるにもかかわらず外部講師が延べ20日間も講義を担当するという比側案に対し、日本側は説明を求めた。結局、外部講師は元CMDF職員でありその専門性が必要であるとの説明を受け、担当日数を延べ20日から10日に削減することで合意した。

(10) 日本側負担経費

第1回コースについては、総経費2,429,910ペソ（約1,256万円）のうち日本側が2,150,000ペソ（約1,111万円）を負担することで合意した。

(11) 日本人専門家派遣

本年度は日本人専門家を派遣しないことで合意した。次年度以降、何か最新のトピックスについての講義が必要な場合には、その都度派遣を検討することとした。

(12) カウンターパート（C/P）研修等について

C/P研修は基本的に行わないことで合意した。

8.3 協議結果要約

項目	要請内容 1 (正式要請書: 1991.3.5)	要請内容 2 (実施計画案: 1992.7.31, 8.12)	わが方の対処(案)	協議結果
1. コース名称*	<p><u>建築現場管理</u>*</p> <p>(1) Third Country Training in Construction Project Management</p> <p>*要望調査表の記載による。</p>	<p><u>建築現場管理</u>*</p> <p>(1) the Third Country Training in Building Construction Project Management (実施計画案その1: 1992.7.31)</p> <p>(2) Senior Course on Construction Supervision (実施計画案その2: 1992.8.12)</p>	<p><u>建築現場管理</u></p> <p>Senior Course on Building Construction Project Management</p> <p>英文タイトルと比較して和文タイトルが適当か検討の余地あり。</p>	<p><u>建築現場管理上級コース</u></p> <p>Senior Course on Building Construction Project Management</p>
2. 目的*	<p>(1) より効率的な建設管理者となるよう、研修員の建設管理技術を向上させる。</p> <p>(2) 研修員が政府組織・地方建設協会等を通じて彼らの知識を普及させることにより、自国の建設業界に寄与できるようにする。</p> <p>*General Objectivesの項目として記載。</p>	<p>(1) 同左</p> <p>(2) 同左</p> <p>(3) 研修員にASEAN地域の建設産業に対するより明確な要望を獲得させる。</p> <p>(4) 研修員が建設会社の本質を考察・理解し、その目的と優先権を建設プロジェクトと関係させることを可能にする。</p> <p>*General Objectivesの項目として記載。</p>	<p>正式要請書の目的をシンプルにまとめられた形にする。</p>	<p>アジア太平洋地域の建築現場管理者に、建設管理技術を向上させる機会を与え、その知識を普及させることにより、自国の建設産業に寄与することを可能にする。</p>
3. 達成目標*	<p>研修終了時において、研修員には下記のことか求められている。</p> <p>(1) アジア地域の建設産業に対するより明確な展望の獲得</p> <p>(2) 建設会社の本質を考察・理解し、その目的を建設プロジェクトに関係させる能力</p> <p>(3) 建設プロジェクトのために効率的な実施・資材調達計画を準備する能力 (工程、施工計画、施工要領、資材調達計画等)</p> <p>(4) 工程、コスト、品質及び安全の適切な計画管理によって、効果的に建設現場を組織し運営する能力</p> <p>(5) 建設現場において生産性向上のための計画を準備し実施できる能力</p> <p>*Special Objectivesの項目として記載。</p>	<p>研修終了時において、研修員には下記のことか求められている。</p> <p>(1) 管理指導者となって人を取り扱う能力</p> <p>(2) "Do it right the first time"の哲学に即って工場のすべての局面を統合する能力</p> <p>(3) PSDM (Problem Solving and Decision Making)の技法を身につける。</p> <p>(4) 生産性向上を奨励し、財政的な意識を強化する。</p> <p>(5) "the delivery of phases of work (civil works and allied trades)を管理する能力</p> <p>*Special Objectivesの項目として記載。</p>	<p>研修終了時において、研修員には下記のことか求められている。</p> <p>(1) アジア地域の建設産業に対するより明確な展望の獲得</p> <p>(2) 建設業の特質を考察及び理解し、その目指すところを建設プロジェクトに関連させる能力</p> <p>(3) 建設プロジェクトのために効率的な実施・資材調達計画を準備する能力 (工程、施工計画、施工要領、資材調達計画等)</p> <p>(4) 工程、コスト、品質及び安全の適切な計画管理によって、効果的に建設現場を組織し運営する能力</p> <p>(5) 建設現場において生産性向上のための計画を準備し実施できる能力</p> <p>*正式要請書のSpecial Objectivesの項目とほぼ同じ。</p>	

項目	要請内容 1 (正式要請書: 1991.3.5)	要請内容 2 (実施計画案: 1992.7.31. 8.12)	わが方の対処(案)	協議結果
4. カリキュラム	<p>下記の3つのトピックからなる。</p> <p>(1) 建築 (Building Construction)</p> <ul style="list-style-type: none"> 建築会社の要案 建築プロジェクトの管理 建築技術 <p>(2) 土木工事用機械の保守管理 (Earthworks Equipment Maintenance & Management)</p> <ul style="list-style-type: none"> 管理 保守 ワークショップ <p>(3) 溶接・組み立て (Welding and Fabrication)</p> <ul style="list-style-type: none"> 溶接基礎 溶接冶金学 溶接設計 溶接の質とテスト コードと標準 格付けと検定 溶接検査 	<p>(1) 主題</p> <p>実施計画案その1では、第1回及び2回の建築管理 (Building Construction Supervision)、第3回が重機管理 (Heavy Equipment Management)、第4回及び5回が産業建築管理 (Industrial Construction Supervision) をそれぞれ主題としていたが、実施計画案その2では5年間を通じて建築管理 (Construction Supervision) が主題となっている。</p> <p>(2) 構成</p> <p>週5日、午前中3時間、午後2時間半の1日5時間半で構成 (1.5hr+1.5hr+1.5hr)</p> <p>第1週: Management Concepts, Principles & Techniques</p> <p>第2週: Management Tools</p> <p>第3週: Construction Methods Analysis</p> <p>第4週: Pre-Construction Planning</p> <p>第5週: Value Engineering Presentation</p> <p>(第6週: Integration)</p>	<p>焦点を明確に。</p> <p>各週のカリキュラムが具体的に何を指すのか先方に確認する。</p> <p>特に、第3週: Construction Methods Analysis でのどのような機材が必要か確認する。</p>	<p>(1) 主題</p> <p>5年間を通じて建築現場管理 (Construction Supervision) を主題とする。</p> <p>(2) 構成</p> <p>週5日、午前中3時間、午後2時間半の1日5時間半で構成 (1.5hr+1.5hr+1.5hr)</p> <p>第1週: 管理のコンセプト・基本及び技術 (Management Concepts, Principles & Techniques)</p> <p>第2週: 管理手法 (Management Tools)</p> <p>第3週: 施工方法の分析 (Construction Methods Analysis)</p> <p>第4週: 事前工設計画 (Pre-Construction Planning)</p> <p>第5週: 価値分析手法 (VA) 紹介 (Value Engineering Presentation)</p> <p>(第6週: 総括 (Integration))</p> <p>*一方向的知識を与えるのではなく、参加各国の建築現場管理についての情報をカントリーレポートの発表を通じて引き出し、グループ討論等で問題を浮きぼりにするとともに、解決策を探ることによって全員の建設管理技術をレベルアップさせていく。</p>
5. 研修期間及び協力期間	<p>初回の開始時期は未定、期間は45日間。</p> <p>1991年度～1995年 (5か年間) *</p> <p>*本要請書は91年3月に提出されたため、91年から5か年となっている。</p>	<p>初回は1998年1月25日～3月6日 (6週間)</p> <p>1992年度～1996年度 (5か年間)</p> <p>*先方案通り。G. I. の原稿は既に出来上がっており、9月中旬にR/Dが締結できればすぐに発送できる。</p>	<p>準備都合上、年度内ギリギリで終わるよう開始時期を遅らせられないか先方に確認する。</p> <p>例えば、2月15日～3月27日。</p>	<p>初回は1998年1月25日～3月6日 (6週間)</p> <p>1992年度～1996年度 (5か年間)</p> <p>*先方案通り。G. I. の原稿は既に出来上がっており、9月中旬にR/Dが締結できればすぐに発送できる。</p>
6. 割当国	アジア諸国	インドネシア、タイ、マレーシア、シンガポール、ブルネイ (ASEAN5か国)	比隣は本コースをASEAN域内研修の延長と見ているため、ASEAN以外の国については割当国として考慮していなかった。こちらから、ニーズがあると思われる国を指示する必要がある。	インドネシア、タイ、マレーシア、シンガポール、ブルネイ、パングラディシュ、スリランカ、パキスタン、ネパール、ヴィエトナム、ラオス、カンボディア、パプア・ニューギニア、フィジー、キリバス、バヌアツ (16か国)
7. 定員	周辺国 16人 実施国 8人 (計24人)	周辺国 16人 実施国 8人 (計24人)	CMDCでは国内向けの同様の研修が行われているにもかかわらず、フィリピン人の定員が多すぎるのではないかと。周辺国により多くの機会を与えるためにも検討の余地あり。	周辺国16人、実施国6人、計22人に定員を削減 *実施国からの参加は、技術交流のために必要であり、ルソン、ビサヤ、ミンダナオの各地方から2名ずつ参加させることが最低限必要。

項目	要請内容 1 (正式要請書: 1991. 3. 5)	要請内容 2 (実施計画案: 1992. 7. 31, 8. 12)	わが方の対処(案)	協議結果
8. 特 徴 要 件	(1) 所属政府機関の長から所定の応募手続きによって推薦されたもの (2) 研修修了後12~18か月以内に建設プロジェクトの中級管理者になる予定の大半の希望者、もしくは建設会社においてプロジェクトを担当する経験年数5年以下の中級管理者 (3) 5年間の適当な経験を有する建設プロジェクト管理・訓練の直接従事者 (4) 年齢 27~40才 (5) 英語に堪能で、心身共に健康な者* *健康診断書の提出が義務付けられている。	(1) 同左 (2) 建築に十分な経験を有する大卒者(技術系・非技術系) (3) 最低5年の建築プロジェクトの適当な経験を有すること (4) 英語に堪能で、心身共に健康な者 年令についての記述はない。	ターゲットが不明確。明確にする必要あり。	(1) 政府から所定の応募手続きによって推薦されたもの (2) 35才以下 (3) 建築に十分な経験を有する技術系大卒者、もしくは建設プロジェクトに直接従事し、5年間の適当な経験を有する大卒者 (4) 英語に堪能で心身共に健康な者
9. 研 修 機 関	建設人材養成センター Construction Manpower Development Center(CMDC)	同左。	経費見積りを見るとCMDC以外の外部講師が延べ20日間も講義を担当することになっているが、何故CMDCのスタッフで担当できないのか確認する。	建設人材養成センター Construction Manpower Development Center(CMDC) 外部講師は元CMDFの職員であり、講師として必要。講義日数は延べ20日から10日に削減。
10. 募 込 方 法	記述なし。	記述なし。	他のフィリピンにて実施の第三国研修のやり方のとおり。	他のフィリピンにて実施の第三国研修のやり方のとおり。
11. 落 選 分 配	専門家派遣、現地で調達不可能なテキスト等の手配は日本側の分掌。	記述なし。	現地で調達不可能なテキストとは、どういった種類のものが確認する。	日本でテキストを調達するのではなく、研修実施経費のうちテキスト代としてP50,000を日本側が負担。
12. 経 費 係 数 順 手	記述なし。	記述なし。	通常通り。	通常通り。
13. 日 本 負 担 経 費 内 訳	総経費としてP5,788,700 が挙げられているが、日比双方の負担割合については不明。	(1) 実施計画案その1 総経費P5,788,700のうち日本側がP5,447,336(約2,720万円)を負担。 (2) 実施計画案その2 総経費P2,725,040のうち日本側がP2,525,840(約1,260万円)を負担。	可能な限り、計画額1,100万円以内に日本側の負担を抑える方向で調整する。 ・経費削減のポイント (1) 資材費の削減 (2) 定員の削減	総経費P2,429,910(約1,256万円)のうち日本側がP2,150,000(約1,111万円)を負担。
14. 日 本 人 専 門 家 派 遣	必要(人数・期間・指導科目は不明)	同左。	どの分野についてどのような役割で専門家派遣を必要としているのか、また人数についての確認を。できるだけ日本人専門家は派遣しない方向で語を練める。	本年度は日本人専門家は派遣しない。 次年度以降、何か最新のトピックスについての講義が必要な場合には派遣を検討。
15. そ の 他	C/P研修についての要望は無い。	C/P研修についての要望は無い。	CMDCで本年より「建設生産性向上」プロジェクトが始まることもあり、C/P研修は行わない旨伝える。	C/P研修は行わない。 「建設生産性向上」プロジェクトの成果は、トピックスとして適宜カリキュラムに取り入れていく。

9. 実施上の留意事項等

(1) プロ技協と連携

本年度開始予定のプロジェクト方式技術協力「建設生産性向上」計画とは、密接な連携を保ち得られた成果をその都度講義内容に取り入れることによって、本コースの内容の活性化を図ることが必要である。

(2) 終了時評価について

終了時評価の際の情報源としては、実施機関によるコースレポート、参加研修員によるコース終了時クエスチョネア、派遣専門家報告書等がある。初年度より終了時評価を見越しこれらの資料を整理していくことが必要である。

また、日本側出資の研修実施経費についても、事務所を通して毎年精算確定調書を取り付け、正確な実績を記録しておく必要がある。

別 添

1. A Z E A N域内研修実績
2. 討議議事録 (M/M)
3. CMD F / D M D C組織図
4. P M Sモジュール
5. S D Cモジュール
6. 国内研修員受入実績
7. Grading System
8. G. I. (案)
9. G. I. 送付の Flow
10. CMD Fの今後の展望
11. CMD F 1992年度活動計画

別添 1. AZEAN域内研修実績

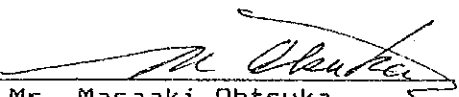
回数 項目	第 1 回	第 2 回	第 3 回
技術分野	HEO/M	HEO/M	SRCグループ
タイトル	Construction Equipment Management 建設機械の管理運営	Construction Equipment Management 建設機械の管理運営	Building Construction Project Management 建設現場の管理運営
期間	89. 1.13 - 2.10	89.11.17 - 12.10	90. 9.10 - 10.12
対象	機械技術者、監督者	機械技術者、監督者	建築現場監督者
内容	建設機械管理運営 建設機械の整備 燃料システム 溶接非破壊試験	建設機械管理運営 建設機械の整備 燃料システム 溶接非破壊試験	ASEAN諸国の建築産業 企業体の運営 施工計画/管理 生産性、建築技術
日本側援助(千円)	5, 317	4, 507	5, 151
参加者	インドネシア	3	2
	タイ	4	3
	マレーシア	2	—
	シンガポール	—	—
	ブルネイ	—	2
	フィリピン	6	6
	計	15	16
備考		12月11日から15日までセブにおいて、DPWHの協力を得てセミナーを実施する予定であったが、クーデター騒動のため中止した。	シンガポールより講師を招聘した。 (予算376千円)

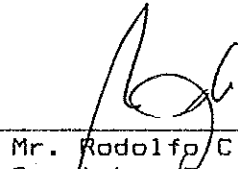
別添 2. 討議議事録 (M/M)

THE MINUTES OF MEETING
BETWEEN
THE JAPANESE PRELIMINARY SURVEY TEAM AND
THE AUTHORITIES OF THE REPUBLIC OF THE PHILIPPINES
ON THE THIRD COUNTRY TRAINING PROGRAMME

1. The Japanese preliminary survey team organized by the Japan International Cooperation Agency (hereinafter referred to as "JICA") and headed by Mr. Masaaki Ohtsuka, visited the Republic of the Philippines from August 18, to August 26, 1992 in order to discuss with the authorities concerned of the Republic of the Philippines a training course for participants from the Asian-Pacific region in the field of Building Construction Project Management to be implemented in the Republic of the Philippines under JICA's Third Country Training Programme.
2. The team conducted surveys, held a series of meetings and exchange opinions with the authorities concerned of the Republic of the Philippines regarding the course.
3. Both sides came to share the view that the course will contribute to the development of Building Construction Project Management in the Asian-Pacific region.
4. Both sides drafted the Record of Discussions attached as APPENDIX I, and agreed to recommend to their respective Governments that further studies should be made for elaborating it in order to ensure the successful implementation of the course.
5. A list of attendants at the meeting is attached as APPENDIX II.

Manila, August 24, 1992


Mr. Masaaki Ohtsuka
Head of the Japanese
Preliminary Survey Team
Japan International
Cooperation Agency (JICA)


Mr. Rodolfo C. Mengueta
Caretaker-Deputy Exec. Director
Construction Manpower
Development Foundation
Department of Trade and
Industry

THE RECORD OF DISCUSSIONS
BETWEEN
THE RESIDENT REPRESENTATIVE OF JICA PHILIPPINES OFFICE AND
THE AUTHORITIES CONCERNED OF THE REPUBLIC OF THE PHILIPPINES
ON THE THIRD COUNTRY TRAINING PROGRAMME

The Japanese Preliminary Survey Team organized by the Japan International Cooperation Agency (hereinafter referred to as "JICA") and headed by Mr. Masaaki Ohtsuka, visited the Republic of the Philippines from August 18, 1992 to August 26, 1992 and had a series of discussions with the authorities concerned of the Republic of the Philippines with respect to the framework of the training course in the field of Building Construction Project Management under JICA's Third Country Training Programme, and the desirable measures to be taken by both governments to ensure the successful implementation of the course.

Based on the above discussions, the Resident Representative of JICA Philippines Office and the Caretaker - Deputy Executive Director of the Construction Manpower Development Foundation (hereinafter referred to as "CMDF") agreed to recommend to their respective Governments the matters referred to in the documents attached hereto.

Manila 1992

Mr. Masataka Iijima
Resident Representative
JICA Philippines Office

Mr. Rodolfo C. Menguita
Caretaker-Deputy Exec. Director
Construction Manpower
Development Foundation
Department of Trade & Industry

M.O.

R.C.M.

ATTACHED DOCUMENT

The Government of Japan and the Republic of the Philippines will cooperate with each other in organizing a training course in the field of Building Construction Project Management (hereinafter referred to as "the Course") at the Construction Manpower Development Center (hereinafter referred to as "CMDC"), a training center of CMDF, under JICA's Third Country Training Programme.

The Republic of the Philippines will conduct the course with the support of technical cooperation from the Government of Japan. The Course will be held once a year from Japanese fiscal year (JFY) 1992 to JFY 1996, subject to annual consultations between both Governments.

The Course will be conducted in accordance with the following :

1. TITLE

The Course will be entitled "Senior Course on Building Construction Project Management".

2. PURPOSE

The purpose of the Course is to give an opportunity for building construction project managers in the Asian-Pacific region to enhance their construction management skills, and to enable them to contribute to the construction industry in their respective countries by disseminating their learnings.

3. OBJECTIVES

Upon successful completion of the Course, the participants are expected to have :

3-1 acquired a clearer perspective of the construction industry in the Asian-Pacific region,

and to be able to :

3-2 examine and understand the nature of the construction business and relate its objectives to a construction project,

3-3 prepare an efficient plan of operations and resources for a construction project (work scheduling, work execution, planning, resources scheduling, etc.),

3-4 effectively organize and operate a construction site with proper planning and control of schedule, cost, quality and safety,

3-5 prepare and execute plans for productivity improvement in a construction site.

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4. DURATION

The duration of the Course will be approximately six (6) weeks and the Course for JFY 1992 (hereinafter referred to as "the first Course") will be held from January 25 to March 6, 1993.

5. CURRICULUM

Curriculum of the first Course is attached as Annex I.

6. INVITED COUNTRIES

The Governments of the following countries will be invited to apply by nominating their applicant(s) for the first Course:

Indonesia, Malaysia, Singapore, Brunei, Thailand, Bangladesh, Sri Lanka, Pakistan, Nepal, Viet Nam, Laos, Cambodia, Papua New Guinea, Fiji, Kiribati and Vanuatu.

7. NUMBER OF PARTICIPANTS

The number of participants from the invited countries shall not exceed sixteen (16) in total. And the number of participants from Philippines shall not exceed six (6).

8. QUALIFICATIONS FOR APPLICANTS

Applicants for the Course are:

8-1 to be nominated by their respective Governments in accordance with the procedure stipulated in 10-1 below,

8-2 to be under thirty-five (35) years of age,

8-3 to be engineering graduates with good experience in building construction, or non-engineering graduates engaged directly in a construction project management with five (5) years appropriate experience, and

8-4 to have a good command of spoken and written English and to be in good health, both physically and mentally, in order to complete the Course.

9. FACILITIES AND INSTITUTIONS

The Course will be conducted at CMDC located in Cavite, the Republic of the Philippines.

10. PROCEDURE OF APPLICATION

- 10-1 A Government applying for the Course on behalf of its nominee(s) shall forward five (5) copies of the prescribed application form for each nominee to the Government of the Philippines not later than sixty (60) days before the commencement of the Course.
- 10-2 The Government of the Philippines will inform the applying Governments whether or not the applicant(s) is/are accepted to the Course not later than thirty (30) days before the Commencement of the Course.

11. MEASURES TO BE TAKEN BY THE GOVERNMENT OF JAPAN AND THE GOVERNMENT OF THE PHILIPPINES

In organizing and implementing the Course, both Governments will take the following measures in accordance with the relevant laws and regulations in force in each country:

The schedule of the first Course implementation is attached as Annex II.

11-1 The Government of the Philippines

11-1-1 Department of Foreign Affairs

- (1) To forward the General Information brochures (G.I.) of the Course to the governments of the invited countries through its diplomatic channels,
- (2) To receive application forms and forward them to CMDF,
- (3) To notify results of the selection to the respective Governments through diplomatic channels.

11-1-2 CMDF

- (1) To formulate the curriculum based on ANNEX I,
- (2) To draft and print G.I.,
- (3) To assign an adequate number of its staff as lecturers/instructors for the Course,
- (4) To provide its training facilities and equipment for the Course,



- (5) To select participants for the Course, and to submit the result of selection to the Department of Foreign Affairs and JICA Philippines Office,
- (6) To arrange accommodation for participants,
- (7) To arrange International air tickets for participants and to meet and see them off at the airport,
- (8) To arrange domestic study tour(s) included in the Course, if necessary,
- (9) To bear the expenses necessary for conducting the Course excluding the expenses financed by the Government of Japan,
- (10) To issue certificates to the participants who successfully completed the Course,
- (11) To evaluate the achievements of the participants, course contents, curriculum and administrative performances,
- (12) To submit a course report and a statement of expenditures to JICA Philippines Office within thirty (30) days after the termination of the Course,
- (13) To coordinate any matters related to the Course.

11-2 The Government of Japan

- (1) To dispatch Japanese short-term expert(s), in accordance with the normal procedures of its technical cooperation scheme, who will give advice to CMDF and deliver some parts of lectures. This, however, is subject to the JICA budget available for this purpose and the number of suitable expert(s) in Japan.
CMDF is expected to pre-inform the request of JICA short-term expert(s) to the JICA Philippines Office not later than the annual consultation,
- (2) To bear the following expenses through JICA, to be consulted between both Governments each year (A tentative estimate of expenses for the first Course is attached as ANNEX III) :

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- (a) Expenses relevant to participants from invited countries such as international economy-class flight fare, accommodation, per-diem and medical insurance premiums for participants,
- (b) Expenses relevant to CMDF such as study tour(s), texts, teaching aids, expendable supplies, copies and honoraria for external lecturer(s).

12. PROCEDURE FOR REMITTANCE AND EXPENDITURE

Remittance of funds for expenses are to be borne by the Government of Japan and the expenditure thereof will be arranged in accordance with the following procedures:

- 12-1 CMDF will open a bank account in the Philippines to receive the fund remitted by JICA, and inform the JICA Office of the name of the bank, the account code number and the name of the account holder,
- 12-2 CMDF will submit to the JICA Office a bill of estimate for the expenses to be borne by the Government of Japan not later than sixty (60) days before the commencement of the Course,
- 12-3 JICA will assess the bill of estimate and remit the assessed amount of expenses to the account mentioned in 12-1 above within thirty (30) days after the receipt of the bill of estimate,
- 12-4 CMDF will submit to the JICA Office a statement of expenditures within thirty (30) days after the termination of the Course,
- 12-5 In case there is any unspent remainder of the amount remitted by the JICA, CMDF will reimburse the unspent amount to JICA in accordance with the instructions given by JICA. The fund allocated for the flight fare, accommodation, per-diem and medical insurance premiums shall not be appropriated for any other purpose, and
- 12-6 JICA requests that CMDF makes available for JICA's reference all the receipts and other documentary evidence necessary to verify the expenditures stated in 12-4 above.

13. OTHERS

This attached document and the following Annexes attached hereto shall be deemed to be part of the Record of Discussions :

- ANNEX I : Curriculum of the first Course (for JFY 1992)
- ANNEX II : Schedule of the Course Implementation
(for JFY 1992)
- ANNEX III : Tentative Estimate of Expenses to be borne by the Government of Japan and the Republic of the Philippines (for JFY 1992)

LIST OF ATTENDANTS AT THE MEETING
BETWEEN
THE JAPANESE PRELIMINARY SURVEY TEAM AND
THE AUTHORITIES OF THE REPUBLIC OF THE PHILIPPINES
ON THE THIRD COUNTRY TRAINING PROGRAMME
19-24 AUGUST 1992

1. JICA Preliminary Survey Team :
Mr. Masaaki Ohtsuka
Mr. Kouichi Kubo
Mr. Junichi Hanai
2. Ms. Emiko Ibaraki
Assistant Resident Representative
JICA - Philippines Office
3. Mr. Tomotaka Kinoshita
JICA Expert, CMDF
4. Mr. Rodolfo C. Menguita
Caretaker-Deputy Exec. Director
C M D F - C M D C
5. Mr. Philip A. Pichay
Manager, Administrative Group
C M D F
6. Mr. Jeffrey C. Zamora
Division Chief, Industrial Construction Works
T C G - C M D C
7. Mr. Ricardo C. Fernandez
Assistant Div. Chief, Heavy Equipment Works
T C G - C M D C
8. Mr. Florencio G. Sison
Program Officer, Program Development and
Management Group (P D M G)
C M D F
9. Mr. Arnel L. Rojo
Marketing Officer, P D M G
C M D F
10. Ms. Fatima C. Nueva
Program Coordinator, P D M G
C M D F

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SENIOR COURSE ON BUILDING CONSTRUCTION PROJECT MANAGEMENT

THIRD COUNTRY TRAINING PROGRAMME / CURRICULUM OF THE COURSE (FOR JFY 1992)

ANNEX I
PART I

WEEK	MON	TUES	WED	THURS	FRI	SAT
		Management Concepts & Principles	Management Concepts & Principles	Management Concepts & Techniques	Management Concepts Guidelines & Principles	
1	OPENING CEREMONY Intro of Participants General/Course Orientation M. R. ABAD	(PLANNING) T. T. DE LEON	(WORKSHOP) PSDH Processes R. C. MENGUITA	(LECTURE) VA/VE H. R. ABAD	(LECTURE/CASE) OPH Concept R. C. MENGUITA	C
2	(WORKSHOP) PSDH Processes R. C. MENGUITA	(WORKSHOP) PSDH Processes R. C. MENGUITA	(WORKSHOP) Construction Methods CONCRETING WORKS H. R. ABAD	(WORKSHOP) Construction Methods FOUNDATION WORKS R. C. FERNANDEZ/ A. V. MERCED	(WORKSHOP) Construction Methods ELECTRO-MECHANICAL WORKS J. C. ZANOZA	I
3	(WORKSHOP) Construction Methods FORMWORKS H. R. ABAD	(WORKSHOP) Construction Methods REBARWORKS R. V. CONSUELO	(WORKSHOP) Construction Methods CONCRETING WORKS H. R. ABAD	(WORKSHOP) Construction Methods FOUNDATION WORKS R. C. FERNANDEZ/ A. V. MERCED	(WORKSHOP) Construction Methods ELECTRO-MECHANICAL WORKS J. C. ZANOZA	T
4	(LECTURE) Pre-planning Processes R. V. CONSUELO	(LECTURE) Pre-planning Processes R. V. CONSUELO	(LECTURE) Pre-planning Processes R. V. CONSUELO	(LECTURE) Pre-planning Processes R. V. CONSUELO	(LECTURE) Pre-planning Processes R. V. CONSUELO	O
5	UEP Presentation M. R. ABAD	UEP Presentation A. E. AURIADA	UEP Presentation A. V. MERCED	UEP Presentation R. V. CONSUELO	UEP Presentation D. B. R. NAVERA, JR.	U
6	Integrating Case CAN Group H. R. ABAD/R. V. CONSUELO	Integrating Case CAN Group SUPERINTENDENTS/PANEL	Integrating Case Presentation H. R. ABAD	Integrating Case Presentation H. R. ABAD	Integrating Case Evaluation S. M. PAHARA COURSE DEBRIEFING H. R. ABAD	R S DEPARTURE
FACILITATORS →						

SCHEDULE OF THE COURSE IMPLEMENTATION
(FOR JAPANESE FY 1992)

MONTH	PHILIPPINES SIDE	JAPANESE SIDE
September 1992	<ol style="list-style-type: none"> 1. Signing of Record of Discussions 2. Preparation of G.I. 3. Submission of Form A-1 4. Distribution of G.I. 	<ol style="list-style-type: none"> 1. Signing of Record of Discussions
October 1992	<ol style="list-style-type: none"> 1. Submission of Bill of Estimate 	
November 1992	<ol style="list-style-type: none"> 1. Selection and Notification of Participants 	<ol style="list-style-type: none"> 1. Recruitment of Expert(s) 2. Remittance of Expenses 3. Submission of Form B-1
December 1992		
January 1993	<ol style="list-style-type: none"> 1. Implementation of the Course 	<ol style="list-style-type: none"> 1. Dispatch of Expert(s)
March 1993	<ol style="list-style-type: none"> 1. Submission of Statement of Expenditures 	
April 1993	<ol style="list-style-type: none"> 1. Submission of Course Report 	

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SENIOR COURSE ON BUILDING CONSTRUCTION PROJECT MANAGEMENT

THIRD COUNTRY TRAINING PROGRAMME

ESTIMATE OF EXPENSES
(FOR JFY 1992)

ITEM OF EXPENSES	TOTAL (P)	J I C A (P)	PHILS. (P)
I. INVITATION			
1. AIRFARE	P 540,000	P 540,000	
2. PER-DIEM			
P500 x 22 participants x 45 days	495,000	495,000	
3. ACCOMMODATION			
P200 x 22 participants x 38 nights	167,200		
1,000 x 27 persons x 7 days (Baguio City)	189,000	356,200	
4. INSURANCE PREMIUMS (for foreign participants only)			
P3,000 x 16 participants (Processing Allowance)	48,000		
P1,000 x 16 participants (Insurance)	16,000	64,000	

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ITEM OF EXPENSES	TOTAL (P)	J I C A (P)	PHILS. (P)
II. TRAINING EXPENSES			
1. HONORARIA FOR EXTERNAL LECTURERS			
a. Local external lecturers			
-- Honoraria			
P500/hr x 5 days(6hrs/day) x 2 persons	P 30,000		
-- Transportation over long distance			
--- Bus fare			
P100 x 2 persons x 5 days	1,000	31,000	
b. Two (2) Coordinators			
P7,000 x 2 months x 2 persons	28,000		28,000
2. EMPLOYMENT FEE			
- Secretary			
P7,000 x 2 months	14,000	14,000	
3. TRANSPORTATION (for study tour)			
a. Travelling expenses			
- Bus rental			
P5,000 x 5 days	25,000		
- Per-diem			
P200 x 5 days x 22 participants	22,000		
b. Others			
- Coordinators' allowance			
P1,000 x 5 days x 2 persons	10,000		
- Driver employment			
P500 x 5 days x 1 person	2,500		
- Gasoline allowance	7,500	67,000	

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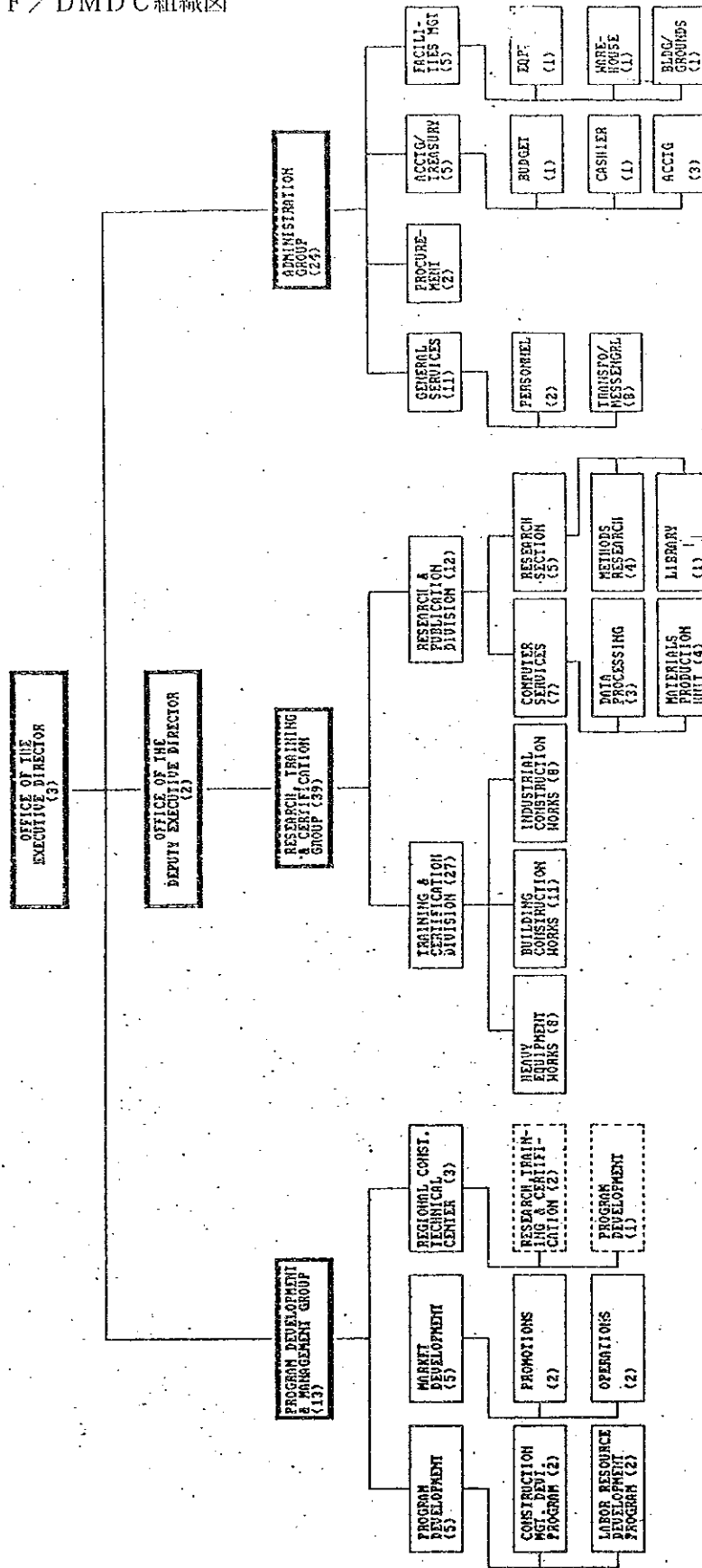
ITEM OF EXPENSES	TOTAL (P)	J I C A (P)	PHILS. (P)
4. ELECTRICAL & WATER CONSUMPTION	P 100,000		P 100,000
5. MATERIAL PROCUREMENT			
a. Articles of Consumption			
- Hand-outs/Learning Materials	24,810		
- Reproduction	6,000		30,810
b. Meeting expenses			
- Opening Ceremony			
P600 x 50 persons	30,000		
- Closing Ceremony			
P600 x 50 persons	30,000	60,000	
c. Printing & Other Services			
- GI printing	5,000		
- Communication			
-- International Calls	20,000	25,000	
-- Local Calls	10,000		
-- Invitations	15,000		
-- I.D. P50 x 22 participants	1,100		
-- Stamps & Mailing	5,000		
-- Certificates & souvenirs	40,000		71,100
6. TEXTBOOK			
- Book Purchase	50,000	50,000	
7. TEACHING AID PURCHASE			
a. Videotape training modules	147,800		
b. Building Construction Equipment & Softwares	300,000	447,800	
8. DEPRECIATION OF EQUIPMENT	50,000		50,000
T O T A L	P2,429,910	P2,150,000	P 279,910

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CONSTRUCTION MANPOWER DEVELOPMENT FOUNDATION
ORGANIZATIONAL CHART



Project Management Series

(P M S modules)

INTRODUCTION TO CONSTRUCTION PROJECT MANAGEMENT

At the end of the seminar-workshop, the participants should be able to:

1. Become aware of the basic management functions and their application to a construction project;
2. Gain overall insights on his role as would-be project managers.

TARGET PARTICIPANTS : Potential Project Managers
Would-be Subcontractors
Would-be Contractors

COURSE OUTLINE :

D A Y	T O P I C
Day 1	Introduction to Project Management Introduction to Planning Developing the Project Plan
Day 2	Planning for Production and Support Cost and Risk Control Policies and Procedures
Day 3	Purchasing and Receiving Subcontractor Management Project Layout Project Start-up and Closing Out

INTRODUCTION TO QUANTITY SURVEYING

COURSE OUTLINE :

D A Y	T - O P I C
Day 1	<ul style="list-style-type: none">* An Overview of Management Principles* The 3D Concept in Project Management* Project Flow Chart
Day 2	<ul style="list-style-type: none">* Quantity Surveying Process and Organization* Principal Services of the Quantity Surveyor in Principal and Contractual Management* Application of Computer in Quantity Surveying
Day 3	<ul style="list-style-type: none">* Workshop and Application* Pricing Strategy Overview* Workshop and Application* Discussion on Actual Quantity Surveyed Data* Discussion of British Standards, and US-Philippine Standards on Work Organization

PROJECT PLANNING, SCHEDULING and NETWORK ANALYSIS

At the end of the seminar-workshop, the participants should be able to :

1. Gain familiarization with the various planning and scheduling techniques;
2. Carry-out an effective Resource Planning Program;
3. Upgrade basic knowledge on Financial Projection and Cost Program; and
4. Prepare simple Project Networking in relation to Project Budget cost.

COURSE OUTLINE :

D A Y	T O P I C
Day 1	<ul style="list-style-type: none"> * Planning and Scheduling Approaches - Gantt Chart - Bar Chart - Time Based Network - Precedence Chart - Critical Path Method (CPM) - PERT and Project Evaluation - Review Technique - Productivity Manhours Measurement - Sample of Simple Project Planning <li style="padding-left: 40px;">* Road Construction <li style="padding-left: 40px;">* Typical 3 Bedroom House (Medium Type)
Day 2	<ul style="list-style-type: none"> * Application of PERT/CPM Technique - Networking Workshop - Introduction to PERT/Cost Technique - Crash Programming and Evaluation - Resource Planning - Financial <li style="padding-left: 40px;">* Cost and Schedule <li style="padding-left: 40px;">* Project Budget vs. Actual Cost <li style="padding-left: 40px;">* Cost and Benefit Relationship
Day 3	<ul style="list-style-type: none"> * Workshop and Presentation - Road Construction Project - Typical 3 Bedroom House - A Simple Structural Warehouse Bldg. - High Rise Building Construction

CLAIMS and CONTRACTS IN CONSTRUCTION

COURSE OUTLINE :

D A Y	T O P I C
Day 1	* CONTRACT MANAGEMENT (PRE-AWARD STAGE) ** Theory of Contract Management ** Formulation of Contract Documents ** Bidding Procedures and Review Process
Day 2	* CONTRACT ADMINISTRATION, ** Awarding of Contracts ** Suspensions and Extensions ** Change Orders, Variation Orders and Supplementary Agreements ** Liquidated Damages and Incentive Bonuses ** Price Escalation ** Arbitration
Day 3	* UNDERSTANDING THE CONTRACT DOCUMENT ** Examination of Set of Contract Documents ** Highlighting Those Portions Which May Affect Project Managers ** Reading and Understanding Construction Drawings

FOREMANSHIP TECHNIQUES

At the end of the seminar-workshop, the participant should be able to :

1. Sharpen their foremanship skills;
2. Improve their production through better work control;
3. Plan cost reduction measures within their working unit.

COURSE OUTLINE :

DAY	TOPIC
DAY 1	* Role/ Leadership/ Motivation * Communication/ SIPS/Production and * Cost Control * Construction Safety
DAY 2	* Problem Solving and Decision Making (Process and Application) ** Problem Identification ** Problem Prioritization ** Problem Analysis ** Solution Formulation
DAY 3	* Work Study Method in Construction * Work Study Applications * Solution Formulation

CONSTRUCTION FINANCIAL MANAGEMENT

At the end of the seminar-workshop the participants should be able to :

1. Prepare financial plan for construction project operations;
2. Execute effectively the construction project financial plan;
3. Use cash flow report to analyze financial problems and to determine corrective measures.

COURSE OUTLINE :

D A Y	T O P I C
Day 1	<ul style="list-style-type: none"> * Profitability in Construction Business * Construction Manager as a Finance Manager * Role & Importance of Financial Statements * Components of Financial Statements and its Utilization <ul style="list-style-type: none"> ** Profit and Loss Statement (P & L) ** Cash Flow Statement (CF) ** Balance Sheet Statement (B/S) * Financial Analysis : as Manager decision making tool * Interpretation of Financial Analysis
Day 2	<ul style="list-style-type: none"> * Financial Planning (lecture & workshop) <ul style="list-style-type: none"> ** Identification of Need ** Preparation of Projected Financial Performance ** Matching of Fund Sources and Uses ** The Art of Leveraging ** Fund Scheduling ** Cost Control * Funding, Sourcing and Servicing <ul style="list-style-type: none"> ** Documentary Credits ** Working Capital Facilities ** Suppliers' Credit ** Equipment Credit - Loans or Leases
Day 3	<ul style="list-style-type: none"> * Cash Flow Management <ul style="list-style-type: none"> ** Receivables Management ** Payables Management ** Cash Management ** Cash Budgeting ** Techniques in Maintaining Positive Cash Flow *** Pre-contract Stage *** Project Implementation Stage ** Head Office Support <ul style="list-style-type: none"> *** from Finance Department *** from Procurement Department
Day 4	<ul style="list-style-type: none"> * Workshop and Presentation <ul style="list-style-type: none"> ** Preparation of Project Financial Plan *** Cash Budgets : Case Study

VALUE ENGINEERING IN CONSTRUCTION

At the end of the seminar, the participants should be able to:

1. Apply value engineering concept in all phases of construction;
2. Provide competent professional construction management services to their clients; and
3. Discover the areas of opportunity in value engineering.

COURSE OUTLINE :

<u>D A Y</u>	<u>T O P I C</u>
Day 1	<ul style="list-style-type: none">* Introduction to Value Engineering* Value Engineering Methodology* Value Engineering Opportunities during Design Stage* Value Engineering Opportunities during Estimating & Bidding Stage
Day 2	<ul style="list-style-type: none">* Value Engineering Opportunities during Pre-construction Stage* Value Engineering in Housing and Land Development* Value Engineering in Industrial Construction
Day 3	<ul style="list-style-type: none">* Value Engineering Opportunities during Post Construction Stage* Life Cycle Costing* Introduction to Quantity Surveying

CONSTRUCTION COST ESTIMATING and ANALYSIS

COURSE OUTLINE :

D A Y	T O P I C
Day 1	<ul style="list-style-type: none"> * INTRODUCTION OF THE GAME <ul style="list-style-type: none"> - Name of the Project - Negotiation/Invitation to Bid - Types of Biddings - Pre-qualification of Bidders/Contractors * BID DOCUMENTS <ul style="list-style-type: none"> - Plans and Specifications - Detailing - Forms - Instruction to Bidders/Addendum/Bid Bulletin * W O R K S H O P * ORGANIZATION <ul style="list-style-type: none"> - Organizational Chart - Communication Pattern - Duties and Responsibilities * BID PREPARATION <ul style="list-style-type: none"> - Qualification <ul style="list-style-type: none"> * Quality Take Off <ul style="list-style-type: none"> a) Detailed b) Shotgun * W O R K S H O P
Day 2	<ul style="list-style-type: none"> * COSTING OF RESOURCES <ul style="list-style-type: none"> - Material Costing - Labor Costing <ul style="list-style-type: none"> * Methods * Manhours * Productivity Rates - Equipment Costing - Workshop * SCHEDULING <ul style="list-style-type: none"> - PERT/CPM Network - Bar Chart/S-curve <ul style="list-style-type: none"> * Activities * Materials * Manpower * Equipment * Cash * WORKSHOP ON SCHEDULING
Day 3	<ul style="list-style-type: none"> * MARK - UP <ul style="list-style-type: none"> - Supervision - Overhead - Mobilization/Demobilization/Layout - Contingency - Permits/Premiums - Miscellaneous - Profit - Tax * BID PRICE/PROJECT COST * BIDDING STAGE <ul style="list-style-type: none"> - Bid Proposal/Bid Bond - Detailed Cost Estimate/ROQ - Summary of Cost Estimate - Submission of Bids/Bid Documents - Canvass of Bids/Verification of Bid and Documents - Selection of Bidders for Evaluation * AWARD OF CONTRACT <ul style="list-style-type: none"> - Types of Contract - Conditions/Contract Document - Notice of Award - Signing of Contract * W O R K S H O P

CONSTRUCTION METHODS and TECHNIQUES

At the end of the seminar-shopwork, the participants should be able to :

1. Examine the current construction methods and systems in rebar works;
2. Select and use appropriate methods and systems in rebar works and
3. Discover the economic pay-off in rebar works.

COURSE OUTLINE :

D A Y	T O P I C
Day 1	<ul style="list-style-type: none"> * REBAR DETAILING ** Placing drawing ** Detailing Drawing ** Cutting List * SHOPWORK
Day 2	<ul style="list-style-type: none"> * REBAR FABRICATION ** Shop Layout ** Cutting and Bending Processes <ul style="list-style-type: none"> - Manual - Mechanized * SHOPWORK
Day 3	<ul style="list-style-type: none"> * REBAR PLACING ** Preassembly and Installation Method ** Assembly-in-place Method ** Bar Tying Technique ** Bar Splicing - GPW Technique * SHOPWORK

PRE-CONSTRUCTION PLANNING and DETAILING

At the end of the seminar-workshop, the participants should be able to :

1. Become aware of the basic business management functions and its applications to construction projects;
2. Walk through the full pre-construction planning process;
3. Apply pre-construction planning techniques in developing the project plan.

TARGET PARTICIPANTS :

Jr. Supervisors	Senior Supervisors
Associate Engineers	Senior Engineers
Supervising Engineers	Jr. Project Managers
Project Superintendent	Project Managers

COURSE OUTLINE :

D A Y	T O P I C
Day 1.	<ul style="list-style-type: none"> * Review of Contract Documents * Review of Estimates * Preparation of Project Budget * Preparation of " Bill of Materials " * Cash Flow Projections * Construction Methodology * Control System Design
Day 2	<ul style="list-style-type: none"> * Pre-Construction Planning (Workshop) Vertical Construction (High Rise)
Day 3	<ul style="list-style-type: none"> * Pre- Construction Planning (Workshop) Horizontal Construction (Earthworks)

CONSTRUCTION OPERATIONS MANAGEMENT

Objective : To understand and acquire an effective framework or system of managing construction operations towards producing planned structures or outputs at the highest quality level specified, at the lowest cost possible, within the minimum reasonable cost.

Methodology :

1. Analyze construction operations as operations to manage via workshop
2. Learn basic Operations/Production Management principles and techniques via lectures and cases
3. Apply OPM principles and techniques to construction operations management via workshop

COURSE OUTLINE :

<p>CLASS INTRO : OPM PERSPECTIVE IN CONSTRUCTION OPERATIONS - Class Discussion & Lecture</p> <hr/> <p>BASICS OF OPM: COMPONENTS - Milacron Case - Case Discussion & Lecture</p> <hr/> <p>OPM PRINCIPLES & TECHNIQUES(1): QDF/PRODUCT PROCESS DESIGN APPLIED TO CONSTRUCTION PLANNING * ASMO Ltd. Case - Case Discussion & Lecture</p>	<p style="text-align: center;">ANALYZING CONSTRUCTION OPERATIONS</p> <hr/> <p style="text-align: center;">Class Discussion & Lectures:</p>	<p style="text-align: center;">WORKSHOP 2</p> <hr/> <p>Group Work: Topics 4, 5, 6</p> <p style="text-align: center;">Group Discussion Resolution</p> <p style="text-align: center;">Presentation Preparation</p>
<p>OPM PRINCIPLES & TECHNIQUES(2) : PUSH/PULL SYSTEMS APPLIED TO PROJECT EXECUTION OPM PRINCIPLES & TECHNIQUES(3) : PRODUCTION CONTROL & STANDARDS APPLIED TO CONTROL/RE-PLANNING - Case Discussion & Lecture</p> <hr/> <p>SAPADAPPA - Damp Mall Case - Case Discussion & Lecture</p>	<p style="text-align: center;">WORKSHOP 1</p> <hr/> <p>Groupwork: Topics 1, 2, 3</p> <p style="text-align: center;">Group Discussion & Resolution</p> <p style="text-align: center;">Presentation Preparation</p>	<p style="text-align: center;">PRESENTATION</p> <p style="text-align: center;">Topic 1 Topic 2 Topic 3 Topic 4 Topic 5 Topic 6</p> <hr/> <p>Integration Panel</p>

CONSTRUCTION MONITORING and COST CONTROL

At the end of the seminar - workshop, the participants should be able to :

1. Design an effective monitoring and cost control system ;
2. Measure effectively the progress and performance of construction project ;
3. Use the monitoring results to analyze problems and determine corrective measures.

COURSE OUTLINE :

DAY	TOPIC
DAY 1	<ul style="list-style-type: none"> * CONCEPTUAL MODEL : <ul style="list-style-type: none"> ** Monitoring System ** Cost Control System * Common Changes During Project Implementation * Effective Project Control * Optimum Work Construction Schedule * Quality Control * Materials Control * Manpower Control * Equipment Control * Financial Control
DAY 2	<ul style="list-style-type: none"> * CASE STUDY (Monitoring and Cost Control System Design) * Industrial Construction Project * Vertical Construction Project (MCC Project)
DAY 3	<ul style="list-style-type: none"> * CASE STUDY <ul style="list-style-type: none"> ** Horizontal Construction Project * CASE PRESENTATION

Supervisory Development Course

(SDC)

I. **Course Title:** Supervisory Development Course on Reinforcement Works

II. **Course Description:**

This supervisory course is designed to equip graduates/cadet engineers with technical and supervisory capabilities on the process of reinforcement work. Emphasis will be on the application of practical technology that will result to improved productivity, lesser cost and high quality.

Of special interest to participants will be topics on the "gas pressure welding" which is locally adaptable and has advantageous features not found in ordinary joining methods of rebars like lap splicing or the less popular SMAW.

A distinct part of the training is a common core which deals with monitoring, planning/scheduling, safety and work study method which are vital tools for effective supervision.

III. **Course Objective:**

1. Plan and schedule/review of work estimate/cash flow.
2. Prepare and interpret shop drawings/fabricate and install bar according to plans and specifications.
3. Apply control systems and safety in construction.

IV. **Course Outline:**

1. Common Core
 2. Pre-Execution Planning
 - 2.1 Interpretation of shop drawings and specifications.
 - 2.2 Planning and scheduling
 - 2.3 Review of work estimate
 - 2.4 Preparation of cash flow
 - 2.5 Application of control systems and safety practices on a construction site.
 3. Preparation of Shop Drawings
 - 3.1 Placing (assembly) drawings
 - 3.2 Detailing drawings
 - 3.3 Cutting and bending lists
 4. Fabrication
 - 4.1 Efficient utilization of tools and equipment
 - 4.2 Methodology (cutting and bending process)
 - 4.3 Monitoring (quality, progress and spent hours)
 5. Assembly/Installation
 - 5.1 Efficient utilization of tools and equipment
 - 5.2 Schemes of assembly
 - 5.3 Methodology (process)
 - 5.3 Monitoring
 - 5.4 Gas pressure welding
-

Foundation Work

- I. COURSE TITLE: SUPERVISORY TRAINING IN FOUNDATION CONSTRUCTION
- II. CRAFT AREA: MASONRY
- III. GENERAL COURSE DESCRIPTION:

When foundations give trouble, one usual cause is poor or faulty construction and since it is generally conceded that foundation construction is more of an art than a science because of the uncertainties associated with the soil particles of the system, the course emphasizes on the soil and rocks below and on the art aspect over science as this seems to be the trend of training necessity. Applications of science will be dealt more rather than the complicated and highly theoretical materials such that the wealth of information in the theories of soil mechanics and concrete properties, which must have been developed in college, are only requisite basic tools among the participants to which they must be already well acquainted with.

The training will provide engineers who are preparing for practice the essential knowledge in foundation construction under normal circumstances. It presents currently accepted practices, methods, and procedures in foundation construction to the end that the more common practices are covered, procedures in constructing different foundation types are learned and key points of construction methods are understood.

Finally, in recognition that at present time, a practicing engineer can no longer be excused for unwarranted wastefulness or poor construction, the program was designed to make graduate/cadet engineers capable of dealing with on site soil and foundation construction problems with confidence while also recognizing that under unusual conditions, help or advice must be sought.

IV. OBJECTIVES:

Foundation construction is less controllable and has more uncertainties than that of the superstructure due to changes in subsoil and groundwater conditions. It is then considered important that the following course objectives be realized among new engineers who are preparing for practice:

1. To understand the construction industry up to the project operations level;
2. To enable the participants to gain the tools and skills of problem solving and decision making techniques;
3. To increase the effectiveness of participants in the job through system and method improvement techniques;
4. To be able to plan and schedule foundation construction activities;
5. To acquire the essential knowledge in foundation construction practices, methods, and procedures;
6. To be able to deal with ordinary on site soil and foundation construction problems;
7. To acquire knowledge and understanding in other foundation related jobs like formworks, rebar works, and layout works; and
8. To appreciate construction practices on safety.

V. COURSE CONTENT:

TOPIC	LECT.	PRACT.
1. Soil and Rocks	1	
1.1. Nature		
1.2. Engineering Properties		
1.3. Ground Water		
2. Construction Safety	1/2	
3. Investigation and Tests	1/2	1 1/2
4. Lay-outing	1/2	
5. Clearing and Grading	1/2	
6. Walling and Sheetpiling	1	
7. Excavation and Dewatering	1/2	
8. Piling	1	
9. Pre-Concreting Works	1	
10. Concreting	1	
11. Post Concreting Works	1	
11.1. Curing		
11.2. Damp Proofing		
11.3. Rockfill		
11.4. Compaction		
12. Other Activities		
a. Orientation and Pre-Evaluation	1	
b. Progress Evaluation	1/2	
c. Field Trip		3
d. Post Evaluation	1/2	
TOTAL	15	DAYS

I. COURSE TITLE: CONSTRUCTION EQUIPMENT MAINTENANCE WORKS

II. COURSE DESCRIPTION:

Machines and equipment are the important means of production and their operation and handling have a significant effect in the reduction of construction costs and assurance of construction quality. Keeping in mind that the fact that machines and equipment become deteriorated as they are used, it is necessary to have a well-organized maintenance system to keep them in efficient working condition at all times.

Proper service and maintenance keeps equipment working at peak efficiency; so service and maintenance should not be looked at as a drain on income. Rather, they should be considered a contribution to output.

It is in this premise that the course was designed to give the participants the proper knowledge and skills on maintenance management and implementation with emphasis on workshop planning and organization, maintenance planning and scheduling, parts control, implementation of maintenance methods and monitoring and control system.

III. COURSE OBJECTIVE:

At the end of the course, the participants should be able to:

- a. plan and organize a maintenance workshop;
- b. formulate maintenance plans and schedules;
- c. understand implementation of maintenance methods; and
- d. formulate monitoring and control system.

IV. COURSE OUTLINE:

TOPIC	LECT.	PRACT.
1. Orientation	3.5	
2. Planning Procedure	3.5	
3. Introduction to Maintenance Management	7.0	
4. Workshop Planning	7.0	
5. Equipment Control System and Documentation	7.0	
6. Maintenance Planning/Scheduling	7.0	
7. Parts Control	3.5	
8. Implementation of Maintenance Methods		
8.1 Engine System	2.0	5.0
8.2 Fuel System	2.0	5.0
8.3 Hydraulic System	2.0	5.0
8.4 Undercarriage	1.0	2.5
8.5 Electrical System	2.0	5.0
9. Problem Solving/Trouble-Shooting	7.0	7.0
10. Cost Analysis	3.5	
11. Evaluation of Maintenance Program	1.0	
12. Open Forum	2.5	
13. Field Trip		7.0
14. Post Evaluation		3.5
15. Graduation		3.5
16. Common Core	35.0	
	95.5	43.5

V. MATERIALS/EQUIPMENT NEEDED:

1. OHP
2. Slide Projector
3. TV/Beta
4. Engine Dynamometer
5. Injection Stand Test Bench
6. Hydraulic Test Bench
7. Electrical Test Bench
8. Nozzle Tester

VII. COURSE DURATION: 140 Hours

I. COURSE TITLE: BUILDING ELECTRICAL CONSTRUCTION WORKS

II. COURSE CONTENT:

The course consist of four (4) modules, namely:

Module 1 - Common Core (c/o RCM)

Module 2 - Preparatory Works

The module shall deal with materials and equipment flow from the point of receiving up to turn-over at site. This highlights an organized way of preparing work site layout that will result to minimum travel and movement of materials and equipment in the process of making it ready for turn-over to the project site.

Module 3 - Planning and Design

The module shall focus on manpower and methods as the primary concern in planning and designing work execution. Various tool shall be discussed to attain the quality and quantity specifications required in creating and filling-up the structure. This also covers the necessary guide in coming-up with an appropriate monitoring and control system in the work execution.

Module 4 - Execution

Critical activities that pertains to Electromechanical works shall be discussed to provide guide in the proper coordination that will eventually reduce downtime, reworks and waste of materials. Safety aspects in the work sites shall also be discussed in parallel to the actual work execution.

III. COURSE OUTLINE:

TOPICS	DURATION (HRS.)
1. Preparatory Works	
1.1 Site investigation	3
-a. Access of deliveries	
b. Area of information	
c. Work stations of each activity	
1.2 Establishing temporary facilities	7
a. Area classification	
b. Room assignments	
- Fundamentals of flow chart	
- Supply (materials equipment) flow	
- Control point	
1.3 Handling and turn-over	3.5
a. Check sheets	
b. Application of flow chart	

TOPICS	DURATION (HRS.)
2. Planning and Design	
2.1 Organizing	28
a. Quality specification	
- Work specification/schedule	
- Work structure	
- Work program	
- Work classification	
b. Fundamentals of PERT (Network Chart) ...	
- Basic rule in arrow diagram	
- Duration computation	
- Application	
c. Bar chart	
- A case	
d. Work programming and scheduling	
- Manpower selection/distribution	
- Goal programming	
2.2 Staffing	7
a. Quantity specification	
b. Case	

TOPICS	DURATION (HRS.)
3. Execution	
3.1 Detailing	3.5
3.2 Layouting	3.5
3.3 Installation	24.5
a. Roughing-in E and PL	
b. Raceway/busway installation	
c. Fixture/equipment mounting	
d. PL piping and welding	
e. Ducting	
f. Instrument fitting	
g. Wire/cable pulling and termination	
3.4 Testing/commissioning	3.5
3.5 Safety	3.5
4. Course Overview	0.5
5. Course Evaluation	3.5
TOTAL	91 hrs.
	= 13 days

I. COURSE TITLE: STEEL FABRICATION WORKS

II. COURSE DESCRIPTION:

The course is designed to equip the participants who wish to establish a career knowledge in Steel Fabrication Works. The course will take on the fabrication processes as the center piece of training.

Steel materials, blue print reading, welding & inspection forms part of the lecture. Practical exercises on template development, marking/layouting and rigging will also be addressed.

Work estimating, planning and scheduling as well as monitoring and control as an integrating activity in the course will evaluate the participants gain knowledge.

The course will progress with lectures/discussions using audio-visual equipment in presenting actual fabrication practice.

The learning experience will be enhanced with field trips to steel fabrication plants.

The course will run for 105 Hrs.

III. OBJECTIVES:

GENERAL: The course aims to provide the participants with knowledge in the Steel Fabrication operation.

SPECIFIC: After the training, the participants must be able to:

1. Describe the steel fabrications & bays;
2. Read & interpret blue prints;
3. Identify & describe fabrication flow process;
4. Perform template development and lay-outting/markings;
5. Enumerate inspection points and;
6. Acquire fundamental knowledge/concept on:
 - 6.1 Planning & Scheduling
 - 6.2 Estimate Fabrication Works
 - 6.3 Monitoring & Control
 - 6.4 Rigging Techniques

IV. COURSE OUTLINE:

TOPICS	DURATION (HRS)
1. General Information	21 Hrs.
1.1 Fabrication as an Industry	
- The State of Phil. Fabrication	
- Overseas Fabrication	
- Common Problems Encountered	
- Steel Materials	
1.2 The Fabrication Plant	
- Plant Lay-out	
- Fabrication Process	
- Quality Control/Assurance	
- Table of Organization	
2. Fundamental Knowledge on:	21 Hrs.
2.1 Planning & Scheduling of Fab'n. Works	
2.2 Estimating of Fabrication Works	
2.3 Monitoring & Control of Fab'n. Works	
3. Fabrication Process	63 Hrs.
3.1 Blue Print Reading/Actual Drawing	
3.2 Lay-outting/Pattern Making	
3.3 Cutting Boring/Forming	
3.4 Fit-up/Full Welding	
3.5 Inspection Process	
3.6 Corrosion Control Techniques	
3.7 Marking/Material Handling	

V. DURATION: 105 Hrs.

SUPERVISORY DEVELOPMENT COURSE

I. COURSE TITLE:

HEM ELECTRICAL SYSTEM

II. COURSE DESCRIPTION:

The course introduces the trainee/s to the electrical system of construction equipment. It is intended to provide them with necessary knowledge and skills on starting and charging system, and rewiring job. It also covers testing and adjustments of electrical components and trouble shooting.

III. COURSE OBJECTIVES:

Upon successful completion of the course, the trainee/s should be able to:

1. Interpret electrical circuit rewiring.
2. Perform adjustment and testing of electrical components.
3. Perform electrical circuit rewiring.
4. Perform trouble shooting.
5. Disassemble/assemble electrical components.

IV. COURSE OUTLINE:

TOPIC	No. of Hours	
	Lect.	Pract.
1. Orientation		0.5
2. Training Proper:		
2.1 Safety Practices		1.0
2.2 Electrical Codes, Signs and Symbols		1.0
2.3 Principles of Electricity		0.5
2.4 Electrical Components, Structure, and Functions		1.0
2.4.1 Battery		
2.4.2 Starter motor		
2.4.3 Battery relay		
2.4.4 Safety relay		
2.4.5 Generator/alternator		
2.4.6 Regulator		
2.5 Starting System		1.5
2.6 Charging System		1.5
2.7 Disassembly/Assembly of:		8.0
2.7.1 Starter Motor		
2.7.2 Generator/Alternator		
2.7.3 Relays		
2.8 Testing & Adjustment of Electrical Components		3.0
2.9 Trouble-shooting		2.0
2.10 Trade Test		1.0

V. COURSE DURATION:

Twenty (20) Hours

SUPERVISORY DEVELOPMENT COURSE

I. COURSE TITLE:

MASONRY/FINISHING WORKS

II. COURSE DESCRIPTION:

This supervisory course is designed to equip masonry supervisors on the essential knowledge and skill to effectively and efficiently execute masonry/finishing works with emphasis on blockworks, tileworks, and concrete finishing.

A distinct part of the training is a common core which deals with monitoring, planning/scheduling, safety and work study method which are vital tools for effective supervision.

III COURSE OBJECTIVE:

The course aims that at the end of the training, the participants will be able to:

1. Plan/schedule masonry works;
2. Monitor the different activities of masonry works;
3. Perform work study for methods and productivity improvement;
4. Do block planning; and
5. Learn the theories and principles of masonry/finishing works.

IV. COURSE OUTLINE:

TOPICS	LECT.	PRACT.
1. Common Core	35.0	35.0
2. Planning & Scheduling for Masonry Works	2.5	
3. Work Study for Masonry Works	3.5	
4. Monitoring for Masonry Works	3.5	

TOPICS	LECT.	PRACT.
5. Safety and Accident Prevention	3.5	
6. Block Works		
6.1 Analysis and basic design assumptions	3.5	
6.2 Concrete masonry units	3.5	
6.3 Theory of walls and partitions	1.75	
6.4 Wall intersections	1.75	
6.5 Theory of lintels	1.75	
6.6 Building techniques	1.75	
6.7 Distribution drawings of blocks (block planning)	3.5	
6.8 Marking and layouting	1.0	6.0
6.9 Reinforcement work for blockworks (arrangement of bars)		
6.10 Masonry materials & processes	3.5	
6.11 Block laying	12.0	12.0
7. Concrete Finishing		
7.1 Plastering/stucco	1.0	6.0
7.2 Synthetic adobe	0.5	3.0
7.3 Pebble washout	0.5	3.0
7.4 Marble chip finish	0.5	6.5
7.5 Any finish	0.5	3.0
8. Tile Work	3.5	7.0
Total	80.0	52.0
9. Pre-Evaluation	1.0	
10. Mid-Evaluation	3.5	
11. Post-Evaluation	3.5	

GRAND TOTAL = 140 Hours

SUPERVISORY DEVELOPMENT COURSE

I. COURSE TITLE: FORMWORKS

II. COURSE DESCRIPTION:

The Supervisory Course in Concrete Formworks is focused in the development of site supervisors for operation to effectively and efficiently operate and be technically responsible in the construction industry.

The course is concentrated in a specific area of work in the construction but not limited only to the operation and/or project execution. An overview of the construction industry, its components which includes typical organization and association and the intricacies that evolves shall be emphasized. A tool in problem-solving and decision-making and construction productivity are included.

A series of exercises and case study are integrated for the participants to appreciate better how concepts in pre-planning, project execution, monitoring and control are applied to the field. Simulations and group discussions are also encouraged during sessions. Practical activities in constructing a formwork should be a distinct part of the training to enable the participants to apply the concepts that are learned.

Other methods in formwork construction shall also be introduced to familiarize the trainee especially to methods locally adopted.

III. COURSE OBJECTIVE:

The course is a four-week full-time intensive program and its general objectives are:

1. to develop their ability to effectively supervise through simulation and practical exercises;
2. to develop their skill in problem identification and decision-making necessary in attaining successful performance;
3. to develop their skills in planning and scheduling; and
4. to develop their skills in formulating monitoring schemes and control system.

IV. COURSE OUTLINE:

TOPICS	LECT.	PRACT.
1. Common Core	35.0	
1.1 Opening ceremonies		
1.2 Overview on construction activities		
1.3 Construction as production		
1.4 "KAIZEN" - PSDM		
1.5 VAVE		
1.6 Method Study		
2. Course Orientation	1.0	
3. Overview on Vertical Construction	1.5	
4. Safety for Construction	1.0	
5. Execution Scheme Formwork		
5.1 General/concept	1.0	
5.2 Introduction to Methods and its processes	2.5	
5.3 Planning	3.5	
5.4 Scheduling of resources	3.5	
5.5 Monitoring and control	3.5	
5.6 Re-use of materials, materials handling and others	3.5	
5.7 Case study		3.5
6. Structural Calculation for Formwork	3.5	3.5
7. Construction/Fabrication Drawing		
7.1 Detailing (connections)	1.5	2.5
7.2 Fabrication drawing	0.5	1.0
7.3 Assembly drawing	0.5	1.5
8. Estimating for Formworks		
8.1 Quantity take-off	1.0	1.5
8.2 Pitfalls in estimating	0.5	
8.3 Effect	0.5	
9. Markings	3.5	
9.1 Procedures		
9.2 Techniques		
10. Formworks Execution (Process)	3.5	
10.1 Procedures/steps in execution		
10.2 Methods/techniques of execution		
11. Field Execution		
11.1 Field layout		2.0
11.2 Marking/setting of plates		1.5
11.3 Material preparation		1.0
11.4 Fabrication/assembly and installation		27.0
11.5 Disassembly and maintenance		3.5
12. Review and Discussions	3.5	
13. Field Trip	7.0	
14. Progress/Post Evaluation	3.5	
15. Closing Ceremonies	3.5	

Total Duration - 133 hours

別添 6. 国内研修員受入実績

NUMBER OF GRADUATES
1982-July 1992

YEAR	LRDP		CNDP	TOTAL	
	TRAINING	TESTING		FOR THE YEAR	CUMULATIVE
1982	Basic 179			179	179
1983	Basic 42			42	221
1984	Basic 80			80	301
1985	Basic 92		Pilot IP 42 RTIP1 52 RTIP2 53 Total 147	239	540
1986	Basic 140		RTIP3 85 RTIP4 63 RTIP5 102 Total 250	390	930
1987	Basic 65		RTIP6 62 RTIP7 85 STP 25 CNDP (ILO) 10 ASEAN (Brunei) 43 Total 225	290	1220
1988	Basic 7		RTIP8 58 RTIP9 56 RIP10 35 RIP (Mod) 39 STP 79 CNDP 56 Total 323	330	1550
1989	Basic 151 IIP 63 Test IP 18 Total 232		RIP11 66 RIP12 64 RIP13 48 RIP14 24 ASEAN 31 STP 729 CNDP 296 Total 1258	1490	3040
1990	Basic 212 ISI/ICN 389 IIP 57 Total 658	ACEL: HEM 265	SDP (RIP) 100 STP 530 CNDP 81 ASEAN 19 Total 730	1653	4693
1991	Basic 301 Upgrading 449 Total 750	PCA: Masonry 114 Rebar 15 ACEL: HEM 52 Total 181	SDC 340 PMS 499 Total 839	1770	6463
1992 (as of end of July)	Basic 85 Upgrading 167 TOIC 61 Total 313	ACEL 29 PCA 30 PISC 40 Total 99	SDC 336 PMS 376 Total 712	1124	7507

別添 7. Grading System

GRADING SYSTEM

I. RATIONALE:

1. To standardize Performance Rating of the participants during the duration of the course.
2. To provide a basis for the recommendation of the participants.
3. To serve as an improvement indicator of the participant's development.

II. OBJECTIVES:

1. To monitor the progress of learning of the participants.
2. To draw the necessary adjustment of the course methodology.
3. To assess the overall performance of the participants.
4. To serve as a guide for the continuous improvement of the course.

III. KEY POLICY STATEMENTS:

1. All courses in-center and off center shall adapt this Grading System.
2. For short courses (two days to one week) grading should be done at the end of the course.
3. For long courses (more than a week) grading should be done twice, at the middle and at the end of the course.
4. The assigned Head Trainor should be responsible for the finalization of the grades.
5. Grade should be submitted to the Supt. three days after each grading period.
6. Supt. shall furnished the copy of the grade to TCG Mgr./AG/Registrar/ and PDMG Mgr.
7. The Grading System shall adapt the following criteria as follows:
 - 7.1 Attendance/Punctuality
 - 7.2 Participation/Cooperation

7.3 Quality

- 7.3.1 Quality of Work
- 7.3.2 Quality of Presentation

7.4 Test

8. Summary of grades shall be submitted to Supt. using the following forms:

- 8.1 SGF1 - SDC SR.
- 8.2 SGF2 - SDC INT.
- 8.3 SGF3 - SDC FRESH.
- 8.4 SGF4 - TOTC 3
- 8.5 SGF5 - TOTC 2
- 8.6 LRDP 1/0

9. All ratings shall be in terms of percentages for SDC's and TOTC's.

10. Passing grade is 70% and above for LRDP, passing grade will follow established test standards.

11. Final grade shall have an equivalent qualitative rating.

69 - below - poor

70 - 79 - fair

80 - 88 - satisfactory

89 - 95 - very satisfactory

96 - 100 - outstanding

III. FLOW DESCRIPTION:

1) CONDUCT PERIODIC ASSESSMENT:

Trainer conducts assessment of the participants in terms of their participation, quality presentation, quality of work and test results of every topic/activity.

2) KEEP RECORD OF ASSESSMENT RESULT:

Trainer readily makes available assessment results at any given time.

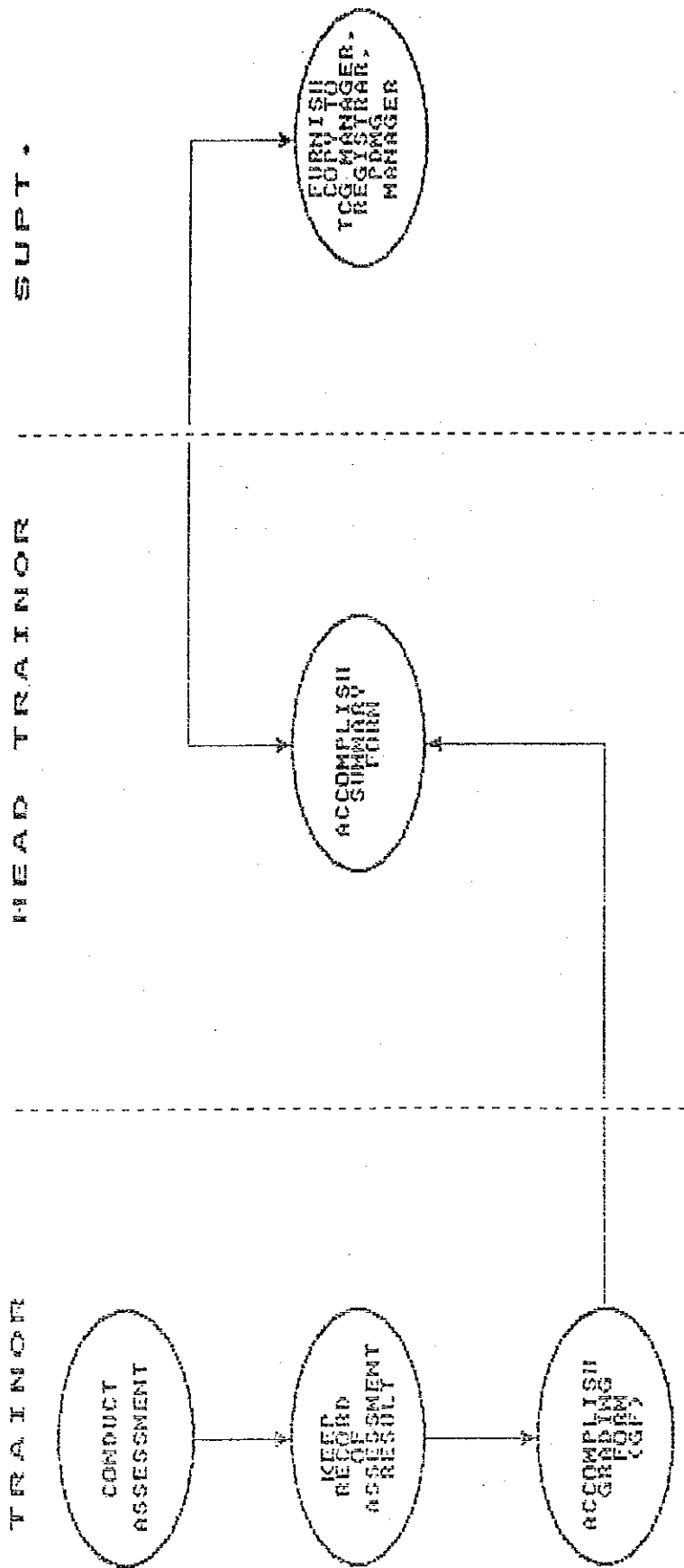
3) ACCOMPLISH GRADING FORM:

Trainer accomplish grading form (GF) after every topic/activity and submits to Supt. on or 3 days of each grading period.

4) ACCOMPLISH SUMMARY FORM:

Head trainer consolidates and accomplishes the summary grading forms (SGF) and furnishes copies to TCG mgr., registrar, and AG, PDMG mgr.

SYSTEMS FLOW



GRADING SYSTEM

LEGENDS:

- C - CONTENT
- C - COMPLETENESS
- T - TIME
- F - FORM
- A - ACCURACY
- S - SAFETY

別添 8. G. I. (案)

GENERAL INFORMATION

(G.I.)

BACKGROUND

CONSTRUCTION is the industry that creates buildings and infrastructure - the edifices that form the base for other industries, attract investments, fuel the development programs of the country and provide employment to maintain economic stability.

For buildings and infrastructure to attract investments, it must be built by quality techniques and procedures. Thus, builders must have quality manpower that can only be developed through right training. It is this continuous development of manpower in the construction sector that the *Construction Manpower Development Foundation (CMDF)* is most concerned with. CMDF is the training arm of the *Department of Trade and Industry (DTI)*. It maintains and operates the *Construction Manpower Development Center (CMDC)*, a training center located in Cavite. CMDC is a grant under the ASEAN - Japan Human Resources Development Project built to service the industry through the *Philippine Constructors Association (PCA)*. CMDC is envisioned to develop human resources necessary for enhancing self-reliance and productivity in rural areas through the diffusion of innovative and appropriate technology.

CMDC's mission is to upgrade the competency of construction trainers, foremen/supervisors and project managers through effective long- and short-term training programs. It is the recipient of the most complete and most sophisticated training facilities for construction training in the ASEAN region. Operational since 1985, CMDC has trained hundreds of engineers in the fields of construction technology and supervisory skills.

CMDC's faculty is composed of practitioners in the industry most of whom have trained on their specialization in Japan. Experts from the *Japan International Cooperation Agency (JICA)* and the *Philippine Constructors Association (PCA)* complement CMDC's faculty. They use state-of-the-art techniques, augmented by hands-on practice, on the effective and productive building techniques.

RATIONALE OF THE PROJECT

The ASEAN - Japan Human Resources Development Project is envisioned to strengthen and accelerate cooperation among ASEAN countries through transfer and exchange of technology among its member countries.

The Third Country Training Course is a special course under the Technical Cooperation of JICA. The course is held once a year on a fellowship basis involving local project engineers/supervisors and foreign counterparts. The focus of the course is the balance of management and engineering techniques at the operations level with special emphasis in the attainment of on-site productivity thru the use of appropriate engineering and supervision methods. The course includes country comparisons as well as workshop practice and project site studies.

The Third Country Training in Senior Course on Building Construction Project Management is organized to give an opportunity for building construction project managers to enhance their managerial skills and effectively face the project management challenges in the construction industry. Among these challenges are the economic constraints such as increasing shortages of materials and other resources, thus, efficient management of building construction projects is vital if scarce resources are not to be wasted.

OBJECTIVES OF THE COURSE

Upon successful completion of the Course, the participants are expected to have :

1. acquired a clearer perspective of the construction industry in the Asian-Pacific region,

and to be able to :

2. examine and understand the nature of the construction business and relate its objectives to a construction project,
3. prepare an efficient plan of operations and resources for a construction project (work scheduling, work execution; planning, resources scheduling, etc.),
4. effectively organize and operate a construction site with proper planning and control of schedule, cost, quality and safety,
5. prepare and execute plans for productivity improvement in a construction site.

Specific Objectives :

At the end of the training period, the participants are expected to :

1. Be developed from natural to management leader and be able to handle people.
2. Be able to synthesize all phases of work with the philosophy of : "Do it right the first time"
3. Be able to acquire Problem Solving and Decision Making (PSDM) skills.
4. Practice productivity improvement and strengthen financial consciousness.
5. Have the agility to supervise the delivery of phases of work (civil works and allied trades).

TARGET PARTICIPANTS

Sixteen (16) participants shall be selected from among the nominees from Asian-Pacific region and six (6) Filipino counterparts.

The course is designed for Construction Engineers as participants in the training. In the process of training, these construction engineers will be developed to become competent construction managers.

TRAINING DESIGN AND METHODOLOGY

The Senior Course on Building Construction Project Management shall follow the participative approach to training. The training course is designed by the CMDC faculty, deliberated and approved by the *Construction Management Development Program (CMDP) Committee on Standard Curriculum of Philippine Constructors Association (PCA)* - a body composed of industry practitioners.

Lecture, discussion and site visit shall cover the methodology of the course supplemented with exercises and case studies. Hand-outs and reading materials shall be furnished and audio - visuals shall complement the lecture - discussion portion. A country report on the outstanding project which the participant has engaged in will enrich the program. (See Annex A for the Country Report Format).

REQUIREMENT

For screening purposes, it is a **MUST** for the nominees to send in advance the **ABSTRACT** and **OUTLINE OF THEIR COUNTRY REPORT**. They have to be submitted together with the applicant's application for training and nomination forms.

DURATION

The proposed schedule is from January 25 to March 6, 1993 (30) training days.

CERTIFICATE

Upon completion of the course, the participants shall be given a certificate of completion issued by CMDF and JICA.

TRAINING VENUE / ACCOMMODATION

The training shall be conducted at the CMDC, Bo. Salawag, Dasmariñas, Cavite. The Center is a 7-hectare training complex equipped with a dormitory, library and state-of-the-art facilities intended for construction training. Trainees will be housed at the CMDC dormitory furnished with sports and leisure facilities.

QUALIFICATIONS OF PARTICIPANTS

Applicants for the Course are :

1. to be nominated by their respective Governments,
2. to be engineering graduates with good experience in building construction or non-engineering graduates engaged directly in a construction project management with five (5) years appropriate experience,
3. to be under thirty-five (35) years of age,
4. to have a good command of spoken and written English and to be in good health, both physically and mentally, in order to complete the Course.

APPLICATION PROCEDURE

1. The government desiring to nominate applicants for the course should fill in and forward five (5) copies of Nomination Forms for each applicant to the Philippines not later than sixty (60) days before the commencement of the Course.
2. Sixteen (16) trainees will be selected from Brunei, Indonesia, Malaysia, Singapore, Thailand, Bangladesh, Sri Lanka, Pakistan, Nepal, Viet Nam, Laos, Cambodia, Papua New Guinea, Fiji, Kiribati and Vanuatu including six (6) from the Philippines. Nominating countries are requested to submit five (5) candidates in order of their priority for screening purposes.
3. The Philippine government will inform the applying government agency whether or not nominees are acceptable for the course not later than thirty (30) days before the Commencement of the Course.

ALLOWANCES AND EXPENSES

JICA will shoulder the following expenses :

1. Economy-class round trip air-ticket between the international airport designated by CMDF and the Ninoy Aquino International Airport (NAIA) for non-Filipino participants.
2. Living allowance covering food and daily expenses shall be given on the first day of the course. No allowance of any kind will be paid for their accompanying dependents.
3. Insurance shall be provided by JICA for foreign participants.

GENERAL INSTRUCTION

1. Participants are required to arrive in the Philippines on the date designated by the Philippine Government after confirmation of acceptance. The date will be confirmed by the air-ticket sent to the participants.
2. On arrival at the Ninoy Aquino International Airport (NAIA), participants are requested to follow the undermentioned arrival procedures :

- a. when quarantine, immigration and customs clearance procedures have been completed, the participants should go to the Arrival Area. A representative from CMDF will be waiting at this point to take them directly to the dormitory.

Necessary care of the participants, thereafter will be taken by CMDF/CMDC throughout the duration of the course.

3. Participants are required to strictly observe the course schedule.
4. For administrative purposes, participants are requested to bring five (5) copies of their photograph (passport size).
5. In order to carry out the course in group, participants are strongly requested not to bring any member of their family.
6. Participants are requested to follow the return trip schedule designated by CMDF.
7. The Philippines has a tropical climate. Light, casual clothes are recommended. Bring formal attire for the closing ceremony.

SENIOR COURSE ON
BUILDING CONSTRUCTION PROJECT MANAGEMENT

Schedule and Description of Activities / Modules

MODULE	DAYS	HOURS	DESCRIPTION
1. Opening Ceremony & General Orientation	1	6	An overview of the course together with the objectives and methodology will be discussed.
2. Management Concepts and Principles	4	24	This module will focus on management functions and principles as a vehicle to narrow the corridor of crisis usually occurring from natural leadership to management leadership of a manager. This will cover the general concepts of planning, leading, organizing and control necessary to manage a project.
3. Management Tools	5	30	The module shall equip the participants with managerial thinking tools to prepare them to become effective managers. The specific management applied tools of decision-making, cost analysis and value engineering shall be emphasized as well as the concepts of Operations Production Management (OPM).

4. Construction Methods and Techniques	5	30	The construction costs and duration normally depend on the methodology or construction techniques and an improvement in this area is one of the principal concern of the contractors. This module will focus on such topics as the construction technology in practice, advances in construction technology and improving site productivity.
5. Pre-Planning Process	5	30	This module will equip the participants with pre-construction planning techniques in developing a detailed project plan. Group discussions and workshop will supplement this module.
6. Value Engineering Presentation	5	30	Description, cost analysis and demonstration of the alternative methods utilized in the project undertaken. The country report will be presented individually and discussed by the group.

7. Integrating Exercise	3	18	Case studies on construction management integrating the technical and managerial skills / knowledge acquired will be given to the participants. These are series of construction operation problems / situations that require application of managerial skills.
8. Course Briefing / Evaluation and Closing Ceremony	2	12	All the technical and managerial skills / knowledge acquired in the training will be integrated / wrapped-up for the participants to effectively handle a construction project. Trainees, in turn will be also be asked to evaluate the training program.
	<hr/> 30 days	<hr/> 180 hours	

SENIOR COURSE ON
BUILDING CONSTRUCTION PROJECT MANAGEMENT

*COUNTRY REPORT
ON
VALUE ENGINEERING APPLIED TO*

(Name of Project)

Name of Participant :

Country :

Objective of the Country Report :

To explore the current construction situation towards the upliftment of the construction technology in Asia.

Note :

1. The Country Report is a part of the requirements in the final acceptance of a participant.
2. The purpose of the country report is to provide the other participants with information on the construction technology and practices for a better appreciation of the course.
3. The participants are required to present the country report for 30 minutes followed by group discussion of about 30 minutes.

CONTENTS OF THE REPORT

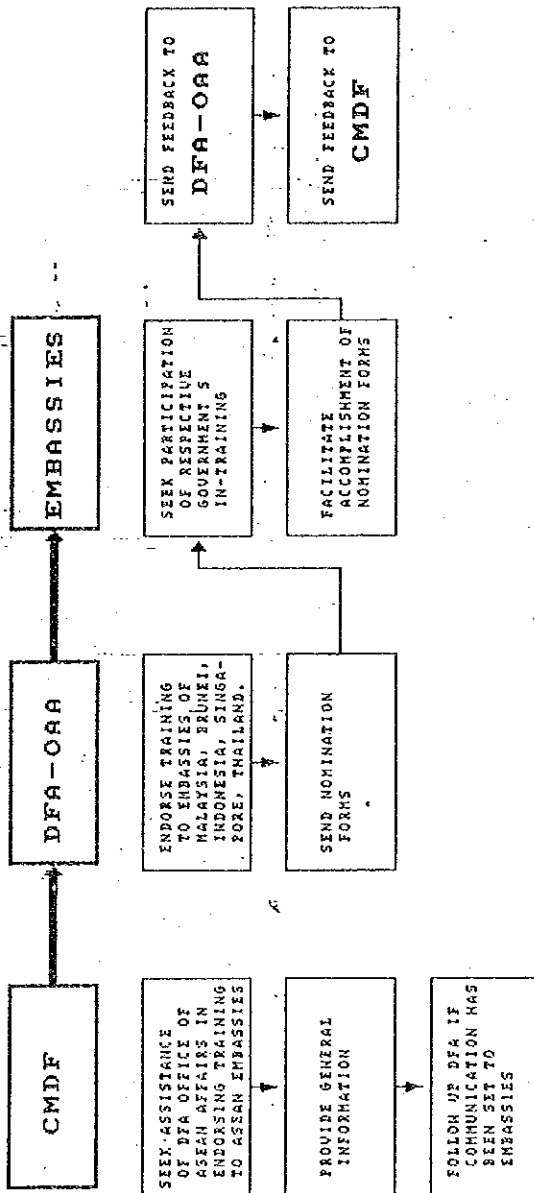
- I. ABSTRACT
- II. DESCRIPTION OF THE PREVAILING CONSTRUCTION METHODS
 - Formworks, Rebarworks, Concreting Works, Foundation Works and Electro-Mechanical Works in your country
- III. DESCRIPTION OF DIFFERENT VALUE ENGINEERING APPLIED TO THE DIFFERENT STAGES OF CONSTRUCTION
 - A. Project Profile (Description)
 - B. Alternative Methods considered in the selection.
(Describe the advantages and disadvantages)
 - C. Criteria for the selection of such methods with emphasis on value and cost analysis.
(Tabulate and explain)
 - D. Execution process of such methods.
(Describe and Explain)
 - E. Problems encountered and solutions applied during the execution of such method.
(Describe and Explain)
 - F. Evaluation and Assessment of such methods with emphasis on Cost, Time and Quality.

別添 9. G. I. 送付の Flow

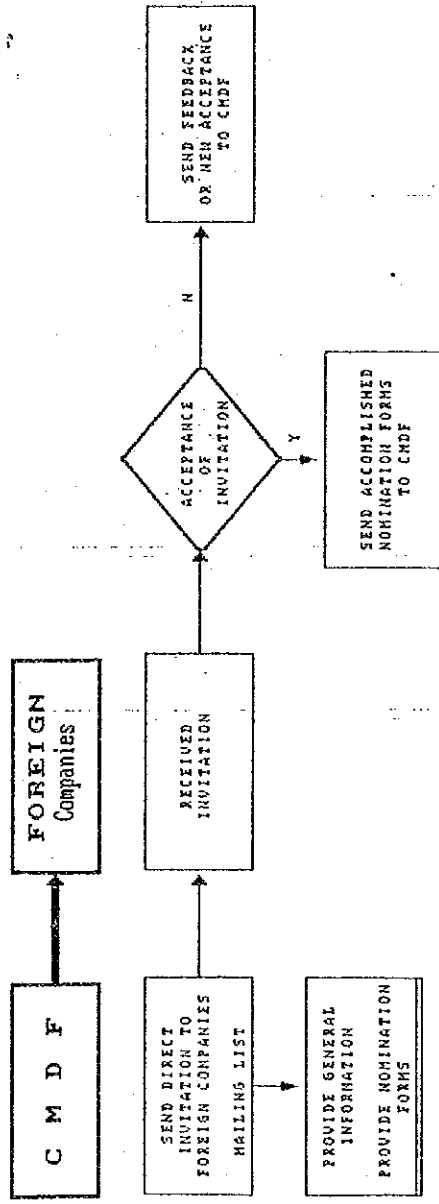
COMMUNICATION FLOW: ASEAN

PHASE I

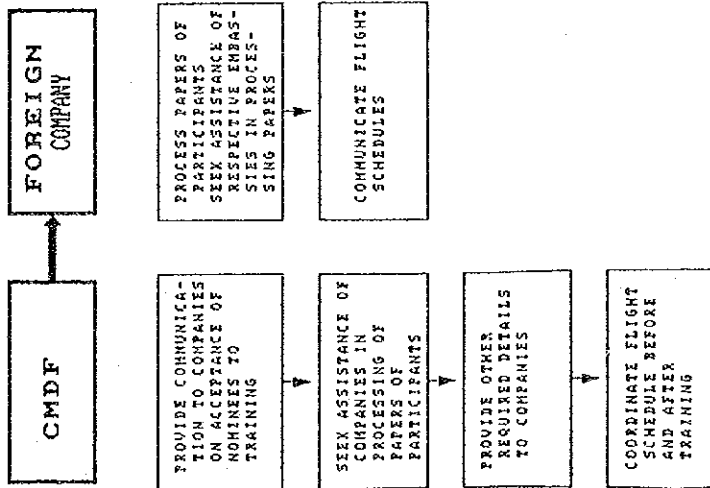
Alternative I



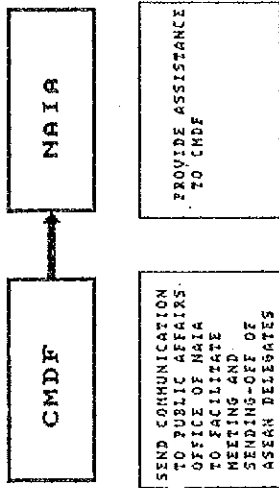
Alternative II



PHASE II



PHASE III



NOTE:

- Contact DFA-OAA of requirements for ASEAN
- Validate communication with PHRDC/JICA w/o Mr. Kinoshita

THIRD COUNTRY TRAINING in Construction Supervision

Senior Course on Construction Supervision

A C T I V I T I E S	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	Output	Output	
	SCHEDULE										Person	Output
1. Training Spec. Discussion	1-3										FSS	General Specs.
2. Basic Course Preparation	6-10										FSS	Day-Day
3. Training Specs.	10-20										MRA	
3.1 Training Mat'l. Request Prep'n.											MRA	Train's Specs
3.2 Training Budget Preparation											MRA	Prep't Mat'l
4. Training Specs.	17										FSS	
4.1 Validation by PCA/techcom	21										MRA	
5. JICA Discussion	22										FSS	
6. GI Printing	10-30										FSS	GI
7. Discussion		1									FSS	
8. Marketing		17-									FSS	
9. Screening of Nominees/ Acceptance			21								FSS	
10. Confirmation & Acceptance					30						FSS	
11. Course Packaging	15					15					FSS	Train'g Package
12. Pilot Run											JCZ-	
13. Course Improvement											MRA	Train'g Package
14. Resurvey Run DEPARTURE	JAN 23 1993										MRA	REGULAR
15. Terminal Report Prep'n.	MAR 7 1993							25	6		FSS	
16. Terminal Report Sub'n.									15-25		FSS	

Understood/Accepted : MRA - Course Director

別添 10. CMDFの今後の展望

CONSTRUCTION MANPOWER DEVELOPMENT FOUNDATION (CMDF)

I. CMDF Envisioned

CMDF is an attached agency of the Department of Trade and Industry which serves as its construction manpower development arm.

By virtue of PD 1746, the Construction Industry Authority of the Philippines (CIAP) was created in 1982 with CMDF as one of its board to serve as the construction manpower development board. CMDF has been tasked of the following mandate:

1. Draw up an overall construction manpower development plan and relevant delivery structures and systems;
2. Develop and implement manpower development programs for the construction industry and its allied industries;
3. Evaluate existing programs as to their applicability to prevailing industry requirements;
4. Formulate and adopt construction skills standards and establish skills testing and certification facilities in coordination with the client industries, the National and Manpower Youth Council (NMYC) and other pertinent training institutions; and
5. Recommend appropriate policies and measures to rationalize training and export of trained manpower in the construction industry, in coordination with the Department of Labor and Employment (DOLE) and other pertinent government agencies.

In 1982, CMDF was made party to JICA grant for the Philippine government as part of Japan's Asean Human Resources Development Project which brought the creation of the Construction Manpower Development Center (CMDC) in Dasmarinas, Cavite. CMDC gave CMDF its operating personality. The primary objective of which is to train 1,000 trainers which in turn will train construction manpower domestically and later in the ASEAN region.

By 1989, one thousand (1000) engineers, technicians and trainers were trained over a period of the 5-year grant (later extended to 7 years). Moreover, three (3) ASEAN programs were conducted, graduating 58 participants.

II. CMDF Today

In 1987, CMDF was reorganized under EO 133 and was moved organizationally from CIAP to Policy, Planning and Special Concerns Group (PPSCG) with the objectives of enabling CMDF to serve its full charter under PD 1746 and to strengthen CMDC to catch up with its grant target commitments and eventually, to become the Asian Institute of Management (AIM) for the construction engineers in this part of the world.

As of end 1991, CMDF has attained the 1987 target of DTI of being recognized as:

1. Construction Manpower Development Board - with the inclusion of DECS-BTVE amongst PCA and NMYC in the CMDF Board and the formalization of the 1991-1995 Construction Industry Manpower Development Plan (CIMDP).

2. CMDC as the National Technical Center - as enshrined in the 1991-1995 CIMDP and with the approval of the 5-year grant by NEDA and JICA NCPDP and as the proposed venue for JICA's Third Country Training starting FY 1993 for the next 5 years.

These achievements have given CMDF new perspectives to view its mandates in the light of nation building and economic recovery. Today, the philosophy is to attract investments that will create employment through infrastructures. Infrastructures that are built by the constructors with minimum cost at the highest quality through adequate and qualified construction manpower.

CMDF now has focused its efforts and investments towards the institutionalization of newly-industrialized country (NIC) level of productivity in the construction and related engineering industries through acquisition, adaptation, development, promotion and distribution of construction technology and management at all manpower levels and in all firm levels in the different regions in the country.

III. LONG TERM GOALS AND STRATEGIES

Now, CMDF's original vision of construction industry productivity has been embodied into a strategic goal and strategies as follows:

OUR BUSINESS IS Producing and propagating the means by which construction operations become more productive

OUR STRATEGIC GOAL

CLIENT: To make Filipino contractors the most productive in the Asia-Pacific region by 2000

OURSELVES: To be construction HRD technical center by 1995 for ASEAN

OUR STRATEGIC MEANS IS To produce real economic pay-off for constructors and owners

OUR STRATEGIC VEHICLES ARE Productivity Development Program (PDP) to develop and promote the use of performance measurement systems and methods improvements

Manpower Development System (MDS) to promote the development of people on an industry wide career track

OUR STRATEGIC VALUES ARE Drive for Excellence
Integrity
Teamwork

IV. RESOURCES

Human Resources

CMDF has a total of 77 government plantilla positions, 10 casual positions, and 4 contractual positions but has existing manpower complement of only 65 personnel (as of June 1992) filling up three (3) major groups as follows:

1. **Program Development and Management Group (PDMG)** - primarily responsible in organizing the structure of the industry's manpower development, consisting largely of PDED and MPAD.
2. **Training and Certification group (TCG)** - which is the main production unit based in Cavite, consisting largely of BCETTD, MTTD, and TCD.
3. **Administrative Group (AG)** - which provides finance and accounting services, facilities management and general services. AG is the grouping of FAD and FMD.

CMDF also has its governing bodies to give directions to the agency's operations:

- a) **CMDF Board of Directors** - consists of the representatives from NMYC, PCA, DECS-BTVE and DTI. The Board meets to discuss and formulate policies and programs for the development of human resources of the industry.
- b) **EXCOM** - consists of the Executive Director and the three Group Managers with the Chairman of the Board. The EXCOM reviews and evaluates corporate operations and matters which needs financial/legal approval.
- c) **MANCOM** - consists of the Executive Director, Group Managers and Division Managers. MANCOM reviews market developments, decides on business proposals; also, reviews and discusses policies and programs pertaining to the development of the organization.

Physical Resources

CMDF has its front-line office located at Pasong Tamo, Makati and its training center (CMDC) at Dasmariñas, Cavite. CMDC is equipped with training facilities, dormitory facilities and sports facilities donated by the government of Japan.

Financial Resources

The budget is approximately stable at P13-15 Million/year. CMDF is spending an average of only 80% of the yearly budget but the agency managed to meet its annual targets and workplan.

V. STRENGTHS

1. Strong private sector support
2. Organizational attitude and a reputable base of managerial and technical experience in construction operations and training
3. Continuing close alliance with the Japan Ministry of Construction (MOC) and Japan International Cooperation Agency (JICA)
4. A world class training facility
5. An operational network of linkages

VI. OPPORTUNITIES

1. One new JICA grant of approximately Y500 Million in equipment, materials and expertise
2. A Third Country Training Grant
3. CMDF to be privatized
4. Expression of interest from neighboring countries

VII. ACCOMPLISHMENTS

1. CMDF, through the PCA, in cooperation with DECS-BTVE and NMYC-IMO was able to formulate this first ever manpower development plan for the industry (1991-1995 CIMDP).
2. In line with the 1991-1995 CIMDP, three industry programs have been operationalized and are currently managed by CMDF:
 - a) Labor Resource Development Program (LRDP)
 - b) Construction Management Development Program (CMDP)
 - c) Productivity Development program (PDP)
3. CMDF played the midwife's role in the design and establishment of the
 - a) very first industry based skills certification system
 - b) first institutional construction management program (Supervisory Development Course in CMDC, Project Management Series in UP-NEC, Construction Management Course)
 - c) training system in heavy equipment trades for the government of Brunei, and for DPWH-NCR, Regions 4, 7, 11 and NIA in all regions, and for DILG - Provincial Engineers Offices

CMD F PLAN BOOK
CY 1992

- I. STRATEGIC PLAN SUMMARY

- II. 1992 PLAN DETAILS
 - A. Target Clients
 - B. Agency Targets
 - C. Quantitative Profile of 1992 Targets
 - D. Schedules
 - E. Budgets

- III. MANAGEMENT SYSTEM
 - A. Governing Bodies and Responsibility Centers
 - B. Table of Organization
 - C. Key Operating Rules and Policies
 - D. Authority and Decision Making
 - E. Communication System

I. STRATEGIC PLAN SUMMARY

OUR BUSINESS IS	Producing and propagating the means by which construction operations becomes more productive
OUR STRATEGIC GOAL IS	
CLIENT:	To make Filipino contractors the most productive in Asia pacific outside of DCs (Japan and Australia) and ADCs (Korea, Hongkong, Taiwan and Singapore) by 2000
OURSELVES:	To be construction HRD technical center by 1995 for ASEAN
OUR STRATEGIC MEANS IS	To produce real economic pay-off for contractors and owners by
	a. continuously bettering the best (KAIZEN)
	b. Establishing verifiable measures of improvement
	c. Communicating and propagating the improvements
OUR STRATEGIC VEHICLES ARE	Productivity Development Program (PDP) to develop and promote the use of performance measurement systems and methods improvements to improve productivity
	Manpower Development System (MDS) to promote the development of people on an industry wide career track
OUR STRATEGIC FUNCTIONS ARE	Construction Manpower Development Board to organize, coordinate, and monitor the planning and implementation of industry human resource development
	National Productivity Improvement Center to develop and propagate performance measurements and productivity improvements in construction methods and techniques

- OUR STRATEGIC CLIENTS ARE . . *
- * Project Owners:
 - * Domestic contractors associations and its major members:
 - * Professional Associations
 - * Asia-Pacific Contractors Associations

- OUR PRODUCT LINE.
- A. Construction Methods and Techniques
 - B. Training and Certification Systems
 - C. Productivity Improvement Process
 - D. Performance Measurement Systems
 - E. Information: Course Materials
Standards
Measurements/data

- OUR STRATEGIC VALUES ARE . . .
- Drive for Excellence
 - Integrity
 - Teamwork

II. 1992 PLAN DETAILS

A. 1992 TARGET CLIENTS

PRIORITY	PROJECT OWNERS		CONTRACTORS ASSN & MEMBERS			PROFESSIONAL ASSN.
	GOVT.	PRIVATE	PCA	ACEL	PISC	
PRIMARY	DPWH DILG MHA	AYALA LAND FILINVEST SM	DMCI AGEP HGCC EGI FILSYSTEMS MDC PRIMARY ABOITIZ AMO CICG ECCO-ASIA	CERI FF CRUZ EQUIP, INC C. M. PANCHO ANSECA G. PARAS HICT	GRANDSPAN BF CORP. EEI AG & P MFC	PICE UAP ASEP CECOPHIL PNS
SECONDARY	DOTC MIA PEA MWS	MOLDEX HOUSEHOLD & 7 Chapter FIRST PACIFIC CITYLAND	NCR/REG.4 & 7 Chapter SPECS	BUENACOM PNCC MOMARK MAXIMA EQUIMACH	PNOC ALLTECH STEEL CENTER FAR EAST MIESCOR A.T. DE VERA	UP/UST/HIT DLSU/CIT/USC XU

MARKET ASSIGNMENTS

CLIENT PRODUCT	PCA **	ACEL	PISC	CEBU	OWNERS		PROFESSIONAL ASSN
					GOVT.	PRIVATE	
LRDP (Marian)	MCP	CBM *	AVZ *	EVA *	DPWH DILG CBM MHA FGS	FGS	ALR PNS c/o AVZ
CHDP (Flor)							→
RPC (Arnel)							→
							→

PRIMARY MARKET : There is MDS transaction
 - understanding and acceptance
 - practice

SECONDARY MARKET: - MDS Information/interest
 - limited participation
 - 1993 → becomes primary market

* Also assigned to organize ability of assigned clients to respond effectively to and direct with CHDP various manpower development operations including industry business development

** Development of PCA and its affiliated overseas contractors associations are charged to the OED

R. 1992 AGENCY TARGETS

PROJECTS & ACTIVITIES	PERFORMANCE INDICATORS	TIME FRAME																	
<p>I. POLICY DEPLOYMENT</p> <p>II. PROGRAM DEVT & MANAGEMENT</p>	<p>1.0 Promoted/Operationalized Five-Year CIMDP in NCR & R7 as follows:</p> <p>PCA - presentation in general meeting & 4 NCR Chapters + R7</p> <p>ACEL - MDS version designed & supported by min of 10 cos</p> <p>PISC - MDS version designed & supported by min of 10 cos + R7</p> <p>NMYC - NCR, national office + R7</p> <p>DECS - NCR, national office + R7</p>	<p>NCR by June R7 by Sept</p>																	
	<p>2.0 Organized TSI/TCN network in</p> <table data-bbox="571 609 831 672"> <tr> <td>BCH</td> <td>Regions</td> <td>0, 7</td> </tr> <tr> <td>ICH</td> <td></td> <td>0, 4</td> </tr> <tr> <td>HEH</td> <td></td> <td>3, 4, 7</td> </tr> </table> <p>2.1 with a total of 15 ISIs 6 ICNs</p> <p>2.2 and output of</p> <table data-bbox="730 730 863 808"> <tr> <td>24</td> <td>level 0</td> </tr> <tr> <td>124</td> <td>1</td> </tr> <tr> <td>112</td> <td>2</td> </tr> <tr> <td>174</td> <td>3</td> </tr> </table>	BCH	Regions	0, 7	ICH		0, 4	HEH		3, 4, 7	24	level 0	124	1	112	2	174	3	<p>By year-end</p>
	BCH	Regions	0, 7																
	ICH		0, 4																
	HEH		3, 4, 7																
	24	level 0																	
	124	1																	
	112	2																	
	174	3																	
	<p>2.3 Operationalize PISC, PCA Certification System and continued ACEL Certification System with</p> <table data-bbox="571 869 1043 965"> <thead> <tr> <th></th> <th>ACEL</th> <th>PCA</th> <th>PISC</th> </tr> </thead> <tbody> <tr> <td>No. of standards</td> <td>+2</td> <td>+3</td> <td>+2</td> </tr> <tr> <td>No. of testers</td> <td>+10</td> <td>+15</td> <td>+5</td> </tr> <tr> <td>No. tested</td> <td>200</td> <td>300</td> <td>240</td> </tr> </tbody> </table>		ACEL	PCA	PISC	No. of standards	+2	+3	+2	No. of testers	+10	+15	+5	No. tested	200	300	240	<p>By year-end</p>	
		ACEL	PCA	PISC															
No. of standards	+2	+3	+2																
No. of testers	+10	+15	+5																
No. tested	200	300	240																
<p>3.0 Established standard oprty systems of CMHP @ CMDC & NCR as follows</p> <p>3.1 Institutionalize SDC @ CMDC with the following output</p> <table data-bbox="571 1043 1157 1144"> <thead> <tr> <th></th> <th>BCH</th> <th>HEH</th> <th>ICH</th> </tr> </thead> <tbody> <tr> <td>16 Classes with 204 Freshmen</td> <td>96</td> <td>54</td> <td>54</td> </tr> <tr> <td>16 Classes with 231 Intermediate</td> <td>120</td> <td>75</td> <td>36</td> </tr> <tr> <td>3 Classes with 55 Senior</td> <td>55</td> <td>Design</td> <td>-</td> </tr> </tbody> </table> <p>3.2 Operationalized PMS Franchising System in NCR in accordance with 91-95 CIMDP with</p> <ul style="list-style-type: none"> 45 trainees at base 300 trainees at UP-NEC 30 trainees in 2 Special Projects 35 trainees in AIM 		BCH	HEH	ICH	16 Classes with 204 Freshmen	96	54	54	16 Classes with 231 Intermediate	120	75	36	3 Classes with 55 Senior	55	Design	-	<p>By year-end</p>		
	BCH	HEH	ICH																
16 Classes with 204 Freshmen	96	54	54																
16 Classes with 231 Intermediate	120	75	36																
3 Classes with 55 Senior	55	Design	-																
<p>4.0 Formally launched PDP with PCA with</p> <ul style="list-style-type: none"> a) measurement research output in housing with DAP b) work systems research on roads & bridges and hi-rise bldg c) approval of awards & publications program by PCA 	<p>By year-end</p>																		
<p>III. ORGANIZATIONAL DEVELOPMENT</p>	<p>5.0 Secured government (DTI/DBM) approval / implemented organizational restructuring and career track system</p>	<p>By year-end</p>																	
	<p>6.0 Improved & documented key operating systems</p> <ul style="list-style-type: none"> a) Internal Performance Planning & Monitoring System (OED) b) Marketing System (PDNG-TCG) c) CMDC Training System (TCG) d) Asset Deployment & Control Scheme (TCG-AG) e) Materials Management System (AG) f) Facilities Maintenance System (AG) 	<p>by March w/n Q1 June w/n Q1 EO March EO May</p>																	
	<p>7.0 Consolidated & preserved JICA grant assets</p> <ul style="list-style-type: none"> 7.1 Secured Records of Discussion signing for JICA II 7.2 Secured turnover of JICA I assets from PHRDC 7.3 Relaid out CMDC workshops 	<p>By year-end By March By October</p>																	
	<p>8.0 Generated P2.2M net revenue receipts & expended max. of P11.0M in operating expenditures (PS & MOE only)</p>	<p>By year-end</p>																	
	<p>9.0 95% collection on current accounts P500,000 collection on old accounts</p>	<p>By year-end</p>																	

1992 TARGETS

PROGRAMS	TOTAL CONDUCTED BY CMDF	TOTAL CONDUCTED AT CMDC	TOTAL CONDUCTED BY CMDC TRAINORS		COORDINATED BY CMDC TRAINORS
			IN-CENTER	OFF-CENTER	
LRDP					
Basic	213	24	24		189
Upgrading	558	124	124	350	84
TOTC Level 3	113	113	113		
TOTC Level 3	174	164	136	10	38
Testing					
BCN	300				
HEW	200				
HEL	240				
LRDP Sub-Total	1797	424	396	360	301
CNDP					
SDC	490	475	475	15	
FNS	410		45	30	335
CNDP Sub-Total	900	475	520	45	335
TOTAL	2697	899	916	485	636

ITEM NO.	ACTIVITIES	1ST QUARTER			2ND QUARTER			3RD QUARTER			4TH QUARTER			REMARKS
		JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	
1.0	LADP LEVEL 0 1. WELDING SHAW						1 MAR 10							12 X 2
2.0	LADP LEVEL 1 1. GFW 2. BAR BENDING/TYING 3. BLOCK LAYING 4. ELECTRICAL SYSTEM HEN 5. FUEL SYSTEM 6. HYDRAULIC SYSTEM 7. TIG WELDING 8. SHAW PIPE 9. CO ₂ PLATE 10. FOAM PLATE 11. HEAVY EQUIPMENT OPERATION 12. SHAW/TIG PIPE (EEI)	21 MAR 50	10 MAR 14 8 APR 1	3 APR 1	12 MAR 13 2 APR 5		4 APR 5 1 APR 2					27 APR 29 5 APR 3 3 APR 23		10 X 4 15 X 4 12 X 1 15 X 1 15 X 1 10 X 2 4 X 1 10 X 1 4 X 1 4 X 1 8 X 2 18 X 2

ITEM NO.	ACTIVITIES	1ST QUARTER			2ND QUARTER			3RD QUARTER			4TH QUARTER			REMARKS
		JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	
	TRAINING CENTER NETWORK													
	1. MIST (Pilot Run)													
	1.1 Rebar				5	23								15
	1.2 Carpentry				5	23								15
	1.3 Masonry				5	23								15
	2. CSCST													
	2.1 Rebar				13	21								15
	2.2 Carpentry				13	21								15
	2.3 Masonry				13	21								15
	3. Don Bosco, Cebu													
	3.1 Carpentry				13	21								15
	4. Don Bosco, Iloilo													
	4.1 Welding				20	11								12 x 2
	AG&P Honiron													
	5. RMYC, Taguig													
	5.1 Welding		24											12
	GDC													12
	EI													
	6. RMYC, Batangas				20	22								
	6.1 Welding (AG&P)		2											12 x 2
	TRAINING SYSTEMS INSTALLATION													
	Welding:													
	1. HFC/PHOC													12 x 1
	2. DF Corporation													12 x 4
	3. AG&P Batangas		2											12 x 2

ITEM NO.	ACTIVITIES	1ST QUARTER			2ND QUARTER			3RD QUARTER			4TH QUARTER			REMARKS
		JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	
3.0	TOTC LEVEL 2 1. REBAR 2. MASONRY 3. FORMWORKS CARPENTRY 4. MEO 5. HEW 6. WELDING (PISC)				27 27 27 27 27 27	22 22 22 22 22 22					27 27 27 13 13 13		14 X 2 14 X 2 14 X 2 12 X 2 14 X 2 14 X 2	
4.0	LADP LEVEL 3 1. PL/PP SRI LANKA				27	27							18 X 1	
5.0	TSI's - REGION 7 1. REBAR 2. MASONRY 3. FORMWORKS 4. HEW			16 16 16 16	24 24 24 24								158 28	

ITEM NO.	ACTIVITIES	1ST QUARTER			2ND QUARTER			3RD QUARTER			4TH QUARTER			REMARKS			
		JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC				
6.0	ISIs - REGION 4																
	1. DMICERI (HEH)					1										28	
	ISIs - REGION 3																
	1. NIA (HEO/AEH)															28	
7.0	2. DILG (HEO/AEH)															20	
	ISIs - NCR																
	1. REBAR					25										128	
	2. MASONRY					25											
3. FORMWORKS/CAR					25												
4. ELECTRICAL																	
7.0	SDC FRESHEN																
	1. REBAR WORKS		17														12 x 2
	2. FORMWORKS		17														12 x 2
	3. MASONRY WORKS		17														12 x 2
	4. CONCRETING WORKS				5												12 x 1
	5. FOUNDATION WORKS				5												12 x 1
	6. EQPT. HORIZONTAL CONSTRUCTION																12 x 2
	7. HEAV		17														15 x 2
	8. FABRICATION WORKS				6												15 x 2
9. BECU					8											12 x 2	

ITEM NO.	ACTIVITIES	1ST QUARTER			2ND QUARTER			3RD QUARTER			4TH QUARTER			REMARKS
		JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	
8.8	TRAINING													
	SDC INTERMEDIATE													
	1. EPEC/HBO		10_14		13_15		9_11	15_17			28_30			15 X 4
	2. MAINTENANCE CTRL ON HYDRAULICS													15 X 1
	3. RD & CLP			24_27		19_22								15 X 2
	4. MIC						6_10							15 X 2
	5. FD + CLP							27_31	24_28					15 X 2
	6. QC ON RW MATERIALS							9_7		7_11				15 X 2
	7. SPCII			23_27										12 X 1
8. RIV				6_9									12 X 1	
9.8	9. NPS + RES				20_30									12 X 1
	SDC SENIOR													
	1. PILOT (BCW)						25			7				20 X 2
10.8	2. DESIGN (HEW)													20 X 1
	3. CEU SPECIAL PROJECT													15 X 1
	CERTIFICATION													300
11.0	1. BCW													200
	2. HEW													240
	3. FW													

ITEM NO.	ACTIVITIES	1ST QUARTER			2ND QUARTER			3RD QUARTER			4TH QUARTER			REMARKS
		JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	
	PMS/CSC UP - NEC IIDS Promo (Course Level) M1 - Constn. Methods and Technique M2 - Value Eng'g in Construction M3 - Constn. Cost Analysis & Est. M4 - Pre-constn. Plan'g & Dev'g. M5 - Constn. Proj. Monitoring, Control and Turn-over M6 - Construction Operation Management SFO PILOT MODULE (Program Level) GROUP SEMINAR (In-Center) IN-HOUSE SEMINAR CMC - AIM	=	=	=	=	=	=	=	=	=	=	=	=	
			11/13											30 x 2
														30 x 2
														30 x 2
														30 x 2
														15 x 2
														15 x 1
														15 x 2
														35

ITEM NO.	ACTIVITIES	1ST QUARTER			2ND QUARTER			3RD QUARTER			4TH QUARTER			REMARKS
		JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	
	SPORTS FESTIVAL (Mini Olympics)					7 th								
	COMMUNICATION WORKSHOP													
	ANNIVERSARY CELEBRATION						15 th							
	AGENCY RECOLLECTION													
	MARKETING SEMINAR													
	PHYSICAL INVENTORY (DEPENDS ON THE SLACK TIME OF WORKSHOP/SECTION)													
	PLANNING SESSION													
	MID-YEAR REVIEW													
	FORCED LEAVE													

CONSTRUCTION MANPOWER DEVELOPMENT FOUNDATION/CENTER
BUDGET REQUIREMENT (in P'000)
FY 1992

	OED	PDNG	AG	TCG	RP*	RCTC*	TOTAL
REVENUES		200		2,000			2,200
OPERATING EXPENSES							
PERSONAL SERVICES	461	794	1,382	2,495	818	325	6,116
Salaries & Wages	360	625	1,044	1,883	655	270	4,838
Other Compensation	101	169	338	453	162	55	1,278
PERA	18	42	138	126	54	12	390
RATA	36	52	40	87	26	26	267
Empl. Comp. Ins. Prems.	1	3	11	9	3	1	28
Medicare Premiums	1	2	7	8	3	1	22
Pag-ibig Contributions	1	3	11	12			
Overtime	10	6	25	30	10		81
Bonuses & Incentives	34	61	106	181	65	14	461
Step Increments for Merit/ Length of Service							
MAINTENANCE AND OTHER	293	359	2,943	1,477	163	239	5,474
OPERATING EXPENSES							
Travelling Expenses (02)	23	27	9	72		41	171
Communication Services (03)	27	48	46	27		9	157
Repair & Maint. of Gov't. Facilities (04)	1		298	54			353
Transportation Services (05)	1	2		5		5	13
Other Services (06)	113	218	1,569	275	68	57	2,297
Advertisements & Publications	5	135	15			18	173
Repair & Maint. of Office Exp	1	5	95	22	32		155
Fidelity Bond Premiums			1				1
Insurance Premiums			360				360
Printing & Subscriptions	36	27	27	136	23		248
Seminars/Conferences/Meetings	36	11	22	50	4		122
Honoraria	32	32	16	45		38	162
Uniform Allowance	4	8	23	22	9	1	66
Janitorial			427				427
Security			583				583
Studies & Researches							
Hisc.							
Supplies & Materials (07)	23	36	162	1,026	5	113	1,364
Rents (08)			263		90		373
Grants, Subsidies & Contribution	90						90
Water, Illumination & Power (14)			335				335
Repair & Maintenance of Official Vehicles (17)			234				234
Representation Expenses (19)	16	29	9	16		16	88
TOTAL OPERATING EXPENSES	754	1,153	4,325	3,972	981	564	11,749

* New projects under JICA Grant. Research and Publications Division (RPD) is project account of OED and the Regional Construction Technical Center (RCTC) Cebu is a project account of PDNG.

III. MANAGEMENT SYSTEM

A. Governing Bodies

1.0 CMDF Board of Directors

The CMDF Board of Directors shall consist of the representatives from NMYC, PCA, DECS-BTVE and DTI. The Board regularly meets every third Thursday of the month to discuss and formulate policies and programs for Construction Manpower Development.

2.0 EXCOM

This committee consists of the Executive Director and the three Group Managers with the Chairman of the Board. The EXCOM shall meet every second Friday of the month to review and evaluate corporate operations and discuss matters which needs financial/legal approval in accordance with government rules and DTI policies/procedures.

3.0 MANCOM

This committee consists of the Executive Director, Group Managers and Division Managers. They meet every Mondays to review market developments and actions and to discuss and decide business proposals and on Fridays to review and discuss policies and programs pertaining to the development of the organization. As such the Friday MANCOM series is the agency's KAIZEN Steering Committee.

Responsibility Centers

1.0 Office of the Executive Director (OED)

The OED serves as the secretariat of the Board and the chief executive office of the organization. Responsibility includes monitoring of the execution of the Manpower Development Plan

1.1 Manpower development policy evaluation and formulation.

1.2 Strategic planning and performance evaluation of the agency's operation as an implementing organization.

1.3 Organizational development including identification/negotiation of major grants and fellowships

For 1992, the OED is tasked with organizing and operationalizing the Research and Publication Division (RPD) in line with the new JICA grant.

2.0 Program Development and Management Group (PDMG)

PDMG is primarily responsible in organizing the structure of the manpower development and also for the generation of business for CMDF's operating lines.

2.1 Institutional development including marketing, recruitment, placement and evaluation

2.2 Coordination and monitoring of RIC network programs/performance/grants

2.3 Coordination of CMDP Network program/performance/grants

3.0 Training and Certification Group (TCG)

TCG is CMDF's main production unit based in Cavite. It develops and runs CMDF's flagship course - the SDC. TCG will also serve as main research arm of RPD.

3.1 Develop and conduct training and certification for supervisory/management level in center/off center

3.2 Codesign and operationalize training and certification systems on a TSI and/or TCN basis for the LRDP in accordance with the Five Year Plan.

3.3 Cooperate in the design, implementation and analysis of work measurements and in the improvement and propagation of construction methods and techniques.

4.0 Administrative Group (AG)

The AG is the agency's backroom for efficient delivery of services. AG acts strategically in devising/implementing schemes which contribute to the development of the agency's behavioral modes and operating systems.

4.1 Provide finance and accounting services and manage the agency's funds including required liaison with DTI, COA, DBM and the National Treasury.

4.2 Manage the facilities and equipment and materials of the agency at world class level, including janitorial, security and concessionaires.

4.3 Provide general services pertaining to personnel, communications, transport including liaison on legal/civil service matters as well as JICA administrative concerns.

C. Key Operating Rules and Policies

1. The basis for minimum class size is the breakeven point. Target average class size at CMDC is 15; maximum class size for SDC is 20; for PMS, 35.
2. Training capacity shall be based on the following generalized annual time allocation:
 - 1 month for planning, organizational development and V/Ls
 - 3 months for TSI or field work for off-center training
 - 2 months for field work for research and development/immersion
 - 6 months for in-center trainingTarget maximum class term (SDC) : 15 days/cycle
Min. number of project per work area/year: 1
3. Survey work is priced at direct cost; actual delivery of services with profit per EXCOM policy/MANCOM approval
4. TSI/TCN projects will be delivered by multi-functional team from start to end on adhoc basis
5. Trainors supervising TSI/TCN projects shall be paid according to EXCOM policies with provision for minimum logistics required depending on the situation.

D. Authority and Decision Making

The entire management process shall follow the KAIZEN process of continuous little improvements in quality and cost based on the empowerment of all the people of the agency up to the lowest level. The management shall expect the employees to identify and solve work problems; and to identify and take advantage of opportunities subject to the final decision of management.

1. Final authority on legal/financial matters rests with the Executive Director in accordance with prescribed government rules and DTI policies; and with the MANCOM/EXCOM for business programs and policies.
2. The MANCOM shall provide directions on operations and final decisions on agency-wide business/operations concerns.
3. Group Managers shall direct and make decisions on project systems/strategies, organizational and financial matters within their respective group, subject to the final authority of the Executive Director on financial and legal matters only.
4. Managers in pair shall be given authority to sign business contracts already approved by the MANCOM/EXCOM. Protocol is followed when required.

E. Communication System

1. Meetings:

Mondays	9:00-11:00 a.m.	MANCOM	Makati
Agenda: Markets and Business Proposal			
Fridays	10:00-12:00 a.m.	MANCOM	Cavite
Agenda: Organizational Development			
1st Fridays	1:30- 4:30 p.m.	General Staff	Cavite
2nd Fridays	10:00-12:00 a.m.	KXCOM	Makati
3rd Thursdays	10:00-12:00 a.m.	BOARD	Makati

2. ED Contact Points

2.1 The ED will meet with the supervisory staff of each group twice a month, on the second week and fourth weeks.

Mondays	11-12 pm	PDMG
	2-3 pm	AG
Wednesdays	2-3 pm	TCG

2.2 ED will meet with entire staff of group at least once a quarter during the regular schedule.

3. Reports: (subject to improvement per OED target)

3.1 Constant oral/casual reporting is encouraged. Only minutes of the meetings, project proposals, agency plans and performance reports will be reported on paper in the most concise form/size possible (1 page target).

3.2 Items for decision making by the MANCOM are expected to have been thoroughly discussed and obtained general acceptance among the employees/clients affected or involved prior to presentation. Presentation to MANCOM is expected to be on paper and submitted to MANCOM members 3 working days prior to the meeting.

3.3 Minutes of the meetings together with the agenda of the following meeting will be distributed to the group/division managers the following working day.

3.4 Monthly Group reports must be submitted within 3 days after the end of the month.

3.5 Performance appraisal/Plan review shall be done quarterly.

JICA