第三国集団研修研修管理調査団報告書

―インドネシア，地震工学―

１９８７年４月

国際協力事業団
研修事業部

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序　　文

第三国研修とは、社会的、文化的、言語的に共通の基盤をもつ一定の開発途上地域に研修実施国を選定し、そこに当該地域内の途上国からの研修員を受入れて、より現地事情に適合した技術の移転・知識の普及を図り、これにより開発途上国間技術協力（ＴＣＤＣ）の推進に寄与することを目的としている。１９７４年度（昭和４９年度）、タイのコラート養蚕研究訓練センターで初めて実施して以来、年々、第三国研修実施協力要請は増え続け、１９８６年度（昭和６１年度）には１６カ国で計３３コースを実施した。

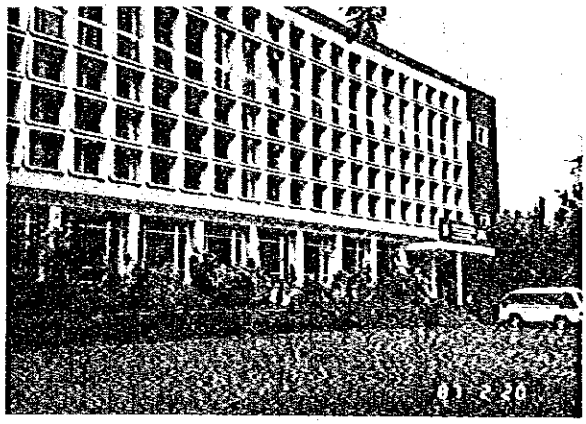
１９８６年度インドネシアにおいては公共事業省人間居住研究所における本件「地震工学コース」をはじめとして計４件の第三国集団研修が実施された。これはインドネシア政府自らも周辺の開発途上国を対象とした研修を毎年実施していることにみられるように、同国のＴＣＤＣに対する積極的な姿勢に起因するものである。

本報告書は、インドネシア公共事業省人間居住研究所が１９８０年度（昭和５５年度）より６回に亘り実施してきた「地震工学コース」における研修運営実施体制の改善の方途につき協議すべく、１９８２年（昭和６２年）２月１５日から同年２月２５日まで国際協力事業団より同国に派遣された研修管理調査団の調査結果を取りまとめたものである。

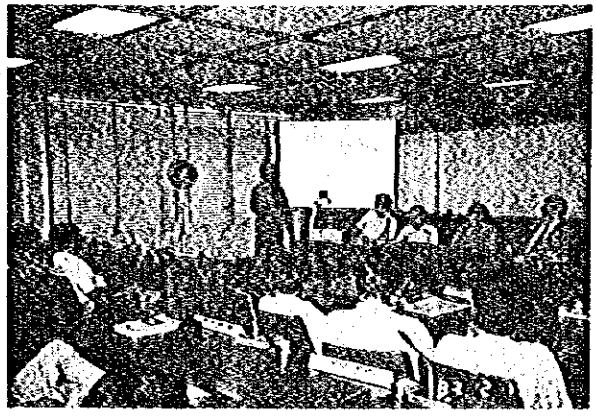
本調査団の派遣に際し、並々ならぬご協力を賜った外務省、建設省及び在インドネシア日本大使館並びに派遣専門家の各位に深い感謝の意を表する次第である。

昭和６２年４月

研修事業部長



ＩＨＳ建物正面



61年度地震工学コースの模様

協議の模様

ミニッツの署名
（中央左　星団長、右 リトンガ所長）

要　　約

国際協力事業団は、インドネシア公共事業省研究開発庁人間居住研究所（ IHS ）で1980年度(昭和５５年度）より６回に亘り実施されている第三国研修「地震工学コース」の研修運営実施体制の改善を図り、今後の右コース実施方針の策定を行うため昭和６２年２月１６日から同年２月２５日まで研修管理調査団をインドネシアに派遣した。

同調査団は本件研修の６カ年に亘る実績と成果を踏まえつつ、次年度以降の研修実施方針につき、「イ」側政府関係者との協議を重ねた結果、「イ」側の研修継続に対する熱意及び研修実施体制の改善、就中、カウンターパートの養成を主眼においた「イ」側講師陣の一層の充実に向けての「イ」側のコミットメントを確認した。

この結果、同調査団は、本件第三国研修を１９９１年（昭和６５年度）まで継続していくとの趣旨を盛り込んだ Summary of Discussions をＩＨＳとの間で作成し、６２年２月２１日付でこれに署名した。

目　　次

1　研修管理調査団の派遣

1.1　調査団派遣の背景

地震工学コースは、インドネシア国・バンドン市に所在する住宅都市計画総局建築研究所（現在は公共事業省・研究開発庁人間居住研究所（ＩＨＳ））を実施機関とする国際協力事業団の第三国研修の一環として、またインドネシア国のＴＣＤＣプログラムの一つとして1982年3月（昭和５６年度）より開始され、今年度は第六回目を迎えた。

今年度コース（第6回）1987年1月１０日から2月２１日までは４３日間にわたって実施され、そのカリキュラムは講義、演習、研修旅行、ディスカッション等で構成されている。第1回から第6回までの参加研修員累計は、周辺国１７カ国から５８名、インドネシアから７１名である。

1.2　調査団派遣の経緯

(1)　本件研修コースは、前述の如く今回で第6回目を迎え毎年参加研修員からは高い評価をうけてきた。しかしながら、本件コースにおいては、従来より研修実施上の就中、講座比率における日本側の負担が著しく高く、ＴＣＤＣの推進を図り将来的には実施国が独自に研修員受入事業を実施できるよう援助・協力することを目的とする、我が方第三国研修事業の基本理念に必ずしも即していないことが、累次指摘されてきた。

(2)　このため我が方よりは昭和５９年2月及び同６０年1月の２度に亘り、研修管理ミッションを「イ」国に派遣し先方研修実施体制の改善方、就中、「イ」側講師陣の充実方申し入れを行なってきた結果、「イ」側は、本年度の研修コース実施にあたり、「イ」側人材の養成に資すべく、すでに本邦にて研修を受けた経験のあるＩＨＳスタッフを中心に我が方専門家講義を補佐するカウンターパート・レクチャラーを任命し、右を我が方専門家からの技術移転の受け皿とすることを提案した。「イ」側としては、今後は右カウンターパート・レクチャラーの中から我が方受入Ｃ／Ｐをも人選し、これにより将来的には独力で講義を担当出来る人材を育成していきたいとしつつ、明年度以降についても我が方協力の継続の可能性を打診越した。

(3)　このため我が方は、①派遣中の我が方専門家の見解を聴取しつつ、先方の研修実施体制改善（案）を検討し、②明年度以降の我が方協力継続の妥当性を把握するとともに、③次年度以降の協力実施計画を策定することを目的とする研修管理調査団を昭和６２年2月１６日から同２５日までインドネシアに派遣することとなった。

1.3 調査団の構成

(1) 団　長　星　達雄　ＪＩＣＡ　大阪国際研修センター総務課長

(2) 研修計画　緑川光正　建設省建築研究所企画部建設専門官

(3) 研修管理　村岡敬一　ＪＩＣＡ　研修事業部管理課職員

1.4 調査日程

日順	月　日	行　程	業　務
1	2月16日(月)	成田発 ジャカルタ着(GA873)	
2	2月17日(火)	ジャカルタ発 バンドン着	ＪＩＣＡ事務所打ち合せ 技調委表敬 地震専門家との打ち合わせ
3	2月18日(水)		ＩＨＳ関係者との協議
4	2月19日(木)		ＩＨＳ関係者との協議 晩　研修コース終了式参加 研修員との懇談
5	2月20日(金)		ＩＨＳ関係者との協議
6	2月21日(土)		取りまとめ文書(S/D)作成 晩　S/D署名
7	2月22日(日)		資料整理
8	2月23日(月)	バンドン発 ジャカルタ着	最終協議・ＩＨＳラボ視察 晩　住宅専門家との打ち合わせ
9	2月24日(火)	ジャカルタ発(GA872)	ＪＩＣＡ事務所報告 大使館報告 技調委報告
10	2月25日(水)	成田着	帰　国

1.5 主要面談者

(1) Cabinet Secretariat（大統領府技術協力調整委員会）

①	Chief Division of TCDC and ASEAN Programmes（TCDC／ASEAN部長）	Husen Adwisastva
②	Secretary, Indonesia TCDC Project	Suprapto

(2) Agency for Research and Development, Ministry of Public Works（公共事業省研究開発庁）

	Director General（総裁）	Karman Somawidjaja

(3) Institute of Human Settlements（人間居住研究所）

①	Director（所長）	Sahat Mulia Ritonga
②	Head of Structure and Construction Division（構造部長）	R. B. Tular
③	Head of Dissemination and Information Division（普及広報部長）	Bambang Utoyo
④	Head of Building Materials Division（建築材料部長）	Zulkarnaen Aksa
⑤	Head of Housing & Building Experimental Station（居住試験部長）	Dedi Suwandi Partadinate
⑥	Chief of Scientific Cooperation & Dissemination Section, Dissemination & Information Division（科学協力普及課長）	Victor Leander
⑦	Chief of Foreign Cooperation Section, Administration Division（外事課長）	Jan Sjahrial

(4) 日本大使館

一等書記官	宇塚公一

(5) ＪＩＣＡジャカルタ事務所

①	事務所長	遠藤英雄
②	事務所員	石塚準次

(6) ＪＩＣＡ専門家

①	住宅研究協力（ＩＨＳ）	飯田直彦
②	ジャカルタ市街地再開発（公共事業省住宅総局）	今野卓
③	住宅及び都市計画（〃）	加藤茂

2　研修概要と実績

2.1　研修概要

(1)　実施機関

公共事業省研究開発庁人間居住研究所（ Institute of Human Settlements, Agency for Research and Development, Ministry of Public Works ）

(2)　背景・目的

東南アジア及び太平洋地域の多くは、地震の多発する地震帯に位置ないし隣接しており、しばしば多数の死傷者を生み、多大な物質的損害を被っている。

このため、地震工学分野の技術及び知識の向上・普及を図り、各国の状況に合った地震被害への対策について寄与するべく昭和５６年度より地震工学をテーマとする第三国研修を実施している。

(3)　主な研修項目

1）構　造　解　析
2）動　的　解　析
3）地　　震　　学
4）構　造　設　計
5）基　礎　工　学

(4)　他の技術協力との関係

個別専門家派遣（昭和５６年度～昭和６１年度、継続中）

(5)　参加資格要件

1）地震工学に従事する、大卒及び、同程度の能力を有する者
2）住宅建築の分野に３年以上の実務経験を有する者
3）２５歳以上の者
4）英語が堪能で健康な者

(6)　定　　員

周　辺　国　　１２名
実　施　国　　１２名

(7)　割　当　国

バングラデシュ、ビルマ、フィジー、インド、マレイシア、ネパール、パキスタン、パプア・ニューギニア、フィリピン、シンガポール、スリ・ランカ、ブルネイ、タイ、西サモア、ヴァヌアツ、中国　（計１６カ国）

2.2 経　　緯

昭和５６年１月１９日

地震工学コース設置に係る打合せ（ＪＩＣＡ、外務省、建設省他）

昭和５６年２月１２日

同　上

昭和５６年７月１日～同年７月９日

インドネシア国地震工学コース事前調査団派遣

昭和５６年９月２８日～同年１０月３日

インドネシア国地震工学コース実施協議調査団派遣・Ｒ／Ｄ作成署名

昭和５７年３月１３日～同年４月２３日

第１回地震工学セミナー開催（英文名：International Seminar on Seismology & Earthquake Engineering）

昭和５８年１月１５日～同年２月２５日

第２回地震工学セミナー開催（英文名：International Seminar on Seismology & Earthquake Engineering for Structural Engineers）

昭和５９年１月１４日～同年２月２４日

第３回地震工学コース開催（英文名：The 3rd International Advanced Course on Seismology & Earthquake Engineering for Structural Engineers）

昭和５９年２月１５～同年３月１０日

地震工学コース研修管理調査団派遣

昭和６０年１月１２日～同年２月２６日

第４回地震工学コース開催（英文名：The 4th International Advanced Course on Seismology & Earthquake Engineering for Seismologists and Geologists）

昭和６０年１月２５日～同年２月２６日

インドネシア第三国研修管理調査団派遣

昭和６１年１月１１日～同年２月２３日

第５回地震工学コース開催（英文名：The 5th International Advanced Course on Seismilogy & Earthquake Engineering for Structural Engineers）

昭和６２年１月１０日～同年２月２１日

第６回地震工学コース開催（英文名：The 6th International Advanced Course on Seismology & Earthquake Engineering for Structural Engineers）

2.3 研修員受入実績

(1) 国別受入実績（１８カ国　１２９名）

周辺国（17カ国58名）	アルジェリア	1 名
	バングラデシュ	4 名
	ビルマ	4 名
	フィジー	6 名
	インド	2 名
	ケニア	2 名
	マレイシア	4 名
	ネパール	3 名
	パキスタン	3 名
	パプア・ニューギニア	4 名
	フィリピン	6 名
	シンガポール	3 名
	スリ・ランカ	3 名
	タンザニア	2 名
	タイ	9 名
	トルコ	1 名
	西サモア	1 名
実施国	インドネシア	71 名

(2) 年度別応募・受入実績

List of the Participants in each Course.

Course title and Duration	Number of Applicants	Number of Selected Applicants	Number of Participants
International Seminar on Seismology and Earthquake Engineering. March 13 - April 23, 1982.	31	23	23
International Seminar on Seismology and Earthquake Engineering for Structural Engineers. January 15 - February 25, 1983.	28	22	18
The Third International Advanced Course on Seismology and Earthquake Engineering for Structural Engineers. January 14 - February 24, 1984.	28	25	23
The Fourth International Advanced Course on Seismology and Earthquake Engineering for Seismologists, Volcanologists and Geologists. January 12 - February 25, 1985.	34	29	25
The Fifth International Advanced Course on Seismology and Earthquake Engineering for Structural Engineers. January 11 - February 23, 1986.	32	22	20
The Sixth International Advanced Course on Seismology and Earthquake Engineering for Structural Engineers. January 10 - February 21, 1987.	25	23	20
T O T A L	179	144	129

2.4 日本の協力実績

(2) 専門家派遣

年度	研修コース名	研修期間	派遣専門家
56	地震工学セミナー	57. 3.16～57. 4.23 （39日間）	大塚道男（九州大学） 梅村魁（芝浦工大） 岸田英明（東工大） 渡辺丹（建研） 石山裕二（〃） ☆窪田敏行（〃）
57	〃	58. 1.15～58. 2.25 （42日間）	石山裕二（建研） 水野二十一（〃） 松島豊（筑波大学） 大崎順彦（清水建設） ☆窪田敏行（建研）
58	地震工学	59. 1.14～59. 2.24 （42日間）	吉見吉昭（東工大） 南忠夫（筑波大学） 石山裕二（建研） 須藤研（〃） ☆中田慎介（〃）
59	〃	60. 1.12～60. 2.26 （46日間）	横山泉（北海道大学） 尾池和夫（京都大学） 服部定育（地研） 須藤研（〃） 平石久広（〃） ☆中田慎介（建研）
60	〃	60. 1.13～61. 2.21 （40日間）	青山博之（東京大学） 滝野文雄（構造システム） 八巻昭（日本設計） 石山祐二（建研） ☆中田慎介（〃）
61	〃	62. 1.10～62. 2.21 （43日間）	寺本隆幸（日建設計） 浅野美次（〃） 岡田健良（構造システム） 八巻昭（日本設計） ☆中田慎介（建研）

注　☆印専門家は個別派遣専門家として現地参加。

(2) 研修員受入れ

Contribution of the ex-participants in JICA Training Programme to the Course.

Name	Title of JICA Training Programme	Duration (Fiscal Year)	Present Post	Contribution to the course
Murdiati Hunandar	I.I.S.E.E.	1 year (1980)	Head Adm. for Exp.Station Housing and Building Sub Division	Counterpart lecturer
Randing S.	I.I.S.E.E.	1 year (1981)	Researcher	To organize the future course
Sumani S.	I.I.S.E.E.	1 year (1981)	Researcher	ditto
Sadikin Rasad	I.I.S.E.E.	1 year (1982)	Researcher	Session officer & counterpart lecturer
Bambang Utoyo	Counterpart training for Seismology and Earthquake Engineering Course	3 weeks (1982)	Head of Dissemination Division	Organizing coordinator
R.B. Tular	Seminar on Structural Testing	1 month (1983)	Head of Bldg. Construction & Structures Division	Technical Coordinator and lecturer
Murdiati Hunandar	Individual Study for R.C Structure	4 Months (1983)	Head Adm. for Exp.Station Housing and Building Sub Division	Counterpart lecturer
Suwandoyo Siddiq	I.I.S.E.E.	1 year (1983)	Researcher	Lecturer
Zulkarnaen Aksa	Counterpart training for Seismology and Earthquake Engineering Course	3 weeks (1983)	Head of Bldg. Mat. Div.	To organized the future course
Silvia Francisca	Individual Study for Foundation Design	3 months (1983)	Researcher	Counterpart lecturer
Syafei Amri	I.I.S.E.E.	1 year (1984)	Researcher	ditto

Name	Title of JICA Training Programme	Duration (Fiscal Year)	Present Post	Contribution to the course
Tarmizi Hoerad	Counterpart training for Seismology and Earthquake Engineering Course	3 weeks (1984)	Head of Adm. and Operation Division.	Administrative Coordinator
Victor Leander	Counterpart training for Seismology and Earthquake Engineering Course	40 days (1985)	Head Tech. Coop. & Dissemination Sub Division	General Secretary
Eddy Sulaiman	I.I.S.E.E.	1 year (1985)	Researcher	To organize the future course

(3) 機材供与

本件第三国研修の実施に際し、短期専門家携行機材として供与された主要機材は次のとおり。

1. Micro-tremor seismometer system (seismometers, amplifiers, recorders, oscilographs, personal computer, etc.).
2. Strong Motion Accelerometer.
3. Sony Color Video Projector and its accesories.
4. NEC Personal Computer, etc.
5. Rectilinier Thermal Writing Oscillograph.
6. Seismometer, Delay Memory for Seismic Waves, etc.
7. OX Structure Experiment System .
8. Kyowa Digital Strain Gauge, etc.
9. Micro Computer Software and Printer, etc.
10. Load Cell Mode, etc.
11. Power Supply, Typewriter, OHP, etc.
12. Strain-gauge Type Transducer, etc.
13. Others.

なお、本件コースにて使用されている機材リスト詳細(含 出発専門家携行機材)については、別添2. LIST OF EQUIPMENT (INVOICE) 1982-87 を参照願いたい。

3 調 査 の 概 要

3.1 調査団対処方針

本件調査団の派遣に先立ち開催した各省会議において調査団対処方針の策定を行った結果、「イ」側が今後とも我が方協力の継続を要請越した場合の我が方対処方針は次の通りとした。

を「イ」側と協議のうえ策定する。

その際「イ」側講師育成を効率的に行なうため、当面研修テーマは地震工学に限定することとする。

(2) 先方の講師養成を支援すべく、C/Pレクチャラーを中心とするC/P受入れを今後更に充実する。

(3) 我が方短期専門家派遣数は先方講師陣の育成に伴い徐々に削減し、最終的には年間2名程度に留める。

我が方協力計画（案）の骨子

	C／P受入数	C/Pレクチャラー数	「イ」側講師数	派遣専門家数
61年度実績	1（済）	7	5	4
62年度計画	2	5	7	3
63年度計画	2	3	9	3
64年度計画	2	1	11	2
65年度計画	1	0	12	2

4年間で新規に7名の「イ」側講師育成を目標とする。

(4) なお、「イ」側が何ら具体的改善（案）を提示し得ない場合は、今回を限りに我が方協力を打ち切るものとする。

3.2 研修の現状及び問題点

(1) 58年度研修管理調査団（59.2.15～3.10）報告書から

本コースは第1回目より日本人講師の講義に占める割合が高く、58年度においては80%程度を日本人講師が講義した。DBRからはMr. Tularのみが講師であり、この分野における専門家は現状では外部特にバンドン工科大学に求めざるを得ない状況である。しかも外部の講師は多忙のため本コース全体に関与する事が不可能なため、セミナー運営に関し日本人専門家が深く関わり合わざるを得ないのが現実である。

今回は、石山専門家が実質的Course Leaderをつとめ、中田、須藤両専門家が、Technical Coordinatorを兼務するという激務であった。尚インドネシア人講師の1人Mr. Boenは筑波インターナショナルセンターにて実施されている地震工学コースの第1回生である。

又2名のアメリカ人講師はアメリカの National Science Foundation の費用で特別講師として迎えているが、日本とインドネシアの二国間援助という点を考慮すると、再検討の要があると思われる。

(2) ５９年度研修管理調査団（60.2.15～2.26）報告書から

次年度コースの検討課題としてコースの実施体制即ち、日本側講師の責任分担が挙げられる。因みに、第4回コース実施に係る「イ」側と「日」側の講師責任分担は約２０％対８０％と依然として日本側講師への依存度が高い。

本調査団より、もし同研究所から講師を指名配置するのが困難なのであれば、ＪＩＣＡは旅費、謝金等を支払う用意があるので、外部講師の登用を図り「イ」側講師の責任分担率を高め、日本側講師の派遣人数を減らすことが第三国研修の趣旨からみても必要である旨説明した。これに対しMr. Ritongu 所長より発言があり、日本側の趣旨は基本的に理解義できるが、コース内容を常にアトラクティブなものにするには、今後とも現状と同じ人数レベルの日本人専門家の派遣は是非必要であり、参加国研修員のニーズに対応し、新しい科目を随時加えていくためには、ＩＨＳの講師だけでカバーすることはむずかしい。ついては「イ」側としても次回コースの講師数を増やすよう努力するので、日本人専門家のドラスチックな削減は避けて欲しい旨強く訴えるところがあった。

この結果「イ」側の努力もあり、今回「イ」側が提出せる第5回コースの講義部分に係る「イ」側「日」側の講師分担比率はそれぞれ３２％、６８％と第4回コースに比べれば若干の改善は見られるものの日本側講師数に依然として5名を数え、改善が望まれるところである。

「イ」側としては第6回コース以降（６１年度以降）についても本コースの継続については極めて強い希望を持っているが、実施体制即ち、「イ」側講師陣の充実をどう図るかが鍵になると思われる。

(3) ６０年度第三国研修案件別評価表（ＪＩＣＡ部内資料）より

総合評価：日本人専門家の講義分担率が非常に高いため第三国研修の理想とはやや異なる形態を取っているが、実施機関、「イ」側関係者からの評価は非常に良い。研修内容は、より実際にすぐ役立つ応用の技術、見学研修の充実を図る必要がある。

「イ」側講義分担率の推移

講義数	「イ」側 (A)	派遣専門家 (B)	その他専門家 (C)	「イ」側分担率 (A/A+B+C)×100
58年度(第3回)	9コマ	31コマ	5コマ	20%
59年度(第4回)	14コマ	37コマ		27%
60年度(第5回)	13コマ	40コマ	7コマ	24%
61年度(第6回)	11コマ	41コマ		20%

「イ」側講師陣の推移

	58年度	59年度	60年度	61年度
Mr. Tular (IHS)	構造実験法	…	構造実験	組積造
Mr. Swandojo (IHS)	…	…	構造実験	耐震実験
Prof. Sosrowinarso (ITB)	ランダム振動	…	ランダム振動	ランダム振動
Prof. Zen (ITB)	一般地震学	火山学	一般地震学	一般地震学
Mr. Wiratman (PTWACE)	耐震規定	地震防災	耐震規準	耐震規準
Mr. Boen (IAEE)	組積造	地震工学	組積造	…
Mr. Pongsawa (SGMSA)	…	地震防災	…	…
Mr. Soedrajat (VSI)	…	火山学	…	…
Mr. Soedarmo (MGA)	…	地震学	…	…
Mr. Suparto (VSI)	…	火山学	…	…

3.3　協議経過

(1)　ＩＨＳ側との協議に先立ち２月１７日午後、本件調査団は技調委フセインＴＣＤＣ担当部長を表敬訪問し、約１時間に亘り第三国研修全般に関する「イ」側の考え方につき説明を受けたところ、先方発言の要旨次のとおりである。

イ.（冒頭星団長より本年度コースの円滑な実施運営に際しての「イ」側の尽力に対し謝意を表しつつ、本件調査団の来「イ」目的を説明したところ）、フセイン部長は、本コースは今回で６回目を迎え、日本側より累次指摘のあった「イ」側講師の分担増に向けての改善は着実に図られていると考えている旨述べるとともに、本件コースについては、周辺国からの高い関心にも鑑み明年度以降も継続実施を考えているところ、日本側の協力を是非とも期待している旨述べた。

ロ.　一方、フセイン部長はこれまでの本コースの成功は、日本人専門家の尽力に負うことが大きい旨付言し、現行規模の専門家派遣継続の可能性を打診するところがあったが、これに対し、星団長より我が方第三国研修の趣旨を説明の上、具体的に他の案件の例を紹介しつつ本コースの特異性を指摘し、今後徐々に我が方専門家数を削減する必要を説いたところ、先方もこれを理解した。

ハ.（星団長より、「イ」側講師の効率的養成のため、今後ＩＨＳからの研修員受入れはO/Pレクチャラーを中心とした技術者に絞ってみてはどうか質したところ）、フセイン部長もＩＨＳ側の管理部門の人材が充実してきたことは同感であり、今後研修員受入れをO/Pレクチャラー中心とすることはquite reasonableである旨発言し、我が方基本方針に賛同の意を示した。

ニ.　更にフセイン部長は、機材供与に関連し、ＩＨＳ側で詳細リストを用意している旨聞き及んでいるところ、本件についてもＩＨＳと協議願いたい旨述べた。

ホ.（最後に星団長より「イ」側としては本件コースの継続を何年程度考えているのか質したところ）、フセイン部長は本コースは常に高い応募者を集めており、参加者及び参加国政府の評価も高いところ、今後５年間程度は継続実施していきたいとの意向を表明越した。

(2)　引き続き本件調査団は２月１８日より２３日までバンドンを訪問の上、IHS（人間居住研究所）関係者との間で第三国研修（地震工学コース）の研修実施体制改善の方途につき協議を行い、21日この結果をSummary of Discussions（S/D）に取りまとめ（別添１）、星団長とリトンガＩＨＳ所長との間で署名交換したところ、右協議概要次の通りである。

イ.　冒頭リトンガ所長は、本年度第６回コース開講式でスジョノ公共事業相が、本件コースを今後更に５年間継続したいとの意向を表明した旨を紹介しつつ、明年度以降４年間の我が方協力を口頭にて要請した。

ロ.　これに対し本件調査団は、本件コースの過去６年間の実績を踏まえつつ、「イ」側講師の

充実を主眼とする研修実施体制改善の必要性を指摘するとともに、我が方第三国研修の趣旨を改めて説明のうえ、「イ」側の主体的コース運営実施に向けての一層の努力を促した。

ハ．右調査団の指摘に応え、「イ」側はO／P受入を中心とする我が方協力を前提に、今後4年間で新規に9名の講師育成を図り、「イ」側講師数を61年度の5名から65年度には13名に拡大する旨の研修実施体制改善計画（案）を盛り込んだ協力延長要請を提出した（別添1. S／D ANNEX VI）。

ニ．このため本件調査団としては、本コースに対する周辺国ニーズを念頭に置きつつ、上記改善計画（案）を検討した結果、右計画（案）は現状改善に資するものと判断し、我が方予算上の制約を勘案の上、「イ」側研修実施体制改善に向けて今後4年間で10名の専門家派遣及び7名のC／P受入を行うことにより新たに9名の「イ」側講師の確保を図る旨の暫定実施スケジュール及びこのために62年度は我が方より3名の専門家派遣及び2名のC／P受入を行う一方、「イ」側は6名の講師を確保することを謳った明年度暫定年次計画を策定した。この結果、調査団は21日、これをSummary of Discussions（S／D）の形に取りまとめ、星団長とリトンガIHS所長との間で署名交換した。

(3) またIHS側及び我が方専門家チームは、本件調査団に対し、明年度コース・カリキュラムを含むG.1案及び準備スケジュール並びに必要機材（2百万円相当）に対する要望を盛り込んだ勧告書を提出越したところ（別添2）、本件内容については、今後組織委員会（Organizing Committee）での検討に付されるものと思料されるも、本件調査団よりは右勧告書を我が方関係者に然るべく伝達する旨約した。

(4) S／Dの骨子

イ. 背　　景

地震工学分野の技術に対する途上国のニーズに応えるため、日・「イ」双方は１９８２年１０月２日付R／Dに基づき第三国研修「地震工学コース」の実施に合意。コースは以来毎年１回の割合で開催され、本年度で第６回目を迎えた。

ロ. 実績評価

i) ８１年度より６年間で計129名（周辺国５８名、実施国７１名）の研修員が参加。毎回周辺国からは、定員を上回る応募が集っている。

ii) この間我が方は２７名の専門家を講師として派遣し、コースの円滑実施に貢献。

iii) ＩＨＳからは延べ１３名の研修員が来日（うち第三国研修Ｃ／Ｐ４名）。

iv) 我が方よりの供与機材及び専門家携行機材は有効に活用。

v) 「イ」側講師及びカウンターパート・レクチャラーはコース運営に貢献してきたが、今後「イ」側の主体的コース運営のためには、更に一層の「イ」側講師の育成が肝要。

ハ. 将来計画

i) 我が方としては明６２年度以降昭和６５年度まで４年間の協議継続を行い、この間に、「イ」側講師陣の充実を図ることにより、「イ」側の主体的コース運営実施の達成を目ざす。

ii) 上記に資するべく、日・「イ」双方にて４年間の暫定実施スケジュールと明年度暫定年次計画を作成した（表1. 暫定実施スケジュール、表2. ６２年度暫定年次計画参照）。また、効果的な講師育成を図るため、今後研修テーマは耐震構造に絞ることとした。

iii) この結果４カ年で７名の研修員受入れ、１０名の専門家派遣を行うことにより、今後更に９名（計１３名）の「イ」側講師の育成を図ることが最終目標。

TENTATIVE SCHEDULE OF IMPLEMENTATION.

FISCAL YEAR 1987 - 1990

Items	Fiscal Year 1986 5th Course	1987 7th Course	1988 8th Course	1989 9th Course	1990 10th Course
1. Appointment of Indonesian Lecturers	4	6	9	11	13
2. Assigment of Indonesian Counterpart Lecturers	10	-	-	-	-
3. Acceptance of Indonesian Lecturers and Counterpart Lecturers in Japan	1	2	2	2	1
4. Dispatch of Japanese Experts to Indonesia	4	3	3	2	2

Note : This schedule is subject to the condition that the necessary budget will be acquiered for the implementation of the course.

表1. 暫定実施スケジュール

ANNEX VIII :

TENTATIVE ANNUAL WORK PLAN OF FISCAL YEAR 1987

Items	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Marc.	Apr.	Number of persons
Course Title : Seventh International Advanced Course on Seismology and Earthbquake Engineering for Structural Engineers.										Jan 9 --- Feb 20				
1. Appointment of Indonesian Lecturers.														
(1) General Seismology										******				1
(2) Seismic Code										******				1
(3) Masonry Structure										******				1
(4) Reinforced Concrete Structure, Foundation Design										******				1
(5) Random Vibration										******				1
(6) Structural Test										******				1
2. Acceptance of Indonesian Lecturers & Counterpart Lecturers														
						5 months								
(1) Dynamic Analysis			Jun	**********	**********	**********	**********	**********	Dec					1
(2) Steel Structure			Jun	**********	**********	**********	**********	**********	Dec					1
3. Dispatch of Japanese Lecturers														
(1) Computer, Structural Analysis										******				1
(2) Structural Dynamic, Base Isolator										******				1
(3) Steel Structure, Composite Structure										******				1

Note : This schedule is subject to the condition that neccessary budget will be acquired for the implementation of the course.

表 2. 62年度暫定年次計画

3.4　参加研修員に対するアンケート結果

本件第三国研修の今後の協力方針策定に資するため、本件調査団は上記協議に並行し、予めＪＩＣＡ事務所を通じＩＨＳに送付しておいたクエスチョネアに基づくアンケート調査を第６回コース参加者を対象に実施した結果、各研修員からはコース目的・カリキュラム、実施機関の運営管理能力、研修成果いずれの項目についても、ほぼ満足との回答が得られたところ、右概要次のとおりである。

(1)　コース目的

①　目的の認識度合　　７３％がほぼ完全に認識

②　目的の達成度合　　８６％がほぼ完全に達成されたと回答

③　期待感の達成度合　６０％がほぼ完全に達成されたと回答

(2)　カリキュラム

①　科目の範囲　　８７％が適当と回答

②　レ　ベ　ル　　６０％が適当と回答

③　密　　度　　８０％が適当と回答

④　期　　間　　４７％が適当、同数がやや長い旨回答

(3)　コースの運営管理　　８７％が良好と回答

(4)　研　修　成　果　　100％が成果があったと回答

上記アンケート結果の詳細については、別添3.評価レポート参照願いたい。

附　属　資　料

別添 1. Summary of Discussions

2. Recommendation to the Japanese Evaluation Team by IHS and JICA Experts

3. List of Equipments

4. Evaluation Report

SUMMARY OF DISCUSSIONS BETWEEN THE JAPANESE EVALUATION TEAM AND THE AUTHORITIES CONCERNED OF THE GOVERNMENT OF INDONESIA ON THE THIRD COUNTRY TRAINING PROGRAMME IN THE FIELD OF SEISMOLOGY AND EARTHQUAKE ENGINEERING

The Japanese Evaluation Team (hereafter referred to as "the Team") organized by the Japan International Cooperation Agency (hereafter referred to as "JICA") and headed by Mr. Tatsuo Hoshi visited the Republic of Indonesia from February 16 to February 24, 1987 for the purpose of working out the measures for the better implementation of the training course in the field of Seismology and Earthquake Engineering under the Third Country Training Programme of JICA which has been carried out since 1982 in the Republic of Indonesia.

During its stay in the Republic of Indonesia, the Team had a series of discussions with the authorities concerned of the Government of the Republic of Indonesia to review the achievement of the training course, and to discuss a future plan to improve the training course.

Attached herewith is a summary report of discussions.

Bandung, February 21, 1987.

Tatsuo Hoshi

Head, Japanese Evaluation Team,
Japan International Cooperation
Agency

Sahat Hulia Ritonga

Director of Institute of
Human Settlements, Agency
for Research and Development
Ministry of Public Works
Republic of Indonesia

1. BACKGROUND.

(1) Recognizing the growing needs for the technical knowledge and techniques of seismology and earthquake engineering in the developing countries, the Government of the Republic of Indonesia in collaboration with the Government of Japan initiated the training course in the field of Seismology and Earthquake Engineering (hereafter refered to as "the course") at Institute of Human Settlements (former Building Research Institute) under the Third Country Training Programme of JICA in fiscal year 1981, based on the record of discussions which was signed between the Head of Japanese Consultation Team and the Director General of Housing, Building, Planning and Urban Development of the Republic of Indonesia on October 2, 1982.

(2) The course has been conducted for the past six (6) years since its inception upon once a year basis.

(3) The purpose of the course is to enlighten the knowledge of the seismologists and earthquake engineers in developing countries through introduction and exchange of up-to-date and advanced knowledge of seismology and earthquake engineering in earthquake hazardous countries, and thus to contribute to find solution of the problem of each participating country.

2. EVALUATION.

(1) Attendance of Participants.

Under the six (6) years training courses, a total number of 129 engineers has been trained in the field of seismology and earthquake engineering. The countries of origin of the participants are as follows : Algeria (1), Bangladesh (4), Burma (4), Fiji (6), India (2), Indonesia (71), Kenya (2), Malaysia (4), Nepal (3), Pakistan (3), Papua New Guinea (4), Philippines (6), Singapore (3), Sri Lanka (3), Tanzania (2), Thailand (9), Turkey (1), Western Samoa (1).

It is observed from the number of applicants to each year's course that there exists high reputation and continuous needs for the course among the developing countries. The number of applicants, selected applicants and participants is shown in Annex I.

(2) Dispatch of Japanese Experts.

The Government of Japan through JICA dispatched twenty-seven (27) experts as lecturers in the past six (6)years.
Both parties shared the view that the experts highly contributed to the smooth implementation of the course as well as transferring their technology to the Indonesian counterpart personnel.

As for the number of Japanese experts, the Team conveyed the view of the Government of Japan of its difficulty in dispatching the same number of experts for the years to come in case the course would be continued.

The list of the Japanese experts dispatched for the courses is shown in Annex II.

(3) Acceptance of Indonesian Counterpart Personnel.

Four (4) administrative staff members were invited to Japan from the Institute of Human Settlements (IHS) under the counterpart training programme of JICA in the past six (6) years. Nine (9) IHS engineers were invited by JICA to attend its various training courses and seminars in Japan in the same period.

The Team appreciated that most of them had actively contributed to the smooth implementation of the course upon returning to Indonesia.

The list of the ex-participants in JICA training courses from IHS is shown in Annex III.

(4) Provision of Training Equipment.

The Team observed that the equipment provided by JICA in the past six (6) years have been fully utilized.

The list of main equipment is shown in Annex IV.

(5) Indonesian Lecturers and Counterpart Lecturers.

Both parties shared the view that the lecturers and counterpart lecturers of the course have in general carried out their duties satisfactorily.

Yet, the Team expressed its concern that the heavy burden of dispatching Japanese experts made it difficult to continue the Japanese cooperation to the course and stated that it would be indispensable to assign more Indonesian lecturers in order to attain the target of substantial course operation by the Indonesian side.

The number of the Indonesian lecturers and counterpart lecturers is shown in Annex V.

3. FUTURE PLAN.

(1) The Indonesian side expressed its intention to continue the course and requested further Japanese cooperation for its implementation.

(2) Referring to the concept of the Third Country Training Programme, the Team expressed the view that it would be essential for the Indonesian side to play a more substantial role in conducting the course and that it would be necessary to set the period of Japanese cooperation for the course.

(3) In response to the Japanese view, the Indonesian side proposed its lecturers and counterpart lecturers training scheme to the effect that ITS would make the best of its lecturers and counterpart lecturers, and thus increase the number of Indonesian lecturers for the coming years, as shown in Annex VI.

(4) The Team studied the Indonesian proposal and came to a conclusion that the proposal would be beneficial to improve the existing problems on the condition that the course should be aimed at exclusively training structural engineers in the field of seismology and earthquake engineering so as to effectively train the Indonesian lecturers and counterpart lecturers.

(5) Taking into consideration the needs for the course in developing countries and the budgetary constraint in Japan, both teams worked out the four (4) years' Tentative Schedule of Implementation and the Tentative Annual Work Plan of the Fiscal Year 1987 as shown in Annex VII and Annex VIII.

ANNEX 1.

List of the Participants in each Course.

Course title and Duration	Number of Applicants	Number of Selected Applicants	Number of Participants
International Seminar on Seismology and Earthquake Engineering. March 13 - April 23, 1982.	31	23	23
International Seminar on Seismology and Earthquake Engineering for Structural Engineers. January 15 - February 25, 1983.	28	22	18
The Third International Advanced Course on Seismology and Earthquake Engineering for Structural Engineers. January 14 - February 24, 1984.	28	25	23
The Fourth International Advanced Course on Seismology and Earthquake Engineering for Seismologists, Volcanologists and Geologists. January 12 - February 25, 1985.	34	29	25
The Fifth International Advanced Course on Seismology and Earthquake Engineering for Structural Engineers. January 11 - February 23, 1986.	32	22	20
The Sixth International Advanced Course on Seismology and Earthquake Engineering for Structural Engineers. January 10 - February 21, 1987.	25	23	20
T O T A L	179	144	129

ANNEX II.

List of Japanese Experts dispatched by JICA.

Fiscal Year	Name	Subject
1981 1st course	DR. M. WATABE	- Earthquake Damage - Design Earthquake - Principle of Aseismic Design - Summary of Aseismic Design Code in the World - Recent Trends of Aseismic Design Code
	DR.Y. ISHIYAMA	- Micro Computer - Strong Motion Earthquake Observation - Micro Tremors
	PROF. M. OTSUKA	- General Seismology - Earthquake Prediction - Earthquake Observation
	PROF. H. KISHIDA	- Aseismic Design Method for Foundations
	PROF. H. UMEMURA	- Development of the Earthquake Resistant Engineering in Japan
	DR. T. KUBOTA (KTA-38 Expert)	- Aseismic Design of R.C. Structures - Inspection and Retrofitting of R.C. Structures
	(MR. DEGENKOLB - invited lecturer from USA).	- Earthquake Resistant Design based on Observation of Damage

List of Japanese Experts dispatched by JICA (Continued)

Fiscal Year	N a m e	S u b j e c t
1982 2nd Course	DR. H. MIZUNO	- Dynamic Testing of Structural System
	DR. Y. ISHIYAMA	- Introduction to Micro Computer and Basic - Continuation to Micro Computer and Basic - Exercise of Structural Dynamics - New Aseismic Design Method for Building 1981
	DR. Y. MATSUSHIMA	- Random Response of Hysteretic Structures
	DR. Y. OHSAKI	- Dynamic Non-Linear Model and One Dimensional Non-Linear Response of Soil Deposits - Dynamic Characteristics and One Dimensional Linear Amplification Theories of Soil Deposit - Soil Dynamics
	DR. T. KUBOTA (KTA-38 Expert)	- Inspection Method for Aseismic Capacity (R.C. Building) - Methods for Aseismic Retrofitting (R.C. Building) - An Example of the Structural Design of R.C. Structures - A.I.J. Standard for Structural Calculation of R.C. Structures - Structural Test
	(DR. PAUL C. JENNINGS invited lecturer from USA).	- Engineering Seismology

List of Japanese Experts dispatched by JICA (Continued)

Fiscal Year	Name	Subject
1983 3rd course	DR. K. SUDO	- Seismology
	DR. Y. ISHIYAMA	- Structural Dynamics - Micro Computer - Japanese New Code
	DR. T. MINAMI	- Structural Analysis - Response Spectrum
	PROF. Y. YOSHIMI	- Liquefaction - Foundation Engineering
	DR. S. NAKATA (KTA-38 Expert)	- Structural Test - Structural Design - Seismic Evaluation - Repair & Retrofitting
	(MR. ROY G. JOHNSTON invited lecturer from USA)	- Earthquake Damage - Seismic Design - Seismic Design in Masonry
	(DR. A. VELETSOS invited lecturer from USA).	- Ground Motion - Non-Linear Systems - Soil-Structure Interaction - Liquid Storage Tanks

List of Japanese Experts dispatched by JICA (Continued).

Fiscal Year	Name	Subject
1984 4th course	DR. K. OIKE	- Earthquake Observation Systems - Modern Ideas of Seismology - Prevention of Earthquake - Plate Tectonics - Most up-to-date Topics in Seismology
	DR. K. SUDO	- Analysis of Seismology - Micro Computer - Focal Mechanism - Earthquake Process & Strong Motion - Most up-to-date Topics in Seismology
	DR. H. HIRAISHI	- General Lecture on Earthquake Engineering - Micro Computer - Aseismic Design - Aseismic Code in Japan and Administrative Problems
	PROF. I. YOKOYAMA	- General Lecture of Volcanology - Volcano Observation Systems - Modern Ideas of Volcanology - Prediction of Volcano Eruption
	DR. S. HATTORI	- Seismic Risk Analysis
	DR. S. NAKATA (KTA-38 Expert)	- Micro Computer - Japan - US Joint Research for Structure Behaviour

List of Japanese Experts dispatched by JICA (Continued)

Fiscal Year	N a m e	S u b j e c t
1985 5th course	MR. F. TAKINO	- Micro Computer - Structural Analysis - R.C. Building
	PROF. H. AOYAMA	- Seismic Design Code - R.C. Building
	DR. Y. ISHIYAMA	- Structural Dynamics - Timber Building - Masonry Structure
	MR. A. YAMAKI	- Foundation - R.C. Building
	DR. S. NAKATA (KTA-38 Expert)	- R.C. Building - Structural Test
	MR. S. KONOMI (Guest Lecturer)	- Steel Building - Composite Building

Fiscal Year	N a m e	S u b j e c t
1986 5th course	MR. T. OKADA	- Micro Computer
	MR. M. ASANO	- Micro Computer - Structural Analysis - Structural Dynamics
	MR. T. TERAMOTO	- Base Isolator - Foundation Design - Steel Building Design
	MR. A. YAMAKI	- Foundation Design - Composite Structure Design
	DR. S. NAKATA (short term KTA-38 Expert).	- Seismic Building Code - General Earthquake Engineering - R.C. Building Design - Masonry Building Design

ANNEX III.

Contribution of the ex-participants in JICA Training Programme to the Course.

N a m e	Title of JICA Training Programme	Duration (Fiscal Year)	Present Post	Contribution to the course
Murdiati Munandar	I.I.S.E.E.	1 year (1980)	Head Adm. for Exp.Station Housing and Building Sub Division	Counterpart lecturer
Randing S.	I.I.S.E.E.	1 year (1981)	Researcher	To organize the future course
Sumani S.	I.I.S.E.E.	1 year (1981)	Researcher	ditto
Sadikin Rasad	I.I.S.E.E.	1 year (1982)	Researcher	Session officer & counterpart lecturer
Bambang Utoyo	Counterpart training for Seismology and Earthquake Engineering Course	3 weeks (1982)	Head of Dissemination Division	Organizing coordinator
R.B. Tular	Seminar on Structural Testing	1 month (1983)	Head of Bldg. Construction & Structures Division	Technical Coordinator and lecturer
Murdiati Munandar	Individual Study for R.C Structure	4 Months (1983)	Head Adm. for Exp.Station Housing and Building Sub Division	Counterpart lecturer
Suwandoyo Siddiq	I.I.S.E.E.	1 year (1983)	Researcher	Lecturer
Zulkarnaen Aksa	Counterpart training for Seismology and Earthquake Engineering Course	3 weeks (1983)	Head of Bldg. Mat. Div.	To organized the future course
Silvia Francisca	Individual Study for Foundation Design	3 months (1983)	Researcher	Counterpart lecturer
Syafei Amri	I.I.S.E.E.	1 year (1984)	Researcher	ditto

ANNEX III (Continued)

N a m e	Title of JICA Training Programme	Duration (Fiscal Year)	Present Post	Contribution to the course
Tarmizi Hoerad	Counterpart training for Seismology and Earthquake Engineering Course	3 weeks (1984)	Head of Adm. and Operation Division.	Administrative Coordinator
Victor Leander	Counterpart training for Seismology and Earthquake Engineering Course	40 days (1986)	Head Tech. Coop. & Dissemination Sub Division	General Secretary
Eddy Sulaiman	I.I.S.E.E.	1 year (1986)	Researcher	To organize the future course

ANNEX IV.

List of Main Equipment Provided by JICA

1. Micro-tremor seismometer system (seismometers, amplifiers, recorders, oscillographs, personal computer, etc.).
2. Strong Motion Accelerometer.
3. Sony Color Video Projector and its accesories
4. NEC Personal Computer, etc.
5. Rectilinier Thermal Writing Oscillograph
6. Seismometer, Delay Memory for Seismic Waves, etc.
7. OX Structure Experiment System
8. Kyowa Digital Strain Gauge, etc.
9. Micro Computer Software and Printer, etc.
10. Load Cell Mode, etc.
11. Power Supply, Typewriter, OHP, etc.
12. Strain-gauge Type Transducer, etc
13. Others.

ANNEX V.

List of Indonesian Lecturers and Counterpart Lecturers

Fiscal Year	Name	Subject
1981 1st course	PROF.DR. SOSROWINARSO	- Review of Structural Dynamics
	PROF.DR. M.T. ZEN	- Seismicity and Tectonic Pattern of the Indonesian Island Areas
	MR. WIRATMAN WANGSADINATA	- Indonesian Code of Practise for Seismic Design of Buildings
	MR. TEDDY BOEN	- Non-Engineered Structures
	MR. R.B. TULAR	- Structural Tests

Fiscal Year	Name	Subject
1982 2nd course	PROF.DR. SOSROWINARSO	- Random Vibration
	PROF.DR. M.T. ZEN	- General Introduction to Seismology
	MR. WIRATMAN WANGSADINATA	- Draft Code of Practise for Seismic Design of Buildings in Indonesia
	MR. TEDDY BOEN	- Earthquake Resistant Construction of Earthen Housing - Detailer's Manual for Small Building in Seismic Areas - Basic Concept of Seismic Code Volume I & II
	MR. R.B. TULAR	- Full Scale Structural Testing by Tilting Table

List of Indonesian lecturers and Counterpart Lecturers (Continued)

Fiscal Year	N a m e	S u b j e c t
1983 3rd course	PROF.DR. SOSROWINARSO	- Random Vibration
	PROF.DR. M.T. ZEN	- Seismology
	MR. WIRATMAN WANGSADINATA	- Indonesian Code
	MR. TEDDY BOEN	- Masonry
	MR. R.B. TULAR	- Structural Test

Fiscal Year	N a m e	S u b j e c t
1984 4th course	PROF.DR. J.A. KATILI	- General Lecture on Tectonics of Asia and the Pacific Region
	PROF. M.T. ZEN	- Lecture on Volcanoes in Bali - Observation on Mount Agung
	DR. ADJAT SUDRADJAT	- Disaster Prevention from Earthquake and Volcano - Lecture on Mount Merapi, Dieng and Galunggung - Observation Mount Merapi - Observation Mount Galunggung
	MR. TEDDY BOEN	- Strength of Structure
	MR. R.P. SUDARMO	- Observation Lembang Geophysical Observatory. - Observation and Lecture on Sukabumi Area
	MR. WIRATMAN WANGSADINATA	- Aseismic Code in Indonesia

List of Indonesian lecturers and Counterpart Lecturers (Continued)

Fiscal Year	N a m e	S u b j e c t
1985 5th course	PROF.DR. SOSROWINARSO	- Random Vibration
	PROF. M.T. ZEN	- General Seismology
	MR. WIRATMAN WANGSADINATA	- Seismic Design Code
	MR. TEDDY BOEN	- Non Engineered structures
	MR. R.B. TULAR	- Masonry Structures
	MR. SUWANDOYO SIDDIQ (Counterpart lecturer)	- Structural Test
	PROF. DR. ARYA (Guest Lecturer)	- Non-Engineered Structures

Fiscal Year	N a m e	S u b j e c t
1986 6 th course	PROF. M.T. ZEN	- General Earthquake Engineering
	MR. WIRATMAN WANGSADINATA	- Aseismic Design Code
	MR. TEDDY BOEN	- Non-Engineered Structures
	MR. R.B. TULAR	- Masonry Building Design
	DR. INDRADJATI SIDI (Counterpart lecturer)	- Random Vibration
	MR. BAMBANG S., ME. (Counterpart lecturer)	- Random Vibration
	MR. SUWANDOYO SIDDIQ (Counterpart lecturer)	- Structural Test

ANNEX VI

Proposal for the

Extension of the International Advanced Course on Seismology and Earthquake Engineering

by the Institute of Human Settlements.

1. Purpose of the extension.

Based on the Record of Discussion between the Japanese Consultation Team and the Authorities concerned of the Government of Republic of Indonesia on Technical Cooperation for the Implementation of the third Country Training Programme in the field of Seismology and Earthquake Engineering, signed by Mr. Akio Otsuki, Head of Japanese Consultation Team and Mr. Radinal Mochtar , Director General of Housing Building, Planning and Urban Development in Jakarta, October 2, 1981, six Advanced Courses on Seismology and Earthquake Engineering have been carried out successfully (1982/1983-1987/1988).

Taking into consideration that still a lot of engineers of Asian, African and Pacific Countries need additional knowledge in above-mentioned field it is deemed necessary to propose above-mentioned activities to be extended for another four years (till 1990/1991).

2. Lecturers.

Indonesian lecturers.
With the proposal of the Japanese side to decrease the amount of Japanese lecturers and increase the amount of Indonesian lecturers, it is regarded necessary to improve the knowledge of the Indonesian lecturers in the following subjects.

1. Computer
2. Structure Analysis
3. Dynamic Analysis
4. Steel Structures
5. Reinforced Concrete and Prestressed Concrete
6. Composite Structures
7. International Seismic Codes
8. Foundation
9. Base Isolation.

The Indonesian side proposes 9 (nine) Indonesian lecturers and counterpart lecturers from Bandung Institute of Technology and Institute of Human Settlements, to study above-mentioned subjects in Japan. Despatch of the lecturers according to the proposed training scheme are as follows :

1987/1988 2 persons; subject 3,4
1988/1989 3 persons; subject 2,5,6
1989/1990 2 persons; subject 1,7
1990/1991 2 persons; subject 8,9

We propose a study of 6 (six) months for each lecturer.

Japanese Lecturers.

The amount of Japanese lecturers who will still lecture during the gradual decrease is as follows :

1987/1988 (3 lecturers)
- one lecturer for computer and Structural Analysis
- one lecturer for Dynamic Analysis
- One lecturer for Steel Structure and Composite structure

1988/1989 (3 lecturers)
- One lecturer for Computer and Dynamic Analysis
- One lecturer for Reinforced Concrete
- One lecturer for Prestressed Concrete

1989/1990 (2 lecturers)
- One lecturer for Computer and Dynamic Analysis
- One lecturer for Foundation and Base Isolation

1990/1991 (2 lecturers)
- One lecturer for Computer and Dynamic Analysis
- One lecturer for Structural Tests.

3. Continuation after 1990/1991

After 1990/1991 the Indonesian Side is ready to continue the International Advanced Course with the available Indonesian lecturers, who will have obtained additional knowledge in Japan.

For organization of above-mentioned International Advanced Courses, the Indonesian side still needs assistance from the Japanese side, in the form of financial support.

Bandung, 19 February 1987

S.M. Ritonga
Director
Institute of Human Settlements

ANNEX VII :

TENTATIVE SCHEDULE OF IMPLEMENTATION.

FISCAL YEAR 1987 - 1990

Items \ Fiscal Year	1986 5 th Course	1987 7th Course	1988 8th Course	1989 9th Course	1990 10th Course
1. Appointment of Indonesian Lecturers	4	6	9	11	13
2. Assigment of Indonesian Counterpart Lecturers	10	-	-	-	-
3. Acceptance of Indonesian Lecturers and Counterpart Lecturers in Japan	1	2	2	2	1
4. Dispatch of Japanese Experts to Indonesia	4	3	3	2	2

Note : This schedule is subject to the condition that the necessary budget will be acquiered for the implementation of the course.

ANNEX VIII :

TENTATIVE ANNUAL WORK PLAN OF FISCAL YEAR 1987

Items	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Jan.	Feb.	Marc.	Apr.	Number of persons
Course Title : Seventh International Advanced Course on Seismology and Earthquake Engineering for Structural Engineers.										Jan 9 --- Feb 20				
1. Appointment of Indonesian Lecturers.														
(1) General Seismology										******				1
(2) Seismic Code										******				1
(3) Masonry Structure										******				1
(4) Reinforced Concrete Structure, Foundation Design										******				1
(5) Random Vibration										******				1
(6) Structural Test										******				1
2. Acceptance of Indonesian Lecturers & Counterpart Lecturers														
						5 months								
(1) Dynamic Analysis			Jun	**********	**********	**********	**********	**********	Dec					1
(2) Steel Structure			Jun	**********	**********	**********	**********	**********	Dec					1
3. Dispatch of Japanese Lecturers														
(1) Computer, Structural Analysis										******				1
(2) Structural Dynamic, Base Isolator										******				1
(3) Steel Structure, Composite Structure										******				1

Note : This schedule is subject to the condition that neccessary budget will be acquired for the implementation of the course.

RECOMMENDATION TO THE JAPANESE EVALUATION TEAM BY IHS AND JICA EXPERTS FOR THE SEVENTH INTERNATIONAL ADVANCED COURSE ON SEISMOLOGY AND EARTHQUAKE ENGINEERING

February 19, 1987

February 19, 1987

RECOMMENDATION TO THE JAPANESE EVALUATION TEAM BY IHS AND JICA EXPERTS FOR THE SEVENTH INTERNATIONAL ADVANCED COURSE ON SEISMOLOGY AND EARTHQUAKE ENGINEERING

1. Title of the Programme and General Information.

   The title of the programme will be the "Seventh International Advanced Course on Seismology and Earthquake Engineering for Structural Engineers".
   Annex I indicates the draft of the General Information for the Seventh Course.

2. Tentative schedule for preparation.

   The tentative schedule for preparation of the Seventh Course is attached as Annex II.

3. Lecturers from Japan.

   Three Japanese lecturers should be sent during the course.

4. Equipment.

   The equipment which will be necessary for the Seventh Course is listed in Annex III. The equipment for the previous course will be fully utilized.

5. Counterpart Training.

   The staff of Institute of Human Settlements should be able to have the training in Japan for further improvement of the course.

6. Others.

   Others matters will be followed as stipulated in the Record of Discussion for the First Seminar agreed by Mr. Akio Otsuki and Mr. Radinal Moochtar on October 2, 1981 in Jakarta.

ANNEX I

(Draft)

THE SEVENTH INTERNATIONAL ADVANCED COURSE ON SEISMOLOGY AND EARTHQUAKE ENGINEERING FOR STRUCTURAL ENGINEERS

Indonesia, January 9 to February 20, 1988

Cooperation between
the Government of Japan and the Government of Indonesia

Organizing Committee

Dear Sir / Madam,

We have the pleasure in sending you a booklet containing information and an application form for the course to be held in Indonesia, January 10 to February 21, 1987. The Course is entitled : "The Seventh International Advanced Course on Seismology and Earthquake Engineering for Structural Engineers".

This Course is Organized in Indonesia as the result of the agreement achieved in the technical cooperation programme between the Government of Japan and the Government of Indonesia.

We herewith invite you to nominate candidates to participate in this course. Those concerned have to fulfill the requirements as stated in the booklet.

The application will be closed on September 19, 1987.
Hoping to hear from you at your earliest convenience regarding nominations you may wish to make.

With kind regards.

Yours faithfully,

Sahat Mulia Sitonga

DIRECTOR, INSTITUTE OF HUMAN SETTLEMENTS

Introduction

Many countries in South East Asia and the Pacific areas are crossed by or bordered with the earth's seismic belts in which occurrence of earth tremors and quakes are quite frequent. Often they cause considerable loss of human life as well as material damage. Indonesia is situated in two of three seismic belts of the world. with about 400 earthquakes occurring annually with epicentres within the Indonesian region.

In the framework of disseminating the technical knowledge and knowhow of Seismology and Earthquake Engineering, a cooperation has been agreed, between the Government of Japan and the Government of Indonesia.

It covers an advanced course, in which the Government of Japan will sponsor prospective participants and lecturers with fellowships, and the Government of Indonesia will be the host country by organizing the course.

Organization of the Course

The course is jointly conducted by :
The Institute of Human Settlements (IHS) - The Agency for Research and the Development, Ministry of Public Works, Government of Indonesia, under the Technical Cooperation among Developing Countries Programme, the Secretariate Cabinet of the Republic of Indonesia.
and
the Japan International Cooperation Agency (JICA), Government of Japan, under the Third Country Training Programme.

This course is arranged with the cooperation of the International Institute of Seismology and Earthquake Engineering (IISEE), Building Research Institute (BRI), Ministry of Construction, Government of Japan.

The purpose of this course are :

1. To increase the knowledge of Structural Engineers in developing countries by introducing and exchanging the up-to-date and advanced knowledge of Seismology and Earthquake Engineering achieved in earthquake hazard countries.

2. And thus contribute to finding the solution to the problems of prevention and mitigation of earthquake damage according to the specific feature of each country.
   The course will stress practical aspects of structural engineering.

Qualification of Applicants

Applicants from each country are to :
a. be nominated by their governments in accordance with the procedure mentioned in the procedure of application section of this brochure
b. be university graduates or equivalents and actively engaged in the field of structural engineering preferably with experience for more than 3 (three) years.
c. be more than 25 (twenty five) years of age.
d. have a sufficient command of spoken and written english,
e. be in good health, both physically and mentally, to participate in the course. Female participants being pregnant will not be allowed to join the course,
f. in principle, applicants who had participated in previous courses are not liable for selection by the Organizing Committee.

Duration

From January 9 to February 20, 1988

Institution
Institute of Human Settlements, Agency for Research and Development, Ministry of Public Works.
84, Jalan Tamansari (Tromolpos 15)
Bandung 40132 - Indonesia
Phone : 81082 - 81083
Telex : 28327 DBR BD IA

Japan International Cooperation Agency (JICA).
Jakarta office :
c/o The Japanese Embassy Compound
24, Jalan Thamrin
Jakarta - INDONESIA.
Phone : 326318
Telex : 44198 JICA IA

Language

The Course will be conducted in English.

Procedure of Application.

1. a) The Governments desiring to nominate applicant(s) for the Course, should complete the following :
   i) Five copies of the enclosed "Nomination Form for training in the framework of Technical Cooperation among Developing Countries Programme, The Republic of Indonesia"

ii) Five copies of a Health Certificate.

By September 19, 1987 at the latest, through the Embassy of Indonesia, located in the respective countries. In cases where no Embassy of Indonesia is represented, the copies can directly be submitted to :

The Secretary Cabinet of the Republic of Indonesia
c/o Head of Bureau for Technical Cooperation
Jl. Veteran 17 - Fourth Floor
Jakarta Pusat - Indonesia
Telex : 44240 SEKNEG IA
Phone : 342430 - 31 ex 155

b) For Administrative purposes of the Course the following should be sent to Institute of Human Settlements (Jalan Tamansari 84, Tromolpos 15, BANDUNG 40132, INDONESIA) by September 19, 1987 at the latest :
   i) One copy of the enclosed "Application Form for the Sixth International Advanced Course on Seismology and Earthquake Engineering for Structural Engineers".
   ii) One copy of an abstract of a report stipulated in the "Submission of Report" section (maximum 3 pages).

2. The Government of Indonesia will inform the applying Governments whether or not the nominee(s) are acceptable for the Course, not later then the end of November 1987.

Submission of Report

For the purpose of facilitating the discussion session in the Course, each participant is required to prepare a report on one of the items given below which is mainly related to his or her country and its vicinity and at the beginning of the course submit two copies of the said report according to the submitted abstract attached to the application form :

1. Aseismic code of structures
2. Structural design or seismic safety of structures
3. Elastic analysis, plastic analysis structural analysis
4. Experiment, experimental technic or data analysis
5. Construction technics
6. Quality control for structural materials
7. Repair and retrofit of structures
8. Earthquake damage of structures
9. Other topics relating to structural engineering.

Each participant is requested to present the report at the beginning of the course, using audiovisual aids i.e. slides, tranparancy sheets or video.

Lecturers

Lecturers for the Course are appointed from Indonesia, Japan and other countries.
The lecturers of the previous courses were as follows :

Lecturers from Indonesia

1. Mr. Bambang ME, Bandung Institute of Technology.
2. Mr. Teddy Boen
   International Association for Earthquake Engineering
3. Prof. Dr. J.A Katili, Director General of Geology and Mineral Resources
4. Mr. Pongsama, Secretary General, Ministry of Social Affairs
5. Mr. Suwandojo Siddiq, Institute of Human Settlements
6. Dr. Indradjati Sidi, Bandung Institute of Technology.
7. Mr. R.P Soedarmo, Chief Analysis Division, Meteorological and Geophysical Agency.
8. Dr. Adjat Soedradjat, Director of Volcanology
9. Prof. Sosrowinarso, Bandung Institute of Technology
10. Mr. Suprapto, Chief of Volcano Observation, Directorate of Volcanology.
11. R.B. Tular, Institute of Human settlements
12. Mr. Wiratman Wangsadinata, PT Wiratman & Associates Consulting Engineers
13. Prof M.T. Zen, Bandung Institute of Technology

Lecturers from Japan

1. Prof. Hiroyuki Aoyama, University of Tokyo.
2. Mr. Mitsugu Asano.
3. Dr. Sadaiku Hattori, Director of IISEE, BRI.
4. Dr. Hisahiro Hiraishi, Senior Research Engineer, BRI.
5. Dr. Yuji Ishiyama, Head of IISEE, BRI.
6. Dr. Toshikatsu Iwami, Head, BRI.
7. Prof Hideaki Kishida, Tokyo Institute of Technology, Japan
8. Mr. Shinzo Konomi, Senior Structural Engineer, Nihon Architects, Engineers and Consultants, Inc.
9. Dr. Toshiyuki Kubota, Kinki University
10. Prof. Yutaka Matsushima, University of Tsukuba
11. Prof. Tadao Minami, Earthquake Research Institute, University of Tokyo, Japan
12. Mr. Hatsukazu Mizuno, Senior Research Engineer of IISEE, BRI
13. Dr. Shinsuke Nakata, JICA Expert from BRI
14. Mr Tatoyoshi Okada.
15. Dr. Yorihiko Osaki, Executive Vice President of Shimizu Construction Co. Ltd.
16. Prof. Kazuo Oike, Disaster Prevention Research Institute, Kyoto University.
17. Prof. Michio Otsuka, Kyushu University.
18. Dr. Ken Sudo, Head of IISEE, BRI
19. Mr. Fumio Takino, President Kozo System Co. Ltd.

20. Mr Takayuki Teramoto.
21. Prof. Hajime Umemura, Shibaura Institute of Technology
22. Prof. Makoto Watabe, Tokyo Metropolitan University
23. Mr. Akira Yamaki, Director of Overseas Division, Nihon Architects Engineers & Consultants, Inc.
24. Prof. Izumi Yokoyama, Hokkaido University
25. Prof. Yoshiaki Yoshimi, Tokyo Institute of Technology

Guest lecturers

- From U.S.A (by the aid of the USA Agency for International Development through the National Science Foundation).
  1. Mr. H.J. Degenkolb, Consulting Engineer
  2. Prof. P.C. Jennings, California Institute of Technology
  3. Mr.R.G. Johnston, Structural Engineer
  4. Mr. J. Stratta, Consulting Engineer
  5. Prof. Dr. A.S. Veletsos, Rice University, Houston. Texas.

- From India
  1. Prof. Anand S. Arya, University of Roorkee.

Allowance

JICA will provide for foreign participants :

1. Economy-class air ticket between the International Airports designated.
2. Living allowance during their stay in Indonesia for the course.

Certificate

Participants who have successfully completed the course will be awarded a certificate by the government agencies of Indonesia and Japan.

ENTRY FORMALITIES

Immigration

For the purpose of this seminar participants are required to obtain a visa to cover the duration of the course. Please note that tourist visas or free entry visas for ASEAN citizens do not apply in this case as the duration of these arrangements is not sufficient to cover the active course
Participants should apply for visas through the Indonesian Embassy in their countries after being contacted by the Government of Indonesia.

Health

International certificate of valid smallpox, cholera and yellow fever vaccinations are required only for participants coming from infected areas.

Customs

Customs allow on entry a maximum of two litres of alcoholic beverages, 200 cigarettes or 50 cigars or 100 grams tobacco and a reasonable amount of perfume per adult
Photographic equipment, typewriter and radio are admitted provided they are taken out on departure (re-exported). They must be declared to the customs.
There is no restriction on import or export of foreign currencies and travellers cheques. However, the import or export of Indonesian currency exceeding Rp. 50,000.00 is prohibited.

Clothing

Clothing is normally casual in Indonesia and light clothing is advisable due to the hot, humid climate. A jacket and tie are required only for formal occasions or when making official calls. National dress of visitors from abroad is also very proper. For travel to mountain areas, a light sweater or jacket is recommended. Batik-shirts (short and long sleeved) are popular for informal parties and social evenings.

Airport Tax:

Airport tax (Rp. 6000,-) should be borne by the participants on their return home

Other Information

1. Participants are requested to arrive in the Republic of Indonesia on the date designated by IHS. However, the date will be finally confirmed with the air-tickets sent to the participants through JICA.

2. On arrival at Sukarno-Hatta International Airport in Jakarta, participants will be met by a representative of IHS. Necessary care of the participants, thereafter, will be taken by IHS throughout the duration of the Course.

3. In case of emergency, due to "out of schedule" occurrence, participants can proceed to Hotel Wisata International, Jalan M.H. Thamrin, Jakarta (behind Hotel Indonesia), phone : 320308. Please use Blue Bird official Airport taxi.

4. Participants are requested not to bring any members of their families.

TENTATIVE SCHEDULE FOR PREPARATION

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
				1987	Jan, 9	10
					Arrive at Jakarta	Observation in Jakarta
11	12	13	14	15	16	17
Opening ceremony move to Bandung	Orientation and interview	General earthquake engineering (1), (2)	Micro computer (1), (2)	free	Structural dynamics (1), (2)	free
18	19	20	21	22	23	24
Micro computer (3), (4)	Structural dynamics (3), (4)	Presentation by participants	Presentation by participants	Micro computer (5), (6)	Base isolation (1), (2)	Move to Bali
25	26	27	28	29	30	31
Precast concrete (1), (2)	Seisaic design code (1), (2)	Reinforced concrete (1), (2)	Reinforced concrete (3), (4)	Move To Yogyakarta	Move to Bandung	Free
Feb, 1	2	3	4	5	6	7
Masonry building (1), (2)	Structural dynamics (5), (6)	Reinforced concrete (5), (6)	Structural analysis (1), (2)	Foundation design (1), (2)	Nonstructural elements (1), (2)	free
8	9	10	11	12	13	14
Foundation design (3), (4)	Prestessed concrete (1), (2)	Design of high rise building (1), (3)	Observation day	Design of high rise building (3), (4)	Seisaic design code (3), (4)	Free
15	16	17	18	19	20	21
Structural test (1), (2)	Composite building (1), (2)	General seisaic engineering (1), (2)	Random vibration (1), (2)	Free discussion closing ceremony	Move to Jakarta	Leave Jakarta

ANNEX II

TENTATIVE SCHEDULE FOR PREPARATION

MONTH		INDONESIAN SIDE	JAPANESE SIDE
March	1987	1. Preparation of G.I	1. Selection of lecturers
April	1987	1. Request from Setkab to Japanese Embassy. 2. Submission of A1 forms for 4 Japanese lectures. 3. Sending G.I and application form.	
June	1987	1. Sending of A2 - 3 forms for Indonesian counterpart	1. Sending equipment
August	1987	1. Selection of lecturers. 2. Submission of Bill of Estimation.	
September	1987	1. Receiving of application forms. 2. Dispatching Indonesian counterpart to Japan.	1. Submission of B1 form. 2. Decision of the budget for implementation of course. 3. Sending of shipping documents.
October	1987	1. Selection of participants.	
November	1987	1. Notification of the selection of participants.	
December	1987	1. Receiving typed manuscripts of lecture notes.	1. Sending typed manuscripts of lecture notes.
January	1988	1. Start of the course	1. Dispatch of lecturers.

ANNEX III :

EQUIPMENT

A. Equipment for Technical Purpose

1. Renewal of Site Observation Car	1 set
2. Camera Set	1 set
3. Transducer (± 50 mm)	5 set
4. Data Processor (USB, GPIB for UCAM)	1 set
5. Strain Gauge for Steel	100 pieces
Concrete	100 pieces
Wood	50 pieces
6. Personal Computer (IBM)	1 set

B. Equipment for Administrative Purposes.

1. Over Head Projector	1 set
2. Slide Projector	1 set
3. Wide Screen	1 set

LIST OF EQUIPMENT

(Invoices)

1982 - 1987.

INVOICE

Consigned to : DIRECTORATE GENERAL CIPTA KARYA,
DEPARTMENT OF PUBLIC WORKS,
FOR THE ATTENTION OF THE DIRECTOR
DIRECTORATE OF BUILDING RESEARCH
JALAN TAMANSARI 84, BANDUNG INDONESIA

No : .....

Date : MAR. 25, 1982

Shipped per AIRCRAFT

from TOKYO, JAPAN

to JAKARTA, INDONESIA

via .....

on .....

Export Licence No .....

Shipping Mark :

JICA

JAKARTA

C/No. I - 1

MADE IN JAPAN

SIDE MARK

TECHNICAL COOPERATION
BY THE GOVERNMENT OF JAPAN

Nos.	Description of Goods	Quantity	Unit Price	Amount
	TECHNICAL EQUIPMENT OF J.I.C.A.			
1.	VIDEO CAMERA HVC-F1	1 SET		¥198,000.-
2.	PORTABLE VIDEO RECORDER SL-2000	1 "		189,000.-
3.	AC ADAPTOR AC-F1	1 "		25,200.-
4.	BATTERY NP-1	3 PCS	¥9,900.-	29,700.-
5.	CAR BATTERY CORD DCC-2400B	1 PC		5,040.-
6.	TRIPOD VCT-9	1 "		17,820.-
7.	CARRYING CASE, CAMERA LC-21HVC	1 "		7,200.-
8.	EXTENSION CABLE, CAMERA, 10M CCK-10	1 "		8,820.-
9.	COLOR MONITOR TV KX-20HF1	1 SET		126,000.-
10.	SPEAKER FOR ABOVE TV SS-X1	1 "		15,300.-
11.	TRANSFORMER	1 PC		20,020.-
12.	VIDEO TAPE L-250S	12 PCS	2,430.-	29,160.-
	TOTAL:	5 SETS & 20 PCS	EX-GODOWN	¥671,260.-
	" NO COMMERCIAL VALUE "		SHIPPING CHARGE	9,715.-
			AIR FREIGHT	146,972.-
			INS. PREMIUM	11,928.-
			CIF JAKARTA	¥839,875.-

JAPAN INTERNATIONAL COOPERATION AGENCY

P.P.

KEISUKE ARITA
PRESIDENT

E. & O. E

JAPAN INTERNATIONAL COOPERATION AGENCY

P.O. Box 216, Mitsui Bldg., Shinjuku-ku, Tokyo, Japan.

Nos.	Description of Goods	Quantity	Unit Price	Amount
4-(1)	HYDRAULIC JACK CAPACITY : 50 TON. STROKE :150mm	2 SETS.	¥114,000.-	¥228,000.-
-(2)	SYDRAULIC JACK CAPACITY :100 TON. STROKE :150mm	2 "	173,000.-	346,000.-
5	HYDRULIC PUMP UNIT MTE, 1.5 KW. CORD 5m 220V, 50HZ, SINGLE PHASE	2 "	611,000.-	1,222,000.-
6	JACK HOSE 10m	10 PCS.	46,600.-	466,000.-
7-(1)	PRESSURE GAUGE FOR [illegible] JACK A1/2, 100[illegible]) KGS/cm^2	2 "	10,300.-	20,600.-
-(2)	PRESSURE GAUGE FOR 1[illegible] JACK A1/2, 100[illegible] ·0 KGS/cm^2	2 "	10,300.-	20,600.-
8-(1)	LOAD CELL FOR 50TON [illegible] CLP50B, WI[illegible] m CORD	1		156,000.-
-(2)	LOAD CELL FOR 100TON [illegible] CLP100B, W[illegible] 10m CORD	1		202,000.-
9	DISPLACEMENT TRANSDUC[illegible] SDP-100R W[illegible] 10m CORD		46,000.-	184,000.-
10	ACCELERATION TRANSDU[illegible] (U GAUGE) AR-1G	4	38,500.-	154,000.-
11-(1)	FITTING MATERIALS FOR 50TON JACK	2	29,600.-	59,200.-
-(2)	- ditto - FOR 100 TON JACK	2 "	41,600.-	83,200.-
12-(1)	FITTING MATERIALS FOR LOAD CELL FOR 50 TON & 100 TON JACK	2 SETS (4 PCS	38,400.-	76,800.-
	TOTAL:	8 SETS. 28 PCS.		¥3,218,400.-

JAPAN INTERNATIONAL COOPERATION AGENCY

P. O. Box 218, Mitsui Bldg., Shinjukuku, Tokyo, Japan.

C/Nos.	Description of Goods	Quantity	Weight net	Weight gross	Measurement
C/NO. TK-1	STRAINMETER SM-60D ✓	1 pc.	52.0kgs	55.0kgs	76x68x60cm
	STRAIN GAGE KFC-5-C1-11 ✓	200 pcs.			
	STRAIN GAGE CEMENT CC-15A ✓	20 "			
	STRAIN GAGE CEMENT				
	1. ARALDITE 180cc ✓	10 "			
✓	PERSONAL COMPUTER SHARP				
	COMPUTER MZ-80B ✓	1 "			
	DOT PRINTER MZ-80BP5 ✓	1 "			
	EXTENTION UNIT MZ-8BK ✓	1 "			
	PRINTER 1/O CARD MZ-8BP5I ✓	1 "			
	PRINTER CABLE MZ-8BP5C ✓	1 "			
	GRAPHIC RAM MZ-88G ✓	1 "			
	WITH TRANSFORMER ✓				
	STRAIN GAGE TYPE				
	TRANSDUCERS 100mm SDP-100R ✓	4 "			
	- do. - 50mm SDP-50R ✓	4 "			
C/NO. TK-2	SWITCH & BALANCING BOX SS-24R ✓	1 "	25.0	27.0	50x53x67
	TYPEWRITER "BROTHER" WITH TRANSFORMER ✓	1 set.			
C/NO. TK-3	STRAIN GAGE CEMENT HANATITE 1 kg. ✓	1 pc.	2.5	3.5	25x16x26
C/NO. TK-4	- do. - 1 kg. ✓	1 "	2.5	3.5	25x16x26
C/NO. TK-5	- do. - 1 kg. ✓	1 "	2.5	3.5	25x16x26
	TOTAL: FIVE (5) P'KGS.	249 pcs, 61 set.	84.5kgs	92.5kgs	

JAPAN INTERNATIONAL COOPERATION AGENCY

P.O. Box 216, Mitsui Bldg., Shinjuku-ku, Tokyo, Japan

PACKING LIST

Consigned to : DIRECTORATE GENERAL CIPTA KARYA,
DEPARTMENT OF PUBLIC WORKS,
FOR THE ATTENTION OF THE DIRECTOR,
DIRECTORATE OF BUILDING RESEARCH
JALAN CIHANSARI 84,
BANDUNG, INDONESIA

No :

Date : FEB., 17 1982

Shipped per AIRCRAFT

from TOKYO, JAPAN

to JAKARTA, INDONESIA

via

on

Shipping Mark :

JICA
JAKARTA

C/No. TK-1-5
MADE IN JAPAN

SIDE MARK

TECHNICAL COOPERATION
BY THE GOVERNMENT OF JAPAN

C/Nos.	Description of Goods	Quantity	Weight net	Weight gross	Measurement
	TECHNICAL EQUIPMENT OF J.I.C.A.				
	- details as per attached sheets -	47 SETS, 95 PCS, 42 BOXES, 62 VOLS, 2 UNITS, & 110 SHTS.	887.0Kgs	987.0Kgs	
	TOTAL : FIVE (5) PACKAGES	47 SETS, 95 PCS, 42 BOXES, 62 VOLS, 2 UNITS, & 110 SHTS.	887.0Kgs	987.0Kgs	

JAPAN INTERNATIONAL COOPERATION AGENCY

P.P.
KEISUKE ARITA
PRESIDENT

E. & O. E

JAPAN INTERNATIONAL COOPERATION AGENCY

P. O. Box 216, Mitsui Bldg., Shinjuku-ku, Tokyo, Japan.

C/Nos.	Description of Goods	Quantity	Weight net	Weight gross	Measurement
YK-1	13 Seismometer SDV-112H	4 sets	208.0kgs	228.0kgs	129x107x101cm
	14 Seismometer SDV-112V	2 "			
	15 Amplifier SA-10	2 "			
	16 Time Signal Generator TS-1	2 "			
	17 Cassette Data Recorder FRC-1402N	2 "			
	18 Trank	2 pcs			
	19 Trank	2 "			
	20 Accessories				
	(1) Cassette Tape	10 "			
	(2) Cord 50m with connector	6 "			
	30. Battery	4 "			
YK-2	22 Oscillograph WR3101-4L with standard accessories special accessories	1 set	135.0 "	155.0 "	118x79x96cm
	(1) Writing Pen KT-204	4 pcs			
	23 Oscillograph WR3101-8L with standard accessories special accessories	1 set			
	(1) Writing Pen KT-204	8 pcs			
	28 XY Recorder WX-4401-H1 with standard accessories special accessories	2 sets			
	(1) Recording Pen KX103R (5 pcs)	2 box			
	(2) - ditto - KX104B (5 ")	2 "			
	(3) Recording Paper	2 vol			
YK-3	22 Special accessories for Oscillograph		190.0kgs	210.0kgs	106x77x104cm
	(2) Recording Paper PZ412-4B	40 "			
	(3) Box for above TZ-202	1 pc			
	23 Special accessories for Oscillograph				
	(2) Recording Paper PZ414-8B	20 vol			
	(3) Box for above TZ-204	1 pc			
	27 Special accessories for XY-Protter				
	(2) Recording Paper PL-501 50shts/box	25 box			
YK-4	21 Cassette data Recorder TEAC, R-81 with standard accessories Special Accessories	1 set	164.0kgs	184.0kgs	140x72x94cm
	(1) AC Adaptor AD-80	1 pc			
	(2) Tape Eraser CHM-2B	1 "			
	(3) Cassette Tape	10 pcs			
	24 Personal Computer PS-85, TEAC with standard accessories	1 set			
	Special accessories				
	(1) A/D Computer board A/DC	1 "			
	(2) Printer PT-210	1 "			
	(3) Protter Joint Cable 4675	1 pc			
	(4) Data input box	1 "			
	25 Soft Wear				
	(1) FORTRAN PL-L1020	1 unit			
	(2) Data Analysis Libraly PL-A1030	1 "			
	(3) Instruction Manual each 4 vol. of PS-85, FORTRAN A/DC, PL-A1030, PT-210	1 set			

- to be continued -

AN INTERNATIONAL COOPERATION AGENCY

Box 216, Mitsui Bldg., Shinjuku-ku, Tokyo, Japan.

s.	Description of Goods	Quantity	Weight net	Weight gross	Measurement
	(4) DOS Disc	1 pc			
	26 Consumption Goods for computer				
	(1) Mini-Floppy Discket	60 shts			
	(2) Sprocket Paper (Recording Paper)	3 box			
	(3) Ribbon 6 pcs/set	6 sets			
	27 XY-Protter WX4675 ✓	1 set			
	with standard accessories				
	special accessories				
	(1) Connecting Cable CA467I-1A	1 pc			
	(3) Fibre Pen KF510-S1	12 sets			
	(4) Ribbon	2 pcs			
	(5) Floppy	50 shts			
	1-(1) Strong Motion Accelerograph RION SM-10	2 sets	190.0kgs	210.0kgs	96x85x97cm
	Cord 10m	1 pc			
	with standard accessories				
	(2) Water Proof case for above	2 pcs			
	2 Recording Tape	20 "			
	3 Readout unit for strong Motion accelorograph RION SM-11	1 set			
	with standard accessories				
	29 Down Transformer	1 "			
	Input 220V, Output 110V, 100V 20A				
	Table Tap	3 pcs			
	31 Battery Charger	1 set			
	Additional accessories				
	(1) Concreate Warp Gauge KC-70-A1-11 10 shts/box	10 box			
	(2) Adhesive Agent for above CC-15A, 2CC	10 pcs			
	(3) Coating Agent C-1A, 500g	2 "			
	(4) Cement	1 set			
	(5) Hamalight R-923T, 3kgs	1 pc			
	(6) Cable Set	1 set			
	Total:	47 sets 95 pcs 42 box 62 vol 2 unit 110 shts	887.0kgs	987.0kgs	

JAPAN INTERNATIONAL COOPERATION AGENCY

P.O. Box 216, Mitsui Bldg., Shinjuku-ku, Tokyo, Japan.

INVOICE

Consigned to : DIRECTORATE OF BUILDING RESEARCH
MINISTRY OF PUBLIC WORKS,
FOR MR.TOSHIYUKI KUBOTO, JAPANESE
COLOMBO PLAN EXPERT THROUGH JICA
JAKARTA OFFICE VIA EMBASSY OF JAPAN 24,
JALAN THAHRIN, JAKARTA INDONESIA

No : .....

Date : FEB. 22, 1983

Shipped per AIRCRAFT

from TOKYO, JAPAN

to JAKARTA, INDONESIA

via .....

on .....

Export Licence No .....

Shipping Mark :

JICA
JAKARTA
C/No. T.K-1-2
MADE IN JAPAN

SIDE MARK
TECHNICAL COOPERATION
BY THE GOVERNMENT OF JAPAN

Nos.	Description of Goods	Quantity	Unit Price	Amount
	TECHNICAL EQUIPMENT OF J.I.C.A.			
	LOAD CELL MODEL:CLP-508	1 SET		¥160,000.-
	LOAD CELL MODEL:CLP-1008	1 "		203,000.-
	TRANSDUCER INDICATOR MODEL:DPT-101A WITH TRANSFORMER	2 SETS	¥310,000.-	620,000.-
	TOTAL: TWO (2) CARTONS	4 SETS	EX-GODOWN	¥983,000.-
			SHIPPING CHARGE	9,250.-
			AIR FREIGHT	58,905.-
	" NO COMMERCIAL VALUE "		INS. PREMIUM	19,492.-
			CIF JAKARTA	¥1,070,647.-
			JAPAN INTERNATIONAL COOPERATION AGENCY	
			P.P	REPRESENTATIVE

E. & O. E

JAPAN INTERNATIONAL COOPERATION AGENCY

P.O. Box 216, Mitsui Bldg., Shinjuku-ku, Tokyo, Japan.

PACKING LIST

Consigned to : DIRECTORATE OF BUILDING RESEARCH
MINISTRY OF PUBLIC WORKS, FOR
MR.TOSHIYUKI KUBOTA JAPANESE COLOMBO
PLAN EXPERT THROUGH JICA JAKARTA OFFICE
VIA EMBASSY OF JAPAN 24, JALAN THAMRIN,
JAKARTA, INDONESIA

No : .....

Date : APRIL 16, 1983

Shipped per AIRCRAFT

from TOKYO, JAPAN

to JAKARTA, INDONESIA

via .....

on .....

Shipping Mark :

JICA

JAKARTA
C/No. T.K-1-3
MADE IN JAPAN

SIDE MARK

TECHNICAL COOPERATION
BY THE GOVERNMENT OF JAPAN

C/Nos.	Description of Goods	Quantity	Weight net	Weight gross	Measurement
	TECHNICAL EQUIPMENT OF J.I.C.A.				
T.K-1-3	- DETAILS AS PER ATTACHED SHEET -	4 SETS 23 PCS, 1 BOX 40,000 SETS	505.0KGS	541.0KGS	
	TOTAL: THREE (3) P'KGS				

JAPAN INTERNATIONAL COOPERATION AGENCY

P.P. KAZUNE ARITA
PRESIDENT

JAPAN INTERNATIONAL COOPERATION AGENCY

P.O. Box 216, Mitsui Bldg., Shinjuku-ku, Tokyo. Japan. (1)

C/Nos.	Description of Goods	Quantity	Weight net	Weight gross	Measurement
T.K-1	FLOPPY DISK MZ-80BF WITH TRANS.	1 SET	13.0KGS	15.0KGS	50x46x31C:
	I/O CARD FOR FLOPPY MZ-88FI	1 PCS			
	FLOPPY CONNECTING CABLE MZ-88FC	1 "			
	MASTER DISKET MZ-88DM	1 "			
	BRANK DISKET MZ-80FBD	10 PCS			
T.K-2	CANON COPY MACHINE NP300	1 SET	405.0 "	435.0KGS	144x147x11
	DRUM	1 PCS			
	DOCUMENT FEEDER	1 "			
	PEDISTAL	1 "			
	SORTER	1 "			
	CASSETTE A3	1 "			
	" A4	1 "			
	" B4	1 "			
	" B5	1 "			
	A4R CASSETTE	1 "			
	B5R "	1 "			
	TONNER	1 BOX			
	PARTS SET B	1 SET			
	" C	1 "			
	PAPER B4	10,000 SHTS			
	" B5	10,000 SHTS			
	" A4	10,000 "			
T.K-3	" A3	10,000 "	87.0 "	91.0 "	77x53x64C:
	TOTAL:	4 SETS, 23 PCS, 1 BOX 40,000 SHTS	505.0KGS	541.0KGS	

JAPAN INTERNATIONAL COOPERATION AGENCY

P.O.Box 216, Mitsui Bldg., Shinjuku-ku, Tokyo, Japan.

INVOICE

Consigned to : DIRECTORATE OF BUILDING RESEARCH
MINISTRY OF PUBLIC WORKS
FOR MR. SHINSUKE NAKATA. (JAPANESE
COLOMBO PLAN EXPERTS) THROUGH
JICA JAKARTA OFFICE, C/O, EMBASSY OF JAPAN
24, JL THAMRIN JAKARTA, INDONESIA

No :

Date : 31, JAN. 1984.

Shipped per AIRCRAFT

from TOKYO, JAPAN.

to JAKARTA, INDONESIA

via DIRECT

on

Export Licence No

Shipping Mark :

J I C A
JAKARTA
C/No. S.N.-1-5
MADE IN JAPAN

SIDE MARK
TECHNICAL COOPERATION
BY THE GOVERNMENT OF JAPAN

Nos.	Description of Goods	Quantity	Unit Price	Amount
	TECHNICAL EQUIPMENT OF J.I.C.A.			
	-DETAILES ARE AS PER ATTACHED SHEETS-			
TOTAL:	FIVE (5) CARTONS 44 sets, 78 pcs, 2 cans, & 1 lot	405 sheets,	EX-GO DOWN:	¥3,639,334.-
	NO COMMERCIAL VALUE		SHIPPING CHARGE:	16,750.-
			AIRFREIGHT:	377,810.-
			INS. PREM:	74,784.-
			CIF: JAKARTA	¥4,108,678.-

JAPAN INTERNATIONAL COOPERATION AGENCY

K. Akita
P.P. KEISUKE AKITA
PRESIDENT

E.&.O.E

JAPAN INTERNATIONAL COOPERATION AGENCY

P.O. Box 216, Mitsui Bldg., Shinjuku-ku, Tokyo, Japan. ( )

Nos.	Description of Goods	Quantity	Unit Price	Amount
	1.VIDEO CAMERA HVC-4000P	1 set		¥230,000.-
	2.TRIPOD FOR ABOVE VCT-20A	1 pc		10,560.-
	3.VIDEO TAPE RECORDER SL-F1E(potable)	1 set		216,000.-
	4.CASE FOR ABOVE LC-330	1 pc		11,500.-
	5.CABLE VMC-330	1 pc		6,240.-
	6.BATTERY NP-1	5 pcs	¥9,500.-	47,500.-
	7.AC ADAPTOR AC-220	1 set		27,000.-
	8.BATTERY CHARGER BC-330E	1 set		21,000.-
	9.MICROPHONE F-V30T	1 pc		3,360.-
	10.MICROPHONE STAND A-16	1 pc		1,700.-
	11.MICROPHONE EXTENSION CABLE EC-10T	1 pc		2,800.-
	12.MONITOR TV CVM-1370QE	1 set		240,000.-
	13.VIDEO CASSETTE RECORDER SL-T30ME	1 set		228,000.-
	14.CABLE UGC-2	1 pc		3,000.-
	15.CORD RK-G34	1 pc		760.-
	16.RACK SU-502	1 set		78,000.-
	SPARE STORES FOR STRAIN GAUGES			
	18.STRAIN GAUGE MODEL KFC-5-C1-11L30	200 sheets	340.-	68,000.-
	19.-ditto- MODEL KFW-5-C1-23L100	100 sheets	550.-	55,000.-
	20.-ditto- MODEL KFW-2-C1-11L100	100 sheets	610.-	61,000.-
	21.BOND CN TYPE 2g 5 pcs/box	10 boxes	1,520.-	15,200.-
	22.-ditto- P2 TYPE 5 pcs/box	5 box	5,300.-	26,500.-
	23.COATING MATERIALS GLASSCLOTH 1x1m	5 sheets	1,450.-	7,250.-
	24.-ditto- MICROCRUSTALLINE WAX W-1 500g	2 cans	760.-	1,520.-
	25.PEVIVISCENT OIL 240g	10 pcs	1,000.-	10,000.-
	SPARE PARTS FOR STRAIN METER			
	26.PRINTER STRUCTURE MODEL MD-8-75	1 pc		98,000.-
	27.FUNCTION SWITCH	1 pc		4,800.-
	28.SCHMIDT CONCRETE TEST HAMMER TYPE N	1 pc		121,500.-
	29.IRON SEARCH MACHINE MODEL SS-30	1 pc		150,000.-
	DRAWING INSTREMENT			
	30.DRAWING PEN SET 8 pcs/set MICRONORM	3 sets	16,650.-	49,950.-
	31.LETTERING TEMPLATES 4 pcs/set	3 sets	10,000.-	30,000.-
	32.DRAWING BOARDS A-3 with SCALE	3 sets	14,500.-	43,500.-
	33.DISPLAY 14 inch COLOR PC8853N	1 set		160,000.-
	34.DISKET UNIT IMB/DRIVE PC-9881K	1 set		286,000.-
	35.FLOPPY DISK INTERFACE BOARD PC9801-15	1 set		27,000.-
	36.DISKET 8 inch (10 sheets)	20 pcs	18,000.-	360,000.-
	37.PRINTER NK-3618-22 NK-3518-22	1 sec		226,000.-
	38.CARTRIDGE FOR ABOVE	5 pcs	1,500.-	7,000.-
	39.PLOTTOR MP-1000-01	1 set		157,000.-
	40.INTERFACE CABLE FOR ABOVE	1 pc		19,000.-
	41.FORM FOR ABOVE 50 sheets	20 pcs	1,000.-	20,000.-
	42.PEN FOR ABOVE 4 + 1 color	20 sets	3,000.-	60,000.-
	43.SOFT WARE , WORD PROFESSOR	1 set		38,000.-
	44. " , GRAPHIC SUPPORT GRAPH 98	1 set		18,000.-
	45.BOOKS	1 lot		170,694.-
	46.CPU NEC PC9801E	1 set		210,000.-
	47.PRINTER FORM	5 pcs	2,200.-	11,000.-
TOTAL:	FIVE (5) CARTONS 44 sets,78 pcs, 405 sheets, 2 cans & 1 lot			¥3,639,334.-

JAPAN INTERNATIONAL COOPERATION AGENCY

P.O. Box 216, Mitsui Bldg., Shinjuku-ku, Tokyo, Japan.

INVOICE

Consigned to : DIRECTOR, CENTRE FOR RESEARCH AND DEVELOPMENT ON HUMAN SETTLEMENTS
FOR MR. IZUMI TOKOYAMA (JAPANESE COLOMBO PLAN EXPERT) THROUGH JICA
JAKARTA OFFICE, C/O EMBASSY OF JAPAN
24 JL THAMRIN, JAKARTA, INDONESIA.

No : A-355 , 356

Date : Jan. 8, 1985

Shipped per AIRCRAFT

from TOKYO, JAPAN

to JAKARTA, INDONESIA

via

on

Export Licence No

Shipping Mark :

JICA
JAKARTA
C/No. IY-1-16
MADE IN JAPAN

SIDE MARK
TECHNICAL COOPERATION
BY THE GOVERNMENT OF JAPAN

Nos.	Description of Goods	Quantity	Unit Price	Amount
	TECHNICAL EQUIPMENT OF JICA			F.O.B. JAPAN
	Rectilinear Thermal Writing Oscillograph Model 8K21	2 sets	¥946,000.-	¥1,892,000.-
	Printing Unit for Model 8K21	2 units	96,500.-	193,000.-
	2-fold Supply Cassette for 8K21	2 sets	30,900.-	61,800.-
	Mobile Cart	2 "	43,500.-	87,000.-
	Spares: Thermal Pen for Signal 43406	16 pcs	6,700.-	107,200.-
	- do - Marker 43407	4 "	6,700.-	26,800.-
	Recording Paper 0511-1168 (5 vols/set) for 8K32	50 sets	5,500.-	275,000.-
	0511-1227	10 "	29,000.-	290,000.-
	Seismometer Model:PK-110(V)	3 "	218,000.-	654,000.-
	Delay Memory for Seismic Waves (Type:DL-20)	1set		598,000.-
	Packing Charge			150,000.-
TOTAL:	Sixteen (16) Cartons. 70 sets, 2 units & 20 pcs. "No Commercial Value. Value for Customs Purpose Only." Freight: Prepaid Origin: Japan			¥4,334,800.-

JAPAN INTERNATIONAL COOPERATION AGENCY

JAPAN INTERNATIONAL COOPERATION AGENCY

P.O. Box 216, Mitsui Bldg., Shinjuku-ku, Tokyo, Japan.

PACKING LIST

Consigned to : DIRECTOR,CENTRE FOR RESEACH AND DEVELOPMENT ON HUMAN SETTLEMENTS, FOR MR.HISAHIRO HISAISHI (JAPANESE COLOMBO PLAN EXPERT) THROUGH JICA JAKARTA OFFICE, c/o EMBASSY OF JAPAN 24 JL THAMRIN, JAKARTA,INDONESIA

No : A-357

Date : 27th, JAN,1985

Shipped per AIRCRAFT

from TOKYO,JAPAN

to JAKARTA,INDONESIA

via DIRECT

on

Shipping Mark :

JICA
JAKARTA
C/No. H.H.-1-2
MADE IN JAPAN

SIDE MARK

TECHNICAL COOPERATION
BY THE GOVERNMENT OF JAPAN

C/Nos.	Description of Goods	Quantity	Weight		Measurement
			net	gross	
	TECHNICAL EQUIPMENT OF J.I.C.A. -DETAILS ARE AS PER ATTACHED SHEETS-				
TOTAL	TWO (2) CARTONS 29 sets,11 pcs & 2 boxes. *GROSS WEIGHT:96.0KGS.			96.0KGS.	

JAPAN INTERNATIONAL COOPERATION AGENCY

K. K.

P.P KEISUKE ARITA
PRESIDENT

E. & O. E

JAPAN INTERNATIONAL COOPERATION AGENCY

P.O. Box 216, Mitsui Bldg., Shinjuku-ku, Tokyo, Japan.

(1)

C/Nos.	Description of Goods	Quantity	Weight		Measurement
			net	gross	
C/NO.H.H.-1	1."NEC"PERSONAL COMPUTER(PC-9801-E)	1 set		75.0KGS	72x106x65cm
	2. " COLOR DISPLAY (14 inches)	1 set			
	3. " PRINTER	1 set			
	4.INK RIBBON FOR PRINTER	4 pcs			
	5.CONNECTER CABLE	4 pcs			
C/NO.H.H.-2	6."NEC"FLOPPY DISK UNIT(PC-9881 K, 8 inches)	1 set		21.0KGS	58x69x43cm
	7.FLOPPY DISK INTERFACE BOARD (8 inches)	1 pc			
	8.FLOPPY DISK. (8 inches,1 box/10pcs)	2 boxes			
	9.SOFTWARE (WORDSTER,8 inches)	1 pc			
	10.SYSTEM DISK	1 pc			
	11.POCKET COMPUTER WITH MANUAL ("SHARP" PC-1401)	25 sets			
TOTAL	TWO (2) CARTONS 29 sets,11 pcs & 2 boxes.			96.0KGS	

JAPAN INTERNATIONAL COOPERATION AGENCY

P.O.Box 216, Mitsui Bldg., Shinjuku-ku, Tokyo, Japan.

INVOICE

Consigned to : DIRECTORATE OF BUILDING RESEARCH
MINISTRY OF PUBLIC WORKS
FOR MR. SHINSUKE NAKATA
(JAPANESE COLOMBO PLAN EXPERT)
THROUGH JICA JAKARTA OFFICE,
c/o EMBASSY OF JAPAN 24,JL THAMRIN
JAKARTA, INDONESIA

No : A-86

Date : 26th JUN. 1985

Shipped per AIRCRAFT

from TOKYO, JAPAN

to JAKARTA, INDONESIA

via DIRECT

on

Export Licence No

Shipping Mark :

J I C A
JAKARTA

C/No. S.N.-1
MADE IN JAPAN

SIDE MARK
TECHNICAL COOPERATION
BY THE GOVERNMENT OF JAPAN

Nos.	Description of Goods	Quantity	Unit Price	Amount
	TECHNICAL EQUIPMENT OF J.I.C.A.			
	1.BOOKS	1 lot		¥91,629.-
TOTAL	ONE (1) CARTON NO COMMERCIAL VALUE	1 lot	EX-GODOWN:	¥91,629.-
			AIRFREIGHT:	12,700.-
			SHIPPING CHARGE:	8,315.-
			INS; PREM	2,093.-
			CIF JAKARTA:	¥114,737.-

JAPAN INTERNATIONAL COOPERATION AGENCY

p.p KEISUKE ARITA
PRESIDENT

E.&.O.E

JAPAN INTERNATIONAL COOPERATION AGENCY

P.O.Box 216, Mitsui Bldg., Shinjuku-ku, Tokyo, Japan.

INVOICE

Consigned to : DIRECTORATE OF BUILDING RESEARCH
MINISTRY OF PUBLIC WORKS
FOR MR. SHINSUKE NAKATA (JAPANESE
COLOMBO PLAN EXPERT)
VIA EMBASSY OF JAPAN

No :

Date : November 8, 1985

Shipped per "TAUFIQ"

from Yokohama

to Jakarta

via

on November 8, 1985

Export Licence No

Shipping Mark :

J I C A
JAKARTA
C/No. SN-1
MADE IN JAPAN

SIDE MARK

TECHNICAL COOPERATION
BY THE GOVERNMENT OF JAPAN

Nos.	Description of Goods	Quantity	Unit Price	Amount
	EQUIPMENT FOR TECHNICAL COOPERATION OF J.I.C.A.		NO COMMERCIAL VALUE EX-GODOWN JAPAN	
	"OX" STRUCTURE EXPERIMENT SYSTEM			
	- Specification as per attached sheet -	6 sets 2 pcs		¥2,640,000.-
	TOTAL: One (1) Case only	Shipping charge Ocean Freight Insurance Prem.		28,216.- 38,759.- 65,928.-
		C.I.F.	JAKARTA	¥2,772,903.-

JAPAN INTERNATIONAL COOPERATION AGENCY

P.P. KEISUKE ARITA
PRESIDENT

E.&.O.E

JAPAN INTERNATIONAL COOPERATION AGENCY
P.O.Box 216, Mitsui Bldg., Shinjuku-ku, Tokyo, Japan. (1)

Nos.	Description of Goods	Quantity	Unit Price	Amount
1.	"OX" Structure Experiment system ✓			
	1. Hydraulic Jack Capacity: 20 ton Lift: + 300m/m	1 set		¥900,000.-
	2. Load cell Capacity: 20 ton	1 "		216,000.-
	3. Digital Indicator 100V 50/60 Hz.	1 "		240,000.-
	4. High-Low Pressure Double-Acting pump HPW-5 w/pressure gauge	1 "		159,000.-
	5. OX Jack Hose Using pressure: 1,000 kg/cm2	2 pcs	50,000.-	100,000.-
2.	"KYOWA" Digital strain gauge UCAM-5BTH	1 set		917,000.-
3.	Typewriter "OLIVETTI" PRAXIS 35	1 "		108,000.-
TOTAL:	One (1) Case only	6 sets 2 pcs		¥2,640,000.-
		Shipping charge		28,216.-
		Ocean Freight		38,759.-
		Insucance Prem.		65,928.-
		C.I.F.	JAKARTA	¥2,772,903.-

JAPAN INTERNATIONAL COOPERATION AGENCY

P.O.Box 216, Mitsui Bldg., Shinjuku-ku, Tokyo, Japan.

INVOICE

Consigned to : AGENCY FOR RESEARCH AND DEVELOPMENT,
MINISTRY OF PUBLIC WORKS
ATT:MR.SHINSUKE NAKATA
C/O JICA INDONESIA OFFICE
JAPANESE EMBASSY COMPOUND
24 JALAN THAMRIN, JAKARTA, INDONESIA.

No : A-255

Date : JAN,6,1987

Shipped per BY HAND

from TOKYO, JAPAN

to JAKARTA, INDONESIA

via

on

Export Licence No

Shipping Mark :

JICA
JAKARTA
C/No. S.N.-1-2
MADE IN JAPAN

SIDE MARK
TECHNICAL COOPERATION
BY THE GOVERNMENT OF JAPAN

Nos.	Description of Goods	Quantity	Unit Price	Amount
	TECHNICAL EQUIPMENT OF JICA			FOB JAPAN
C/NO.SN-1	Power Supply TUPS-200 (TAKAHISAWA)	2 sets	@¥65,000.-	¥130,000.-
C/NO.SN-2.	Typewriter EM-1711 (BROTHER)	1 set		165,000.-
C/NO.SN-1	Interface IF-300	1 "		32,000.-
	Crrectable Ribbon	50 pcs	1,050.-	52,500.-
	Lift Off Correction 2pcs/set	10 set	1,440.-	14,400.-
	Nylon Ribbon	10 pcs	1,050.-	10,500.-
	Over Head Projector (GAKKEN)	1 set		160,000.-
	Spare Lamp	10 pcs	2,800.-	28,000.-
Total :	Two (2) Cartons	15 sets & 70 pcs		¥592,400.-
	" No Commercial Value Value for Customs Purpose Only "			
	Freight : Prepaid			
	Origin : Japan			

E.&.O.E

JAPAN INTERNATIONAL COOPERATION AGENCY

P.O.Box 216, Mitsui Bldg., Shinjuku-ku, Tokyo, Japan

INVOICE

Consigned to : AGENCY FOR RESEARCH AND DEVELOPMENT,
MINISTRY OF PUBLIC WORKS
ATT: MR.TATEYOSHI OKADA
C/O JICA INDONESIA OFFICE
JAPANESE EMBASSY COMPOUND,
24 JALAN THAMRIN, JAKARTA, INDONESIA.

No : A-256

Date : JAN.6,1987

Shipped per BY HAND

from TOKYO, JAPAN

to JAKARTA, INDONESIA

via

on

Export Licence No

Shipping Mark :

JICA
JAKARTA
C/No. T.O.-1
MADE IN JAPAN

SHIP. MARK
TECHNICAL COOPERATION
BY THE GOVERNMENT OF JAPAN

Nos.	Description of Goods	Quantity	Unit Price	Amount
	TECHNICAL EQUIPMENT OF JICA			TOB JAPAN
	Strain Gauge Equipment			
	a) Strain Gauge PL5	100 pcs	@¥314.-	¥31,400.-
	b) - do - PL60 with Cable 3m	100 sets	333.-	33,300.-
	c) Gauge Connector T-2 100pcs/box	2 boxes	3,350.-	6,700.-
	d) Adhesive for Strain Gauge P-2	10 pcs	800.-	8,000.-
	e) - do - C-N 5 pcs/box	10 boxes	1,520.-	15,200.-
	f) Coating Materials W-1 500g	2 pcs	800.-	1,600.-
	Strain Gauge Type Transducer Model: SDP-100R	6 sets	47,500.-	285,000.-
Total :	One (1) Carton			¥381,200.-
	112 pcs, 106 sets & 12 boxes			
	" No Commercial Value Value for Customs Purpose Only "			
	Freight : Prepaid			
	Origin : Japan			

E.&.O.E

JAPAN INTERNATIONAL COOPERATION AGENCY

P.O.Box 216, Mitsui Bldg., Shinjuku-ku, Tokyo, Japan.

INVOICE

Consigned to : AGENCY FOR RESEARCH AND DEVELOPMENT
MINISTRY OF PUBLIC WORKS
ATT: MR.TAKAYUKI TERAMOTO
C/O, JICA INDONESIA OFFICE
JAPANESE EMBASSY COMPOUND
24 JALAN THAMRIN, JAKARTA, INDONESIA.

No : A-256

Date : JAN.8,1987

Shipped per BY HAND

from TOKYO, JAPAN

to JAKARTA, INDONESIA

via

on

Export Licence No

Shipping Mark :

JICA
JAKARTA
T.T.-1
C/No. A.Y.-2
MADE IN JAPAN

TECHNICAL COOPERATION
BY THE GOVERNMENT OF JAPAN

Nos.	Description of Goods	Quantity	Unit Price	Amount
	TECHNICAL EQUIPMENT OF JICA			FOB JAPAN
C/NO.TT-1	Microcomputer Software NEC PS-98-325-HFS	1 set		¥72,000.-
	- do - NEC PS-98-127-HFS	1 "		16,200.-
	Floppy Discket 3M FD/2D-256 10pcs/box	20 boxes	@¥11,000.-	220,000.-
	Magnetic Recording Tape TEAC CT90 Type II	20 pcs	1,900.-	38,000.-
C/NO.AY-2	Printer for Microcomputer MODEL:CE-126P	25 sets	16,000.-	400,000.-
	Printer Paper for Above EA-1250P 5pcs/box	25 boxes	270.-	6,750.-
Total :	Two (2) Cartons			¥752,950.-
	27 sets, 45 boxes & 20 pcs			
	" No Commercial Value Value for Customs Purpose Only "			
	Freight : Prepaid			
	Origin : Japan			

E.&.O.E

1711.1980.

JAPAN INTERNATIONAL COOPERATION AGENCY

P.O.Box 216, Mitsui Bldg., Shinjuku-ku, Tokyo, Japan.

17.1.87

INVOICE

JL-721.

Consigned to : AGENCY FOR RESEARCH AND DEVELOPMENT,
MINISTRY OF PUBLIC WORKS
ATTN: MR.YOSHITSUGU ASANO
C/O JICA INDONESIA OFFICE
JAPANESE EMBASSY COMPOUND
24 JALAN THAMRIN, JAKARTA, INDONESIA.

No : A-256

Date : JAN.6,1987

Shipped per AIRCRAFT

from TOKYO, JAPAN

to JAKARTA, INDONESIA

via

on

Export Licence No

Shipping Mark :

JICA

JAKARTA

C/No. Y.A.-1

MADE IN JAPAN

TECHNICAL COOPERATION

BY THE GOVERNMENT OF JAPAN

Nos.	Description of Goods	Quantity	Unit Price	Amount
	TECHNICAL EQUIPMENT OF JICA			FOB JAPAN
	Thermal Recording Paper KYP-50K	20 bags	@¥1,100.-	¥22,000.-
	Load Cell Model LU-5YE	1 set		151,000.-
Total :	One (1) Carton 20 bags & 1 set " No Commercial Value Value for Customs Purpose Only " Freight : Prepaid Origin : Japan			¥173,000.-

E.&O.E

JAPAN INTERNATIONAL COOPERATION AGENCY

P.O.Box 216, Mitsui Bldg., Shinjuku-ku, Tokyo, Japan

INVOICE

JL=721.

1.2.1987

Consigned to : AGENCY FOR RESEARCH AND DEVELOPMENT,
MINISTRY OF PUBLIC WORKS
ATTN MR.AKIRA YAMAKE
C/O JICA INDONESIA OFFICE
JAPANESE EMBASSY COMPOUND
24 JALAN THAMRIN, JAKARTA, INDONESIA.

No : A-216

Date : JAN.6.1987

Shipped per AIRCRAFT

from TOKYO, JAPAN

to JAKARTA, INDONESIA

via

on

Export Licence No

Shipping Mark :

JICA

JAKARTA
C/No. A.Y.-1
MADE IN JAPAN

TECHNICAL COOPERATION
BY THE GOVERNMENT OF JAPAN

Nos.	Description of Goods	Quantity	Unit Price	Amount
	TECHNICAL EQUIPMENT OF JICA			FOB JAPAN
	Printer for Microcomputer MODEL:CE-1252	25 sets	¥16,000.-	¥400,000.-
	Printer Paper for Above EA-1250F 5pcs/box	25 boxes	270.-	6,750.-
Total 1	One (1) Carton 25 sets & 25 boxes " No Commercial Value Value for Customs Purpose Only " Freight : Prepaid Origin : Japan			¥406,750.-

E.&O.E

THE SIXTH INTERNATIONAL ADVANCED COURSE
ON SEISMOLOGY AND EARTHQUAKE ENGINEERING
FOR STRUCTURAL ENGINEERS
INDONESIA, JANUARY 10 TO FEBRUARY 21, 1987

JICA

EVALUATION OF

THE SIXTH INTERNATIONAL ADVANCED COURSE ON SEISMOLOGY AND EARTHQUAKE ENGINEERING FOR STRUCTURAL ENGINEERS

INTRODUCTION

The Sixth International Advanced Course on Seismology and Earthquake Engineering for Structural Engineers, was held from January 10 to February 21, 1987 in Bandung.

In the fifth week of the running of the course, the Organizing Committee had distributed the evaluation questionnaire to the participants to obtain data on the conduct of the course.

From the 20 questionnaires given to the participants, only 15 were returned and the results are as mentioned in this report.

The result of this evaluation is used as an input for improving the programme of the course in the future.

Bandung, February 1987

Organizing Committee

I. OBJECTIVES

1. To what extent were you aware of the objectives of this training program before you came to Indonesia ?

1. Not aware at all	0	00,00 %
2.	1	06,60 %
3.	3	20,00 %
4.	6	40,00 %
5. Fully aware	5	33,40 %

2. Please indicate whether the main objectives of the Course were.

1. Not met	0	00,00 %
2.	0	00,00 %
3.	2	13,40 %
4.	9	60,00 %
5. Fuully met	4	26,60 %

3. In your opinion to what extent was your expectation of this Course fulfilled ?

1. Not fulfilled	0	00,00 %
2.	0	00,00 %
3.	6	40,00 %
4.	7	46,60 %
5. Completely fulfilled	2	13,40 %

II. CURRICULUM DESIGN

1. Coverage Level,Time Allocation, Intensity and Duration:

a. Coverage of the subjects

1. Incomplete	0	00,00 %
2.	0	00,00 %
3. Just right	13	86,60 %
4.	2	13,40 %
5. Too broad	0	00,00 %

b. Level

1. Too elementary	0	00,00 %
2.	1	06,60 %
3. Just right	9	60,00 %
4.	5	33,40 %
5. Too advanced	0	00,00 %

c. Time allocation to :

Lectures		
1. Too little	0	00,00 %
2.	2	13,40 %
3. Just right	10	66,60 %
4.	3	20,00 %
5. Too much	0	00,00 %
Discussions		
1. Too little	1	06,60 %
2.	6	40,00 %
3. Just right	8	53,40 %
4.	0	00,00 %
5. Too much	0	00,00 %
Exercises		
1. Too little	1	06,60 %
2.	8	53,40 %
3. Just right	5	33,40 %
4.	1	06,60 %
5. Too much	0	00,00 %
Observations		
1. Too little	2	13,40 %
2.	5	13,30 %
3. Just right	8	53,30 %
4.	0	00,00 %
5. Too much	0	00,00 %
d. Intensity		
1. Too leisurely	0	00,00 %
2.	0	00,00 %
3. Just right	12	80,00 %
4.	3	20,00 %
5. Too hard	0	00,00 %
e. Duration		
1. Too short	0	00,00 %
2.	0	00,00 %
3. Just right	7	46,70 %
4.	7	46,70 %
5. Too long	1	06,60 %

* Please comment if you have any

See annex 1 !

2. Programming of the Topics

Do you think that the topics were programmed systematically ? If you do not, please give us your suggestion to improve the training much better.

See annex 2 !

3. The most or the least valuable topics

a. What do you think are the two (2) most interesting and beneficial topics in the training program ?

(1). Structural dynamic	6	40,00 %
@(2). General earthquake engineering	5	33,30 %

b. What do you think are the two (2) least interesting and beneficial topics in the training program ?

@(1). R.C. Building design	3	20,00 %
(2). Rendom viration	3	20,00 %

* Please comment if you have any .

See annex 3 !

III. COURSE CONDUCT

1. Teaching Method

Evaluate the teaching method and application to your works of each topic or subject matter by the scale below. Please fill the checklist on next page with the number that approximate your opinion.

Scale(teching method)	(application)
1. Very poor	1. Nothing
2. Poor	2.
3. good	3.
4. very good	4.
5. Out standing	5. Applicable

CHECK POIN / TOPICS OR SUBJECT MATTERS	Method of instruction and presentation	Communication language	Trainees involvement and participation	Quality and Quantity of training materials	Quality and quantity of training facilities	Application to your works	Total evaluation
MICRO COMPUTER	3	3	3	4	3	3	19
GENERAL EARTHQUAKE ENGINEERING	4	5	3	4	4	4	19
SEISMIC BUILDING CODE	4	4	3	4	3	3	21
STRUCTURAL ANALYSIS	3	3	4	4	3	4	21
R/C BUILDING DESIGN	3	4	3	4	4	3	21
STRUCTURAL DINAMIC	4	3	3	4	3	3	20
BASE ISOLATER	3	3	3	3	3	3	18
MASONRY BUILDING DESIGN	3	4	3	3	3	3	19
FOUNDATION DESIGN	3	3	3	4	4	3	20
STEEL BUILDING DESIGN	3	4	3	3	3	4	20
STRUCTURAL TEST	4	4	3	3	4	4	22
RANDON VIBRATION	3	4	3	4	3	3	20
COMPOSITE STRUCTURAL DESIGN	3	3	3	4	4	3	20
ASEISMIC DESIGN CODE	4	4	3	4	4	5	24

Note : Above number of velue is taken by random.

2. Application of techniques and knowledge

Do you will have chanqe to make use of the techniques and knowledge you have attained in this Course in your country ?

1. Few
2.
3.
4.
5. Quite many

For the participants who marked degree 1 or 2 of the above items on training outcomes, please give us some comments.

Not comment.

IV. ADMINISTRATION AND HANAGEMENT

How would you describe the general administration and management of the course ?

a. Coordination for course conduct :

1. Very poor	0	00,00 %
2. poor	2	13,40 %
3. good	9	60,00 %
4. very good	4	26,60 %
5. outstanding	0	00,00 %

b. Pre course information (G.I. Briefing and Orientation)

1. Very poor	0	00,00 %
2. poor	1	06,70 %
3. good	10	66,60 %
4. very good	4	26,70 %
5. outstanding	0	00,00 %

c. Arrangments for observation tripe

1. very poor	0	00,00 %
2. poor	4	26,60 %
3. good	3	20,00 %
4. very good	8	53,40 %
5. outstanding	0	00,00 %

d. Housing and food accommodations

1. very poor	2	13,40 %
2. poor	3	20,00 %
3. good	4	26,60 %
4. very good	6	40,00 %
5. outstanding	0	00,00 %

e. Allowance

1. too little	5	33,30 %
2.	2	13,40 %
3. reasonable	8	53,30 %
4.	0	00,00 %
5. too much	0	00,00 %

f. Transfortation

1. inconvenient	2	13,40 %
2.	5	33,30 %
3. good	5	33,30 %
4.	3	20,00 %
5. very convenient	0	00,00 %

g. Social program

1. very poor	2	13,40 %
2. poor	7	46,60 %
3. good	2	13,40 %
4. very good	4	26,60 %
5. outstanding	0	00,00 %

h. Communication among the participants

1. very poor	1	06,60 %
2. poor	1	06,60 %
3. good	8	53,40 %
4. very good	5	33,40 %
5. outstanding	0	00,00 %

Please comment, if you have any

See annex 4 !

V. TRAINING OUTCOMES

1. Attainment of technique and knowledge

1. Little	0	00,00 %
2.	0	00,00 %
3.	8	53.40 %
4.	6	40,00 %
5. Fully	1	06,60 %

2. Please give us your comments and suggestion for the next course (themes, subjects, period, etc)

See annex 5 !

UN

ANNEXES

ANNEX 1

Please Comment if You Have Any

1. Almost all of Japanese lecturer are to fast to take place of transporancy from overhead may be afraid to time over.
   I think is better slowly but still sure.

2. For some lecturer I suppost, the exercise are not enough, and also the observations.
   It has its use, the exercises are fulfill the participants.

3. On the next course, its better if there are much discussion between participants and lecturers also much exercises that must do every participants.
   About duration of this course, I think that long time, its better if this course start at 7.30 or 8.00 till 16.30 or 17.00 and this duration of this course is about 4 weeks.

4. Time allocated for seismology and general earthquake engineering was insufficient structural engineers do not normally have deep understanding of general seismology and this subject with provide the participants the necessary grounding to appreciate the practical aspects of earthquake engineering more effectively.

5. The subjects generally cover satisfactory the Relevant Topics of earthquake engineering, but I expected some new state of the art analysis tecniques (E.G Dynamic/static elasto-plastic analysis using P.E.M) since this is afterall and "Advanced" course.
   Too much detail was placed on the Basic E.G Micro Computers, R.C. and Steel Design etc) which should be assumed to be possessed by the participants while last emphasis was given on the advanced topics (E.G, Base Isolator, Random Vibration, Earthquake Simulation, etc).
   There should be less time given to the basics while more time given to new advanced topics.

ANNEX 2

Programming of the topics.
Do you think that the topics were programmed systematically ?
If you dont, please give us your suggestion to improve the training much better.

1. I have only one observation on the scheduling. The lecturs on seismology, plate tectonics by Prof. Zen should be scheduled as one of the first lectures since it describes the geophysical nature if earthquakes - a concept which should be very clear in our minds before we can talk about Mitigative measures such as E.Q. resistance design, etc.

2. I suggest that the sequence of this course first general earthquakes engineering, seismic building code seismic design code, random vibration, then micro computers, structural analysis, structural dynamic, structural test, base isolator, and then RC building design masonry building design, steel building design, etc.

3. General earthquake engineering by Prof. MT. Zen must be put at the beginning programme.

4. The topics were programmed systematically, but how lesson often to change and gift materials lectures prefeable before lecture begin.

5. Should be better, the topics of general earthquake engineering was programmed at the beginning course.

6. The topics insufficent programmed systematic, I have suggestion for the next year course, its better for placing the topics like phylosophy of earthquake (prof. MT> Zen) on beginning of the course.

ANNEX 3

Comment.

1. The lecture has constrains for communication the lecture has not solution about detail.

2. Its important to add more about exercise of calculation structure and more time to do it.

3. Duration of lecture is too short and to fast, so its very difficult to understand.

4. I suggest that the sylabus of micro computers is not only for calculation program on Basic language, but also Fortran language and computer aidid design.

ANNEX 4

Please Comment, If You Have Any.

1. For next course, I suggest that information of pre course should be complete about the topics or subject matters on this course.

2. Its better give the some place/housing for all participants next year in order to give them informal discussion.

3. It is important to make all the participant in the same housing and accommodation in order all the participant to be close each others.

ANNEX 5

Please give us your comments and suggestions for next course (themes, subjects, period, etc).

1. I oberved that at the beginning of the course there was an evaluation of the participants to determine "where the lecturers should start". I think the better approach is to set a defisite standard which all applicants should pass to be eligible as a participant, whether there be 50 or only ten who hurdle the standard.
   This way, things would be easier for both participants and lecturers and more advanced topics may be included.
   Intellectual thirst may well be quenched by some western thoughts, too may be some lecturers from the U.S.A or Europe will be benefical to satisfy the course's objectives.
   I think the Bali trip may well be reserved for the last because the inertia from the trip is too strong to immediately regain intellectual interest. I have only these pew suggestions above, otherwise the course was held in general success and the developing countries surely will benefit from such a training. I look forward to housing about the 7th international advanced course, and I appreciate the eforts of IHS and JICA to advanced knowledge.

2. Themes of this course is good, subjects of this course is good enough.
   Period of this course is too long, may be could be shorter, (4 or 5 weeks). The schedule of every day could be from 8.00 - 14.00 o'clock.

3. Themes OK.
   Subjects, Quantity of the material is enough but quality of the material to extent and enercased. Period the time to encreased.

4. Themes and subject is very good enough, but for duration I think :
   "Period" at 8.00 a.m - 15.30 p.m for every day.
   - First session with 1 (one) time break
   - Second session with lunch
   - Third session with the second break.
   So as suggest must be able to lecture activities for at 8.00 a.m until at 15.30 p.m.
   Of course we have logical that the programme of the course will be taken more short for 4 weeks enough. That is why the objectives suggestions inpact is effectively - allowance, economically - food and accomodation. That means not to decrease (subject) if the objectives programme.
   We still need consider about the curriculum design e.g.
   - Subjects
   - Time allocation to lectures, obervations, duration and programming of the topics each aspect.

5. May be, teaching will be much more effective if only one topic be given to each lecturer, to give him enough time to discuss thing in a more detail way.
   May be, trip to Bali be schedule on the last week of the course, so that there will be no breaking lecture momentum.

6. For the next course, before the course will begin, O.C. must be check the background of the participants, if I read the topics of this course is advanced course for structural engineers, but participants have background road engineers, architect engineers and other background. May be on then field, they didn't get lesson, about topics like in this course, so they didn't get lesson on this course very well.

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