

マレーシア  
第三国研修実施協議報告書

昭和58年3月

国際協力事業団  
研修事業部

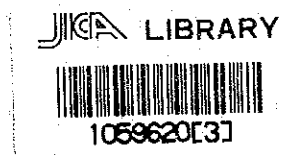
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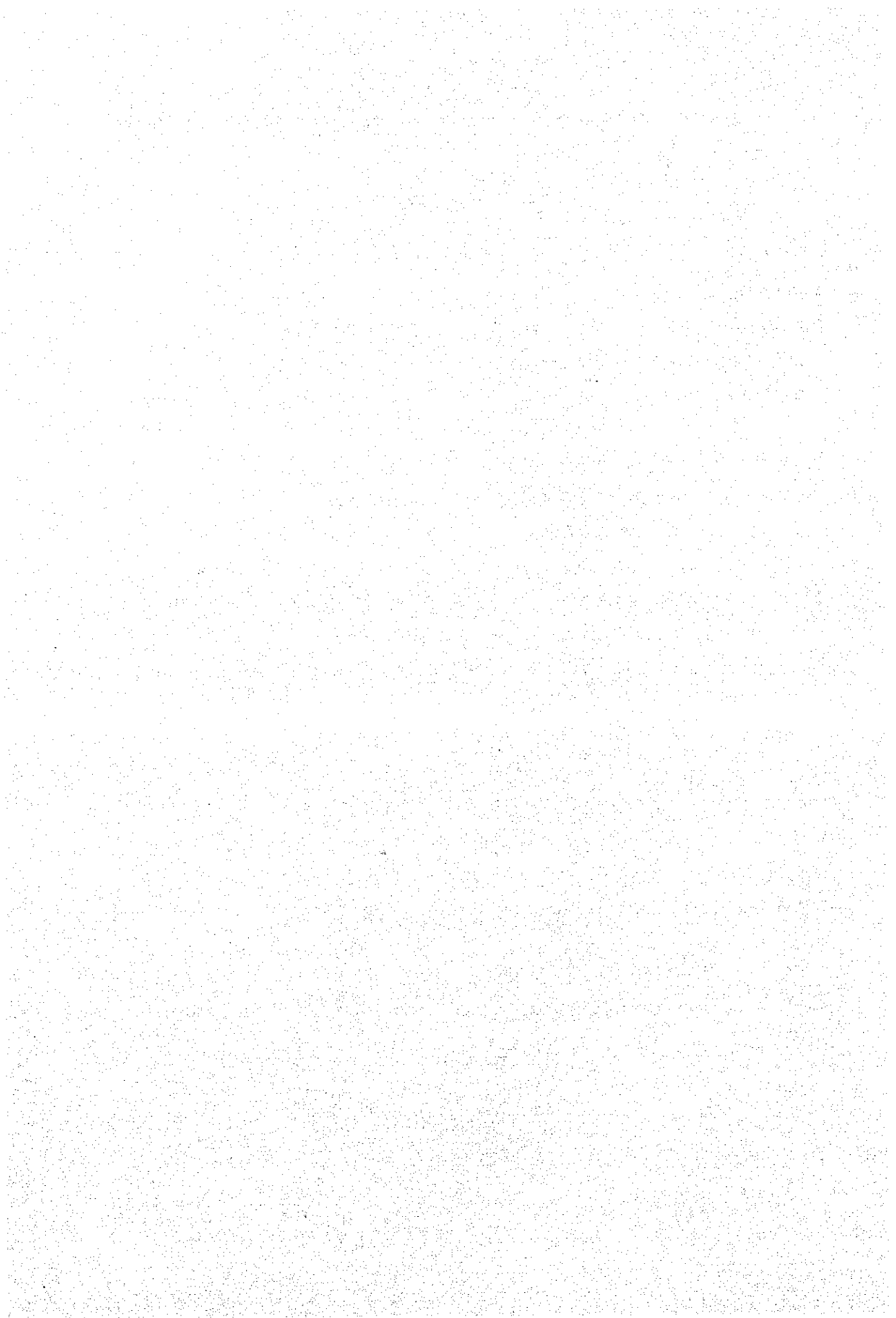
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国際協力事業団	
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# アジア・大平洋放送開発研修所(AIBD)における第三国研修

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## I 実施協議チームの概要

### 1. 実施協議チーム構成員

国際協力事業団研修事業部研修第三課長	橋本明彦
郵政省電波監理局技術調査課	吉田昇
日本放送協会経営企画室主幹	三浦俊典
国際協力事業団研修事業部管理課	松井禎子

### 2. 派遣国及び派遣期間

マレーシア

昭和58年8月14日から昭和58年8月20日

### 3. 行動日程

日順	月日	曜日	時間	行動内容
1	8月15日	月	A.M. P.M.	大使館及びJICA事務所と打合せ AIBD施設及び機材の調査
2	8月16日	火	A.M. P.M.	AIBD所長他との第一回協議 Radio Television Malaysia 見学及び AIBDとの所要経費に係る討議
3	8月17日	水	A.M. P.M.	研修カリキュラムに係るAIBDとの討議 同上継続
4	8月18日	木	A.M. P.M.	R/D本文及び所要経費見積りに係る AIBDとの最終調整 R/D調印
5	8月19日	金	A.M. P.M.	所要経費見積り最終校正及び作成 大使館及びJICA事務所 報告及び打合せ
6	8月20日	土		吉田、三浦団員帰国

## II 実施協議内容

### 1. 実施協議チーム派遣に至る経緯

本件チームは昭和58年4月に派遣された事前協議チームより、わが国の行う第三国研修は同研修所の設立目的、及び業務形態に全く合致するものであり、実施に何等の問題もないとの報告に基づき、「ENG Operation & Maintenance」分野における第三国研修実施のR/Dを調印し、併せて具体的研修日程、所要経費見積りの策定等実施に係る諸事項の協議を行うために派遣された。

## 2. R/D本文に係る協議内容

R/D本文についてはわが方を本件実施協議チーム派遣直前に国際会議出席のためわが国を訪れていた同研修所 R. Balakrishnan 所長に提示し、何等問題はない旨の感触を得ていたこともあり、俾ねわが方案通り先方の合意を得た。

なお若干のわが方案修正事項及び協議事項は次の通り。

### (イ) AIBDの日本側負担による外部講師招聘に係る項目削除

基本的には日本人専門家以外はAIBDの内部講師で対応可能であり、場合によってはRadio Television Malaysiaより講師を招くことはあり得るが、両機関は密接な協力体制を取っており外部講師とは見なされず、従って外部講師謝金も不要の由であった。

### (ロ) コースのOffer及びApplicationの受理についてはLiaison Officeとして各国のU.N.D.P. Officeを利用したい。

同研修所の通常のコースについてはU.N.D.P. Officeを利用しており、事務の迅速化を計る上で大変役立っている。Offerの相手方及びApplicationの主体は当然相手国政府であるが、本件コースについてもU.N.D.P. OfficeにLiaison Officeの役割を果たしてもらうことにより、同様の効果が期待出来る旨の発言があった。

当方としてはJICA本部とも協議のうえ基本的に問題はない旨答えた。

### (ハ) 本件コース運営に必要な秘書の備上について

AIBDとしては本件コースに対し3人の秘書(航空券担当、会計担当、及びタイピスト)を内部より準備可能であり、新たな秘書の備上はかえって事務の困乱を招く恐れもあり不要である。従って日本側負担による秘書の備上経費はAIBD秘書が本件業務に従事することにより生じる残業手当として使用することとしたい旨の意思表示があり、当方もこれを了承した。

### (ニ) AIBDは前述のように本来アジア太平洋諸国の放送技術向上のために研修を実施することを主な目的として設立された機関であり、この種コースの運営には多くの経験を有している。従って本件コース運営についても航空券の手配をも含めAIBD側でほとんど全ての業務を実施することとしが先方より航空券値上げの可能性もあり、経費見積りに当り、各割当て国につきそれぞれ現行価格に10%のオンをしてほしい旨要請があったため当方もこれを了承した。なお当然のことながら値上げがなかった場合この増加分は不要となる。

## Ⅲ 本件コースの研修内容について

### 1. ENG運用、保守の管理者を対象としたこと

開発途上国に多少なりとも共通していることは、一般番組にしるニュースにしる、放送される番組作りのための組織体制がうまく機能していないと云う点である。例えば、プロデュ



ーサーは番組作りではその頂点の立場にあるがこれに協力する他の番組技術スタッフに彼の意図を台本にして事前に充分打ち合わせを行い制作実施を円滑にしたり、或いはスタッフからの提案を得て更に良くするなどのアドバイスを得ると云った日本では当然行われていることがなされていないケースが多い。

個人の技能知識の向上も勿論重要であるが技能研修後、元の職場に帰っても理解の薄い管理者の下でそれが活かされないで埋もれてしまうと云ったケースもままあるときいている。

本研修の目的は、最近とみに進歩して来た新しい小型のカメラやVTRの出現によって、従来からの制作手法なり各自の役割分担を変えざるを得なくなりつつあり、特に放送と技術とのより緊密な連携プレーが求められる様になり、日本(NHK)でもこうした新しい要求に適合させるべく、今日まで大変苦勞しつつ自己改革を行って来たが、開発途上国の管理者にとってもこうした新しい時代に沿うための組織作りは、同時に又現行体制の見直し改善のトリガーともなり、現時点が最も効果的な、しかも緊急且つ重要な課題を抱えていると云える。

以上の趣旨から本研修は管理者層を対象とした。カリキュラムの内容も細い知識や個々の技能を習得よりも、全体の番組作りの流れの中で必要となる機器の運用や機能、および保守等の点から管理者としての職務知識を習得させることによって、自信を持って指導し、今後の運用組織体制作りを行わせるのが目的である。

## 2. カリキュラムの概要とJICA派遣専門家の役割等について

(R/D ANNEX 1 参照)

- 2月7日 到着
- 8日 開講式、オリエンテーションのあと、
- 9日 は、受講生各国のENG運用、保守の現状報告によって、相互の理解とその後の教程上の参考とする。
- 10日 から座講によって先づ、アウトライン
- 13日 からはTVカメラ、VTR単体の種類や原理、性能から
- 15日 は代表的な回路例の説明で座講は一旦終る。(J-1 J-2 J-3)
- 16日 からはカメラ、VTRを手にしての実習、その場での説明を主に、3グループ5名程度)に分かれ夫々にJICA専門家がついて初期調整の実習
- 17日 撮像実習 (J-1 J-2 J-3)
- 20日 録画実習 (J-1 J-2 J-3)
- 21日 測定実習 (J-1 J-2 J-3)
- 22日 日常保守実習 (J-1 J-2 J-3)
- 24日と27日は故障修理実習を予定している。(J-1 J-2 J-3)
- 28日と29日はTBCに関する座講と実習 (J-3)

- 3月1日 はすべて調整の基準となるモニタの座講と調整実習 (J-1 J-2 J-3)
- 2日 は運用上の基礎となる蓄電池の日常保守に関する座講と実習 (J-1)
- 5日 は小型カメラを使った新しい撮像手法等についての座講(若干予備目的)  
(J-1 J-2)
- 6日 は近時とみに活発になり且つ要望の大きいニュースの衛星中継に関する技術知識、心得を主に座講 (J-3)
- 7日 は照明についての座講と実習 J-1 J-2)
- 8日, 9日は編集理論の座講(J-3)に次いで再び各グループ(3)に分かれて先に撮ったテープ素材の編集実習 (J-1 J-2 J-3)
- 12日, 13日は編集の終わったテープに対する音入れ実習を, R T M放送局のスタジオを借りて行い短い, 形の整ったMini番組(5分程度)を作り上げる。
- 15日 は全体で上記Mini番組の視聴会を行い, そのあと本コースに関する評価終講式。
- 16日, 17日で帰国する。

以上がカリキュラムの概要であるが3名のJICA専門家の役割は,

- J-1 専門家チームのリーダー兼, 全体運用(カメラ, V T R, 照明, 音声)管理, 組織, 新運用体制等に関する講義, 実習指導
- J-2 T Vカメラに関する講義, 撮像, 收音, 音入れ等に関する実習指導
- J-3 V T Rに関する講義, デジタル機器, 衛星中継, V T R編集に関する講義および実習指導

実習のための機材は, 別紙A I B D保有機器リストにより一応まかなえるが, 一部老朽したモニター等の更新, 所要V T Rテープの購入を行う。更に3人のJICA派遣専門家の携行機材としてオッシロスコープ1台, (ソニーテクトロニクス2236型, 価格¥648,000)を携行する。

#### Ⅳ おわりに

今回, A I B D側との交渉はA I B D側の熱意と同様な第三国研修に関するこれまでの豊富な経験から手馳れた事務処理能力によって極めて円滑に行うことが出来た。

また, 矢口専門家の存在は云うまでもない。

今後の方向としてはE N G機器, 小型カメラ, V T Rによる番組制作は, 放送, 技術の緊密な連携プレーによって最少限のクルー数で運用されることが理想であり, 今回は技術だけの研修となったが極く近い将来放送, 技術混合の第三国研修に発展させて行きたい。

別添 I

本件チームとの協議における A I B D 側主な出席者

1. Mr. R. Balakrishnan A I B D 所長
2. Mr. John Nettleton General Programme Coordinator
3. Mr. Dunny 経理担当秘書

別添 II

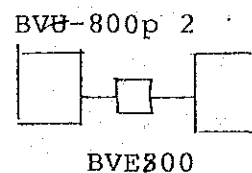
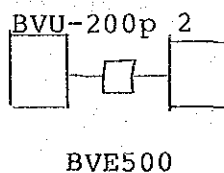
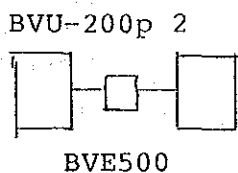
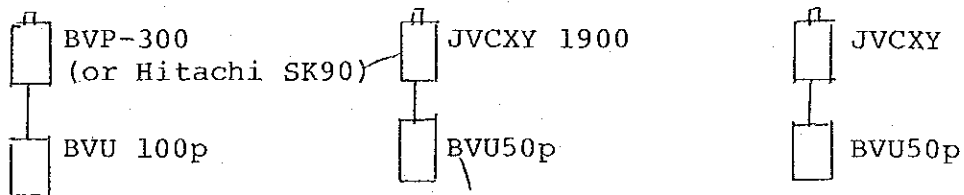
AIBD Equipment list available for the course

BVE 500 2set  
 BVE 200p 4set  
 JVC ENG VTR 2set  
 SONY U-matic VTR VO 2860 1set  
 Color monitor (small size) 7set  
 BVU 800 2set  
 BVE 800 1set  
 Portable simple mixer Electro craft 1set  
 Bosch KCA-90 with VTR BCN 20  
 JVC XY 1900 2set with BVU 50p 2set  
 HITACHI SK-90 with BVU 100p  
 BVP-300p  
 JVC 8800 with JVC VTR CR 4400LE  
 VHS 1/2" VTR 4set  
 Oscilloscope 3 fixed at MCR  
 Vector scope 4 fixed at MCR  
 W/F monitor 4

Equipment to be rent

Time base correcter 1  
 VECTOR SCOPE 2  
 Oscilloscope 2

Supporsed Equipment to be used in the course



別添Ⅲ

THE RECORD OF DISCUSSIONS BETWEEN  
THE JAPANESE CONSULTATION TEAM AND  
ASIA PACIFIC INSTITUTE FOR BROADCASTING DEVELOPMENT  
ON THE THIRD COUNTRY TRAINING PROGRAMME IN THE FIELD OF ELECTRONIC  
NEWS GATHERING OPERATION AND MAINTENANCE

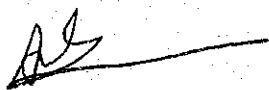
The Japanese Consultation Team (hereinafter referred to as "the Team") dispatched by the Japan International Cooperation Agency (hereinafter referred to as JICA) and headed by Mr. Akihiko Hashimoto visited Malaysia from August 14, 1983 to August 20, 1983 for the purpose of working out the Third-Country Training Programme in the field of Electronic News Gathering Operation and Maintenance (hereinafter referred to as "ENG") at Asia Pacific Institute for Broadcasting Development (hereinafter referred to as "AIBD") supported by the Government of Japan under its technical cooperation scheme.

During its stay in Malaysia the Team had a series of discussions with AIBD in regard to the measures to be taken by the Government of Japan and AIBD for the successful implementation of the Third-Country Training Programme.

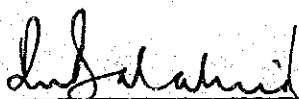
As a result of the discussions the Team and AIBD agreed to promote the matters referred to in the attached document.

Kuala Lumpur,

August 19, 1983



Akihiko Hashimoto  
Head of Japanese Consultation Team



R. Balakrishnan  
Director of Asia Pacific  
Institute for Broadcasting  
Development

THE ATTACHED DOCUMENT

The Government of Japan and AIBD will co-operate with each other in implementing the Third-Country Training Programme (hereinafter referred to as "the Programme") in the field of ENG at AIBD.

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

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

1. TITLE

The training course conducted under the Programme will be titled as "Regional Training Course in Electronic News Gathering Operation and Maintenance" (hereinafter referred to as "the Course").

2. PURPOSE

The Course is designed to provide an opportunity of refreshing and updating relevant techniques and knowledge for engineers or technical officers engaged in the field of ENG in Asia Pacific Region.

3. DURATION

The Course will be conducted from February 7, 1984 to March 17, 1984.

4. CURRICULUM

A tentative curriculum is attached as in ANNEX I.

5. PARTICIPATING COUNTRIES

Following countries are invited to nominate applicants:

Bangladesh, Brunei, Burma, China, India, Indonesia, Iran, Republic of Korea, Pakistan, Philippines, Singapore, Sri Lanka and Thailand.

6. NUMBER OF PARTICIPANTS

The number of participants from the countries specified in 5 above will be thirteen (13) and that from Malaysia will be three (3).

7. QUALIFICATION OF APPLICANTS

Applicants to the Course are to

- 1) be engineers or technical officers in the field of TV programme production and maintenance;
- 2) have preferably longer than three (3) years of ENG occupational experience;
- 3) be or will be preferably the head of the division related to ENG maintenance and operation;
- 4) be preferably between thirty (30) and forty-five (45) years of age;
- 5) have a good command of spoken and written English;
- 6) be in good health to participate and complete the Course.

8. PROCEDURE OF APPLICATION

- 1) The Governments desiring to nominate applicant(s) for the

Course should complete five (5) copies of the designated application form for each and forward them to AIBD through their respective diplomatic channels not later than December 7, 1983.

- 2) AIBD will inform the applying governments whether or not the nominee(s) is accepted to the Course not later than January 7, 1984.

9. LECTURERS/INSTRUCTORS

- 9-1 AIBD will assign their own teaching staff as lecturers/instructors for the Course to the maximum extent possible.
- 9-2 Upon request of AIBD, the Government of Japan will dispatch three (3) short-term experts under its Expert-Assignment Programme for the purpose of giving advice and guidance to the AIBD staff and of giving lectures.
- 9-3 AIBD will submit to the Government of Japan the application form in request for dispatching the experts mentioned in 9-2 above.

10. UNDERTAKING OF THE GOVERNMENT OF JAPAN AND AIBD

In preparing for and implementing the Course the Government of Japan and AIBD will undertake following measures.

10-1 AIBD

- 1) Formulation of curriculum
- 2) To draft and print General Information brochures (G.I.)
- 3) To forward G.I. of the Course to the governments invited to the Course



- 4) To submit the application form for the experts to the Embassy of Japan in Malaysia.
- 5) To receive the application forms of the participants
- 6) To notify the results of selection of participants to their respective governments and to the Embassy of Japan in Malaysia
- 7) Arrangement for AIBD lecturers/instructors
- 8) Arrangement of training facilities and accomodation for participants
- 9) To provide meeting and sending services for participants at the airport.
- 10) Arrangement for international travels for participants and domestic study tour/s
- 11) To take budgetary measures for the expenses necessary for implementing the Course except those financed by the Government of Japan
- 12) To submit a course report to the Embassy of Japan in Malaysia
- 13) To co-ordinate necessary matters related to the Course.

10-2 The Government of Japan

To bear the following expenses

- 1) Expenses for international economy-class flight fare, accommodation and per-diem and medical insurance premium, incurred to participants except Malaysians.
- 2) Expenses incurred to AIBD for operating the Course as meeting, teaching aid, material procurement, duplication, study tour/s and secretarial services.

11. FINANCIAL ARRANGEMENT

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

- 1) AIBD will submit to the Kuala Lumpur Office of JICA in Malaysia a bill of estimate for expenses to be borne by the Government of Japan to which remittance is to be made not later than sixty(60) days before the opening of the Course.
- 2) Kuala Lumpur Office of JICA in Malaysia will assess the amount stated on the bill of estimate and pay to AIBD the appropriate amount of expenses mentioned in 10-2 above within fifty(50) days after the receipt of the bill.
- 3) Upon confirmation of receiving the payment mentioned in 10-2 AIBD will submit to the Kuala Lumpur Office of JICA in Malaysia a receipt for the amount.
- 4) AIBD will submit to Kuala Lumpur Office of JICA in Malaysia a statement of expenditures within thirty(30) days after the closing of the Course.
- 5) In case any amount in the above-mentioned statement of expenditures is left unused, AIBD will reimburse the amount to JICA in accordance with the instructions given by the latter.
- 6) AIBD will make available for JICA's reference all the receipts and other documentary evidence to certify the expenditures stated in 4) above if requested by the latter.

12. SCHEDULE OF IMPLEMENTATION

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

## TENTATIVE CURRICULUM

Date	0900 - 1230	Person in-charge	1400 - 1630	Person in-charge
7 Feb (Tue)	Arrival	AIBD	Arrival	AIBD
8 Feb (Wed)	Opening Ceremony	AIBD	Orientation	AIBD
9 Feb (Thu)	Country Reports	AIBD	Continued	AIBD
10 Feb (Fri)	Outline of ENG System - camera	AIBD/JICA	Outline of ENG System -VTR and integrated system	JICA
11 Feb (Sat)	FREE		FREE	
12 Feb (Sun)	FREE		FREE	
13 Feb (Mon)	ENG CAMERA & VTR a. Kinds of Camera	AIBD/JICA	Standards of VTR	JICA
14 Feb (Tue)	b. Principles and function of Camera	JICA	Principles and functions of VTR and the integrated system	JICA
15 Feb (Wed)	c. Circuits (Camera)	AIBD	Circuits (VTR)	JICA
16 Feb (Thu)	d. Practice initial setting	JICA/AIBD	Continued	JICA/AIBD
17 Feb (Fri)	Programme shooting	JICA/AIBD	Continued	JICA/AIBD
18 Feb (Sat)	Observation trip	AIBD	Continued	AIBD
19 Feb (Sun)	FREE		FREE	
20 Feb (Mon)	Recording	JICA	Continued	JICA
21 Feb (Tue)	Test equipment	JICA	Continued	JICA
22 Feb (Wed)	Routine maintenance	JICA	Continued	JICA
23 Feb (Thu)	Continued	JICA	Continued	JICA
24 Feb (Fri)	Trouble shooting	JICA	Continued	JICA
25 Feb (Sat)	FREE		FREE	
26 Feb (Sun)	FREE		FREE	

Date	0900 - 1230	Person in-charge	1400 - 1630	Person in-charge
27 Feb (Mon)	Continued from Friday	JICA	Continued	JICA
28 Feb (Tue)	Time base corrector	JICA	Continued	JICA
29 Feb (Wed)	TBC trouble shooting	JICA	Continued	JICA
1 Mar (Thu)	CRT Monitor Theory/set-up trouble shooting	AIBD	Continued	AIBD
2 Mar (Fri)	Maintenance of Battery	JICA	Continued	JICA
3 Mar (Sat)	Observation trip	AIBD	Continued	AIBD
4 Mar (Sun)	FREE			
5 Mar (Mon)	New techniques in shooting	JICA	Continued	JICA
6 Mar (Tue)	Techniques on News transmission via space satellite	JICA	Continued	JICA
7 Mar (Wed)	Lighting practice	AIBD	Continued	AIBD
8 Mar (Thu)	ENG Editing-theory	JICA	Continued	JICA
9 Mar (Fri)	Editing Practice	JICA	Continued	JICA
10 Mar (Sat)	Observation trip	AIBD	Continued	AIBD
11 Mar (Sun)	FREE			
12 Mar (Mon)	Post production using sub-control facilities	JICA	Continued	JICA
13 Mar (Tue)	Sound dubbing system	JICA	Continued	JICA
14 Mar (Wed)	Continued	JICA	Continued	JICA
15 Mar (Thu)	Course evaluation	AIBD	Closing ceremony	AIBD

Date	0900 - 1230	Person in-charge	1400 - 1630	Person in-charge
16 Mar (Fri)	Preparation for Departure	AIBD	Preparation for Departure	AIBD
17 Mar (Sat)	Departure	AIBD	Departure	AIBD

ANNEX II

A SCHEDULE OF IMPLEMENTATION OF THE COURSE

<u>Month</u>	<u>AIBD side</u>	<u>Japanese side</u>
1983		
Middle of August		Signing of R/D
Late in August	Submission of application form for the experts	
Middle of September	Distribution of G.I.	Recruitment of experts
Middle of November	Submission of bill of estimate of expenses	
Early in December	Acceptance of applications	
1984		
Early in January	Notification of acceptance	Remittance of expenses
Early in February	Conduct of the Course	Dispatch of experts
Middle of March	Submission of statement expenditures	
Middle of April	Submission of Course report	

TENTATIVE ESTIMATE OF EXPENSES AGREED UPON IN PRINCIPLE  
BETWEEN THE MISSION AND AIBD

No.	Item of Expenses	Breakdown	Amount (Yen)																																													
I.	<u>EXPENSES FOR INVITATION</u>																																															
	1. <u>Airtickets:</u>	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 30%;"><u>Country</u></th> <th style="text-align: left; width: 40%;"><u>Airticket Fee</u></th> <th style="text-align: right; width: 30%;"><u>Amount</u></th> </tr> </thead> <tbody> <tr><td>a. Bangladesh</td><td>854 x 1 person</td><td style="text-align: right;">205,000</td></tr> <tr><td>b. Brunei</td><td>277 x 1 person</td><td style="text-align: right;">66,500</td></tr> <tr><td>c. Burma</td><td>634 x 1 person</td><td style="text-align: right;">152,200</td></tr> <tr><td>d. China</td><td>1,320 x 1 person</td><td style="text-align: right;">316,800</td></tr> <tr><td>e. India</td><td>1,155 x 1 person</td><td style="text-align: right;">277,200</td></tr> <tr><td>f. Indonesia</td><td>473 x 1 person</td><td style="text-align: right;">113,600</td></tr> <tr><td>g. Iran</td><td>1,826 x 1 person</td><td style="text-align: right;">438,300</td></tr> <tr><td>h. Korea</td><td>1,430 x 1 person</td><td style="text-align: right;">343,200</td></tr> <tr><td>i. Pakistan</td><td>1,276 x 1 person</td><td style="text-align: right;">306,300</td></tr> <tr><td>j. Philippines</td><td>786 x 1 person</td><td style="text-align: right;">188,700</td></tr> <tr><td>k. Singapore</td><td>105 x 1 person</td><td style="text-align: right;">25,200</td></tr> <tr><td>l. Sri Lanka</td><td>907 x 1 person</td><td style="text-align: right;">217,700</td></tr> <tr><td>m. Thailand</td><td>451 x 1 person</td><td style="text-align: right;">108,300</td></tr> <tr><td colspan="2" style="text-align: center;">TOTAL</td><td style="text-align: right; border-top: 1px solid black;">2,759,000</td></tr> </tbody> </table>	<u>Country</u>	<u>Airticket Fee</u>	<u>Amount</u>	a. Bangladesh	854 x 1 person	205,000	b. Brunei	277 x 1 person	66,500	c. Burma	634 x 1 person	152,200	d. China	1,320 x 1 person	316,800	e. India	1,155 x 1 person	277,200	f. Indonesia	473 x 1 person	113,600	g. Iran	1,826 x 1 person	438,300	h. Korea	1,430 x 1 person	343,200	i. Pakistan	1,276 x 1 person	306,300	j. Philippines	786 x 1 person	188,700	k. Singapore	105 x 1 person	25,200	l. Sri Lanka	907 x 1 person	217,700	m. Thailand	451 x 1 person	108,300	TOTAL		2,759,000	2,759,000
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TOTAL		2,759,000																																														
	2. <u>Allowances:</u>		2,478,400																																													
	Living Allowance	M\$30/- per day x 40 days x 13 persons x 104 yen	1,622,400																																													
	Accommodation	M\$15/- per day x 39 days x 13 persons x 104 yen	791,000																																													
	Medical Insurance	5,000 yen x 13 persons	65,000																																													
		TOTAL FOR EXPENSES FOR INVITATION (I):	5,237,400																																													
II.	<u>TRAINING EXPENSES</u>																																															
	1. <u>Expenses for Observation Trip</u>		265,200																																													
	Domestic Tour (Day Allowance)	a. M\$50 x 5 persons x 3 times x 104 yen	78,000																																													
	(Micro Bus)	b. M\$600 x 3 times x 104 yen	187,200																																													
	2. <u>Personnel Expenses</u>		66,600																																													
	Overtime expenses for secretaries	M\$32/- x 20 days x 104 yen	66,600																																													



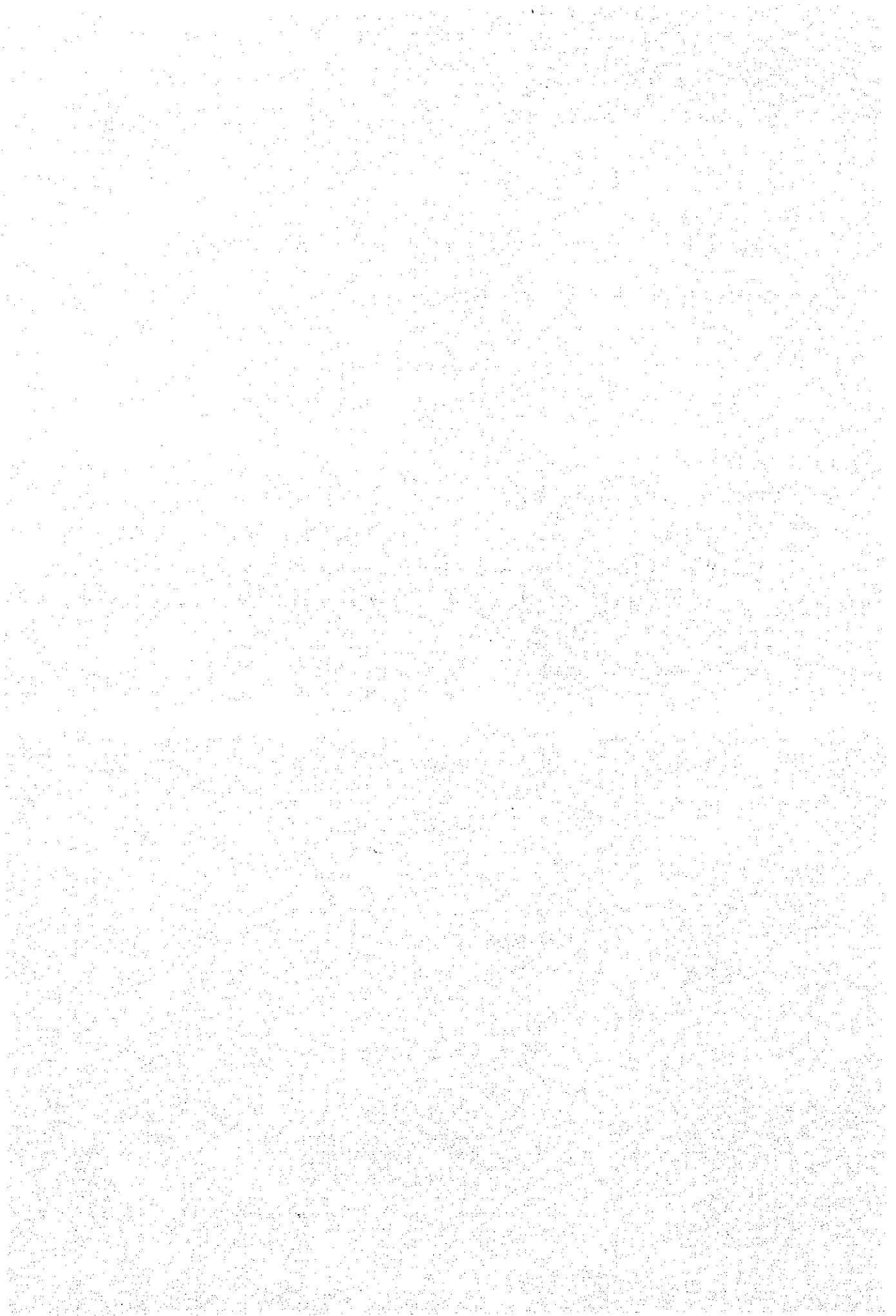
No.	Item of Expenses	Breakdown	Amount
			(Yen)
	<u>3. Transportation Expenses</u>		
	Micro bus for airport reception, sending and for trip to town on holidays for food	M\$112 x 104 yen	11,700
	<u>4. Meeting Expenses</u>		473,300
	Opening & Closing Ceremonies	M\$410 x 104 yen	42,700
	Discussion Meeting	M\$35 x 30 persons x 2 times x 104 yen	218,400
	Coffee Break	M\$3 x 20 persons x 34 days x 104 yen	212,200
	<u>5. Teaching Materials</u>		2,533,200
	Copying and Binding	M\$0.15 x 200 pages x 20 persons x 104 yen	62,400
	Consumerables	M\$0.10 x 20 persons x 200 pages x 104 yen	41,600
	Stationeries	Stationeries M\$5 x 20 persons x 104 yen	10,400
		Name plates M\$5 x 20 persons x 104 yen	10,400
	Teaching Aid Materials	Vector Display M\$3,500 x 1 x 104 yen	364,000
		Battery Checker M\$100 x 1 x 104 yen	104,000
		Colour Monitor M\$1,500 x 4 sets x 104 yen	624,000
		Video Tapes M\$70 x 30 x 104 yen	218,400
		Tools M\$1,000 x 104 yen	104,000
		Components and Spares M\$1,000 x 104 yen	104,000

No.	Item of Expenses	Breakdown	Amount
		W/F Monitor M\$3,500 x 104 yen	364,000
		Digital Multimeter M\$500 x 2 x 104 yen	104,000
	Others:	Insurance on Rented Equipment M\$150,000 x 2% x 104 yen	312,000
		Final Report Writing M\$500 x 104 yen	52,000
		Certificates M\$10 x 20 persons x 104 yen	20,800
		G/I M\$15 x 15 sets x 104 yen	23,400
		Book carrying case M\$6.80 x 20 persons x 104 yen	13,800
		TOTAL FOR TRAINING EXPENSES (II):	3,350,000
		GRAND TOTAL FOR (I) AND (II):	8,587,400 =====

# マレーシア金属加工技術センター(MITEC)における第三国研修

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## I 実施協議チームの概要

### 1. 実施協議チームの構成員

国際協力事業団研修事業部研修第三課長	橋 本 明 彦
通商産業省通商政策局経済協力部技術協力課	依 田 隆 實
国際協力事業団研修事業部管理課	松 井 禎 子

### 2. 派遣国及び派遣期間

マレーシア

昭和58年8月21日から昭和58年8月26日まで

### 3. 行 動 日 程

別 紙



## II 実施協議内容

### 1. 実施協議チーム派遣に至る経緯

本件チームは昭和57年12月派遣された事前協議チームの報告に基づきMITECにおいて本年度溶接コース及びメッキコースを実施するためR/Dを調印しそのための具体的日程、所要経費見積りの策定等実施に係る諸事項の協議を行うと共に、昭和59年度実施予定のプレスコース及び金型工作コースにつき具体的日程の協議、策定を行うために派遣された。

### 2. EPUにおけるR/D本文に係る協議

当チーム持参のR/D案は前記事前協議チームによる協議内容と次の点で異なるものであった。即ち(イ)当方の予算上の都合により事前調査時には1年度内4コース(溶接、メッキ、金型加工、プレス)としていたが、1年度2コース(58年度は溶接、メッキ)に減らし、他のコース(金型加工、プレス)は59年度に実施することとしたい。(ロ)従って割当て国及び研修員数についても上記予算上の問題及びコース実施上の問題を考慮し1コース12名(第三国8ヶ国8名、マレーシア4名)計24名としたい。(ハ)本件チーム派遣直前に判面した同分野におけるマレーシア独自の国際研修コース(MALAYSIAN TECHNICAL COOPERATION PROGRAMMEによる)と本件第三国研修コースとの差異の明確化を計る等である。

EPUとの第一回協議の場で以上の点につき同意及び説明を求めたところ先方の意向は次の通りであった。

(1)前記(イ)本年度2コース、来年度2コース実施することに関しては日本側の事情も理解できるので異存はない。

(2)前記(ロ)研修員数につき第三国研修員1コース8名、計16名、マレーシア研修員1コース4名、計8名、については同意するも割当て国についてはPNG、フィジー、を加え是非共10ヶ国としたい。これはマレーシアと両国との関係上実現を強く希望する旨の発言があった。当方より2ヶ国追加した場合のコース別割当て国について質したところ先方は溶接コースにつきPNG、及びフィジーに各1名を割当て、シンガポール及びタイは他の国と比較して工業水準も高いことに鑑み溶接コースへの割当てを見送り、メッキコースのみに各1名を割当てたいとの意向であった。当方としては東京サイドとも連絡のうえこれを了承した。

(3)前記(ハ)MALAYSIAN TECHNICAL COOPERATION PROGRAMMEによる同分野における国際研修コースと本件第三国研修コースの位置付けについて、先方は前者は本件コースの打診があった以前より実施の方向で検討していたものであると述べたのみで明解な差異についての説明はなかった。当方より更に日本側としては同分野でしかもほとんど同じ国にオファーするものであれば競合が生じ、本件コースの設立自体の意味が稀薄になるのみでなく、両コースをオファーされた国にも混乱を生じかねないとの懸念を表明したところ、先方は研修内容につき明確な差異を付けることにより当方の懸念を解消したいとし、具体的には

SIRIM・MITECとの研修プログラム策定のための協議の場でツメてほしい旨述べた。

その他秘書の備上につき当方案の2名35日、(計70M/M)に対し更に1名、30日、(30M/M)をコース準備のため予算化をお願いしたい旨の要望があり、又若干の文言上の修正意見があったが、当方は原則的にこれに同意した。

### 3. SIRIMにおける研修日程及び研修内容に係る協議

本件チーム派遣前SIRIM・MITECに対し研修日程(案)を作成しておくよう東京サイドより要請が出されており、又東京サイドでは前述MALAYSIAN TECHNICAL COOPERATION PROGRAMMEによる研修内容との差異を明確にするため、急拠より高度の研修科目を含む新たなわが方案を作成したため、先方案とわが方案の調整には多大の労力を要した。しかしながら先方はマ側による国際研修コースは民間技術者に対する比較的実技を主体としたコースであるのに対し、本件第三国研修コースは公的機関に働く指導員及び普及員等を対象とし研修内容も理論面を含む高度なものにすることに異議はないとの態度であったので、当方で新たに付け加えた科目については全て生ずる方向で調整を行った。

なお東京サイドの指示に基づき、本年度実施分2コースの研修日程はR/D本文に添付し、来年度実施分2コースについては経費見積りと共にミニッツの形にとりまとめた。

### 4. MITECにおける第三国研修に必要な経費の見積りに係る協議

先方案と当方案との細部に互るすり合わせを行い、必要に応じ積算根拠を質した結果別添ANNEX IVの通りとりまとめた。

## III 本件コースの研修内容について

1. 前述したごとく本件コースは政府又は公的機関の指導員又は普及員を対象としたものであり、実技のみでなく理論面にも焦点を置くものとした。
2. 特に日本側専門家による講義及び実技は最新の技術の伝達に力点を置くものであり、これによりマ側独自に行う国際研修コースと明確な差異をつけようとするものである。
3. 従って今後日本人専門家の選定に当っては前記1, 2, を踏え最適任者の派遣が必要である。

特に今年度については長期専門家の助力が期待できるが、来年度以降プロジェクト協力の終了に伴い、長期専門家が不在となることも考慮しておく必要があると思われる。

## IV おわりに

今回の実施協議については事前協議時の協議内容と今回のわが方案との間に差異が生じたこと、マ側独自で行う国際研修コースの実施が本件チーム派遣直前に判明したこと等によりその間の調整に努力を要した。幸い先方に柔軟な姿勢があったこと、富田リーダーを始めとする長



期派遣専門家諸氏の本件コース実現へ向けての熱意により、本年度内に実施の線で合意に達することができた。今後本件コースがマレーシア国及びその周辺国の金属加工技術の発展に大きく貢献することを期待する。

別添 I

THE RECORD OF DISCUSSIONS BETWEEN THE  
JAPANESE CONSULTATION TEAM AND THE  
AUTHORITIES CONCERNED OF THE GOVERNMENT  
OF MALAYSIA ON THE THIRD COUNTRY TRAINING  
PROGRAMME IN THE FIELD OF METAL-WORKING  
TECHNOLOGY

The Japanese Consultation Team (hereinafter referred to as the "Team"), dispatched by the Japan International Cooperation Agency (hereinafter referred to as "JICA") and headed by Mr. Akihiko Hashimoto, Head of Third Training Division, Training Affairs Department, JICA visited Malaysia from August 21, 1983 to August 27, 1983 for the purpose of working out the Third-Country Training Programme in the field of Metal-Working Technology at Metal Industry Technology Center of Standards and Industrial Research Institute of Malaysia (hereinafter referred to as "MITEC, SIRIM"), supported by the technical cooperation scheme of the Government of Japan.

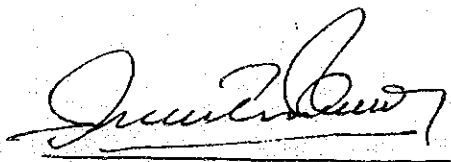
During its stay in Malaysia, the Team had a series of discussions with the authorities concerned of the Government of Malaysia with respect to the measures to be taken by both governments for the successful implementation of the Third Country Training Programme.

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

Kuala Lumpur, August 25, 1983.



AKIHIKO HASHIMOTO  
Head of Japanese  
Consultation Team.



MOHAMAD BIN OMAR  
Director, Foreign Assistance  
and General Services,  
Economic Planning Unit.

## THE ATTACHED DOCUMENT

The Government of Japan and the Government of Malaysia will co-operate with each other in implementing the Third-Country Training Programme in the field of Metal-Working Technology at MITEC, SIRIM (hereinafter referred to as "the Programme").

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

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

### 1. TITLE

The Programme will be entitled "Regional Training Programme in Metal-Working Technology" consisting of the two courses of "Welding Course" and "Electroplating Course".

### 2. PURPOSE

The Programme is designed to provide an opportunity of refreshing and updating relevant techniques and knowledge for technical officials in the government/public industrial organizations in the field of metal working technology involved in the instruction and extension work in the related fields.

3. DURATION

The Programme will be conducted from 19 February, 1984 to 25 March, 1984.

4. CURRICULUM

A tentative curriculum for the Programme is attached as in ANNEX I.

5. PARTICIPATING COUNTRIES

The following countries are invited to nominate applicants: Thailand, the Philippines, Indonesia, Singapore, Burma, Bangladesh, Sri Lanka, Nepal, Fiji and Papua New Guinea.

6. NUMBER OF PARTICIPANTS

The number of participants from the third countries specified in 5 above will be sixteen (16), and the allocation of training seats will be as follows:

1) Welding Course

One (1) training seat each for Fiji, Papua New Guinea, The Philippines, Indonesia, Burma, Bangladesh, Sri Lanka and Nepal.

2) Electroplating Course

One (1) training seat each for Singapore, Thailand, The Philippines, Indonesia, Burma, Bangladesh, Sri Lanka and Nepal.

The number of participants from Malaysia will be eight (8) comprising four (4) in each of the two courses.

7. QUALIFICATIONS OF APPLICANTS

Applicants to the Programme are to:

- 1) be technical officials who are engaged in the works of instruction and extension of metal working technology in the government/public industrial organizations;
- 2) have more than five (5) years of work experience;
- 3) have a good command of spoken and written English;
- 4) be local citizens of the nominating countries;
- 5) be under forty (40) years of age; and
- 6) be healthy enough to participate in and complete the Programme.

8. PROCEDURE OF APPLICATION

- 1) The Governments desiring to nominate applicant(s) for the Programme should complete five (5) copies of the designated application form for each and forward them to the Government of Malaysia through their respective diplomatic channels not later than November 30, 1983.
- 2) The Government of Malaysia will inform the applying governments whether or not the nominee(s) is/are accepted to the Programme not later than January 15, 1984.

9. LECTURERS/INSTRUCTORS

- 9-1 SIRIM under the Ministry of Science, Technology and the Environment (hereinafter referred to as "SIRIM, MSTE") will assign necessary teaching staff as lecturers/ instructors for the Programme.
- 9-2 Upon request of the Government of Malaysia the Government of Japan will dispatch two (2) short-term experts under its Expert-Assignment Programme for the purpose of giving advice and guidance to the MITEC staff and of giving lectures on such subjects as mentioned in ANNEX I.
- 9-3 The Government of Malaysia, through Economic Planning Unit (hereinafter referred to as "EPU", will submit to the Government of Japan Form A-1 in request for the experts mentioned in 9-2 above in accordance with the procedures required under the Colombo Plan technical cooperation scheme.

10. UNDERTAKING OF BOTH GOVERNMENTS

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

- 10-1 The Government of Malaysia

- 10-1-1 Economic Planning Unit
- 1) To forward the General Information brochures (G.I) of the Programme to the government of participating countries through its diplomatic channels.
  - 2) To receive application forms and to convene a selection committee meeting with SIRIM, MSTE.
  - 3) To notify the results of selection of participants to their respective governments through its diplomatic channels and to JICA Kuala Lumpur Office in Malaysia.

10-1-2 MITEC, SIRIM/MSTE

- 1) To formulate curriculum.
- 2) To draft and print G.I.
- 3) To submit Form A-1 to the Economic Planning Unit.
- 4) To assign lecturers in accordance with 9-1 above.
- 5) To arrange training and accommodation facilities for the participants.
- 6) To screen applicants together with EPU.
- 7) To arrange meeting and sending services for participants at the airport.
- 8) To arrange international travel for participants and domestic study tours.
- 9) To take budgetary measures for the expenses necessary for implementing the Programme that are not financed by the Government of Japan.
- 10) To submit a course report to JICA Kuala Lumpur Office in Malaysia after the termination of the Programme.
- 11) To co-ordinate any matters related to the Programme.

10-2 The Government of Japan

To bear the following expenses for the Programme

- 1) such expenses relevant to the participants outside of Malaysia as international economy-class flight fare, accommodation, per diem and medical insurance premium;

- 2) such expenses relevant to MITEC, SIRIM for operating the Programme as honoraria for external lecturers, meeting, teaching aids, material procurement, duplication and secretarial services.

#### 11. FINANCIAL ARRANGEMENT

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

- 1) SIRIM, MSTE will submit to JICA Kuala Lumpur Office a bill of estimate for expenses to be borne by the Government of Japan not later than sixty (60) days before the opening of the Programme.
- 2) JICA Kuala Lumpur Office will assess the amount stated on the bill of estimate, manage the expenses mentioned in 10-2 1) above and pay to SIRIM, MSTE the appropriate amount of expenses mentioned in 10-2 2) above with fifty (50) days after the receipt of the bill.
- 3) Upon confirmation of receiving the payment, SIRIM, MSTE will submit to JICA Kuala Lumpur Office a receipt for the amount.
- 4) SIRIM, MSTE will submit to Kuala Lumpur Office a statement of expenditure within thirty (30) days after the closing of the Programme.
- 5) In case any amount left unused is stated in the above-mentioned statement of expenditures, SIRIM, MSTE will reimburse the amount to JICA Kuala Lumpur Office in accordance with the instructions given by the latter.
- 6) SIRIM, MSTE will make available for JICA's reference all the receipts and other documentary evidence to certify the expenditures stated in 4) above if requested by the latter.

#### 12. SCHEDULE OF IMPLEMENTATION

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

ANNEX I

TENTATIVE SCHEDULE IN ELECTROPLATING TECHNOLOGY COURSE FOR THE THIRD COUNTRY TRAINING PROGRAM

Date	Morning session (a.m.)	Person in charge	Afternoon session (p.m.)	Person in charge
19th Feb Sun.	Arrival at Kuala Lumpur.	MITEC	Arrival at Kuala Lumpur.	MITEC
20th Feb Mon.	Registration. Opening ceremony.	MITEC	Orientation. Welcome party.	MITEC
21st Feb Tues.	Briefing on MITEC and metal industry in Malaysia.	MITEC	Continued.	MITEC
22nd Feb Wed.	Surface Treatment and electroplating.	JICA	Advanced plating equipment.	JICA
23rd Feb Thurs.	Electrochemistry with respect to electroplating.	Invited lecturer	Electrical engineering with respect to electroplating.	Invited lecturer
24th Feb Fri.	Plating materials, impurity limitations and quality control.	JICA	Metallurgical characteristics of various base materials.	JICA
25th Feb Sat.	Plating process on different base materials, derusting.	MITEC	Free	
26th Feb Sun.	Free		Free	
27th Feb Mon.	Buffing for vehicle parts.	MITEC	Continued.	MITEC
28th Feb Tues.	Advanced pre-treatment, post-treatment and quality control.	JICA	Various standard plating solutions.	JICA
29th Feb Wed.	Quality tests of platings.	MITEC	Safety management.	MITEC



Date	Morning session (a.m.)	Person in charge	Afternoon session (p.m.)	Person in charge
1st Mac Thurs.	Equipment for solutions control.	MITEC	Analysis of solutions.	MITEC
2nd Mac Fri.	Analysis of solutions.	MITEC	Continued.	MITEC
3rd Mac Sat.	Hull Cell test and thickness test.	MITEC	Free	
4th Mac Sun.	Free		Free	
5th Mac Mon.	Jigging techniques.	MITEC	Application of barrel polishing.	MITEC
6th Mac Tues.	Stripping of plated layer.	JICA	Application of water honning.	MITEC
7th Mac Wed.	Modern nickel plating	MITEC	Decorative and industrial chrome plating.	JICA
8th Mac Thurs.	Public holiday		Public holiday.	
9th Mac Fri.	Copper, nickel and chrome plating.	JICA	Zinc plating as a means of cheaper protection against corrosion.	JICA
10th Mac Sat.	Barrel zinc plating.	MITEC	Free	
11th Mac Sun.	Free		Free	
12th Mac Mon.	Tin plating on electronic parts.	MITEC	Continued	MITEC
13th Mac Tues.	Industrial gold plating.	MITEC	Continued.	MITEC

Date	Morning session (a.m.)	Person in charge	Afternoon session (p.m.)	Person in charge
14th Mac Wed.	Industrial silver plating.	MITEC	Continued.	MITEC
15th Mac Thurs.	Statistical quality control methods.	JICA	Continued.	JICA
16th Mac Fri.	Newer electroplating technology.	JICA	Continued.	JICA
17th Mac Sat.	Modern waste effluent treatment.	MITEC	Free	
18th Mac Sun.	Free		Free	
19th Mac Mon.	Plating on plastics for decorative and industrial uses.	JICA	Continued.	JICA
20th Mac Tues.	Field study tour	MITEC	Continued.	MITEC
21st Mac Wed.	Field study tour	MITEC	Continued.	MITEC
22nd Mac Thurs.	Preparation of final report.	MITEC	Continued.	MITEC
23rd Mac Fri.	Presentation of final report.	MITEC	Continued.	MITEC
24th Mac Sat.	Closing ceremony Farewell party.	MITEC	Free	
25th Mac Sun.	Leaving Kuala Lumpur.	MITEC		

NOTE:

a.m. 8.30 - 12.45

p.m. 2.00 - 4.15

TENTATIVE SCHEDULE IN WELDING TECHNOLOGY COURSE FOR THE THIRD COUNTRY TRAINING PROGRAM

Date	Morning session (a.m.)	Person in charge	Afternoon session (p.m.)	Person in charge
19th Feb Sun.	Arrival at Kuala Lumpur	MITEC	Arrival at Kuala Lumpur	MITEC
20th Feb Mon.	Registration Opening Ceremony.	MITEC	Orientation. Welcome party	MITEC
21st Feb Tues.	Briefing on MITEC and metal industry in Malaysia.	MITEC	Continued.	MITEC
22nd Feb Wed.	Perspective of welding technology (study of welding systems, performance and applications).	MITEC	Safety and Health in Welding Production.	JICA
23rd Feb Thurs.	Shielded metal arc welding (techniques and skill development)	MITEC	Properties and selection of SMAW consumables.	JICA
24th Feb Fri.	Shielded metal arc welding (techniques and skill development).	MITEC	Properties and selection of SMAW consumables.	MITEC & invited lecturer
25th Feb Sat.	Shielded metal arc welding (technique and skill development).	MITEC	Free	
26th Feb Sun.	Free		Free	
27th Feb Mon.	Shielded metal arc welding (techniques and skill development)	MITEC	Costing and estimation for welding production.	MITEC
28th Feb Tues.	SMAW/Gravity welding (Operation techniques and application).	MITEC	Welding economics	MITEC

Date	Morning session (a.m.)	Person in charge	Afternoon session (p.m.)	Person in charge
29th Feb Wed.	CO <sub>2</sub> welding (Performance character- istic of GMAW process)	MITEC	Welding metallurgy (Macro and micro- structure of weldment)	MITEC
1st Mar. Thurs.	CO <sub>2</sub> welding (Maintenance of GMAW systems. Techniques and skill development).	MITEC	Welding metallurgy	Invited lecturer
2nd Mar. Fri.	CO <sub>2</sub> welding (Techniques and skill development).	MITEC	Welding consumables for GMAW, GTAW, SAW and ESW process.	MITEC
3rd Mar, Sat.	Repair welding	JICA	Free	
4th Mar. Sun	Free		Free	
5th Mar. Mon.	MIG welding (Welding techniques and application).	MITEC	Welding inspection (defects identification)	MITEC
6th Mar. Tues.	TIG welding (Welding techniques and application).	MITEC	Welding inspection (QC by NDT method)	MITEC
7th Mar. Wed.	Submerged arc welding (operation technique and application).	MITEC	Welding inspection (QC by NDT and DT methods).	MITEC
8th Mar. Thurs.	Public Holiday		Public Holiday	
9th Mar. Fri.	Resistance spot seam welding (operation technique and application)	MITEC	Welding inspection (interpretation and judgment of weld quality by multi- national standards).	JICA
10th Mar. Sat.	Welding Inspection (causes and corrective actions for welding quality control).	JICA	Free	

Date	Morning session (a.m.)	Person in charge	Afternoon session (p.m.)	Person in charge
11th Mac Sun.	Free		Free	
12th Mac Mon.	Electroslag welding (operation techniques and application)	MITEC	Welding design (selection and design of welding joints).	MITEC
13th Mac Tues.	Fuel, gas welding and brazing (welding technique and application).	MITEC	Welding design (application in engineering fabrication)	MITEC
14th Mac Wed.	Plasma cutting Arc Gouging (application in welding fabrication).	MITEC	Welding performance qualification (based on welding standards).	MITEC
15th Mac Thurs.	Welding consultancy	MITEC	Welding procedure qualification (based on welding standards).	MITEC
16th Mac Fri.	Technology development (Process and application of low cost automatic and robotic welding).	JICA	Welding production (welding design and fabrication of structures and vessels by code of-practice).	MITEC & Invited lecturer
17th Mac Sat.	Technology development (new applications in welding).	JICA	Free	
18th Mac Sun.	Free		Free	
19th Mac Mon.	New welding process	JICA	Continued	JICA
20th Mac Tues.	Field study tour	MITEC	Continued	MITEC
21st Mac Wed.	Field study tour.	MITEC	Continued	MITEC

Date	Morning session (a.m.)	Person in charge	Afternoon session (p.m.)	Person in charge
22nd Mac Thurs.	Preparation of final report.	MITEC	Continued.	MITEC
23rd Mac Fri.	Presentation of final report.	MITEC	Continued.	MITEC
24th Mac Sat.	Closing ceremony Farewell party.	MITEC	Free	
25th Mac Sun.	Leaving Kuala Lumpur	MITEC		

NOTE :

a.m. 8.30 - 12.45

p.m. 2.00 - 4.15

ANNEX II

A SCHEDULE OF IMPLEMENTATION OF THE PROGRAMME

<u>Month</u>	<u>Malaysia Side</u>	<u>Japanese Side</u>
1983		
Late in August		Signing of R/D
Early in September	Submission of application form for the experts	
Late in September	Distribution of G.I.	Recruitment of experts
Late in November	Deadline of Acceptance of Applications.	
Middle of December	Submission of bill of estimate of expenses.	
1984		
Middle of January	Notification of acceptance	Remittance of expenses
Middle of February	Conduct of the Programme	Dispatch of experts
Late in March	Submission of statement expenditures	
Late in April	Submission of course report	

別添 II

TENTATIVE SCHEDULE OF IMPLEMENTATION  
FOR THE THIRD COUNTRY TRAINING PROGRAMME

SHAH ALAM

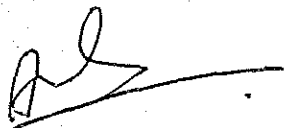
AUGUST 26, 1983

JAPAN INTERNATIONAL COOPERATION AGENCY  
AND  
STANDARDS AND INDUSTRIAL RESEARCH INSTITUTE OF MALAYSIA



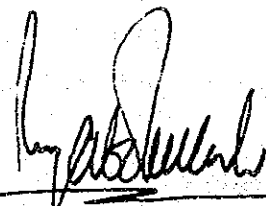
The Japanese Consultation Team and the Controller of Standards and Industrial Research Institute of Malaysia have jointly formulated the Tentative Schedule of Implementation with respect to the Curriculum and Estimates of Expenses as annexed hereto, with regard to The Record of Discussion signed on August 25, 1983 between the Japanese Consultation Team and authorities concerned of the Government of Malaysia on the Third Country Training Programme in the Field of Metal-Working Technology.

In formulating the above-mentioned schedule, it was mutually understood that both sides should exert their utmost efforts for the success of the said programme.



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Akihiko Hashimoto  
Head  
Japanese Consultation Team



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Abdullah bin Mohd Yusof  
Controller  
Standards and Industrial  
Research Institute of  
Malaysia.

MINUTES OF DISCUSSION ON THIRD COUNTRY TRAINING PROGRAMME  
HELD BETWEEN JAPANESE CONSULTATION TEAM AND SIRIM

Venue : SIRIM  
Date : 23rd August & 24th August 1983  
Attendance : As attached in Annex 1.

1. Introduction

This meeting was held between the Japanese Consultation Team and SIRIM to look into the proposals and drafts on the subjects of curriculum and budget as submitted by both parties. Discussions were held to reach the agreement as outlined in this minute.

2. Curriculum

2.1 Curriculum for Welding Course & Electroplating Course

Proposals for the details of curriculum for the Welding and Electroplating Courses were thoroughly discussed and favourably agreed by both sides.

The curriculums for both courses as agreed on the day is attached in Annex II and Annex III.

2.2 Curriculum for Die-making and Presswork Course

Proposals for the curriculum ~~to~~<sup>to</sup> the above two courses were also submitted for discussion to be used for future Third Country training programmes. Both parties have agreed to the curriculum as attached in Annex IV and Annex V.

3. Budget

The expenditures and costings for the Third Country training programme were discussed in detail and favourably agreed upon as attached in Annex VI.

### Requests

In order to facilitate the successful operations of the Third Country Training Programme, SIRIM has requested to JICA several additional equipment to be brought by Japanese short term experts as listed below:-

- i) electronic typewriter
- iii) transparencies film copier
- iii) off-setting machine
- iv) surface tension tester for electroplating solution
- v) Lecture materials used in JICA Training Centre  
(English Edition)

In addition, the difference of curriculum between the Third Country Training Programme and the Malaysian Technical Cooperation Programme was taken up for discussion at the Meeting.

As a result both sides acknowledged that the former one will stress the theoretical matters for the participants, who are mainly instructors and extension officers in governmental/public sectors, to facilitate their propagation work in their home countries, on the other hand, the latter will stress the practical work for the participants, who are mainly from private sectors, to upgrade the efficiency in their enterprise.

The discussions held have been fruitful as proposals from both parties have been well received to enable compilation of the curriculums and other related matters.

There being no further matters, the meeting ended at 12.30 p.m. on the 24th. August, 1983.

Date: 24th August, 1983

DISCUSSION ON THE THIRD COUNTRY TRAINING PROGRAMME

DAY 1 (23.8.1983)

Discussion on the curriculum and courses content

Place : SIRIM HQ  
Time : 9.30 a.m.

Japanese mission:

- 1) Mr. Akihiko Hashimoto  
(Leader) Head,  
Third Training Division,  
Training Affairs Department  
JICA
- 2) Mr. Takami Yoda  
(Member) Technical Cooperation  
Division,  
Trade Policy Bureau,  
Ministry of International  
Trade and Industry,
- 3) Miss Teiko Matsui Administration Division,  
Training Affairs Department,  
JICA.

Japanese experts:

1. Dr. Kenji Tomita Chief Adviser MITEC
2. Mr. Ryohei Nonaka Electroplating Expert
3. Mr. Kazuhiko Tanaka Information Expert

SIRIM Officials:

- 1) En. Abdullah b. Mohd. Yusof Controller of SIRIM.
- 2) En. Mohamad bin Abas Director of Administration
- 3) En. Faisal Hj. Ismail Acting Head of MITEC
- 4) Cik Chen Sau Soon MITEC Information Officer

DAY 2 (24.8.1983)

Discussion on the cost estimation for the Third Country Training Programme.

Place: MITEC Conference Room

Time: 10.30 a.m.

Attendance:

The attendance is the same as in Day 1 and also present in Day 2 was En. Ahmad Sukarno Ahmad who is the Senior Accounts Officer in SIRIM.

TENTATIVE SCHEDULE IN WELDING TECHNOLOGY COURSE FOR THE THIRD COUNTRY TRAINING PROGRAM

Date	Morning session (a.m.)	Person in charge	Afternoon session (p.m.)	Person in charge
19th Feb Sun.	Arrival at Kuala Lumpur	MITEC	Arrival at Kuala Lumpur	MITEC
20th Feb Mon.	Registration Opening Ceremony.	MITEC	Orientation. Welcome party	MITEC
21st Feb Tues.	Briefing on MITEC and metal industry in Malaysia.	MITEC	Continued.	MITEC
22nd Feb Wed.	Perspective of welding technology (study of welding systems, performance and applications).	MITEC	Safety and Health in Welding Production.	JICA
23rd Feb Thurs.	Shielded metal arc welding (techniques and skill development)	MITEC	Properties and selection of SMAW consumables.	JICA
24th Feb Fri.	Shielded metal arc welding (techniques and skill development).	MITEC	Properties and selection of SMAW consumables.	MITEC & invited lecturer
25th Feb Sat.	Shielded metal arc welding (technique and skill development).	MITEC	Free	
26th Feb Sun.	Free		Free	
27th Feb Mon.	Shielded metal arc welding (techniques and skill development)	MITEC	Costing and estimation for welding production.	MITEC
28th Feb Tues.	SMAW/Gravity welding (Operation techniques and application).	MITEC	Welding economics	MITEC

Date	Morning session (a.m.)	Person in charge	Afternoon session (p.m.)	Person in charge
29th Feb Wed.	CO <sub>2</sub> welding (Performance character- istic of GMAW process)	MITEC	Welding metallurgy (Macro and micro- structure of weldment)	MITEC
1st Mac. Thurs.	CO <sub>2</sub> welding (Maintenance of GMAW systems. Techniques and skill development).	MITEC	Welding metallurgy	Invited lecturer
2nd Mac. Fri.	CO <sub>2</sub> welding (Techniques and skill development).	MITEC	Welding consumables for GMAW, GTAW, SAW and ESW process.	MITEC
3rd Mac, Sat.	Repair welding	JICA	Free	
4th Mac. Sun.	Free		Free	
5th Mac. Mon.	MIG welding (Welding techniques and application).	MITEC	Welding inspection (defects identification)	MITEC
6th Mac. Tues.	TIG welding (Welding techniques and application).	MITEC	Welding inspection (QC by NDT method)	MITEC
7th Mac. Wed.	Submerged arc welding (operation technique and application).	MITEC	Welding inspection (QC by NDT and DT methods).	MITEC
8th Mac. Thurs.	Public Holiday		Public Holiday	
9th Mac. Fri.	Resistance spot seam welding (operation technique and application)	MITEC	Welding inspection (interpretation and judgment of weld quality by multi- national standards).	JICA
10th Mac. Sat.	Welding Inspection (causes and corrective actions for welding quality control).	JICA	Free	

Date	Morning session (a.m.)	Person in charge	Afternoon session (p.m.)	Person in charge
11th Mac Sun.	Free		Free	
12th Mac Mon.	Electroslag welding (operation techniques and application)	MITEC	Welding design (selection and design of welding joints).	MITEC
13th Mac Tues.	Fuel, gas welding and brazing (welding technique and application).	MITEC	Welding design (application in engineering fabrication)	MITEC
14th Mac Wed.	Plasma cutting Arc Gouging (application in welding fabrication).	MITEC	Welding performance qualification (based on welding standards).	MITEC
15th Mac Thurs.	Welding consultancy	MITEC	Welding procedure qualification (based on welding standards).	MITEC
16th Mac Fri.	Technology development (Process and application of low cost automatic and robotic welding).	JICA	Welding production (welding design and fabrication of structures and vessels by code of practice).	MITEC & Invited lecturer
17th Mac Sat.	Technology development (new applications in welding).	JICA	Free	
18th Mac Sun.	Free		Free	
19th Mac Mon.	New welding process	JICA	Continued	JICA
20th Mac Tues.	Field study tour	MITEC	Continued	MITEC
21st Mac Wed.	Field study tour.	MITEC	Continued	MITEC



Date	Morning session (a.m.)	Person in charge	Afternoon session (p.m.)	Person in charge
22nd Mac Thurs.	Preparation of final report.	MITEC	Continued.	MITEC
23rd Mac Fri.	Presentation of final report.	MITEC	Continued.	MITEC
24th Mac Sat.	Closing ceremony Farewell party.	MITEC	Free	
25th Mac Sun.	Leaving Kuala Lumpur	MITEC		

NOTE :

a.m. 8.30 - 12.45

p.m. 2.00 - 4.15

ANNEX III

TENTATIVE SCHEDULE IN ELECTROPLATING TECHNOLOGY COURSE FOR THE THIRD COUNTRY TRAINING PROGRAM

Date	Morning session (a.m.)	Person in charge	Afternoon session (p.m.)	Person in charge
19th Feb Sun.	Arrival at Kuala Lumpur.	MITEC	Arrival at Kuala Lumpur.	MITEC
20th Feb Mon.	Registration. Opening ceremony.	MITEC	Orientation. Welcome party.	MITEC
21st Feb Tues.	Briefing on MITEC and metal industry in Malaysia.	MITEC	Continued.	MITEC
22nd Feb Wed.	Surface Treatment and electroplating.	JICA	Advanced plating equipment.	JICA
23rd Feb Thurs.	Electrochemistry with respect to electroplating.	Invited lecturer	Electrical engineering with respect to electroplating.	Invited lecturer
24th Feb Fri.	Plating materials, impurity limitations and quality control.	JICA	Metallurgical characteristics of various base materials.	JICA
25th Feb Sat.	Plating process on different base materials, derusting.	MITEC	Free	
26th Feb Sun.	Free		Free	
27th Feb Mon.	Buffing for vehicle parts.	MITEC	Continued.	MITEC
28th Feb Tues.	Advanced pre-treatment, post-treatment and quality control.	JICA	Various standard plating solutions.	JICA
29th Feb Wed.	Quality tests of platings.	MITEC	Safety management.	MITEC

Date	Morning session (a.m.)	Person in charge	Afternoon session (p.m.)	Person in charge
1st Mac Thurs.	Equipment for solutions control.	MITEC	Analysis of solutions.	MITEC
2nd Mac Fri.	Analysis of solutions.	MITEC	Continued.	MITEC
3rd Mac Sat.	Hull Cell test and thickness test.	MITEC	Free	
4th Mac Sun.	Free		Free	
5th Mac Mon.	Jigging techniques.	MITEC	Application of barrel polishing.	MITEC
6th Mac Tues.	Stripping of plated layer.	JICA	Application of water honning.	MITEC
7th Mac Wed.	Modern nickel plating	MITEC	Decorative and industrial chrome plating.	JICA
8th Mac Thurs.	Public holiday		Public holiday.	
9th Mac Fri.	Copper, nickel and chrome plating.	JICA	Zinc plating as a means of cheaper protection against corrosion.	JICA
10th Mac Sat.	Barrel zinc plating.	MITEC	Free	
11th Mac Sun.	Free		Free	
12th Mac Mon.	Tin plating on electronic parts.	MITEC	Continued	MITEC
13th Mac Tues.	Industrial gold plating.	MITEC	Continued.	MITEC

Date	Morning session (a.m.)	Person in charge	Afternoon session (p.m.)	Person in charge
14th Mac Wed.	Industrial silver plating.	MITEC	Continued.	MITEC
15th Mac Thurs.	Statistical quality control methods.	JICA	Continued.	JICA
16th Mac Fri.	Newer electroplating technology.	JICA	Continued.	JICA
17th Mac Sat.	Modern waste effluent treatment.	MITEC	Free	
18th Mac Sun.	Free		Free	
19th Mac Mon.	Plating on plastics for decorative and industrial uses.	JICA	Continued.	JICA
20th Mac Tues.	Field study tour	MITEC	Continued.	MITEC
21st Mac Wed.	Field study tour	MITEC	Continued.	MITEC
22nd Mac Thurs.	Preparation of final report.	MITEC	Continued.	MITEC
23rd Mac Fri.	Presentation of final report.	MITEC	Continued.	MITEC
24th Mac Sat.	Closing ceremony Farewell party.	MITEC	Free	
25th Mac Sun.	Leaving Kuala Lumpur.	MITEC		

NOTE:

a.m. 8.30 - 12.45

p.m. 2.00 - 4.15

ANNEX IV

TENTATIVE SCHEDULE IN DIE-MAKING TECHNOLOGY COURSE FOR THE THIRD COUNTRY TRAINING PROGRAM

Date	Morning session (a.m.)	Person in charge	Afternoon session (p.m.)	Person in charge
WEEK 1 Sun.	Arrival at Kuala Lumpur	MITEC	Arrival at Kuala Lumpur	MITEC
Mon.	Registration. Opening Ceremony.	MITEC	Orientation. Welcome party.	MITEC
Tues.	Briefing on MITEC and metal industry in Malaysia.	MITEC	Outline of die-making	JICA or MITEC
Wed.	The role of diemaker on the production of pressed product including principle of presswork.	JICA or MITEC	Country paper presentation	MITEC
Thurs.	Theory of metal forming I - cutting, piercing.	MITEC	Country paper presentation	MITEC
Fri.	Theory of metal forming II - forming, drawing.	MITEC	Continued.	MITEC
Sat.	Theory of metal forming III - secondary operation: curling, coining, etc.	MITEC	Free	
WEEK 2 Sun.	Free		Free	
Mon.	Die Design (I) Blanking piercing	MITEC	Die design (II) bending forming	MITEC
Tues.	Die design (III) drawing	MITEC	Continued	MITEC
Wed.	Die-drafting	MITEC	Continued	MITEC

Date	Morning session (a.m.)	Person in charge	Afternoon session (p.m.)	Person in charge
Thurs.	Die drafting	MITEC	Continued	MITEC
Fri.	Progressive die	JICA	Continued	JICA
Sat.	Type of die construction	MITEC	Free	
WEEK 3 Sun.	Free		Free	
Mon.	Machining of die-components - punch	MITEC	Continued	MITEC
Tues.	Machining of die components - punch	MITEC	Machining of die components - die	MITEC
Wed.	Machining of die components - die	MITEC	Continued	MITEC
Thurs.	Consultation in die making	JICA	Trouble shooting in Die-making	JICA/ MITEC
Fri.	Future trend in advanced die-making equipment	JICA	New techniques (including CAD/CAM)	JICA
Sat.	Quality control - general	JICA	Free	
WEEK 4 Sun.	Free		Free	
Mon.	Quality control - measurement.	JICA	Continued	JICA
Tues.	Quality control - standardization.	JICA	Continued	JICA
Wed.	Die assembly and try-out	MITEC	Die try-out	MITEC

Date	Morning session (a.m.)	Person in charge	Afternoon session (p.m.)	Person in charge
Thurs.	Heat treatment technology	JICA	Heat treatment of various types of tool and die steels.	JICA
Fri.	Heat treatment - controlled atmosphere	JICA	Heat treatment - carburizing	JICA
Sat.	Heat treatment - vacuum	JICA	Free	
WEEK 5				
Sun.	Free		Free	
Mon.	Die maintenance/repair and modification	MITEC	Continued	MITEC
Tues.	Field study tour	MITEC	Continued	MITEC
Wed.	Field study tour	MITEC	Continued	MITEC
Thurs.	Preparation of final report	MITEC	Continued	MITEC
Fri.	Presentation of final report	MITEC	Continued	MITEC
Sat.	Closing ceremony Farewell party	MITEC	Free	
Sun.	Leaving Kuala Lumpur	MITEC		

NOTE :

a.m. 8.30 - 12.45

p.m. 2.00 - 4.15

TENTATIVE SCHEDULE IN PRESSWORK TECHNOLOGY COURSE FOR THE THIRD COUNTRY TRAINING

PROGRAM

Date	Morning session (a.m.)	Person in charge	Afternoon session (p.m.)	Person in charge
WEEK 1 Sun.	Arrival at Kuala Lumpur.	MITEC	Arrival at Kuala Lumpur.	MITEC
Mon.	Registration. Opening ceremony.	MITEC	Orientation. Welcome party.	MITEC
Tues.	Briefing on MITEC and metal industry in Malaysia.	MITEC	Outline of die-making Principle of presswork	JICA or MITEC
Wed.	Features and recent development of presswork technology.	MITEC	Safety aspects and devices for press- working.	MITEC
Thurs.	Basic construction of a steel press die. Types of dies and their uses.	MITEC	Disassembly and study of a blanking die.	MITEC
Fri.	Basic principles of shearing operation, types of shearing operations and their design points.	MITEC	Assembly and try-out of a blanking die.	MITEC
Sat.	Problems/defects in shearing process and parts inspection.	MITEC	Free	
WEEK 2 Sun.	Free		Free	
Mon.	Die setting/Procedure and die maintenance	MITEC	Common die setting mistakes.	MITEC
Tues.	Bending operation and its theory. Disassembly of bending dies.	MITEC	Blank development in bending operation.	MITEC
Wed.	Bending force estimation Spring back effect and	MITEC	Assembly of bending die and try-out at the power	MITEC



Date	Morning session (a.m.)	Person in charge	Afternoon session (p.m.)	Person in charge
	other defects and remedies.		press machine.	
Thurs.	Bending operation: parts inspection, trouble shooting and remedy.	MITEC	Uses of press brake.	MITEC
Fri.	Theories of drawing process (die/punch radius, draw limits, blank calculation, etc).	MITEC	Drawing force estimation and selection of machines. Disassembly of drawing dies.	MITEC
Sat.	Drawing process: Parts inspection, trouble shooting and remedy. Operation of hydraulic press machines.	MITEC	Free	
WEEK 3 Sun.	Free		Free	
Mon.	Sheet metals: general properties and their selection common defects, quality control	MITEC	Testing of sheet metal (Erichsen test)	MITEC
Tues.	Press machines. Types and construction and uses. Basic specifications.	MITEC	Operation/maintenance of press machines.	MITEC
Wed.	Concepts of progressive and transfer dies operation. Study of a progressive dies/transfer dies.	MITEC	Operation of transfer press machines.	MITEC
Thurs.	Fine Blanking: theory, design, operation.	JICA	Continued.	JICA
Fri.	Design theory of a progressive die and its setting on the press machine.	MITEC	Try-out of progressive and transfer dies.	MITEC
Sat.	Production control/ material handling/ feeding mechanism.	MITEC	Free	

Date	Morning session (a.m.)	Person in charge	Afternoon session (p.m.)	Person in charge
WEEK 4 Sun.	Free		Free	
Mon.	Quality control - general	JICA	Continued.	JICA
Tues.	Quality control - measurement.	JICA	Continued.	JICA
Wed.	Quality control - standardization.	JICA	Continued.	JICA
Thurs.	Quality control - Total quality control	JICA	Continued.	JICA
Fri.	Trouble shooting in pressworking.	MITEC	Lubrication	MITEC
Sat.	Costing in Presswork	JICA	Free	
WEEK 5 Sun.	Free		Free	
Mon.	Safety of presswork operations.	MITEC	Continued.	MITEC
Tues.	Field study tour.	MITEC	Continued.	MITEC
Wed.	Field study tour	MITEC	Continued.	MITEC
Thurs.	Preparation of final report.	MITEC	Continued.	MITEC
Fri.	Presentation of final report.	MITEC	Continued.	MITEC
Sat.	Closing ceremony Farewell party.	MITEC	Free	
Sun.	Leaving Kuala Lumpur.	MITEC		

NOTE: 8.30 - 12.45 (a.m.) 2.00 - 4.15 (p.m.)

## ANNEX VI

TENTATIVE ESTIMATE OF EXPENSES AGREED UPON IN PRINCIPLE  
BETWEEN THE TEAM AND SIRIM

No.	Item of Expenses	Breakdown	Amount																																				
			(Yen)																																				
I.	<u>EXPENSES FOR INVITATION</u>																																						
	1. <u>Airtickets</u> :	<table border="1"> <thead> <tr> <th>Country</th> <th>Airticket Fee</th> <th>Amount(¥)</th> </tr> </thead> <tbody> <tr> <td>a. Bangladesh</td> <td>US\$ 776 x 2 persons</td> <td>372,500</td> </tr> <tr> <td>b. Burma</td> <td>US\$ 576 x 2 persons</td> <td>276,500</td> </tr> <tr> <td>c. Fiji</td> <td>US\$2811 x 1 person</td> <td>674,700</td> </tr> <tr> <td>d. Indonesia</td> <td>US\$ 430 x 2 persons</td> <td>206,400</td> </tr> <tr> <td>e. Nepal</td> <td>US\$ 954 x 2 persons</td> <td>458,000</td> </tr> <tr> <td>f. Philippines</td> <td>US\$ 714 x 2 persons</td> <td>342,800</td> </tr> <tr> <td>g. Papua New Guinea</td> <td>US\$1420 x 1 person</td> <td>340,800</td> </tr> <tr> <td>h. Singapore</td> <td>US\$ 95 x 1 person</td> <td>22,800</td> </tr> <tr> <td>i. Sri Lanka</td> <td>US\$ 824 x 2 persons</td> <td>395,600</td> </tr> <tr> <td>j. Thailand</td> <td>US\$ 410 x 1 person</td> <td>98,400</td> </tr> <tr> <td><b>TOTAL</b></td> <td><b>US\$13824</b></td> <td><b>3,188,500</b></td> </tr> </tbody> </table>	Country	Airticket Fee	Amount(¥)	a. Bangladesh	US\$ 776 x 2 persons	372,500	b. Burma	US\$ 576 x 2 persons	276,500	c. Fiji	US\$2811 x 1 person	674,700	d. Indonesia	US\$ 430 x 2 persons	206,400	e. Nepal	US\$ 954 x 2 persons	458,000	f. Philippines	US\$ 714 x 2 persons	342,800	g. Papua New Guinea	US\$1420 x 1 person	340,800	h. Singapore	US\$ 95 x 1 person	22,800	i. Sri Lanka	US\$ 824 x 2 persons	395,600	j. Thailand	US\$ 410 x 1 person	98,400	<b>TOTAL</b>	<b>US\$13824</b>	<b>3,188,500</b>	3,188,500
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<b>TOTAL</b>	<b>US\$13824</b>	<b>3,188,500</b>																																					
	2. <u>Allowances</u> :		5,671,100																																				
	Living Allowance	M\$35/- per day x 36 days x 16 persons x 104 yen	2,096,700																																				
	Accommodation	M\$60/- per day x 35 days x 16 persons x 104 yen	3,494,400																																				
	Medical Insurance	5,000 yen x 16 persons	80,000																																				
		<b>TOTAL FOR EXPENSES FOR INVITATION (I):</b>	<b>8,859,600</b>																																				
II	<u>TRAINING EXPENSES</u>																																						
	1. <u>Honararia</u>		291,200																																				
	Invited lecturers	M\$80/- per hour x 35 hours x 104 yen	291,200																																				
	2. <u>Personnel Expenses</u>		339,600																																				
	Secretary services	a. M\$32 x 1 person x 36 days x 2 courses x 104 yen	239,700																																				
		b. M\$32 x 1 person x 30 days x 104 yen	99,900																																				

No.	Item of Expenses	Breakdown		Amount
				(Yen)
3.	<u>Expenses for Observation Trips</u>			
	Microbus and Chartered bus	M\$6000 x 104 yen (Appendix I)	624,000	624,000
4.	<u>Meeting Expenses</u>			796,800
	Opening Ceremony	M\$10/- per person x 70 persons x 104 yen	72,800	
	Discussion Meetings	2000 yen x 10 persons x 5 times	100,000	
	Coffe Break	M\$2/- per person x 2 times x 28 days x 50 persons x 104 yen	582,400	
	Closing Ceremony	M\$10/- per person x 40 persons x 104 yen	41,600	
5.	<u>Teaching Materials</u>			2,415,200
	Common Expenses	M\$4,920 x 104 yen (Appendix II)	511,700	
	Welding Course	M\$10,388 x 104 yen (Appendix III)	1,075,200	
	Electroplating Course	M\$7,964 x 104 yen (Appendix IV)	828,300	
		TOTAL FOR TRAINING EXPENSES (II)		4,466,800
		GRAND TOTAL FOR (I) AND (II)		13,326,400 =====

APPENDIX I

TRANSPORTATION COST

Transport (Domestic)

1. Field Study Tours

1.1 The four days of field study tours as scheduled in the curriculum for the 2 courses will be carried but using MITEC bus @ \$150.00/day.	\$ 600.00	\$ 600.00
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2. Commuting Expenses

2.1 To travel from Hotel to MITEC (morning) @ \$60.00/hour for 1½ hours for 30 mornings. 30 x 3/2 x 60	\$2,700.00	
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2.2 To travel from MITEC back to Hotel (evenings) @ \$60.00/hour for 1½ hours for 30 evenings. 30 x 3/2 x 60	\$2,700.00	
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	<u>\$5,400.00</u>	<u>\$6,000.00</u>
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TOTAL EXPENDITURE: \$6,000.00

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Common Expenses

1. <u>Lectures Notes and other Course Preparatory Materials</u>		
1.1 <u>Photostating of notes etc.</u>		
1.1.1	Similin Bond paper for photostating	
	30 reams of A4 size @ \$10/ream	\$300
	10 reams of B4 size @ \$12/ream	\$120
1.1.2	Tones and Developers	
	2, sets @ \$200/sets	\$400
1.2 <u>Cyclostyling of notes etc.</u>		
1.2.1	Stencils	
	100 pieces @ \$1.00/piece	\$100
1.2.2	Duplicating papers for cyclostyling	
	50 reams of A4 size @ \$10/ream	\$500
1.3 <u>Lecture Presentation</u>		
1.3.1	Transparancies for overhead projector	
	2 boxes @ \$200/box	\$400
2. <u>Printed Materials</u>		
2.1	Announcement brochures (coloured booklet) (material cost, layout, composing, printing) <i>100 copies @ \$15/copy</i>	\$1500
2.2	Embossed cards certificates (materials cost, layout, composing, printing)	\$100
2.3	Writing materials with printed letter heads (material, composing & printing) 20 reams of bond paper @\$15/ream	\$300
3. <u>Stationary</u>		
3.1	Files, pens, pencils, rulers, erasers, name tags etc estimated \$15/person for 24 participants	\$360

4. Souvenirs

4.1 Bags with printed wordings  
24 bags @ \$35/bag

\$840

Total \$4920

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APPENDIX III

WELDING COURSE

1. MATERIALS

(a) Cost of Materials for Orientation demonstration		\$ 100.00	\$ 100.00
		<hr/>	<hr/>
(b) <u>Welding inspection</u>			
- x-ray film (30+15+15) x (10P)		\$ 600.00	
- bending 4 No/P x 10P x \$25/-		\$ 1,000.00	
- dye penetrant		\$ 100.00	
- magnetic particle		\$ 100.00	
		<hr/>	
		\$ 1,800.00	\$ 1,900.00
		<hr/>	<hr/>
(c) <u>Welding metallurgy</u>			
- macrostructure specimens 3 No x 10P x \$ /No.		\$ 50.00	\$ 1,950.00
		<hr/>	<hr/>
(d) <u>Welding practice</u>			
i) <u>Mild steel plate</u>			
- gas welding ) 1mm <sup>t</sup> @			
- spot welding ) \$85 x 2 No	\$	64.00	
- seam welding )			
- CO <sub>2</sub> welding ) 3mm <sup>t</sup> @			
- TIG $\bar{W}$ ) \$85 x 2 No	\$	180.00	
- CO <sub>2</sub> welding ) 9mm <sup>t</sup> @			
- SMAW Welding ) \$250 x 4 No	\$	1,000.00	
- gravity $\bar{W}$ )			
- SMAW ) 25mm <sup>t</sup> @			
- Electroslag ) \$750 x 1 No	\$	750.00	
ii) <u>Aluminium plate</u>			
- TIG $\bar{W}$ ) 2mm <sup>t</sup> @ \$200/pc x 1/2 No	\$	100.00	
- TIG $\bar{W}$ ) 6mm <sup>t</sup> @ \$400/pc	\$		
- MIG $\bar{W}$ ) x 1 No	\$	800.00	



iii) SUS plate

- TIG W	2mm <sup>t</sup> @ \$400/pc x 1 No	\$ 400.00	
		\$ 3,294.00	\$ 5,244.00

(e) Consumable Materials

SMAW : Electrodes	100kg x \$4.00/kg	\$ 400.00	
CO <sub>2</sub> W: Electrode wire	2 spools x 25kg x \$35/kg \$4.50/kg	\$ 225.00	
MIG W: Electrode wire (al)	2 spool x 8kg/s x \$35/kg	\$ 350.00	
TIG W: Filler rods:			
Mild steel	5 kg x \$6.00/kg	\$ 30.00	
SUS	3kg x \$30.00/kg	\$ 90.00	
Aluminium	2kg x \$35.00/kg	\$ 70.00	
SAW Electrode Wire	1 spool x 25 kg/s x \$5.00/kg	\$ 125.00	
SAW Flux	20kg x \$4.00/kg	\$ 80.00	
Spot			
Seam			
Electroslag electrode	5pc x \$15.00/pc	\$ 75.00	
Wire	1 spool x \$130	\$ 130.00	
Flux	5kg x \$4.00/kg	\$ 20.00	
Gravity electrode	20pc x \$4.00/pc	\$ 80.00	
		\$ 1,675.00	\$ 6,919.00

(f) Welding accessories:

CO <sub>2</sub> W tips	10pc x \$20.00/ pc.	\$ 200.00	
MIG W tips	5pc x \$30.00/ pc.	\$ 150.00	
TIG W cups	5pc x \$12.00/ pc	\$ 60.00	

Tungsten	4pc x \$15.00/ pc	\$ 100.00	
		<u>\$ 570.00</u>	<u>\$ 7,489.00</u>

Gas and others :

Oxygen	8 cy x \$15.00/ cy	\$ 120.00	
Acetylene	4 cy x \$30.00/ cy	\$ 120.00	
Argon	3 cy x \$160.00/ cy	\$ 480.00	
CO <sub>2</sub>	5 cy x \$50.00/ cy	\$ 250.00	
		<u>\$ 970.00</u>	<u>\$ 8,459.00</u>

(g) Safety Attires

- Safety shoes	12 pairs x \$50.00/pair	\$ 60.00	
- Uniform	12 sets x \$60.00/set	\$ 720.00	
- Helmet	12 set x \$30.00/set	\$ 360.00	
		<u>\$ 1,680.00</u>	<u>\$10,138.00</u>

(h) Additional Tools

Dark glass	10pc x \$2.00/ pc	\$ 20.00	
Tool box	5 sets x \$25.00/set	\$ 75.00	
Hammer	5 sets x \$8.00/pc	\$ 40.00	
Chipping hammer	5 sets x \$6.00/pc	\$ 30.00	
Wire Brush	5 sets x \$3.00/pc	\$ 15.00	
		<u>\$ 200.00</u>	<u>\$10,338.00</u>

TOTAL EXPENDITURE = \$10,338.00

APPENDIX IVELECTROPLATING COURSE1. MATERIALS

<u>Materials/chemicals</u>	<u>Quantity</u>	<u>Cost per unit</u> M\$	<u>Total</u> <u>Cost</u>
HNO <sub>3</sub> (industrial)	4 containers (20l)	3.50/lit.	\$ 280.00
NAHSO <sub>3</sub>	200kg	10.00/kg	\$ 2,000.00
Soldering bar (Pb:Sn = 1:1)	10 kg	20.00/kg	\$ 200.00
Soldering iron heater	8 set	22.50/set	\$ 180.00
Soldering iron	8 pieces	30.00/pc	\$ 240.00
PVC Tape (no glue) 19mm x 3mm	12 rolls	2.00/roll	\$ 24.00
Aluminium tape (2.5cm x 3m)	6 rolls	8.00/roll	\$ 48.00
1 litre beakers (glass)	3 dozens	36.00/doz	\$ 108.00
<u>Safety attires</u>			
Safety shoes	12 pairs	38.00/pair	\$ 456.00
Cotton Apron (for polishing)	12 pairs	10.00/pair	\$ 120.00
Cotton gloves	12 pairs	2.50/pair	\$ 30.00
Rubber shoes	12 pairs	13.50/pair	\$ 162.00
Rubber gloves	12 pairs	13.50/pair	\$ 162.00
PVC aprons	12 pairs	15.00/pair	\$ 180.00
Uniform - trainee	12 pairs	60.00/pair	\$ 720.00
Eye protector	12 pieces	16.00/pc	\$ 192.00
Nose cover	12 pieces	16.00/pc	\$ 192.00

<u>Materials/chemicals</u>	<u>Quantity</u>	<u>Cost per unit</u>	<u>Total Cost</u>
<u>Tools and Materials</u>			
Pliers (pointed nose for wire bending)	12 sets	9.00/set	\$ 108.00
ABS materials	400 pieces	.10/pc	\$ 40.00
Bolts (for barrel plating)	50 kg	2.50/kg	\$ 125.00
Nuts (for barrel plating)	50 kg	2.50/kg	\$ 125.00
PVC sheets (3mm x 4' x 8')	2 sheets	250.00/set	\$ 500.00
Diamond Paste (#0.5)	6 sets	29.00/set	\$ 174.00
Analysis Chemicals (for Cu, Ni, Cr and Sn)	1 set of each	400.00/set	\$ 1,600.00
			<u>\$ 7,964.00</u>
			=====

TOTAL: \$ 7,964.00







JICA