社会開発協力部報告書

No. 2

インドネシア共和国
高等教育開発計画
実施協議調査団報告書

平成2年4月

国際協力事業団
社会開発協力部

序　　文

インドネシア国政府は、地方（ジャワ島以外の地域）の開発政策の一環として、スマトラ島及びカリマンタン島に点在する地方大学の教育水準の向上を図る目的で、国際機関及び先進各国に各種の支援を要請していたが、1988年、米国国際開発庁（USAID）は、本案件に関し、これを日米共同プロジェクトとして位置付け、プロジェクトデザインの時点から日本国政府の参画を要請してきた。

これに対し日本側は、1988年7月にUSAIDが実施した第1次調査であるスマトラ島及びカリマンタン島の国立大学現地調査（1988年7月3日～7月30日）に参画して関連情報及び資料の収集を行うとともに、インドネシア教育文化省高等教育総局及びUSAIDインドネシア事務所と意見交換を行った。

さらに、1988年11月にUSAIDが実施した第2次調査（1988年11月8月～11月16日）にも参画し、USAIDが作成するProject Paperに盛り込まれる米国側の協力内容を聴取するとともに、暫定的な日本側協力内容をインドネシア側及び米国側に提示した。

上記経緯を踏まえ、当事業団は1989年4月に第3次調査として、プロジェクト形成調査団を派遣し、右結果を受けてインドネシア政府は同年6月にプロジェクトの正式要請書を提出した。

本プロジェクトは、日米共同事業であり、従来の我が国のODA技術協力案件にはみられない特殊な協力内容ではあるものの、高度化・多様化する開発途上国側のニーズに柔軟に対応する必要があり、また、North-North共同事業という新しい協力の形態についても積極的に取り組むべきであるとの判断に立ち、1989年7月に実施された日・イ年次協議において、協力対象案件とし、て検討する旨の意向を表明した。

これに基づき当事業団は、本プロジェクトの実施に向けて検討を開始し、文部省及び関係国立大学の協力を得て、1989年8月30日から9月15日まで事前調査団を派遣し、現地調査及びインドネシア側関係機関からの事情聴取等必要な調査を実施した。

本件実施協議調査団は、以上の経緯及び事前調査の結果を踏まえ、またUSAID側の協力が、本年度（1990年度）中に開始されることを考慮し、本プロジェクトのマスタープランの協議及び、R／Dの署名によるプロジェクト方式技術協力の開始を目的として、1990年4月1日から4月15日まで現地へ派遣したものであり、本報告書は、同調査団の調査及び協議事項の結果をとりまとめたものである。

終りに、本件調査の実施にあたりご協力いただいたインドネシア国政府関係機関及び関係各大学、外務省、文部省関係の各位に深甚なる謝意を表する次第である。

1990年4月

国際協力事業団

理事　玉光弘明

目　　次

1. 実施協議調査団の派遣

1－1 調査団派遣の経緯と目的

(1) 日米共同プロジェクトとしてＵＳＡＩＤから提案された本プロジェクトは、インドネシアの地方開発政策の一環として、スマトラ及びカリマンタン地域における高等教育の水準向上を目的に、同地域から複数の対象大学を選定し、現職教官により高い学位を取得せしめ、最新教授法等の技術移転を実施する計画である。

(2) 我が国は1988年２月にＵＳＡＩＤより本プロジェクトへの参画の提案を受けた後、同年７月に実施されたＵＳＡＩＤによるプロジェクトデザイン調査に参加し、さらに同年11月に派遣したプロジェクト形成調査団において、本プロジェクトに対する日本側計画案をＵＳＡＩＤ及びインドネシア側に提案した。また1989年３月のプロジェクト形成調査団においては、本プロジェクトに対する日本側の協力の枠組みを固め、その枠組みに関しインドネシア側・ＵＳＡＩＤの合意を取りつけた。

(3) 今般、日本側の案に基づき、インドネシア側から本プロジェクトに対する無償資金協力・プロジェクト方式技術協力の要請が正式に提出された。

また1989年８月には事前調査団が派遣され、対象大学工学部系教授陣、教育施設、既存機材、供与必要機材等に関する調査を行い、1990年１月には長期調査員を派遣して補足調査を行っている。

(4) これまでのプロジェクト形成調査、事前調査の結果、本プロジェクトに対する日本側の協力内容は、スマトラ及びカリマンタン地域の対象大学における工学部系現職教官の能力向上を図るため、①インドネシア国内に核となる高等教育機関を設定し、同機関に対象大学の教官を国内留学させ、より高い学位を取得せしめること、②対象大学の教官に対する、本邦の最近の技術的情報・教育技法、高度な大学運営管理技法等に関する短期集中講義、③主として上記①に付随する本邦研修、及び④対象大学各学部のレベルアップに必要な機材供与、を行おうとするものである。また、日米共同プロジェクトとしての位置付けは、対象大学を共通にして、日本は工学部系の教官を、米国は基礎科学・経営学の教官を育成するという仕分けで最終的には総合的に地方大学の水準向上につなげていくというものである。

(5) 米国は本年中に協力を開始する予定であり、我が国もこれに歩調を合わせるため、プロジェクトのマスタープラン（実施運営体制、事業計画、双方の投入計画等）を協議し、Ｒ／Ｄ署名によりプロジェクト方式技術協力を発足せしめることを目的として実施協議調査団が派遣された。

1－2　調査団の構成

① 西野　文雄　（総括）

東京大学工学部土木工学科教授

Professor, Dept. of Civil Engineering, Faculty of Engineering, Univ. of Tokyo

② 矢追　秀敏　（副総括）

国際協力事業団社会開発調査部計画課長

Director, Planning Div., Social Development study Dept., JICA

③ 遠藤　賢司　（技術協力政策）

外務省経済協力局技術協力課事務官

Official, Technical Cooperation Div., Economic Cooperation Bureau, MOF

④ 相場　宏　（高等教育政策）

東京大学庶務部国際交流課長

Director, International Affairs Div., General Affairs Dept., The Univ. of Tokyo

⑤ 本間　寛臣　（大学運営）

豊橋技術科学大学工学部教授

Professor, Dept. of Energy Engineering, Toyohashi Institute of Technology

⑥ 遠藤　哲也　（業務調整）

国際協力事業団社会開発協力部社会開発協力第一課

Staff, Social Development Cooperation Div., Social Development Cooperation Dept., JICA

1－3　日程表

月　日	曜	内　　容
4. 1	日	11：30　Lv. Narita（ＣＸ501）矢追副総括、相場、本間、遠藤（哲） 16：20　Lv. Hongkong（ＣＸ711）　各団員
2	月	9：00　ＪＩＣＡ事務所打合せ（松岡次長、田口次長、米田担当） 10：00　大使館表敬（太田一等書記官、佐野一等書記官） 11：00　ＤＧＨＥ表敬（Sukadji 総局長、Banbang 学術局長） 14：00　ＢＡＰＰＥＮＡＳ表敬（Tilaar 教育文化局長） 15：30～17：00　ＤＧＨＥ打合せ（Yuhara 私学局長、Banbang 学術局長、Margono ボゴール農業大学教授
3	火	8：40　団内打合せ（於：ＪＩＣＡ事務所） 14：00　ＵＳＡＩＤ打合せ（N.Rifkin 教育人材開発部長、Kuhn 担当、E.H. Greelev 計画部担当

3	火	16：20 団内打合せ（於：ＪＩＣＡ事務所）
4	水	9：00 資料整理 16：00 バンドンへ移動（16：00発ＭＺ 5609）
5	木	9：00 バンドン工科大学訪問（協議・視察） 15：00 ジャカルタへ移動（15：15　ＭＺ 5409） 16：5　ＪＩＣＡ事務所打合せ
6	金	8：30 資料整理、団内打合せ（於：ＪＩＣＡ事務所） 13：00 ＤＧＨＥ打合せ（Yuhara 私学局長、Banbang 学術局長） 17：20 ＯＥＣＦ打合せ（於：ＪＩＣＡ事務所）
7	土	資料整理
8	日	9：00 報告書案作成 西野団長（16：30到着、Ｇ 413） 遠藤（賢）団員（16：40到着、ＪＬ 873） 18：30 ＪＩＣＡ事務所・調査団打合せ 矢追副総括（22：45、ＧＡ 872、帰国）
9	月	9：00 ＤＧＨＥ訪問：ＯＥＣＦ審査を傍聴 13：00 ＤＧＨＥ打合せ
10	火	9：00 Ｒ／Ｄ案作成作業、案をＤＧＨＥ、ＵＳＡＩＤに提出
11	水	8：00 ＵＳＡＩＤ訪問・協議 Ｒ／Ｄ案作成作業、案をＤＧＨＥに再提出
12	木	10：00 Ｒ／Ｄ署名 11：15 ＪＩＣＡ事務所報告
13	金	資料整理、協議結果とりまとめ、報告書案作成
14	土	資料整理、協議結果とりまとめ、報告書案作成
15	日	8：5　Lv. Jakarta（ＣＸ 710）西野総括ほか4名 16：40 Lv. Hongkong（ＣＸ 500、成田到着21：10）

1－4　主要面談者

(1)　高等教育総局（ＤＧＨＥ）

1）Prof. Dr. Sukadji Ranuwihardojo Director General of Higher Education, Ministry of Education Culture
（総局長）

2）Ir. Oetomo Djajanegara　Secretary to Director General of Higher Edu-

	cation, Ministry of Education and Culture （総局秘書官）
3）Prof. Dr. Yuhara Sukra	Director of Private Universities, DGHE, Ministry of Education and Culture （私立大学局長）
4）Prof. Dr. Ir. Banbang Suhendro	Director of Academic Affairs, DGHE, Ministry of Education and Culture （学術局長）
5）Dr. Ir. Jajah Koswara	Director of Research and Community Service Developmemnt, DGHE, Depdikbud
(2) ＢＡＰＰＥＮＡＳ（国家開発計画庁）	
1）Prof. Dr. H. A. R. Tilaar	Assistant to the Minister for Manpower Affairs and Head, Bureau of Education and Culture, BAPPENAS （教育文化部長）
(3) ＵＳＡＩＤ	
1）Norman Rifkin	Chief, Office of Education and Human Resources Development, USAID／Indonesia （教育・人材開発部長）
2）Ernest C. Kuhn	Officer-in-Charge, Indonesia Office of Education and Human, Resources Development, USAID／Indonesia （プロジェクト担当官）
3）Edward H. Greeley	Office of Program and Project Support, USAID／Indonesia
(4) バンドン工科大学（ＩＴＢ）	
1）Arifin Wardiman	Vice Rector for Academic Affairs, ITB
2）Prof. Dr. Joenil Kahar	Vice Rector for General Administration, ITB
3）Dr. Ir. Sahari Besari	Dean, Faculty of Civil Engineering and Planning, ITB
4）Dr. Goeswin Agoes	Vice Dean for Academic Affairs, ITB
5）Dr. Ruranto Mardisewojo	Faculty of Mineral Technology, ITB

(5) 日本国大使館

国広　道彦	在インドネシア日本国大使館大使
佐野　利男	在インドネシア日本国大使館一等書記官
太田　慎一	在インドネシア日本国大使館一等書記官

(6) 海外経済協力基金

池田　実	海外経済協力基金開発部開発第一課課長
亀井　ゆかり	海外経済協力基金業務第一部業務第二課

(7) ＪＩＣＡインドネシア事務所

北野　康夫	ＪＩＣＡインドネシア事務所所長
松岡　和久	ＪＩＣＡインドネシア事務所次長
田口　徹	ＪＩＣＡインドネシア事務所次長
米田　一弘	ＪＩＣＡインドネシア事務所担当

2. 要　　約

今般の実施協議調査において、「イ」側関係者、USAID/Indonesia 関係者等との打合せ・協議等の結果、プロジェクト方式技術協力による協力の実施に係る討議議事録（Record of Discussions）に日・イ双方署名を了し、協力開始の運びとなった。本件協力の基本的枠組みは、以下のとおりである。

(1) インドネシア高等教育開発計画（HEDS：Higher Education Development Support）は、インドネシア国の高等教育分野において従来より協力の実績を有しているUSAIDとの共同プロジェクトであり、

(2) スマトラ及びカリマンタン両地域における大学の教官の質的向上という共通の目標を設定し、我が国が工学部、米国が自然科学、経営科学の分野において、それぞれ高等教育の質的向上・充実を図ることを目的とする計画である。

(3) 我が国の本件に対する協力は、有償資金協力、無償資金協力及び今回R／Dを締結した技術協力と三つの要素を一体化させ協力を実施しようとするものである。すなわち、有償資金協力は、高等人材開発プロジェクト（PHRDP：Professional Human Resource Development Project）の5コンポーネントの一つとして位置付けられているHEDSに対する協力であり、一方、無償資金協力については、地方対象大学の教育基盤を整備する必要性の観点から教育・研究機材の供与に対する協力が、それぞれ計画されている。

(4) プロ技協による協力の骨子は、次のとおりである。

1）協力期間：1990年4月12日から1995年4月11日までの5カ年間。

2）協力の目的：スマトラ及びカリマンタン両地域における協力対象大学教官に対する研修研鑽機会の賦与及び研修受入れ大学に対する設備機器面における教育環境の整備を図り、もって対象大学の教官の資質の向上を図り、当該地域の高等教育の充実に資する。

3）協力対象大学：① U. of Syiah Kuala（国立大学）〈バンダ・アチェ市〉
② U. of Sumatra Utara（国立大学）〈メダン市〉
③ Nommensen U.（私立大学）　〈メダン市〉
④ Darma Agun U.（私立大学）　〈メダン市〉
⑤ U. of Medan Area（私立大学）〈メダン市〉
⑥ The Islamic U. of Sumatra Utara（私立大学）〈メダン市〉
⑦ Andalas U.（国立大学）　〈パダン市〉
⑧ U. of Sriwijaya（国立大学）　〈パレンバン市〉
⑨ U. of Lampung（国立大学）　〈バンダルランポン市〉

⑩ U. of Tonjungpura （国立大学） 〈ポンティアナック市〉

⑪ U. of Lampung Mangkurat （国立大学）〈バンジャルマシン市〉

4）協力対象分野：次の工学部の分野及び大学運営の分野とする。

① 土木工学

② 機械工学

③ 電気・電子工学

④ 化学工学

⑤ 生産工学

⑥ 大学運営

5）ホスト大学：バンドン工科大学ほか

6）事業の内容：① 学位（修士、博士）取得のための「イ」国内留学

② 短期集中研修（ワークショップ・セミナー）の開講

③ 日本研修

7）事業の実施体制：① 事業実施主体は、DGHE であり、事業実施の責任者は、DGHE総局長である。

② 日・米・イの3国関係者で構成される Project Steering Committee （プロジェクト運営管理委員会）により3国共同事業としてのHEDS計画の運営管理が図られ、同委員会は、HEDS計画プロジェクトの最高意志決定機関として位置付けられている。

③ 日本側の協力による事業実施に係る協議機関としては、DGHE － JICA Committee が設置されるとともに、 Project Management Office が DGHE 内に開設され、プロジェクトの事務局機能を果たし、事業の実質的・中核的業務を実施する。

④ 日本派遣専門家チームは、Project Management Office に常勤し、プロジェクトの日常運営管理業務等に当たるとともに、米・イ プロジェクト部分に関しては、必要に応じオブザーバーとして参画する。

⑤ 対象大学において Liaison Office を設置する。

⑥ ホスト大学については、Project Implementation Unit を設置する。

8）日本側の投入規模：① プロ技協

ⓐ専門家派遣 長期 5名

短期 必要数

ⓑ機材供与 ホスト大学に対する機材供与

（投入規模については、今後検討）

ⓒローカルコスト負担

ⓓ研修受入れ

② 無償資金協力　11対象大学に対する機材供与

（投入規模については、今後検討）

③ 有償資金協力　国内留学、短期集中研研集に係る経費4百万ドルの供与

（現在は、その必要性、妥当性につき審査中）

3. 討議議事録の交渉経緯

3－1 交渉の経緯及び結果

今回の実施協議調査においては、これまでのプロジェクト形成調査及び前回の事前調査の結果を踏まえ、協力実施に係る諸事項に関し「イ」側関係者、USAID／Indonesia関係者、OECF関係者等と打合せ・協議を鋭意実施したところ、諸事項に係るR／D交渉の経緯・結果は、表－1に示す総括表のとおりであるが、補完的説明も含め主要な諸点を記せば、次のとおりである。

なお実施協議調査の際、通常作成している暫定実施スケジュール（Tentative Schedule of Implementation）を含めたミニッツについては、①教官の研修に係る目標数値、国内留学及び短期研修に係るバッチ回数（頻度）、それらの受入れ員数は、事業の進捗、受入れ・実施体制を見極めつつ決定していく必要があること、②USAIDによる協力実施の進捗が当初予定より遅れ、未だ確定されていないこと、③有償資金協力サイドの進捗がプレッジ前の審査段階にあること、の点からミニッツを作成する熟度に至っていなかったことからR／D署名のみにとどめたことを付記しておきたい。

(1) 協力期間

5カ年の協力期間にてR／Dの署名を了しているが、OECFローンの対象期間である7カ年もさることながら、USAIDとの協力の歩調を同調させる必要があり、その協力期間が1990年から6カ年を予定されていること、さらに学位取得後の教官の職場復帰に係るモニタリング事業等を考慮すれば、順調に事業が推移したとしても1990年から7カ年の事業となる。この認識のもとに、5カ年の協力以後の2カ年については、事業の目標達成度を見通したうえで、協力終了2年前、すなわち1993年を目途に残り2カ年の協力に関し日・イ双方協議することとした。なお、その協議については、1993年度計画打合せ調査団訪「イ」時に協議を実施することが適切であると思料される。

(2) 日本側の協力投入規模

我が方の投入規模20,000千ドルの「イ」側に対する説明は、総括表のとおりであるが、その内訳については、単年度予算であり不確定要素があることを前提に、以下のとおり説明した。

プロ技協の投入額：概ね11,200千ドル

無償協力の投入額：概ね 8,800千ドル

なお、無償協力の投入については、11対象大学に対する機材供与であること、またプロ技協による機材供与は、ホスト大学に対して実施する旨説明しおいた。

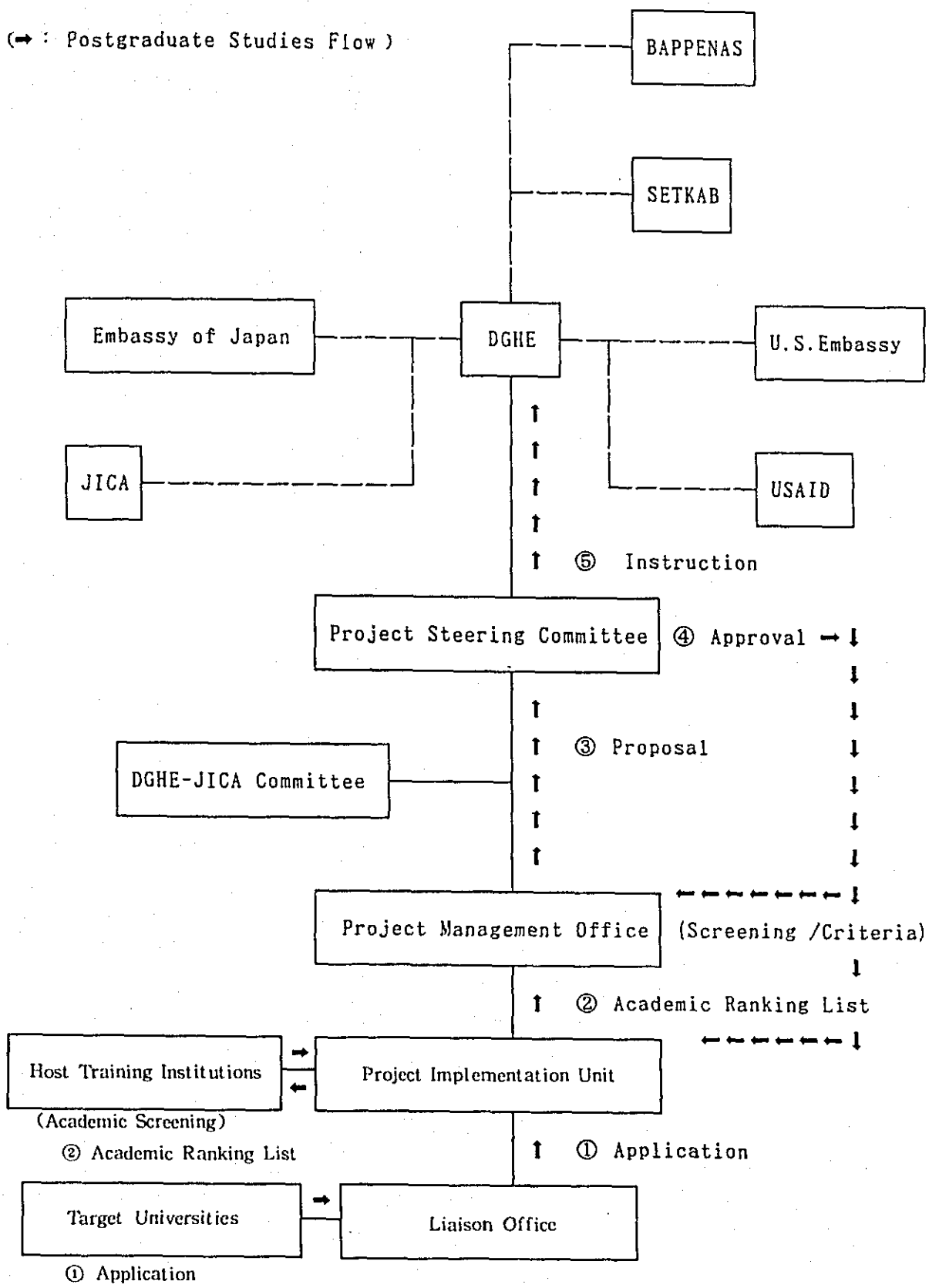
(3) 協力事業の目標数値

学位取得に係る目標教官員数は、USAIDの協力規模との横並びから180人の規模が言われてきている。これまでの各種調査結果を踏まえれば、教官の学力の点から見込数を下回る可能性が残されていることから、我が方は、M／Pにおいては数値は表記せず準備期間を置いたうえで、目標とする数値の設定を行うことを提案。これに対し「イ」側は、11の対象大学以外からも必要に応じ募集してでも目標を達成したいこと、またS_2取得後は、対象大学の教官として採用（ボンド・システムによる学位取得）する方策をとりたい旨の現実的な提案を行った。協議の結果としては、OECFローンによる計画規模として既に180人という員数の明示もあることから、現時点では文書による確認は行わないが、目標数として180人とすることで一致した。

なお、目標数値の180人は、学位を取得した人数を示すのではなく、本件計画により受入れ大学にて勉学する教官数を示すものである。したがってR／D及びM／P中の用語としては“Postgraduate Studies”にすべて統一した。

(4) 事業実施体制

R／D案を基に、日・イ双方協議した結果、①現状の国内留学、大学院での選考・審査の手順及び実務等に即した実施体制とすること、②効率的な実施が確保される体制とすること、③各種委員会等が機能的にその役割を果たし得る体制とすること、④日・米・イの3国による共同事業としての位置付け、機能・役割が相互に明確となり、目標達成が確保される体制とすること、の諸点から以下に示す体制とした。図中の矢印は教官の国内留学の選考のプロセスを示す。


(➡ : Postgraduate Studies Flow)
BAPPENAS
SETKAB
Embassy of Japan
DGHE
U.S.Embassy
JICA
USAID
⑤ Instruction
Project Steering Committee
④ Approval
③ Proposal
DGHE-JICA Committee
Project Management Office
(Screening /Criteria)
② Academic Ranking List
Host Training Institutions
Project Implementation Unit
(Academic Screening)
② Academic Ranking List
① Application
Target Universities
Liaison Office
① Application

表－1　インドネシア高等教育開発計画プロジェクト実施協議総括表

事　　項	項　目　及　び　内　容	日本側の考え方・方針	イ側の考え方・方針	協　　議　　結　　果
1. R／D、M／Mの署名権者	1－1　R／Dの署名権者	(1) 日本側は、R／D調査団団長及び「イ」側は、DGHE総局長とし、USAID関係者の署名は不要とする。	(1) 同　左	同　左
2. 協力開始月日及び協力期間	2－1　協力開始月日	(1) R／D署名日を協力開始月日とする。	(1) 同　左	(1) USIDの協力開始が、当初計画より遅延し、未だ承認されていない進捗にあるも、日本側が先行する形で、協力を開始する。開始月日：1990年4月12日。
	2－2　協力期間	(1) R／D署名日から5カ年とする。	(1) USAID側と同期間を希望。	(1) 協力期間については日米協力であること、OECF　LOANの期間が7カ年（1990／91～1997／98）であることから、プロ技の協力期間としては、最低7カ年を必要とすることで双方で一致。ただし、R／Dでは、5カ年がMAX.であることから、残りの約2カ年の協力の取り扱いについては、協力終了2年前を目途に日・イ双方にて協議することとし、その旨、口頭にて合意。
3. 協力の目的	3－1　スマトラ及びカリマンタン両地域における協力対象大学教官に対する研修研鑽機	(1) 同　左	(1) 同　左	(1) 同　左

事　　項	項　目　及　び　内　容	日本側の考え方・方針	イ側の考え方・方針	協　議　結　果
	会の賦与及び研修受入大学（ＨＴＩ）に対する設備機器面における教育環境の整備を図り、もって対象大学の教官の資質の向上を図り当該地域の高等教育の充実に資することを目的とする。			
4. 協力の対象大学	4－1　スマトラ及びカリマンタン両地域における以下の11大学を対象とする。 ① U. of Syiah Kuala ② U. of Sumatra Utra ③ Nommensen U. ④ Darma Agun U. ⑤ U. of Medan Area ⑥ The Islamic U. of Sumatra Utra ⑦ Andalas U. ⑧ U. of Sriwijaya ⑨ U. of Lampung ⑩ U. of Tanjungpura ⑪ U. of Lampung Mangkurat	(1) 同　左	(1) 対象大学は左記11大学なるも、ＨＴＩに送り込む対象者は広く全国から優れた者を募集し、S_2取得後は対象大学の教官として一定期間（最低５年間）勤務することを義務付けることも考慮する。	(1) 同　左 (2) 「イ」側より提案あった左記については、現実的な対応であると判断されたことから、我が方としても右方策について賛意を示した。
5. 協力規模	5－1　我が方の金額投入規模		(1) 「イ」側は、我が方投入規模20,000千ＵＳ＄の内容につき明確にするよう要望。その理由については、「イ」側負担予算	(1) これに対し、我が方は、プロ技のＲ／Ｄ協議であり、対応困難である旨説明するも、日米共同プロジェクトであり、米国側の

※ＨＴＩ：Host Training Institutions

事　　項	項　目　及　び　内　容	日本側の考え方・方針	イ側の考え方・方針	協　　議　　結　　果
			獲得上必要である旨説明。 *「イ」側の7百万$の内訳は、4百万$のOECF　LOEAN及び3百万$のInkindによる負担。	提示があるかぎり、何らかの形により内訳の金額説明の必要があると判断されたことから、とりあえず口頭にて説明「イ」側の了解を得た。
6. 協力の目標	6－1　目標（ターゲットとする数値の表示）	(1) R／Dの段階においては不確定要素（見込数値を下回る可能性が大）があることから、今回は表示せず、準備期間を置いたうえで、その目標数値につき双方合意し得る目標設定を行うこととする。	(1) 「イ」側は、上記4.の理由により訓練人員目標の達成は可能であると判断している。	(1) 有償協力規模 OECF　LOAN 122億円(84.3百万$) HEDS　4.0百万$ IN-Country Postgraduate 180人 IN-Country Seminars/Workshops 100人 (2) 右目標を掲げるも、文書による確認は行わないことで合意。ただし、Seminars/Workshopsの目標人数については、別途協議を行うこととした。 米国の規模：Postgraduate 175人 （1990年度は25名）
8. 組織	8－1　PROJECT POLICY STEERING COMMITTEEの設置	(1) DGHE総局長をChairmanとする日・米・イ合同の機関でDGHEに対しReccommendationを行う。	(1) BAPPENAS、MOF（大蔵省）をMemberに加えることを提言。	(1) PROJECT STEERING COMMITTEEを名称とし、DGHE総局長をChairmanとする日・米・イ合同のProjectの最高意志決定機関とした。（R／D参照）

事　　項	項　目　及　び　内　容	日本側の考え方・方針	イ側の考え方・方針	協　議　結　果
	8－2　PROJECT POLICY STEERING SUB-COMMITTEE の設置	(1) 日本側 Portion の協議機関として位置付けDGHE に対しRecommendation を行う。	(1) 同　左 (2) 開催数は、年2回以上であるよりも、その機能から判断し、より頻繁に開催する必要あり。	(1) DGHE-JICA COMMITTEE を名称とし、日本側 Portion の協議をする機関とした。（R／D参照）
	8－3　PROJECT MANAGEMENT OFFICE の設置	(1) 同　左	(1) 同　左	(1) PROJECT の事務局機能を果たし、Executive Director（「イ」側）、日・米双方の長期専門家が常駐する。DGHE 内に設置される。（R／D参照）
	8－4　PROJECT LIAISON OFFICE の設置	(1) 同　左	(1) 同　左 (2) 名称は、PROJECT IMPLEMENTATION UNIT を提案。	(1) PROJECT IMPLEMENTATION UNIT と称する。HTI に設置する。一方、対象大学についてはLIAISON OFFICE を設置する。（R／D参照）
9. HOST TRAINING INSTITUTION (HIT)	9－1　バンドン工科大学ほか	(1) 同　左	(1) 同　左	同　左
10　P M OFFOCE の設置	10－1　設置の形式	(1) 共同事務局及び日・米双方単独事務局の2案により、「イ」側及びUSAID の意向を踏まえたうえで、三者にとり有効な案を採択する。	(1) これまでの経緯及びカナダの現行の協力とも対比し、共同事務局とする。	(1) 日・米・イの共同事務局とする (2) その中においてJICA DIV. 及び USAID DIV. とに区分可とする。
	10－2　設置の場所	(1) 「イ」側の提案を検討する。	(1) DGHE 内に事務室を準備。（DGHE 本館　3階）	(1) 同　左
	10－3　設置の時期	(1) 同　上	(1) 日本側長期専門家の到着を目途に事務室を整備する。	(1) 同　左

<table>
<tr><th>事　　項</th><th>項　目　及　び　内　容</th><th>日本側の考え方・方針</th><th>イ側の考え方・方針</th><th>協　　議　　結　　果</th></tr>
<tr><td>11　P M OFFOCE に係る分担</td><td>11－1　機能（JICA＝USAID）
DGIHE</td><td>(1)　JICA、USAID 各々単独の機能を確保する（別紙１：業務フロー参照）</td><td>(1)　同　左</td><td>(1)　同　左</td></tr>
<tr><td></td><td>11－2　「イ」側職員の配置</td><td>日本側：
① Chief Advisor (1)
② Coordinators (2)
③ Experts
④ Secretaries
⑤ Drivers
⑥ Janitors

米国側：
① Chief-of-Party (1)
② Coordinator(1)
③ Administrative Officer (1)
④ Secretaries
⑤ Drivers
⑥ Janitors

（ ）は員数を示す。</td><td>「イ」側：
① Executive Director (1)
② Executive Officers

備考：
共通配置

単独配置
単独配置
単独配置</td><td>(1)　Executive Director は日・米共通。ただし、本人に対して米国側より手当が支給される。
(2)　Executive Officer は複数名配置され、日・米共通。なお、本人に対しては米国側よりの手当の支給はない模様。
(3)　Secretary 以下のスタッフについては日・米単独配置。
(4)　米国側の①～⑥の専門家・スタッフは契約ベースより経費は、米国側負担。</td></tr>
<tr><td></td><td>11－3　経費分担</td><td>(1)　「イ」側負担
①事務室の提供
②事務機器の提供
③国内旅費等「専門家に対する支給」
④その他
PM OFFICE に配置された職員の人件費は「イ」側負担</td><td>(1)　USAID
①配置職員の人件費（230,000＄）
②アドバイザーの国内・外国旅費等（282,000＄）
（以上、事前調査帰国報告会資料より）</td><td>(1)　米国側はPMO の人件費をすべて負担する。日本側はプロ技協の原則的により負担不可能なため「イ」側が「イ」側の経費により職員を配置する。</td></tr>
<tr><td>12　プロ技協機材供与</td><td>12－1　無償との整合性</td><td>(1)　HTI であるバンドン工科大学に対し、機材供与を行う。（理由：プロ技協による技術移転展開の場所であるため）</td><td></td><td>(1)　左記考え方を口答にて「イ」側に伝達。
(2)　なお、90年度の機材供与についてはPMO に必要な機材を含む。</td></tr>
</table>

事　項	項目及び内容	日本側の考え方・方針	イ側の考え方・方針	協議結果
	12－2　購送までの手順 「イ」側（ITB）から計画 ↓ （要望）作成 ↓ ＪＩＣＡにて検討 ↓ Ａ４フォーム依頼	(1) 妥当性、対象分野、協力規模等に関し、必要な調査を実施。 (2) 全体計画の策定。 (3) Ａ４要請に基づく、年度ごとの機材購送の実施。		
13　その他の議題	13－1　ローカルコスト負担	(1) プロ技協の原則を述べる。	(1) Ｒ／Ｄ Ⅶ項に関し、車輌の購入、日本人専門家の国内旅費の支給は困難。 (2) 供与機材の国内輸送費を負担してほしい。	
	13－2　奨学金の額	(1) 継続審議。	(1) 継続審議。	(1) 継続審議。
	13－3　業務の流れ		(1) 別紙　図のとおり。	
	13－4　Seminars/Workshops		(1) 主にITB において実施したい。	

3－2　討議議事録

RECORD OF DISCUSSIONS BETWEEN
JAPANESE IMPLEMENTATION SURVEY TEAM AND
THE AUTHORITIES CONCERNED OF THE REPUBLIC OF INDONESIA ON
JAPANESE TECHNICAL COOPERATION FOR
THE HIGHER EDUCATION DEVELOPMENT SUPPORT PROJECT

The Japanese Implementation Survey Team organized by Japan International Cooperation Agency and headed by Professor Dr. Fumio Nishino of The University of Tokyo visited Indonesia from April 1 - 15 in 1990 for the purpose of working out the details of technical cooperation concerning the Higher Education Development Support Project in Indonesia.

During its stay in Indonesia, the Japanese Implementation Survey Team exchanged views and had a series of discussions with the Indonesian authorities concerned with respect to necessary measures to be taken by both Governments for successful implementation of this technical cooperation project.

As a result of the discussions, the Japanese Implementation Survey Team and the Indonesian authorities concerned agreed to recommend to their respective Governments the matters referred to in the document attached hereto.

April 12, 1990

Prof. Dr. Fumio Nishino
Leader,
Implementation Survey Team
Japan International Cooperation Agency

Prof. Dr. Sukadji Ranuwihardjo
Director General of
Higher Education,
Ministry of Education and Culture

I. COOPERATION BETWEEN BOTH GOVERNMENTS

1. The Government of Japan and the Government of the Republic of Indonesia will cooperate with each other in implementing the Higher Education Development Support Project (hereinafter referred to as "the Project") for the purpose of upgrading competence of the academic staff of the target universities in the disciplines of engineering by providing support for postgraduate studies in the country and for non-degree short-term training programs in the country and in Japan. The provision of equipment necessary for the technical cooperation is included in the contents of the Project.

2. The Project shall be implemented in accordance with the Master Plan given in Annex I.

II. DISPATCH OF JAPANESE EXPERTS

1. In accordance with the laws and regulations in force in Japan, the Government of Japan will take necessary measures through Japan International Cooperation Agency (hereinafter referred to as "JICA") to provide at its own expense the services of experts as listed in Annex II through normal procedures under the Colombo Plan Technical Cooperation Scheme.

2. The Japanese experts referred to in 1 above and their families will be granted in the Republic of Indonesia privileges, exemptions and benefits no less favorable than those accorded to the experts of other countries working in the Republic of Indonesia under the Colombo Plan Technical Cooperation Scheme.

3. The Japanese experts will provide administrative as well as technical advices concerning the following project activities in the Republic of Indonesia;

(1) Coordination and arrangements for effective implementation of the activities mentioned in the Master Plan of the Project,

(2) Monitoring the progress of implementation activities mentioned in the Master Plan of the Project, and

(3) Supporting the implementation of in-country postgraduate studies and non-degree seminars and workshops.

III. PROVISION OF MACHINERY AND EQUIPMENT

1. In accordance with the laws and regulations in force in Japan, the Government of Japan will take necessary measures to provide at its own expense such machinery, equipment and other materials (hereinafter referred to as "the Equipment") necessary for implementation of the Project.

2. The Equipment will be provided through the normal procedures under the Colombo Plan Technical Cooperation Scheme.

3. The Equipment to be provided under the Colombo Plan Technical Cooperation Scheme will become property of the Government of the Republic of Indonesia upon being delivered c.i.f. to Indonesian authorities concerned at the ports and/or airports of disembarkation, and will be utilized exclusively for Project implementation in consultation with the Japanese experts referred to in Annex II.

IV. TRAINING OF INDONESIAN PERSONNEL IN JAPAN

1. In accordance with the laws and regulations in force in Japan, the Government of Japan will take necessary measures through JICA to receive at its own expense the Indonesian personnel connected to the

Project for technical and/or university management training in Japan through normal procedures under the Colombo Plan Technical Cooperation Scheme.

2. The Government of the Republic of Indonesia will take necessary measures to ensure that the knowledge and experience acquired by the Indonesian personnel from technical and/or administrative training in Japan will be utilized effectively for the purpose of future university development.

V. SERVICES OF THE INDONESIAN PERSONNEL

1. In accordance with the laws and regulations in force in the Republic of Indonesia, the Government of the Republic of Indonesia will take necessary measures to provide at its own expense the necessary services of Indonesian personnel.

2. The Government of the Republic of Indonesia will allocate the necessary number of Indonesian personnel exclusively for the Project implementation as listed in Annex III.

VI. PROVISION OF SCHOLARSHIPS

In accordance with the laws and regulations in force in the Republic of Indonesia, the Government of the Republic of Indonesia shall take necessary measures to provide scholarships for;

1. Participants of the in-country postgraduate studies given in item 3-1 of Annex I, and

2. Participants of the in-country seminars and workshops given in item 3-3 of Annex I.

VII. MEASURES TO BE TAKEN BY THE GOVERNMENT OF THE REPUBLIC OF INDONESIA

In accordance with the laws and regulations in force in the Republic of Indonesia, the Government of the Republic of Indonesia will take necessary measures to provide at its own expense;

1. Space necessary for the Project Management Office, Project Implementation Units and Liaison Offices given in items 4-3, 4-4 and 4-5, respectively, of Annex I,

2. Office equipment and other facilities necessary for the operation of the Project Management Office, Project Implementation Units and Liaison Offices given in items 4-3, 4-4 and 4-5, respectively, of Annex I,

3. General operating expenses of the Project Management Office, Project Implementation Units and Liaison Offices given in items 4-3, 4-4 and 4-5, respectively, of Annex I including travel allowance of Japanese experts for official travels within the Republic of Indonesia,

4. Expenses necessary for transportation within the Republic of Indonesia, as well as for installation, operation and maintenance of the Equipment referred to in item III of this Attached Document, and

5. Customs duties, internal taxes and any other charges, imposed in the Republic of Indonesia on the Equipment referred to in item III of this Attached Document.

VIII. ADMINISTRATION OF THE PROJECT

1. For smooth and effective implementation of the Project, a Project Steering Committee, a Directorate General for Higher Education

(hereinafter referred to as "DGHE")-JICA Committee, a Project Management Office, Project Implementation Units and Liaison Offices with the function and composition as referred to in item 4 of Annex 1 and in Annex IV (Organizational Chart), respectively, shall be established.

2. The Project Steering Committee and the DGHE-JICA Committee shall be chaired by the Director General of Higher Education or his appointee.

3. DGHE shall take overall responsibility for implementation of the Project.

4. Japanese Chief Adviser, to be appointed by JICA, shall provide recommendations and advices, in terms of technical and administrative measures necessary for effective implementation of the Project, to the Director General of Higher Education, in close consultation with the Executive Director of the Project Management Office.

IX. CLAIMS AGAINST JAPANESE EXPERTS

The Government of the Republic of Indonesia shall be responsible for dealing with claims which may be brought by third parties against the Japanese experts, and will hold them harmless in respect of the claims or liabilities arising in the course of, or otherwise connected with, the discharge of their official duties in implementation of the Project, except when such claims or liabilities arise from the gross negligence or willful misconduct of the above-mentioned individuals. Should any questions arise in connection with the foregoing, the two Governments shall immediately consult with each other.

X. MUTUAL CONSULTATION

There shall be mutual consultation between the two Governments on any major issues arising from, or in connection with, this Attached Document.

XI. TERM OF COOPERATION

The duration of the technical cooperation for the Project under this Attached Document shall be for five (5) years from the date of signing of this Recod of Discussions.

Annex I MASTER PLAN

1. OBJECTIVES OF THE PROJECT

The purpose of the Project is to enhance the quality of engineering education of the target universities in Sumatra and Kalimantan regions. It is regarded crucial to provide adequatly trained manpower to the universities for industrial development of the regions.

2. ACTIVITIES OF THE PROJECT

Activities of the Project are;

2-1 to provide opportunities of in-country postgraduate studies at selected host training institutions in Java for relatively younger academic staff of engineering departments of the target universities and for those elsewhere who will join engineering departments of the target universities as academic staff after the training,

2-2 to provide opportunities to participate in non-degree short-term training in Japan for academic staff in engineering departments and university administrators of the target universities,

2-3 to provide opportunities to participate in in-country seminars and workshops for academic staff of engineering departments and university administrators of the target universities. The topics comprise current engineering, technology, pedagogy, educational policy, university management, etc., and

2-4 to provide equipment for smooth and effective implementation of the Project.

3. IMPLEMENTATION PLAN

3-1 In-Country Postgraduate Studies

3-1-1 DGHE shall take necessary measures to provide scholarships for participants in S2 (Master's Degree) and S3 (Doctoral Degree) courses who are and who will be academic staff in engineering departments of the target universities.

3-1-2 The participants of the study programs are classified not as recipients of DGHE's own internal scholarships but as the participants of this tripartite Project among DGHE, JICA and the United State Agency for International Development (hereinafter referred to as "USAID"). The amount of scholarship to each participant of the training programs is to be decided by the DGHE-JICA Committee.

3-1-3 The Project Steering Committee shall decide recipients of the scholarships based on recommendations of the Project Management Office.

3-2 Non-Degree Training Programs in Japan

3-2-1 Refer to IV of the Attached Documents.

3-3 In-country Seminars and Workshops

3-3-1 DGHE shall take necessary measures to provide per diem and travel expenses for the participants who are the academic staff in engineering departments and university administrators of the target universities and the costs to operate the seminars and workshops.

3-3-2 The Participants of the training programs are not classified as those of DGHE's own internal training programs but as the participants of this tripartite Project among DGHE, JICA and USAID.

The amount of the per diem and travel expenses to each participant of the training programs is to be decided by the DGHE-JICA Committee.

3-3-3 Seminars and workshops are organized in the disciplines of engineering and in the fields of improving university operations such as educational policy, university management, etc.

3-3-4 The Project Steering Committee shall decide the participants based on the recommendations of the Project Management Office.

3-3-5 The programs are to be carried out both by the short-term experts dispatched by JICA and Indonesian experts.

3-4 Provision of Machinery and Equipment

3-4-1 Refer to III of the Attached Document.

4. PROJECT ADMINISTRATION

The Project is composed of the elements referred to in Annex IV and their respective functions are specified below.

4-1 Liaison Offices

4-1-1 A Liaison Office is to be established at the Dean's office of the Faculty of Engineering of each target university.

4-1-2 The Dean of the Faculty of Engineering of each target university heads the Liaison Office.

4-1-3 The function of the Liaison Office is to nominate candidates of in-country postgraduate and non-degree studies among their staff and potential candidates elsewhere who will join as the academic staff after the training,

4-1-4 The Rector and the Dean of the Faculty of Engineering of each target university will take responsibility of utilizing knowledge and skills of returned participants from both postgraduate and short-term training programs of the Project for improving quality and relevance of the university, and

4-1-5 JICA long-term experts, when assigned, join as staff of the Offices. In addition to their normal assignments as the staff of the Offices, the experts will provide advices of their own fields of speciality to the university where they are assigned and to other participating universities of the Project.

4-2 Project Implementation Units

4-2-1 A Project Implementation Unit is to be established at the Dean's office of the Graduate School of each host training institution.

4-2-2 The Dean of Graduate School heads the unit.

4-2-3 The function of the Project Implementation Unit is to administer the participants of in-country postgraduate studies of the Project.

4-2-4 JICA long-term experts, when assigned, join as staff of the Units. In addition to their normal assignments as staff of the Units, the experts will provide advices of their own fields of speciality to the university where they are assigned and to other participating universities of the Project.

4-3 Project Management Office

4-3-1 It is composed of an Executive Director, a Project Coordinator, and an Administrative Officer appointed by the Director General of Higher Education, Chief Advisor of JICA Project team and Chief of Party of USAID Project team.

4-3-2 It is to coordinate all project inputs and to have specific responsibilities that includes;

a) to provide annual work plans with annual budget of the Project,

b) to coordinate with the Project Implementation Units and the Liaison Offices for the activities of the Project,

c) to carry out screening from the list of candidates provided by the target universities through the host training institutions for the in-country postgraduate studies, and to recommend them to the Project Steering Committee,

d) to carry out screening from the list of candidates provided by the target universities for the in-country seminars and workshops, and to recommend them to the Project Steering Committee,

e) to provide nomination list of scholarship recipients for the non-degree training in Japan, and to recommend them to the Project Steering Committee,

f) to provide arrangements necessary for implementation of the in-country seminars and workshops,

g) to provide arrangements necessary for the smooth and effective procurement of the equipment referred to in item III of the Attached Document, and

h) to monitor overall Project implementation and provide its progress report at least once a year to the Project Steering Committee, to the DGHE-JICA Committee and to relevant authorities concerned.

4-4 DGHE-JICA Committee

4-4-1 It is composed of the Directors for Academic Affairs and for Private Universities of DGHE, the Executive Director of the Project Management Office, JICA long-term experts, Deans of Graduate Shools of host training institutions, a Rector of public target universities appointed on rotational basis by the Director General of Higher Education and representatives of JICA. Representatives of Embassy of Japan, Embassy of the United States of America, JICA and USAID attend as observers. The committee is to be chaired by the appointee of the Director General of Higher Education.

4-4-2 It is to meet at least four times a year and function;

a) to establish overall framework of the Project activities to be assisted by JICA,

b) to prepare annual work plans of the Project,

c) to assess and evaluate the Project activities periodically, and

d) to serve as a decision making body for problems encountered in the course of implementation of the Project activities assisted by JICA.

4-5 Project Steering Committee

4-5-1 It is to be composed of the Director General and the Directors for Academic Affairs and for Private Universities of DGHE, the Executive Director of the Project Management Office, Chief Advisor of JICA Project team and representatives of BAPPENAS, Embassy of Japan, Embassy of the United States of America, JICA and USAID. Chief of Party of USAID Project team participates as an active observer. Chairmen of BKSB and KOPERTIS, and a Rector of public target

universities appointed on rotational basis by the Director General of Higher Education participate as observers. The committee is to be chaired by the Director General of Higher Education or his appointee.

4-5-2 It is to meet at least four times annually and function;

a) to establish overall policy framework and annual budget within which the Project Management Office is to carry out activities of the Project,

b) to assess and evaluate the activities of the Project periodically, and

c) to serve as a decision making body for the problems encountered in the course of implementationof the Project.

4-6 Host Training Institutions

The host training institutions are composed of Bandung Institute of Technology and other universities in Java designated by DGHE that offer S2 (Master's Degree) and S3 (Doctoral Degree) courses in engineering.

4-7 Target Universities

The target universities are the beneficiaries of the Project and consist of the following 11 universities.

4-7-1 University of Syiah Kuala
(Depts. of Civil, Mechanical and Chemical Engineering)

4-7-2 University of Sumatra Utara
(Depts. of Civil, Mechanical, Electrical, Chemical and Production Engineering)

4-7-3 Nommensen University
(Depts. of Civil, Mechanical and Electrical Engineering)

4-7-4 Dharma Agung University
(Depts. of Civil, Mechanical, Electrical, Mining and Production Engineering)

4-7-5 University of Medan Area
(Depts. of Civil, Architectural, Mechanical, Electrical and Production Engineering)

4-7-6 The Islamic University of Sumatra Utara
(Depts. of Civil, Mechanical, Electrical and Production Engineering)

4-7-7 Andalas University
(Depts. of Civil and Mechanical Engineering)

4-7-8 University of Sriwijaya
(Depts. of Civil, Mechanical, Electrical, Chemical and Mining Engineering)

4-7-9 University of Lampung
(Dept. of Civil Engineering)

4-7-10 University of Tanjungpura
(Depts. of Civil and Electrical Engineering)

4-7-11 University of Lambung Mangkurat
(Dept. of Civil Engineering)

ANNEX II JAPANESE EXPERTS

1. Long-term Experts

The experts mentioned below will be dispatched by JICA. These experts are assigned to the Project Management Office.

1-1 Chief Advisor
1-2 Two Coordinators
1-3 Experts

2. Short-term Experts

For the purpose of supporting in-country postgraduate studies and in-country seminars and workshops, short-term experts will be dispatched by JICA when necessities arise.

ANNEX III FULL TIME INDONESIAN PERSONNEL

1. Project Management Office Staff

   1-1 Executive Director
   1-2 Project Coordinator
   1-3 Administrative Officer
   1-4 Secretaries
   1-5 Drivers
   1-6 Janitors

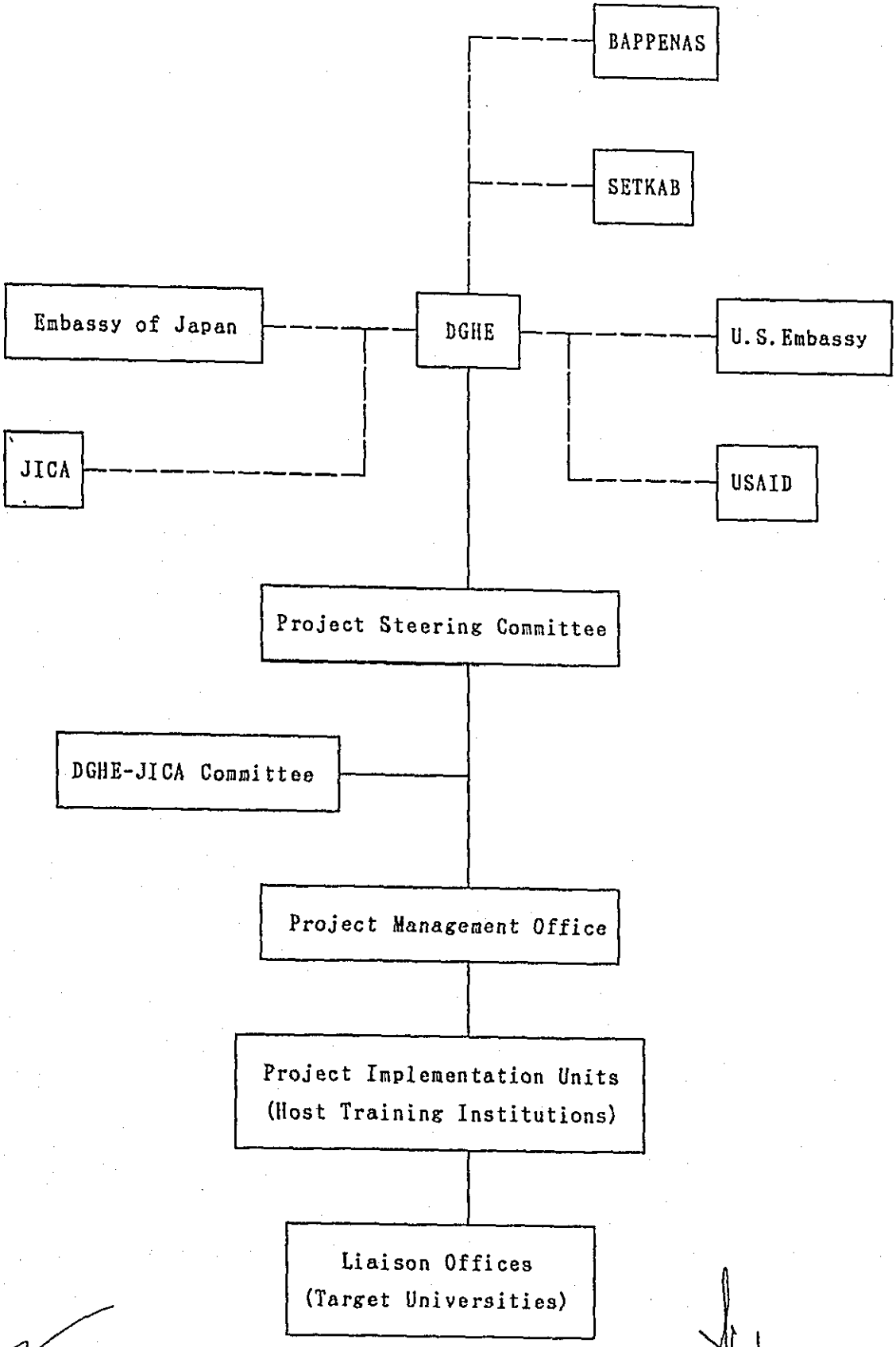
2. Host Training Institutions

   2-1 Project Implementation Unit Staff

3. Target Universities

   3-1 Liaison Office Staff

Annex IV ORGANIZATIONAL CHART



4. プロジェクト実施上の留意点と課題

4－1 日・米・イ共同プロジェクトとしての協力の実施

(1) 留意点

① 日本側 Portion の協力を3国による共同事業としての認識に立ち積極的に展開させることが重要である。

② JICA と USAID との双方のプロジェクトに関し、情報の交換、必要な事業のスリ合せ等、密接な連携を確立・保持する必要がある。

③ 実質的かつ効率的な事業・業務の実施に留意すること。特に、USAID プロジェクトが確定次第、日常業務の実施あるいは、各種委員会を含む業務実施体制の見直しを行い、必要な改善を図ることが肝要である。

④ 我が方の投入 20,000千ドルあるいは、それ以上の達成は、米国との横並びから不可欠な事項であり、特段の予算上の配慮が必要となろう。

(2) 課題

① JICA プロジェクト及び USAID プロジェクトは、高等教育という分野、大学教官の育成という目標は同一であるが、その実施、手法等においては、それぞれ異なったスキームにより実施されることから、共同事業としての活動あるいは事業の側面に乏しい点が指摘される。このことから、事業を実施していく中で共通の目標に向けてのより具体的な連携を模索することが課題となろう。

② より具体的な連携を深める必要がある一方、昨今、国際機関との連携あるいは、他(多)国間との連携の強化が強調されてきているが、何をもって連携というのか、何をもって共同プロジェクト（事業）というのか全体的に整理し、必要があれば何らかの基準（ガイド・ライン）を暫定的にも設定する必要がある。

4－2 日本側の協力の枠組み

(1) 留意点

① 本プロジェクトに係る「イ」側負担経費 7,000千ドルのうち 4,000千ドルが有償資金協力により手当されることが計画されている。この 4,000千ドルにより教官の奨学金が支払われるが、その金額については、"継続審議事項"となっている。奨学金の額と確実な支給が本プロジェクトの要となっていることから、OECF ローンの貸付け実行の段階から、奨学金の額の設定、支払いの実行まで十分にフォローする必要があると同時に、必要な指導を適切に時宜を得て行うことが必要である。

② 無償資金協力による11の対象大学に対する機材供与に関しては、教育・研修用の機材に加えて大学の運営管理及び教育環境改善に係る機材も含めることに留意すると同時に、品目が詳細にわたることから、適切かつ適格な機材を選定するうえでの調査・作業手順を事前に十分に検討・準備する必要がある。

4－3 プロジェクト方式技術協力の枠組み

(1) 留意点

① 目標数値の設定

Postgraduate Studies及び短期集中研修の目標とする数値（Intake）については要約の項にて述べたとおりであるが、未だ確定し得ない状況にある Postgraduate Studiesの教官数については、少なくとも現在バンドン工科大学により実施している選考の実際を見極めたうえで暫定的に実行可能な数値の設定が重要である。一方、短期集中研修については、OECF ローンの計画数値が、何らかの錯誤により極端に少ない数値として計上されている。OECF ローンの計画は、計画として実行すると同時に、プロ技協としての短期研修により人材養成の実績を増加させるような弾力的な対応を講じる必要があると考えられる。

② 事業実施上の日本側の協力範囲

ア．Postgraduate Studies及び短期集中研修自体は、DGHEによる事業である。したがって国内留学、セミナー・ワークショップは、ホスト大学機関の手により主体的に実施される。

イ．日本側・日本人専門家チームの任務・役割は、DGHEが行うこの事業に対して事業実施上の諸事項のみならず、高等教育機関たる各地方大学のあり方の方向、並びに教官人材養成事業としての内容的側面をも含めた事業の全般的運営管理の諸問題に関しても留意し、先方に助言することが肝要である。

ウ．なお、Postgraduate Studiesにおける日本側の協力範囲は、表－1の矢印で示す候補者の選考までである。

エ．また、短期集中研修については、ホスト大学が中心となり開催実施することとなるが、日本側が短期専門家の派遣等により全面的に支援していくことが必要である。

③ 日本研修受入れ

ア．「イ」側の要望は、総数180人、研修期間6カ月である。これまで日本側は「イ」側に対し、この受入れ数について何らコミットしていないが、通常のプロ技協受入れ数を大幅に超える数値であることから、特別な優遇措置により受入れ枠の確保が必要である。

イ．日本研修受入れ対象者は、Postgraduate Studies修了者に加え、大学運営管理関係者の日本研修の要望が今回のR／D協議の際「イ」側から強く打ち出されていることから、その必要性、受入れ体制等を見極めたうえで、配慮すべきと思料される。

④ 奨学金の額とその支給

ア．奨学金の額については、前項で述べたとおり継続審議事項となっているが、決定される額については、国内留学に支障を来さない金額となるよう必要な関与をすべきと考えられる。因に、これまでの我が方の調査結果によれば、350,000ルピア／人・月の支給が必要とされている。

イ．OECFローンの貸付け実行は、早くても1990年12月ごろと予想されることから、1990年9月からの第一回目の国内留学教官に対する奨学金の支給は、DGHE予算（資金）による事前手当（支給）の必要があり、DGHEの資金手当の目途、確実な支給等の動きに関し、十分に注意していくことが必要であろう。

4－4 プロジェクトの実施体制

(1) 留意点

① 組織体制全体（JICA――USAIDとの連携）

USAIDとの面談では、彼らは互いに密接な関係をもつことに大きな意義を感じていたように見受けられた。

ただし、現代の工学及び技術の理解と発展にはUSAIDが担当する基礎科学分野の(数学、物理、化学）の十分な理解とその応用力が不可欠である。

したがってJICAプロジェクトでPostgraduate Studiesを受ける教官の基礎科学分野の学力もHEDSプロジェクトを成功させる大きなカギと言える。

以上の意味でUSAIDとJICAのプロジェクトは必ずしも独立で走ってよいものではなく、例えばJICAの対象大学とUSAIDの対象大学との関係はどうなっているか等を十分に整理したうえで、組織体制全体として連携強化を具体的に図る方策を検討すべきと思料される。

② Project Steering Committee（プロジェクト運営委員会）

ア．本委員会はプロジェクトの計画等を立案、承認するための主要なものであるが、プロジェクトを成功させるためには必要に応じ適宜開催されなければならない。また、メンバーでなくて、オブザーバーでもよいから、対象大学の関係者も委員会に参加し、彼らに本プロジェクトの目的・意義を十分に理解させることが大切と思われる。

イ．メンバーについてはR／Dに盛られているように妥当なものと思われるが、USAIDとJICA双方の委員が互いのプロジェクト実施に対してどれだけの強制力をもち得るのか微妙な問題ではあるが、共通の目標に向けての前向きな意見の披瀝及び事業のスリ合せの場とするよう努めることが必要である。

③ Project Management Office（PMO）の機能と実施体制

PMOは主にPSCに上程する議題の整理並びにそれにかかわる資料の作成、並びにPIU

との協力により、資材投入計画の立案、並びにその実施、さらには日本国内委員会との連携により資材投入計画案及び実施の適正化、並びに Short- term Seminar and Workshop の立案を行う。

Short-term Seminar and Workshop の立案にあたってはテーマの選定に留意する必要がある。「イ」側における Needs と参加可能人数の把握を十分に行うことが重要である。また、実施機関は設備等の関係からバンドン工科大学が最適と思われる。

④ Postgraduate Studies 及び受入れ側実施体制

ア バンドン工科大学を訪問し、Rector、Deans との会見、並びに Mechanical Engineering と Production Engineering Departments を見学し、数人の教官と面談した限りにおいては、受入れ体勢は整っているものと感じられた。

ただし、彼らの研究は、取り扱う課題の物理・化学現象にどれだけアプローチしているのか疑問が残る面がある。

イ もう一点は、バンドン工科大学の教官は、対象大学の教官に対して絶大な自信をもっており、指導過程で対象大学の教官を spoill するのではないかという心配がある。

この点において、バンドン工科大学の教官に対して、特段の配慮を要請する必要が生じるかもしれない。

⑤ 日本研修受入れ

日本側受入れについては、6カ月の期間を画一的に考えているが、はたしてこれが適切かどうか疑問である。例えば、8月修了し、9月に来日した場合、日本の大学では4月から新学期が始まっているので、ゼミに参加させたとしても、内容の理解は困難である。研究をさせるには6カ月では短すぎる。

受入れ時期、期間について十分留意する必要がある。

(2) 課題

① モニタリング・評価の実施とその体制

ア モニタリングはホスト大学及びDGHE より、Scholarship 受領者の数及び Degree 受領者の数の報告を PSC で行うこととなるが、Degree 受領後、自分の Target Univ. に戻った後の教室の研究活動（論文発表数：口頭及び印刷）の報告義務付け等が検討課題となる。

イ 対象大学の評価としては Project 終了後、引き続き自大学学生の S2 コース進学者数のモニタリング（報告書提出）を実施する体制の構築が課題である。

ウ 投入機材の活用状況のモニタリング（機材使用授業科目、時間数の報告書提出）の実施についても上記の事項と同様の検討課題であり、事業実施に先立ち、その基準、手法、実施方法、評価者（機関）等につき検討・整理しておく必要がある。

② 日本研修受入れ期間

日本におけるS_2コース修了者に対するaward的研修については、画一的に6カ月とするのではなくて、成績によって3カ月、（6カ月）、1カ年とするのも一方法である。3カ月研修者は単に日本の実情を見聞するものであり、1カ年研修者は大学の研究室に在籍し、学部4年の卒業論文程度の研究を実施し、日本における研究の方法、研究室の運営等の研修内容及び受入れ時期についても至急検討を要する課題であろう。

4－5 プロジェクトの実施計画

(1) 留意点

① セミナー・ワークショップの実施

日本あるいは「イ」側の講師のみによるSeminorあるいはWorkshopではなく、例えばProject終了時にInternational Seminorあるいは Workshopを日本と「イ」のExpertsで特定のテーマで開催し、「イ」のUniv. Staffの国際台舞での活躍をEncourageする方法等、積極的な事業実施の方向に留意し、計画の立案を行う必要がある。

③ 専門家派遣（長期・短期）

ア 長期専門家が必要に応じホスト大学に常駐し、そこでOfficeの提供を受けて本プロジェクトの仕事のみならず、一教授としてPostgraduate Studies の授業並びに学生の指導を行うことも、技術移転の観点から有効な協力となろう。

この場合の長期専門家は、学科主任（系長）経験を有し、研究活動をホスト大学にて行い得る若手教授が望まれる。

イ 短期専門家については具体的なSeminor & Workshopのテーマリストを作成し、Target Univ. & Host Instituteに提示し、希望テーマと受講者を調査のうえ、派遣する専門家を選定する必要があろう。

ウ なお、Seminor & Workshopのテーマリストは国内委員会で作成するのも一案である。

④ 機材供与

ア ホスト大学への機材供与

本件については、S_2、S_3コースの研究実施に必要な機材を有効に供与する必要がある。

したがって、ホスト大学の担当教官（教授）から

(イ) S_2あるいはS_3の研究テーマ及び研究計画

(ロ) 現有設備

(ハ) 要望（申請）機器の購入必要性（理由）

を記入した申請書を提出させ、機材供与計画を立てるのが合理的である。

イ．対象大学への機材供与

・工学部の各学科として、必要な設備を供与することは有意義なことと思われるが、他のプロジェクトから既に供与を受けているものについては慎重に調査する必要がある。

・ホスト大学で学位を取って戻った教官の研究activity を継続させる目的で、彼らから上記アの(イ)、(ロ)、(ハ)を記入した申請書に基づいて機材供与することは、本プロジェクトのよりキメ細かな方策として評価されるものと思われる。

⑤ 暫定実施計画

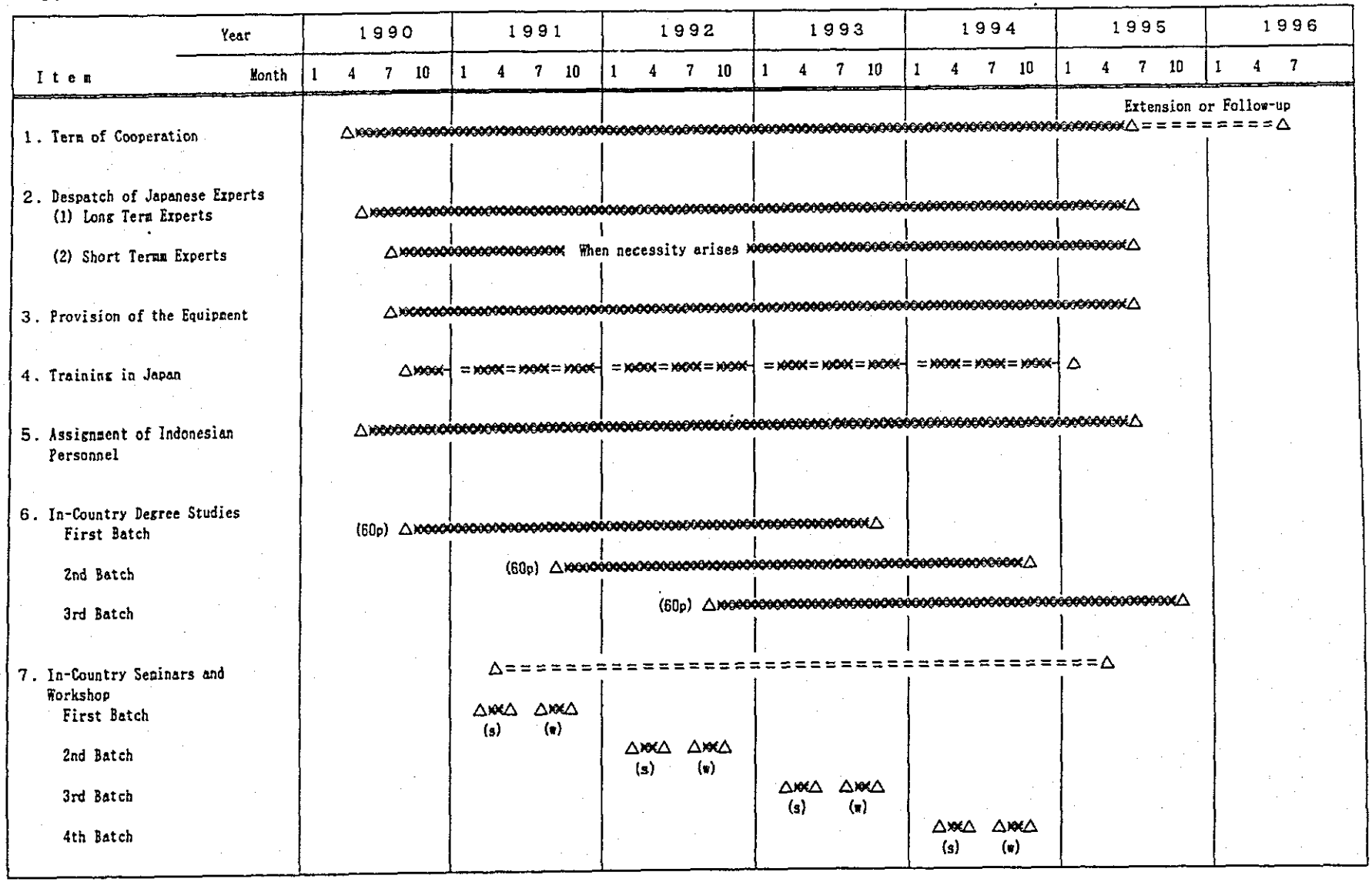
表－2として現地にて作成した暫定実施計画を今後の計画検討作成の参考として添付する。

(2) 課題

① Postgraduate Studies 教官に対する英語教育

教官の英語力の不足が十分に考えられるため、バンドン工科大学における Intensive Course の受講を計画し、テスト等により受講者を決定し、同コースの受講を義務付ける等、英語力不足に対する方策が検討課題となろう。

表－２　暫定実施計画案（TENTATIVE SCHEDULE OF IMPLEMENTATION (DRAFT)）



5. 提　　言

(1) 日・米・イ共同プロジェクト全体に係る提言

① 日・米関係について

本件プロジェクトは、日・米共同プロジェクトであり、スマトラ及びカリマンタン地域における高等教育の水準向上という目的は同一であるが、事実上日本側、米側のプロジェクトは、手段も方法も異なり、同時並行の形で実施されるものである。

そのため、無用の重複を避け、目標達成のために有機的連携を図るためには日・米間の恒常的な情報交換・意見交換の場の設置についても考慮することが望ましいと考えられる。

このような場としては、Project Policy Steering Committee が設置され、基本政策にかかわる事項を審議することになるが、本会議の議長には、DGHE が充てられ、インドネシア側も多数のメンバーが加わるものであり、日・米間の細部にわたる政策的なスリ合せの場としては、必ずしも適当とは言えない。

したがって、将来的には、Project Management Office の両国側長期専門家を主要メンバーとするJICA、USAID のみの間の定期的情報交換の場の設置を検討することも必要になると考えられる。

なお、本件プロジェクトの目標達成にかかわる日・米双方のアプローチ手法は、特定の専門分野に関して、特定の対象に対し、同一の時期に、日本側はインドネシア国内留学、米側は米国への留学という全く異なった方法論により実施されるものであり、今後の技術移転、途上国への教育援助の在り方を考える際の貴重なテストケースになると考えられるばかりではなく、教育方法論としても極めて興味深いデータが得られるものと期待される。

そのため、日・米双方のプロジェクトにかかわるモニタリング、成果の評価が、通常のプロジェクト以上に重要なものとなると考えられる。したがって、今後、対称可能な、同一指標によるモニタリング及び評価方法についても、日・米間で十分協議することも必要になると考えられる。

本プロジェクトは、工学・技術は基礎科学に立脚するものであり、Engineering の教育は基礎科学の十分な理解を前提とするものであるから、USAID の対象大学・学部学科とJICA の対象大学・学部学科間の密な連携・調整が望まれる。

② 日・イ関係について

本件プロジェクトは、基本的にインドネシア国内の高等教育の水準向上を目的とするものであり、Incountry Postgraduate Studies の実施を核としつつも、高等教育行政、大学運営、教育カリキュラム、教育・指導手法等、高等教育全般にわたる様々な側面におけるアプローチも、同時に考慮される必要も生じると思われる。

そのため、例えば、高等教育行政官を対象とした高等教育政策に関するセミナー、大学の Administrator を対象とした大学行政に関するセミナー等の開催、短期専門家の派遣による各ターゲット大学全般の運営に関するアドバイス、カリキュラム開発への援助等も今後検討される必要があると考えられる。

③ 日本側の協力体制（特にNon-degree Training Programme による研修員の受入れに関する）について

本件プロジェクトに基づき、Technical Training と University Management のstudyのために、一定期間日本に研修員を受け入れることになるが、その受入れのシステムについて整備を検討することが望まれる。

日本側の大学への受入れの仕組みとしては、制度として確立しているものの、その人数、専門分野、時期、期間によっては、必ずしも円滑に受け入れが進捗しないケースも考えられる。

そのため、細部の決定前に文部省及び関係大学等と十分な協議を行う必要があると考えられる。

また、University Admnistrator に対する University Management の study に関しては、各大学ともごく短期間の Observation Visit 以外は、必ずしも十分な対応ができる体制にはなく、また、日本の大学はほぼ均質な体制が整っているため、数多く見て回ることにも大きな意義は期待できない。

そのため、いずれかの日本国内機関が、集団研修コースのような形で、短期間で効率よく日本の大学のManegementを理解できるStudy Programmeを用意することも検討する必要があると考えられる。

(2) プロ技協に係る提言

① Host Training Institutions に対する機材供与

供与機材の効果的運用を図るためにも、相手側のニーズを事前に十分把握する必要がある。また、機材は当該大学への技術移転及び教育・研究のレベルアップとリンクして供与されるべきものであるから、当方専門家による現地大学での一定期間の協力を経たうえで供与機材を選択するような方策も検討される必要があろう。

さらに、供与した機材を活用する技術については、対象大学側に移転されることが必要であり、日本でのNon Degree Training とリンクして考慮されることが望まれる。

なお、供与した機材のメンテナンスについても、例えば企業側に一定期間のサービスを提供させる等、何らかの配慮をすることが望まれる。

(3) 無償協力（機材供与）に係る提言

① Target Universties に対する機材供与については、Host Training Institutions に対す

る以上の、供与される機材の選択、活用方法のノウハウの移転、メンテナンスなどのソフト面での協力が必要とされると考えられる。

基本的には、Host Training Institutions において修士レベルの教育を受けた教官がTarget Universityに帰り、各々の大学の教育・研究レベルを向上させることが目標であると考えられることから、Target Universities に対し供与される機材については Host Training Institutions の Participants 受入れ時の現有機材とリンクさせることが望ましいと考えられる。

附　　属　　資　　料

1. 要　　請　　書

2. Higher Education Development Support／USAID
Indonesia Project No.497 － 0358 (Draft)

SEKRETARIAT NEGARA
SEKRETARIAT KABINET RI

Jakarta, 9 June 1989

No. KL.01.00/ANCP/615

Mr. K. Bessho
First Secretary
Embassy of Japan
Jakarta

Dear Mr. Bessho,

HIGHER EDUCATION DEVELOPMENT SUPPORT PROJECT

I would like to submit the additional project type technical cooperation and Grant Aid request for the project Higher Education Development Support and it could be discussed at the bilateral meeting which will be held in July 1989.

For your perusal I enclose the Project Proposal of the proposed project.

Thank you for your continued cooperation.

Sincerely yours,

Moh. Widodo Gondowardojo
NIP. 80001398
Head,
Bureau for Technical Cooperation

cc:

1. Sdr. Sekjen. Departemen Pendidikan dan Kebudayaan.
2. Sdr. Dirjen. Dikti, Depdikbud.
3. Sdr. Kepala Biro KELN, BAPPENAS.
4. JICA Indonesia Office-Jakarta.

PROJECT PROPOSAL
FOR
HIGHER EDUCATION DEVELOPMENT

1. Project Title : Higher Education Development Support Project
2. Location : Jakarta (Bandung, Sumatera, Kalimantan) Indonesia.
3. Executing Agency : Directorate General of Higher Education, Ministry of Education and Culture.
4. Objectives :
   1. To upgrade academic Staff from relected universities in disciplines of Engineering through providing support for postgraduate studying country and abroad for workshop and seminars.
   2. To promote the professionalism of the faculty in target universities.
   3. To alleviate contrainst on the efficiency and effectiveness of the Indonesian educational system.

5. Project Description:
   1. It is urgent to enhance the availability of well educated technical manpower in regions of Indonesia exhibiting a rapid rate of economic growth.
   2. This urgent problem will be solved by improving the quality and effectiveness of universities in the regions of interest.
   3. In order to active this goal, it is necessary to improve the quality of teaching staff in disciplines critical to economic development, especially those in the engineering. A secondary purpose is to improve communication between universities and the private sector to facilitate placement graduates and to make the instructional programs responsive to the job market.

6. Scope of Assistance:

The requested Grant is as follows:

1) Expert Services (Long Term and Short Term)		US$ 1,150,000.-x)
2) Fellowship (In-country Training and Overseas Training)		US$ 8,470,000.-
3) Equipment		US$ 8,080,000.-
4) Others		US$ 2,300,000.-
	Grand Total	US$20,000,000.-

8. Related Project Aid: USAID-Higher Education Development Support Project No. 497 - 0358 (1989 - 1994).

1. USAID and this project aim to attain the object complimenting each other by joint operation. USAID provide support mostly in the disciplines of basic sciences which are the basis of engineering disciplines.

7. Government of Indonesia input US$ 7,000,000.-

Government of Indonesia will provide counterpart fund including inkind to the amount of US$ 7,000,000.- (seven million dollar).

PROJECT BACKGROUND AND DESCRIPTION

A. Background and Project Rationale

Long range economic plans of the GOI emphasize industrialization within the framework of a more open and competitive economy and reduced dependence on the expoert of primarily products as the engine of growth. It is widely recognized that resource rich Sumatera and Kalimantgan will play important roles in this open economy development strategy. To support this strategy the GOI has placed great priority on increasing enrollments and strengthening educational programs in the basic sciences, engineering, and business management. Since Sumatera and Kalimantan have received little assistance in the past, the success of the new developed strategy will require focusing assistance there.

Over the past 40 years Indonesia has made important strides in increasing the capacity of its system of higher education. Since independence 45 public and over 700 private institutions of higher learning have been established. Over the last decade, enrollment has grown by more than 10% per year, the full time faculty staff has almost tripled, and the private system has grown from 350 institutions in 1975 to over 700 accomodating approximately 750,000 students. Despite these accomplishments, relatively low levels of government funding have made it difficult for the higher education system to meet existing and projected needs for silled manpower. Enrollment rates are low; educational quality is poor, and less than 1% of the labor force has a college education. Given the relative neglect of higher education on the outer islands, problems there are more severe than on Java.

As a result, Indonesia finds itself currently unprepared to meet the demands for skilled labor required to successfully implement an export led industrialization development strategy. This lack of sufficient numbers of qualified skilled manpower has been recognized by the GOI and the National Academy of Sciences which recently concluded that Indonesia's development policy will require a dramatic expansion of scientific and technical manpower. Similar conclusion were reached in a report of the Ministry of State for Research and Technology and by two studies of manpower needs through the 1990s. In the interim, Indonesia has, as recent World Bank report states, been forced to rely on fellowships provided by foreign agencies and governments to meet skilled manpower needs.

In addition to the need to increase enrollments and graduates in higher education, in the basic sciences, and engineering, there is growing evidence of a quality problem. It takes an average of 7 to 8 years for students to complete their studies for S1 degrees (equivalent to bachelors degrees) and poor preparation has slowed employment of graduates in the provate sector. To a lareg degree this reflects the relatively low level of funding of universities by the GOI. Recently this has been exacerbated by severe budget limitations brought on by the drop in oil proces which has precipitated a 22% decline in expenditures per student at public institutions. Low and declining levels of funding have meant that the existing teaching staff is poorly trained (less than 15% have advanced degrees), that library holdings are estremely limited, and that laboratory facilities are generally quite poor.
As a result, the country faces the possibility of undermining its development prospects as a result of further deterioration in an already weak and overburdened higher education subsector.

The Government also finds itself caught between demands for more access by a growing population with rising expectations and the need to consolidate past gains to better meet the needs for skilled manpower. The Government has responded to the demand for greater access by establishing on open university and by permitting the private system to grow rapidly. It now recognizes that it must turn attention to improving quality if it is to have any hope of meeting the needs for more skilled manpower associated with a shift toward an export-led industrial development strategy.

Within this context the GOI has undertaken a number of steps to improve the quality of its system of higher education. With World Bank assistance a large number of polytechnics have been built, and instruction in the basic sciences in teaching training colleges has been strengthened. The research capacity of higher education is being strengthened by the creation of 17 Inter-University Centers for Research.

The ADB and several bilateral donors are investing heavily in programs to improve quality. Most recently the World Bank and the GOI have agreed on a $257 million three-year program to improve quality by enhancing DGHE's planning and management capability and providing support for operations and maintenance during a period of tight budgets. Within the context of this program, the DGHE has initiated an Action Plan for Higher Education to consolidate gains

by limiting future expansion to resource availability; encouraging public universities to seek additional sources of dunding; establishing and operating an on-going tracer system of graduates, professionalizing university management; and providing more assistance to private universities.

B. Project Description

1. Project Goal and Purpose

Goal. The project goal is to enhance the availability of well educated technical manpower in regions of Indonesia exhibiting a rapid rate of economic growth. This goal will be achieved by improving the quality and effectiveness of universities in the regions of interest.

Purpose. The purpose of the project is to improve the quality of the teaching staff in disciplines critical to economic development, especially those the basic sciences and engineering. This purpose will be accomplished by upgrading the teaching staff in these fields by the joint efforts of US complimenting each other. US cocentrates on the fields of basic sciences, while JAPAN concentrates on the fields of engineering. A secondary purpose is to improve communication between universities and the private sector to facilitate placement of graduates and to make the instructional programs responsive to the job market.

The primary objective of JICA assistance is to train relatively younger teaching staff in the relevant disciplines, and especially in the engineering by providing support for postgraduate study. The output will be 185 postgraduate degrees. The students for degree works will be trained at a selected institution in Java. In-country training is needed rather than overseas training for the following three reasons. a) a high standards of engineering education at post graduate level is available at selected universities in Java, b) an increased number of post graduate students will enhance educational and research activities of the host universities where in-country training is provided and c) cost performance is better to attain the objectives. One of the weak points of in-country training is lack of exposure of the trainees to an environment different where professionalism is significantly different. In order to conpensate this weak point, successful trainers in receiving degrees and those who get TOEFL score of 500 are invited to Japan for additional training of six months duration. In addition 1350 relatively senior persons who

need updating their quality to catch up rapid development of recent technology will be trained in one-month non-degree programs and internships in Indonesia. The recipients of this training will be better qualified to teach students effectively and to use new physical facilities. Being better educated and more sophisticated, they will be able to modify their teaching programs to meet the needs of the developing job market.

A related objective is to promote the professionalism of the faculty. After a staff member returns from postgraduate training, thereis a tendency to slip back into his old habits rather than continuing his professional development. Professionalism will be promoted by organizing seminars and conferences in disciplinary subjects. Also, research and public service related to local commercial activities will be encouraged by establishing contacts with the private sector. The output will be a network of professional contacts that will sustain individuals in their continuing professional development. Part of one month non degree training program will be utilized to help established these contacts as well as to provide input on specific techical issues.

A third objective is to alleviate constraints on the efficiency and effectiveness of the Indonesian educational system. Historically, Indonesian university students have taken an excessively long time to complete their studies. This situation has been improved considerably by the recent adoption of the credit system and by imposition of deadlines. Nevertheless, problems remain, and the system is still inefficient. Part of one month non-degree training will be utilized to improve operations and making the university responsive to the job market in the private sector.

3. Project Elements

a. Project Components.

In order to improve the quality of selected university programs there will be three components of this project. Those are:

1. Training of staff from selected faculties and universities;
2. Activities to promote faculty professionalism; and
3. Improvement of efficiency and effectiveness of Indonesian educational system for S1 degree.

b. Target Facilities.

According to projections of economic growth in Indonesia, the fields of study that need to be upgraded to support this growth include agriculture, engineering, and economics. Much of this growth is occurring in Sumatera and Kalimantan so faculties on these islands need to be made more efficient and effective. GOI has reviewed the universities on these islands, and based on criteria of anticipated employment growth and the potential quality of the institution, eight universities have been selected as target universities. These are universities that have established faculties of moderate quality but still low efficiency in the disciplinary areas of interest.

Seven of the ten universities selected are on Sumatera: Syiah Kuala University in Banda Aceh, University of Sumatera Utara, University of Medan Area, University of Dharma Agung, Nomensens and Islamic University in Medan, and Lampung. Three are in Kalimantan: Mulawarman in the east, Lambung Mungkurat in the south, and Panca Bakti in the west. Nomensen, Medan Area, Dharma Agung, the Islamic University, and Panca Bakti are private universities.

These universities were selected on the basis of the projected job-market growth in their regions and on their ability to benefit from an intensive staff-training program. Critical indicators of their absorptive capacity are the quality of their leadership, enthusiasm of the staff, and the support of the local government.

C. Activities

This Project will cover several activities for achieving the purpose as described below:

1) To train academic staff selected from target universities in Sumatera and Kalimantan in the post graduate course at the Institute of Technology of Bandung (ITB) under the In-Country Training Program.
2) To give a fellowship for six months to well trained academic staff in Japan.
3) To train academic staff in short term non-degree programs in Indonesia.
4) To provide necessary expertise to coordinate programs.
5) To provide equipment and expertise to support the project.

The Higher Education Development Support (HEDS) Project will be managed by a Project Management Unit (PMU) established in

Jakarta for the project by the Director General of Higher Education The Project Management Unit will receive broad policy guidance from a Project Policy Steering Committee (PPSC).

1. Project Policy Steering Committee (PPSC).

The PPSC will be composed of the Director General of Higher Education or his designee, the Directors for Academic Affairs and for Private Universities in DGHE, the representatives of USAID and JICA and the Director General or his designee will chair the PPSC, which will meet at least twice annually.

2. Project Management Office (PMC)

The PMC will consist of Indonesian officials of DGHE (full time), US Experts from USAID and Japanese Experts from JICA.

The PMU will coordinate all project inputs. Its specific responsibilities will include:

- to develop yearly workplans for each component of the project
- to develop scopes of work for short term domestic and overseas technical assistance needed by each component to the project
- to coordinate procurement of all commodities
- to determine training needs and identify suitable training opportunities to support each component of the project
- to oversee financial management and control
- to monitor project implementation
- to report the progress of project implementation to the project basis

The PPSC will establish the overall policy framework within which the PMU is to carry out implementation activities of the project. PPSC responsibilities will also include periodic evaluations of the project, approving annual plans of work, approving contractor's technical assistance nominations, and reviewing participant selection. A less formal, but equally important, function will be to serve as a sounding board and advisory body to provide guidance as requested in the solution of problems encountered in program design and implementation.

3. Project Implementation Office (PIO)

The project Management Unit will be directly linked to the Target Universities through the Rector's offices. A project field office called the Project Implementtion Office (PIO) will be

established within the Rector's Office of each participating institution. This will serve as the Rector's implementation arm for campus project activities. Each university's Senate will function as an informational link to the faculties, and as a policy advisory body to each Rector.

The Project Implementation Office will have the following responsibilities:

- to develop yearly workplans for the individual local project components
- to make yearly funding and equipment requests to the PMU
- to supervise implementation of all activities in the individual project components
- to submit nomination for training programs
- to to submit requests for technical assistance
- to submit proposals for professionalization activities
- to submit finance and activity reports to the PMU
- to monitor the progress of project implementation.

D. Budget

Expert Services (long term and short term;210 M/M)	US$ 1,150,000.-
Fellowship (In-Country and Overseas;185 persons)	US$ 8,470,000.-
Equipment	US$ 8,080,000.-
Other	US$ 2,300,000.-
Grand Total	US$20,000,000.-

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UNITED STATES OF AMERICA
AGENCY FOR INTERNATIONAL DEVELOPMENT
AMERICAN EMBASSY
JAKARTA, INDONESIA

Letter No. II/819
April 12, 1990

Mr. Kazuhiro Yoneda
Assistant Resident Representative
Japan International Cooperation Agency
Jl. Thamrin No. 59
Jakarta

Dear Mr. Yoneda:

Enclosed is a draft copy of the Higher Education Development Support (HEDS) Project Paper. As we explained previously, all references to budget and funding levels have been deleted. We had a very positive meeting in the Mission on Wednesday regarding HEDS. We expect to authorize the Project Paper within two weeks.

Our meeting on Wednesday morning with Prof. Dr. Nishino and his group was very productive. We look forward to the successful implementation of the HEDS Project.

Sincerely,

Ernest C. Kuhn
Education Officer

ENCL.: a/s

附属資料2.　Higher Education Development Support
Project No. 497-0358

PROJECT PAPER

Higher Education Development Support

Project No. 497-0358

PROJECT PAPER

DRAFT

Table of Contents

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DRAFT

PROJECT AUTHORIZATION

INDONESIA

HIGHER EDUCATION DEVELOPMENT SUPPORT
PROJECT No. 497-0358

1. Pursuant to Sections 103 and 105 of the Foreign Assistance Act of 1961, as amended, I hereby authorize the Higher Education Development Support Project for Indonesia involving planned obligations of not to exceed $20 million in grant funds over a three-year period from date of authorization, subject to availability of funds in accordance with the AID OYB allotment process, to help in financing foreign exchange and local currency costs for the project. The planned life of project is six years from the date of initial obligation.

2. The project will improve the responsiveness of university programs for Indonesia's development requirements by enhancing the quality of university administration and instruction in key academic disciplines and geographical regions. Activities under the project will include:

   participant training to upgrade the faculties of mathematics, basic sciences and the Department of Business Administration in the Faculty of Economics;

   development of instructional and administrative staff and the improvement of instructional programs;

   the establishment of formal lines of communications between universities and the business community; and

   support for formulation and implementation of policies leading to improved efficiencies in the educational system.

3. There are no Conditions Precedent other than the standard Conditions Precedent to Disbursement. There is one Special Covenant covering Project Evaluation.

4. The Project Agreement which may be negotiated and executed by the officer(s) to whom such authority is delegated in accordance with AID regulations and delegations of authority shall be subject to the following essential terms and covenants and major conditions, together with such other terms and conditions as AID may deem appropriate.

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4. a. Source of Origin of Commodities, Nationality of Services

DRAFT

Commodities financed by A.I.D. under the project shall have their source and origin in the Cooperating Country or in the United States, except as A.I.D. may otherwise agree in writing. Except for ocean shipping, the suppliers of commodities or services shall have the Cooperating Country or the United States as their place of nationality, except as A.I.D. may otherwise agree in writing.

Ocean shipping financed by A.I.D. under the project shall, except as A.I.D. may otherwise agree in writing, be financed only on flag vessels of the United States.

Signature: _____
David N. Merrill
Director

DRAFT

Date : _____

Clearances: EHR:NRifkin_____
PPS:GLewis_____
FIN:CChristensen_____
LA:GBisson_____
DD:LTwentyman_____

Drafted: EHR/LA:EKuhn/PScott:ir:tg:03/15/90

EXECUTIVE SUMMARY
HIGHER EDUCATIONAL DEVELOPMENT SUPPORT
(HEDS)

I. Project Background and Rationale

A. Background

The drop in world oil prices of more than 50 percent since 1980 has depressed economic growth in Indonesia, thus contributing significantly to the Country's high unemployment rate. About 18 percent of the work force is unemployed and 30-40 percent is underemployed. In response to this problem, the Government of Indonesia (GOI) has initiated major policy reforms to develop the non-oil economy. In particular, the manufacture of non-oil exports is being promoted as an important avenue for economic growth and development.

While the Government of Indonesia has made good progress in deregulation and the development of a favorable trade policy environment, it continues to be frustrated by the inability of its Universities to turn out sufficient numbers of qualified graduates in fields that are critical to the development of trade, industry and open markets.

There is a paradox in the relationship between the expansion of the Indonesian economy and job opportunities for Indonesia's unemployed. On the one hand there is educated unemployment. On the other hand there are shortages of personnel in key occupations. There is evidence from the business community that expansion is difficult because the labor force, including university graduates, is perceived to be unqualified. Specifically, the business community complains that an inadequately trained managerial and technical work force is handicapping its efforts to meet the demands of an export growth scheme.

The perceived deficiencies in the current labor force are partly the result of deficiencies in the higher education system which is the primary developer of these human resources. Both public and private universities are lacking in high quality human and material resources and are rife with operational and program inefficiencies. For example, fewer than 21 percent of university faculty have graduate degrees, library holdings are extremely limited, laboratory facilities are poor, study space for students and work space for instructors is extremely limited. On the average, it takes eight to ten student years of instruction to turn out a single

graduate, due to the high number of drop-outs, push-outs and repeaters. Students often engage in job searches up to three years to gain employment. It is clear, therefore, that the current system of higher education in Indonesia is both internally and externally inefficient. If Indonesia is to realize its economic growth objectives, and successfully compete on open world markets, it will need to develop a high quality, efficient system of higher education that effectively responds to the needs of employers.

The Higher Education Development Support (HEDS) project seeks to strengthen selected private and public university faculties of mathematics/basic sciences and business administration in Sumatra and Kalimantan. The project will enhance the sustainability of universities as efficient institutions that are less reliant upon government subsidy, by working toward financial autonomy and the development of a service relationship with the business community.

B. Rationale for Project Support

1. Support of AID Strategy

(i) Institutional Pluralism. By strengthening Private Universities, and by giving public Universities more autonomy, the GOI will foster more pluralistic participation in social, political and economic issues. Through its emphasis upon strengthening ties between the universities and the private sector, both will increase their capacity to influence development of public policy.

(ii) Open Markets. HEDS will contribute directly to the development of open markets in Indonesia by improving faculty in the area of business administration. U.S. trained instructors will impact upon generations of future entrepreneurs and business executives. While the GOI has made good progress on the policy side of deregulation, HEDS will help to alleviate the human constraint.

According to World Bank research, poor mathematics and basic science skills constrain the growth of the Industrial sector. Without good growth and development in this sector, open market strategies will fail. HEDS will strengthen the faculties of mathematics/basic sciences so that future generations of graduates will be better able to participate in and contribute to the broadening of Indonesia's commercial and industrial development. Very few graduates of Indonesian universities in Sumatra and Kalimantan are qualified for entrance to top U.S. graduate schools, or even to the top Indonesian graduate schools. Commercial and technological linkages between Indonesia and the United States through higher education have been historically important, and must continue if the U.S. hopes to remain competitive.

(iii) Open Societies. HEDS will concern itself not only with <u>what</u> is being taught, but <u>how</u> it is taught. HEDS will provide short term training for university instructors in teaching methodology which will encourage

inductive, participatory learning that takes full advantage of the scientific method to develop enquiring minds. Lecture methods will be discouraged, and experimentation will be enhanced. Graduates of this type of training will be far more likely to participate as active citizens in their society, than would graduates who have been spoon fed. Universities have always served as a forum for democratic freedom of expression. HEDS will provide an academic framework to promote such participation through the introduction of teaching methodology that promotes experimentation, case study and analysis rather than rote learning.

2. Support of CDSS Goal

In supporting Repelita V strategy, the HEDS Project follows the Mission's CDSS goal to improve long-term sustainable employment and income opportunities through means which promote efficiency and productivity. In education, this goal will be pursued by supporting activities designed to achieve an efficient, high quality human resources development system (internal efficiency) which effectively links systems outputs to market requirements (external efficiency). HEDS addresses internal efficiency by strengthening the quality of teaching in mathematics, business administration and the basic sciences through participant training, short courses, and networking, as well as supporting policy studies in higher education and selected pilot activities. HEDS will improve university external efficiency through training and technical assistance designed to establish and maintain links between universities and the business community via tracer studies, placement offices, work-study programs and multi-disciplinary problem-solving teams for businesses.

The scope of activities included in HEDS is related directly to the project's objective of improving university responsiveness to labor market requirements. The project's strategy is based on the assumptions that this objective can be reached if (a) policies related to higher education support efficiency in the use of resources; (b) universities have sufficient mumbers of qualified personnel capable of producing trained outputs in the appropriate areas; (c) there is a continuing exchange of information between universities and the business community so that the universities understand the job market requirements; and (d) the business community is aware of and utilizes higher education's resources and capabilities.

3. Support of GOI Strategy

The GOI's new export strategy requires the development of a skilled and productive work force. In recognition of this fact, the GOI invested heavily in education. Whereas during 1974/75, only 4.9 percent of actual GOI development expenditures were allocated to education, by 1986/87, education's share had increased to 14.2 percent. During Repelita IV the strategy for the education sector was expansion by: (1) increased enrollments in post secondary education, (2) increased instructional staff in public and private universities, (3) increased integration of public and private universities (4) increased number of polytechnics, and (5) increased number of junior and secondary school teachers.

As a result of such expansion efforts, higher educational enrollment grew at an average annual rate of 11.29 percent, or from 824,000 students in 1983/84 to 1,600,000 students in 1988/89. In spite of the increases in the budget for education, however, this rapid expansion in enrollment forced a decline in the percentage of resources allocated per student and therefore, the quality of education. In response to this problem, the GOI has shifted its strategy for higher education from expansion to improvement. In Repelita V, the GOI has stated that the main purpose of its educational development plan is to improve the quality of the entire system, including curriculum and faculty to improve educational output.

4. Related Projects

The Government of Japan through JICA is in the final stages of designing a $20 million complementary project to HEDS. Japanese assistance will take the form of on-the-job training in Japan, technical assistance and commodities. AID and JICA have worked together early in the design phases of their respective projects and have developed an integrated approach to the projects. Specifically, an informal agreement has been reached between AID and JICA such that AID will support math, basic sciences and business administration programs in the selected universities and JICA will support engineering programs in 11 universities. JICA has offered to upgrade science laboratory equipment which will be used in HEDS. JICA equipment assistance is currently budgeted at $8 million. While each of the projects described above can stand alone, they will be integrated to the extent possible.

The Western Universities Agricultural Education (WUAE) Project is also related to HEDS as it is currently providing training to instructors in five of the proposed HEDS universities in the fields of fisheries, forestry, agricultural economics, rural sociology, veterinary science, agronomy, soil science, food and nutrition, plant pathology, plant physiology and entomology, inter alia. Since the WUAE

project will be completed in May, 1991. HEDS will provide support to participants returning after the WUAE project completion date and will assist the BKS/B universities interested in establishing job placement centers. HEDS will benefit from lessons learned in 10 years of WUAE implementation.

Another project related to HEDS is the Asian Development Bank (ADB) funded "Six Universities" project. This $114 million loan will finance higher education improvements in selected public and private Universities in Kalimantan and Java. The project addresses similar constraints and contains project components which resemble those of HEDS, but covers a different geographic area.

II. Project Objectives

A. Goal

In support of the Mission's CDSS goals, as well as the GOI's goals for higher education as expressed in Repelita V, the goal of this $27,000,000, six-year project is to promote an efficient and high quality human resources development system in Indonesia that effectively links both public and private higher education outputs to (regional) human resources requirements.

B. Purpose

The purpose of the HEDS project is to improve the responsiveness of university programs to job market needs by enhancing the quality of university administration and instruction in academic disciplines and geographical regions critical to national economic development.

HEDS seeks to achieve the project's goal by providing assistance:

a. for participant training to upgrade the faculty of mathematics and basic sciences and the department of business administration within the faculty of economics,

b. for development of instructional and administrative staff and the improvement of instructional programs,

c. for the establishment of formal lines of communications between universities and the business community, and

d. to support policies leading to improved efficiencies in the educational system.

C. Project Approach

HEDS will focus its university-strengthening activities in the critical academic disciplines of mathematics, the basic sciences (physics, chemistry, and biology) and business administration. Emphasis is being given to mathematics and the basic sciences because they are considered vital prerequisites to the development of a work force skilled in the applied sciences of engineering, mining, agriculture, fisheries, marine sciences, environmental affairs, etc.

HEDS will concentrate its efforts and resources in Sumatra and Kalimantan where studies have shown significant economic growth potential and where the quality of local university graduates does not meet the expectations of the local business community. There will be two levels of AID assistance for these targeted universities.

Level One: These universities will receive full technical assistance in the Faculty of Mathematics and Basic Sciences and the Department of Business Administration in the Faculty of Economics, plus, they will also participate in all of the Level Two activities.

SUMATRA

PUBLIC	PRIVATE
SYIAH KUALA U- Aceh	NOMENSEN U. - Medan
U. OF NORTH SUMATRA - Medan	ISLAMIC U. OF NORTH SUMATRA - Medan
U. OF LAMPUNG, Bandarlampung	DARMA AGUNG U. - Medan
U. OF RIAU - Pekanbaru	U. OF MEDAN AREA - Medan
U. OF BENGKULU - Bengkulu	

Level Two: These universities may be eligible to participate in selected activities such as: institution-building; policy studies; job placement centers; networks; and short courses as appropriate.

SUMATRA

PUBLIC	PRIVATE
IKIP - Medan	
ANDALAS U. - Padang	
IKIP - Padang	
U. OF SRIWIJAYA - Palembang	
U. OF JAMBI - Jambi	

KALIMANTAN

U. OF TANJUNGPURA - Pontianak
U. OF LAMBUNGMANGKURAT - Banjarmasin
U. OF PALANGKARAYA - Palangkaraya
PANCA BHAKTI U. - Pontianak
ACHMAD YANI U. - Banjarmasin
SEKOLAH TINGGI ILMU EKONOMI INDONESIA - Banjarmasin

Technical assistance will be provided by the GOI to U. of Palangkaraya, U. of Lambungmangkurat and U. of Tanjungpura as follow up to short courses funded by HEDS.

D. Project Activities

HEDS activities are designed to ensure that they support the GOI's export-oriented open market growth strategies. Although not specifically stated as an objective, it is anticipated that HEDS will complement Japanese efforts to improve the quality of engineering programs in most of the targeted universities. Program activities can be categorized as follows:

1. Participant Training/Education

Technical/academic competence of faculty and university administrators is an important element of professional quality. Yet, a small percentage of instructors in the selected faculties have been trained beyond the undergraduate level. HEDS will assist the selected universities to achieve a target of 40 percent of the instructors in the selected faculties holding advanced degrees. The current percentage with advanced degrees is about 21 percent. This "critical mass" of qualified instructors will be created by funding the training of 175 dosen (university instructors) to the MS/PhD level in the United States. Emphasis will be placed on training in math, chemistry, physics, biology and business administration. A secondary element of this project component will be English language, cultural and educational training for all US-bound trainees. Participants will be selected in accordance with criteria established by the Project Steering Committee.

The Higher Education Development Support project has a target of 30 percent female participants in long-term training. We recognize, however, that due to family and cultural constraints, this target may be difficult to reach. To encourage broader female participation, it has been determined that 20 percent of the total candidate pool be comprised of women who will not necessarily be required to compete with the total pool, but with each other.

2. Staff and Program Development

In addition to degree training in the U.S., short-term training in the U.S., in third countries, and in Indonesia will be funded for instructional and administrative staff. This training will be technical or administrative in nature and each course will be focused upon a single subject

area. The training will be designed to help the trainees improve their job skills and instructional programs, and to prepare research agenda to develop institutional leadership. In-country courses, for the most part, will be developed within the project by U.S. and Indonesian technical assistance in conjunction with a network or team of instructors. In keeping with AID's concerns of sustainability and replicability the design of the short courses will allow for replication throughout Indonesia. There also will be follow-up programs to ensure that the participants make maximum use of their short course experiences either as administrative staff or teaching members of their universities.

HEDS will also promote the formal linking of public universities with private universities, other educational organizations and businesses to create an environment conducive to professional development. This will involve establishing and maintaining outside connections for sharing research problems and outcomes, servicing needs of local commerce and industry, assessing manpower demand and employment realities, deriving benefits from alumni associations inter alia. Networks will be developed during project implementation which focus on specific areas of concern and relevance. Linkages with existing BKS/B and national networks will be continued.

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University-Business Links

The HEDS project will provide technical assistance to universities to establish formal links and channels of communication to the business community, primarily through the job placement centers in each project university. Undergraduate work-study programs and multi-disciplinary problem-solving teams will also be established to develop university and business relationships, thereby enhancing external efficiency. By assisting in the identification and development of guidelines and criteria. HEDS will assist in the marketing of consulting services performed by instructors through universities. Approaches which have proved successful in the U.S. to promote financial independence will be explored.

4. Policy Support

The GOI has embarked upon a series of reforms designed to improve the internal efficiency, the external efficiency and the cost effectiveness of higher education. These reforms, detailed in the new Education Bill and in Repelita V, are generally geared toward making universities more autonomous and less dependent financially upon the Government. Illustrative areas of GOI interest for policy reform are: financial management and university administration; the relationship of university programs to the job market; infrastructure, academic quality and internal efficiency; and equity of resource allocation. The HEDS higher education policy support component will assist the GOI in developing and testing methods of implementing the reforms by:

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(a) identification, study and analysis of policy constraints; (b) development of recommendations and testing of workable models; and (c) implementation and spread of successful models.

III. Financial Plan

A. AID Contribution

The AID contribution to HEDS will be a $20,000,000 grant. The AID funds will be used for:

1. Participant Training
2. Technical Assistance
3. Policy Studies
4. University Support
5. Commodities
6. Evaluation/Audit
7. Contingency

The funding mechanism will be a combination of U.S. direct payments (institutional contracts, PSCs), and PIL's.

B. GOI Contribution

GOI contribution will be approximately $7,000,000 in rupiah. The GOI funds will be used for:

		Total Amount in U.S.Dollar
1.	Participant Training a. Local training b. International Airfare	1,000,000
2.	Technical Assistance	550,000
3.	University Support	500,000
4.	Project Operation a. Central Office Support b. Support for offices at four universities c. Housing for TA at five universities	3,750,000
5.	Evaluation	100,000
6.	Commodities	500,000
8.	Contingency	600,000
		7,000,000

IV. Monitoring/Evaluation

A. Monitoring by the Project Steering Committee

Overall management of the project will be by a Project Steering Committee which shall meet at least four times per year. Members of the Committee will include the GOI Project Director, the AID Project Officer, the Chairman of the BKS/B Consortium, Rectors of the five public universities (each one serving one year on a rotating basis), and the Chairmen of the two Kopertis, or their representatives, (each one serving a three-year term). Ad hoc members include the Chief-of-Party, the Program Coordinator and a private sector representative. The Steering Committee will provide general guidance and direction on implementation and policy relating to implementation issues including final determination on participants for long-term training. In addition, the Rectors and Vice-Rectors shall meet twice yearly to review progress and make implementation recommendations.

B. Contractor Monitoring DRAFT

The contractor shall present to the Steering Committee a plan for continuous monitoring of project inputs. Such a plan shall include a mechanism to track and maintain training records by gender, and provide indicators that should assist project managers in meeting gender targets. The monitoring plan shall also include benchmarks to track and measure progress toward the Project's objective.

C. Evaluation

Specific components of the Project will be monitored at scheduled intervals. Spot progress assessments of advanced degree training, short-term training, job placement centers, networks, English language programs, the technical assistance team, and project management will be conducted 12-18 months after initiation of each of the above components. Given the short life span of the project spot checks need to be done frequently. A mid-term (year three of the Project) and a final (year six of the Project) impact evaluation will be conducted. Scopes of work for the monitoring and evaluations will be developed during implementation.

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I. PROJECT RATIONALE

A. HEDS will further U.S.A.I.D. strategy in three significant areas:

(i) Institutional Pluralism. By strengthening private universities, and by giving public universities more autonomy, the GOI will foster more pluralistic participation in social, political and economic issues. Through its emphasis upon strengthening ties between the universities and the private sector, both will increase their capacity to influence development of public policy.

(ii) Open Markets. HEDS will contribute directly to the development of open markets in Indonesia by improving faculty in the area of business and business administration. U.S. trained instructors will impact upon generations of future entrepreneurs and business executives. While the GOI has made good progress on the policy side of deregulation, HEDS will help to alleviate the human constraint.

According to World Bank research, poor mathematics and basic science skills constrain the growth of the industrial sector. Without good growth and development in this sector, open market strategies will fail. HEDS will strengthen the faculties of mathematics/basic sciences so that future generations of graduates will be better able to participate in and contribute to the broadening of Indonesia's commercial and industrial development. Very few graduates of Indonesian universities in Sumatra and Kalimantan are qualified for entrance to top U.S. graduate schools, or even to the top Indonesian graduate schools. Commercial and technological linkages between Indonesia and the United States through higher education have been historically important, and must continue if the U.S. hopes to remain competitive.

(iii) Open Societies. HEDS will concern itself not only with <u>what</u> is being taught, but <u>how</u> it is taught. HEDS will provide short term training for university instructors in teaching methodology which will encourage inductive, participatory learning that takes full advantage of the scientific method to develop enquiring minds. Lecture methods will be discouraged, and experimentation will be enhanced. Graduates of this type of training will be far more likely to participate as active citizens in their society, than would graduates who have been spoon fed. Universities have always served as a forum for democratic freedom of expression. HEDS will provide an academic framework to promote such participation through the introduction of teaching methodology that promotes experimentation, case study and analysis rather than rote learning.

B. Support of Mission CDSS

HEDS closely supports the CDSS goal to improve long-term sustainable employment and income opportunities through means which promote efficiency and productivity. In education, this goal is to be pursued by supporting activities designed to achieve an efficient, high quality human resources development system (internal efficiency) which effectively links systems outputs to market requirements (external efficiency). The main indicator of internal inefficiency in higher education is an inordinate amount of student/years necessary to turn out a single graduate. This is fundamentally, but not exclusively, a consequence of poor quality instruction which causes large numbers of students to fail to complete their program at all, or within the prescribed time.

HEDS addresses internal efficiency by strengthening the quality of teaching, and by supporting the development of improved university policies that will lead to greater autonomy and cost effectiveness.

HEDS will improve university external efficiency through training and technical assistance activities by establishing and maintaining links between universities and the business community via tracer studies, placement services, joint university-business conferences, work study programs and multi-disciplinary problem-solving teams.

The scope of activities included in HEDS is prescribed by the project's objective of improving responsiveness of

universities to labor market requirements. Furthermore, the project's strategy recognizes that this objective can only be reached if: (a) policies related to higher education support efficiency in the use of resources, (b) universities have qualified personnel capable of producing trained outputs in the appropriate areas, (c) there is a continuing exchange of information between the universities and the business community so that the universities understand job market requirements, and (d) the business community is aware of and utilizes higher education's resources and capabilities.

Based on this recognition, the project will concentrate on four broad areas: (a) improvement in the quality and efficiency in instruction and administration of universities through training programs for lecturers and university staff; (b) establishment of formal, university-business links to ensure systemic feedback required to affect quality changes and promote external efficiency; (c) initiation of staff and program development activities which will strengthen the technical and professional skills of university staff thereby increasing their ability to formulate and carry out qualitative program improvements; and (d) support for macro and micro policies that create an environment conducive to promoting efficiency and cost effectiveness.

C. Support of GOI Growth and Higher Education Development Strategy

Between 1965 and 1980, Indonesia's gross domestic product (GDP) grew at an average annual rate of 7.9 percent. This rapid growth coincided with a nearly five-fold increase in trade (from 5 percent to 23 percent of GDP), primarily due to exports of oil and liquified natural gas. But the drop in world oil prices of more than 50 percent since 1980 depressed economic growth in Indonesia. Until very recently, this decline was accompanied by a decline in employment growth. Whereas employment grew at an average of 3.0 percent per annum from 1971 to 1980, it fell to 2.4 percent from 1980 to 1985. Currently, about 18 percent of the work force is unemployed, and about 30-40 percent is underemployed.

In response to this problem, the Government of Indonesia initiated in 1983 (and intensified in 1986) a strong adjustment program that includes prudent fiscal and monetary policies, sound exchange rate management, strengthened domestic resource mobilization, an improved trade and industrial policy regime aimed at manufacturing, and non-oil export development. The new export-led growth strategy based on non-oil exports is handicapped, however, by Indonesia's lack of human resources, particularly in management and technology. The Government of Indonesia has recognized the need to develop its human resources base, and has invested heavily in education. Whereas during 1974/75, only 4.9 percent of GOI development expenditures was attributed to education, by 1986/87, education's share had increased to 14.2 percent. This pattern of increased investment in education is consistent with the GOI's Five Year Development Plan for 1984-89, Repelita IV, which emphasized expanding the capacity of the higher education system. The principal goals and targets for higher education in Repelita IV included: (1) increasing enrollments of the 19-24 age group attending post-secondary education from 5.3 percent in 1983/84 to 8.5 percent in 1988/89; (2) increasing instructional staff in public and private universities by 79 percent; (3) increasing integration of public and private universities; (4) expanding the number of polytechnics; and (5) supplying 245,100 junior and secondary school teachers.

In response to the commitments of Repelita IV, the higher educational system grew rapidly. Between 1983/84 and 1988/89, enrollment grew at an average annual rate of 11.29 percent. Enrollment for all public and private universities for the 1988/89 school year totaled in excess of 1.6 million students, up from 824,400 in 1983/84.

In spite of the increases in the budget for education, however, the rapid expansion in enrollment forced a decline in the percentage of resources allocated per student. This decrease in the per capita allocation of resources suggests a probable decline in the quality of the educational system as a whole. For example, only 21 percent of the instructors in the

higher educational system have advanced degrees. Libraries are underfunded and underused. Laboratories are poor. Study space for students and work space for instructors is limited. Furthermore, these financial constraints are being imposed on a system already rife with operational and programmatic ineffeciencies. If one considers the total number of student years necessary for the system to turn out a university graduate, one can see that the system is extremely inefficient, requiring, on the average, eight to ten years of instruction to turn out a single graduate. Many students drop out, are pushed out, or repeat grades. Funds spent for the education of these dropouts are wasted. Those who do manage to graduate must often engage in lengthy job searches, raising question as to the quality and relevance of their training.

We have shown that university instruction in Sumatran universities is both internally and externally inefficient. Internally inefficient in a sense that it takes too many student years of instruction to turn out a single graduate; and externally inefficient in that too many graduates need to engage in lengthy job searches before finding jobs. These are complicated issues, but can be reduced to a few general truths. Poor internal efficiency is usually a consequence of poor quality instruction which causes many students to fail to achieve the required standard. Poor external efficiency is usually due to three factors: (a) lack of relevance of instruction to needs of the job market; (b) lack of congruence between output and demand (i.e., too many law students, etc.); and (c) poor quality instruction (i.e., lack of confidence on the part of employers regarding university output.)

In recognition of these and similar concerns, in Repelita V, the GOI has shifted its emphasis from expansion to improvement. Specifically, Chapter 20, "Education" (translated by P.T. Mitra Jasa Bahasa), page 7 states:

> "So it is clear that improvements in the system and quality of the education in the whole subsector...are the main purpose(s) of educational development in the Five Year Development Plan V. They include among other things: quality improvements of curriculum, syllabus, teaching and training...along with methodical teaching...,enabling quality improvement of educational output."

This commitment is restated on page 24:

> "The main purpose of educational sector development in the Five Year Plan V is quality improvement of education system enabling human quality improvement..." (sic).

The Higher Education Development Support Project is supportive of the GOI's general aim of an improved education system as presented in Repelita V. Taken as a whole, the HEDS scheme will have the effect of introducing higher quality outputs leading to greater efficiencies in the use of

resources. HEDS addresses the quality and internal efficiency problems through: (1) improving instruction and program administration by training staff and instructors at the graduate level; (2) supporting short-term courses that are directed at skill enhancement; (3) providing technical assistance to strengthen course content, delivery and teaching methodology; and (4) establishing networks that sustain and institutionalize instructor professionalism.

HEDS will address the strategy of external efficiency as expressed in Repelita V, Chapter 3 "Policy and Actions," page 28.

> "...arrange university education system in order to be more suitable with community need and development; so that the university is attentive to and flexible toward future needs, development and nation building." (sic)

HEDS will improve external efficiency by: (1) strengthening faculties in those disciplines vital to the promotion of economic growth; (2) concentrating project activities in geographic areas identified as potential or actual growth areas in Sumatra and Kalimantan, but where educational opportunities have been limited; (3) assisting the GOI to conduct policy studies and activities which analyze constraints and suggest solutions that respond directly to the national planning concerns.

D. Related Projects

In line with the CDSS, the HEDS project design has been adopted for two related projects by other agencies, thus having a leveraging effect far exceeding the limits of the AID inputs. Specifically, the Government of Japan, through the Japanese International Cooperation Agency (JICA) is designing a $20,000,000 complementary project to HEDS and the Asian Development Bank (ADB) has recently concluded the design of a $114,000,000 loan for higher education project to the DGHE.

A team for the first stage of implementation for the JICA in-country advanced degree training program and technical assistance arrived in-country in January, 1990. The "Minutes of Discussion between the Japanese Project Preliminary Study Team and the Authority Concerned of the Government of Indonesia on the Higher Education Development Support" are included as Appendix J.

By working together, AID and JICA can assist the DGHE in designing curricula and programs which complement the mathematics/basic sciences and engineering programs. Short courses and networks can be integrated in order to bring these currently separate faculties closer together, each more aware of the other's abilities and needs. Specifically, the AID program

benefits from the Japanese funded laboratory equipment component. Equipment assistance from JICA is currently budgeted at approximately eight million U.S. dollars. Both components can, if necessary, stand alone as separate projects.

The ADB has recently completed a project proposal to assist six public universities and selected private universities on Kalimantan, Java, and Sulawesi in a higher education development project consisting of virtually the same purpose and containing similar project components as HEDS. The project includes a building component which HEDS does not have. The ADB design team included several individuals from the HEDS PID and pre-design study team as well as some of the original WUAE designers.

Other projects and other donors have assisted or are assisting potential HEDS target universities. In 1987, the Japanese provided the University of Lampung with laboratory equipment worth one million U.S. dollars for its science labs. The World Bank recently concluded an institution-building project with Andalas university in Padang. The ADB is in the final stages of a large effort at the University of North Sumatra in Medan. The ADB also provides significant assistance to Sriwijaya University in Palembang in both technical assistance and new campus construction.

The University of Riau at Pekanbaru is part of a large-scale fisheries project funded by ADB. In addition to technical training, a new marine science campus will be constructed at Dumai and an ocean research vessel will be provided. AID's Western Universities Agricultural Education (WUAE) Project is assisting the fresh water program there with graduate training and limited equipment. Two long term consultants are in residence working on staff upgrading and curricula revision and a third consultant is assisting in research. The World Bank is funding construction of a new campus for the Faculty of Fisheries, including classrooms, laboratories and ponds.

In Kalimantan, each of the four public universities has received between two and four million Australian dollars worth of laboratory equipment. In support of that effort Australia built and is operating a training center for equipment operations and maintenance on Bali.

The DGHE currently has a $6,500,000 loan from the World Bank for research. Ten million more is on request to continue the program on additional 3 years. The funds are administered by the Director General for Research and Public Service. These funds are available for all disciplines country-wide, public and private universities alike. Because research money is available from other sources, no research money was included in the HEDS project design.

E. GOI-AID Collaboration on HEDS Design

The GOI, specifically the DGHE, has been closely involved in both the PID and PP designed HEDS. In both instances they provided senior educators to work directly with the AID design contractors. This project deals specifically with GOI objectives in both Repelita V and the Education Bill of 1989 in addressing the issues of internal and external efficiencies, and by concentrating on the areas of math and the basic sciences and in business administration. AID was specifically requested to continue to provide assistance to Sumatra and West Kalimantan following the Western Universities Agricultural Education (WUAE) project. GOI financial support by project element is described on pp. III-5 - III-6.

II. PROJECT DESCRIPTION

A. Goal

Indonesia has adopted an export-led growth strategy which requires skilled human capital. The goal of this $27 million, six year project, is to promote an efficient and high quality human resources development system in Indonesia that effectively links both public and private higher education outputs to (regional) human resources requirements.

B. Purpose

The purpose of the HEDS project is to improve the responsiveness of university programs to job market needs by enhancing the quality of university administration and instruction in academic disciplines and geographical regions critical to national economic development.

A principal concern of the GOI is the growing evidence of high rates of external inefficiencies in Indonesian universities, i.e. a lack of congruence between the fields and skills promoted and the demands of the job market. While HEDS will not increase the relative share of graduates in appropriate fields, it will enhance the quality of university outputs. HEDS will concern itself not only with "what" is being taught, but with "how" it is taught. HEDS will advocate an inductive, participatory, problem solving approach to learning.

C. GOI Involvement

The GOI, specifically the DGHE, has been closely involved in both the PID and PP design of HEDS. In both instances they provided senior educators to work directly with the A.I.D. design contractors. This project deals specifically with GOI objectives in both Repelita V and the 1989 Education Bill in addressing the issues of internal and external efficiencies, and by concentrating on the areas of mathematics and the basic sciences and in business administration. A.I.D. was specifically requested to continue to provide assistance to Sumatra and West Kalimantan following the Western Universities Agricultural Education (WUAE) project. GOI financial support by project element is described on pp.III-5; III-6.

D. Project Approach

1. Academic Disciplines Targeted

An analysis of pertinent chapters of Repelita V (cited in the Project Rationale) consistently indicates the government's commitment to economic growth through development of various sectors of industry and agriculture. To initiate and sustain this commitment there will be a vital need for a work force competent in the applied sciences, including agriculture,

fisheries, marine sciences, engineering, mining, environmental affairs, marketing, management, etc., if Indonesia is to successfully compete as an open market economy. It is also evident to those who have examined the higher educational system in Indonesia that there is a deficiency in the basic sciences training, a vital prerequisite to success in the above applied sciences and engineering. This deficiency is not new. The Midproject Evaluation of the Western Universities Agricultural Education Project of April 1984 stated:

> Page 7 item 7b "More training in the basic sciences." "A solid background in mathematics, chemistry, biology and physics is a requisite for success in most doctoral programs."
>
> Page 10 Item 8 "Increased emphasis on the basic sciences as a foundation for a strong agriculture curriculum and research program should be included in a follow-on project. Innovative and experimental approaches may be necessary to accomplish this."

The conclusions of the evaluation team in 1984 are even more valid today and are borne out by studies of the World Bank and the Netherlands. Specifically World Bank research identifies the lack of strong programs in math and basic sciences and weak investigative and problem solving approaches as major constraints to improving educational quality in Indonesia. A strong foundation in the former is a prerequisite to excellence in the latter.

DGHE estimates show that only about 24 percent of public university staff in "technology" have graduate-level training; of these, about 30 percent are in the "sciences" and about 12 percent are in economics/business administration. Another indication of weakness in the foundation of applied sciences study is the inordinate amount of time it takes the average student to complete "four year" programs, e.g. in economics/business administration - 8.4 to 10 years, in engineering - 7.6 to 8 years, and in the sciences - 8.0 to 8.5 years.

Given the importance of skills in the applied sciences and business administration, and the constraint posed by lack of a sound basis to promote these fields, HEDS will concentrate on strengthening university instruction and administration in the academic disciplines of business administration, mathematics, and the basic sciences, defined as including chemistry, physics, biology, botany, and related fields such as bio-chemistry and bio-physics. Focusing on these disciplines lessens the risks to the project considerably since they provide a good foundation for almost any professional field. HEDS' responsiveness to labor demands will thereby be cushioned during an era of rapid technological and structural change where requirements for specialized skills can change quickly.

In 1984 the evaluation of the WUAE project, recognizing that participants were especially weak in the areas of math and

basic sciences, recommended that more lecturers receive graduate training in those disciplines. HEDS has been designed to specifically address the need to upgrade the skills of those teaching math and basic sciences. However, except in a few cases, basic sciences are taught within each individual faculty, i.e., the agriculture faculty, has its own basic science course, as does engineering, IKIP, F/MIPA, etc. In order to strengthen the overall basic sciences skills, all HEDS universities have or will have established a faculty of mathematics and basic sciences. (Advanced courses will continue to be taught in the respective faculties.) By the end of the project all undergraduates in the faculties of agriculture, engineering, IKIP etc. will be taught math and basic sciences in the same faculty by the same instructors. The training of basic science instructors will have a direct impact on the quality of instruction for each undergraduate of the applied sciences, business administration and engineering.

2. Universities Targeted

All proposed recipient universities are situated on either Sumatra or Kalimantan. Both islands are relatively underdeveloped, have low population densities (59 and 12 persons per square kilometer, respectively), and are rich in natural resources. Sumatra accounts for nearly 40 percent of GOI revenues annually. It produces about 75 percent of the country's oil, coffee, tea, tobacco and rubber. It is Indonesia's most important island in term of trade, contributing 30 percent of all exports (primarily oil, rubber, palm oil, sisal and tobacco). Sumatra has only about 9 percent of Indonesia's industry, although considerable growth is occurring. Between 1980-1985, manufacturing in Sumatra grew by about 25 percent. Kalimantan is a major oil producing area. In addition it accounts for about 70 percent of Indonesia's timber exports, while experiencing a 56 percent increase in manufacturing during 1980-1985.

The following universities have been chosen as primary targets for HEDS assistance:

Level One: These universities will receive full technical assistance in the faculty of mathematics and basic sciences and the department of business administration in the faculty of economics, plus, they will also participate in all of the Level Two activities.

DRAFT SUMATRA

PUBLIC	PRIVATE
SYIAH KUALA U. - Aceh	NOMENSEN U. - Medan
U. OF NORTH SUMATRA - Medan	ISLAMIC U. OF NORTH SUMATRA - Medan
U. OF LAMPUNG, Bandarlampung	DARMA AGUNG U. - Medan
U. OF RIAU - Pekanbaru	U. OF MEDAN AREA - Medan
U. OF BENGKULU - Bengkulu	

Level Two: These universities may be eligible to participate in selected activities such as: institution-building; policy studies; job placement centers; networks; and short courses as appropriate.

SUMATRA

DRAFT PUBLIC PRIVATE DRAFT

IKIP - Medan
ANDALAS U. - Padang
IKIP - Padang
U. OF SRIWIJAYA - Palembang
U. OF JAMBI - Jambi

KALIMANTAN

U. OF TANJUNGPURA - Pontianak	PANCA BHAKTI U. - Pontianak
U. OF LAMBUNGMANGKURAT - Banjarmasin	ACHMAD YANI U. - Banjarmasin
U. OF PALANGKARAYA - Palangkaraya	SEKOLAH TINGGI ILMU EKONOMI INDONESIA - Banjarmasin

Technical assistance will be provided by the GOI to U. of Palangkaraya, U. of Lambungmangkurat and U. of Tanjungpura as well as the private universities, as follow up to short courses funded by HEDS.

Since mathematics and the basic sciences are vital in the study of engineering, an attempt was made to assist universities which fit not only the overall criteria, but which have both math/basic sciences and engineering faculties. Consideration was also given to include two universities whose provinces did not rate high in economic growth potential, but whose respective faculties of fisheries and forestry have received considerable support from the WUAE project, and whose potential to influence development extends far beyond their provincial boundaries. DRAFT

In addition, consideration was given to the BKS/B as a whole. The WUAE Project, a $42,000,000 ($24,000,000 AID) effort, will end in May, 1991. In order to continue many of the institutional programs started under the WUAE Project, BKS/B institutions, whether or not they are programmed for direct support, will be included in all institution-building endeavors as these impact upon internal or external efficiency. Included are such activities as special programs for rectors, vice rectors, deans, librarians etc. On a case by case basis, instructors in the faculties of agriculture, fisheries, forestry, animal husbandry or veterinary sciences will be eligible for graduate training if such training will fill a critical gap in the faculty. Specific activities will be defined by the HEDS Project Steering Committee.

The four private universities in the project are all located in Medan. The grouping of four universities in one city, rather than spreading resources among various cities, is at the request of the DGHE. The four private universities are part of a plan to provide central laboratories which will be shared by several universities. Technical assistance on the basic sciences will be directed towards the center, although each private university will benefit from direct support. All private universities will be eligible to send lecturers for academic training and short-term training.

E. Project Activities

The scope and elements of HEDS were designed to ensure that the project supports the GOI's growth strategies and complements, to the extent possible, the Japanese investment. HEDS seeks to train faculty in those disciplines necessary for Indonesia to move toward an open market economy. HEDS will focus not only upon what is taught, but upon how it is taught, so that graduates may become more active, participatory citizens. Program activities can be categorized as follows:

1. Education and Training

AID will fund long-term training in the US at the master's and doctoral levels. To the extent possible, and based on recommendation of their advisors, doctoral candidates will be chosen from the most successful MA/MS/MBA participants. Emphasis will be placed on training in math, chemistry, physics and biology (which are subjects common to all universities), and business administration.

Training will also be provided to managerial and administrative staff and will include financial management, registration, computerization of records, physical plant maintenance, inter alia .

In addition, English training will be provided to US-bound trainees to ensure that the required numbers of instructors are sufficiently proficient in the use of English to qualify for admittance to US universities at the graduate level. The English contractors will work with university officials and

language center directors in programs to upgrade the efficiency of English language training.

Participants for long-term training shall be selected from the target faculties of mathematics and basic sciences, economics (i.e. business management and business administration) and agriculture. The Project Steering Committee (PSC) shall send criteria for participant selection to each rector. Participants will be nominated by the universities with endorsements from the rector and appropriate dean. In addition to grade records, English scores (if any) etc., each rector and dean is required to assess the abilities of the individual named, including leadership characteristics, initiative, academic potential, efficiency, relationships with students etc. The rector will also indicate how each nominated individual fits in with the overall development of the particular faculty from which the candidate comes. Teams of interviewers, consisting of representatives of the DGHE, the AID Project Officer, PSC members, etc., shall visit each university at least once a year to interview candidates. Methodology for evaluating potential participants has already been developed under the WUAE project. All candidates will be ranked within their own university and then against each other across all project universities. The final selection shall be made by the Steering Committee. Although there are twenty-five positions for PhD candidates, additional MS degrees may be substituted for PhD degrees or vice versa depending upon need. The length of the project, as it now stands, does not allow for the continuance of many MSs to PhDs. However, there may be some candidates who received MSs under the WUAE Project who may be appropriate to send for continued studies. There will also be some participants who initially began studies under WUAE, but who will be switched to HEDS at a later date.

The Higher Education Development Support project has a target of 30 percent female participants in long-term training. We recognize, however, that due to family and cultural constraints, this target may be difficult to reach. To encourage broader female participation, it has been determined that 20 percent of the total candidate pool be comprised of women who will not necessarily be required to compete with the total pool, but with each other.

2. Staff and Program Development

The objectives of this component are to: (a) provide mechanisms by which professional staff can build their academic and technical skills to formulate, initiate and carry out qualitative improvements in their respective programs; and (b) provide an environment which supports professional development.

Toward this end, AID will fund short-term training in the US, in third countries, and in Indonesia. This training will be technical or administrative in nature and each course will focus on a single subject area. The training will be designed to help the trainee improve his or her job skills, and in appropriate cases, develop institutional leadership.

Outside Indonesia, this short-term training will consist of packaged specialized programs such as those conducted by the USDA, private institutions or universities. In-country courses, for the most part, will be developed within the project by US and Indonesian technical assistance in conjunction with a network or team of instructors. All nominees for courses must demonstrate how the proposed training will strengthen quality and promote efficiency in instruction or administration in the respective faculty or administrative unit. In keeping with AID's concern for sustainability and replicability, the design of the short courses will be such that they can be replicated throughout Indonesia by the GOI. In addition, there will be follow-up components to assist the attendees in making maximum use of their short course experiences either as staff or teaching members of their universities.

Technical assistance will also be provided to each university to upgrade curricula, course content and teaching methodology in the targeted disciplines. Resident TA in one specific discipline will be assigned to each public university. That individual will schedule regular visits to the other four universities to assist and upgrade the faculty of his/her speciality..

 Pursuant to this project component, HEDS will also promote the formal linking of public universities with each other and with private universities, other educational organizations and businesses in order to further regional and national development. This will involve establishing and maintaining outside connections for: sharing research problems and outcomes, servicing needs of local commerce and industry, assessing manpower demands and employment realities, deriving benefits from alumni associations and building mutually useful community relationships. Specific networks will be developed during project implementation. Linkages to current networks developed under the WUAE project will also be maintained.

There are other donors, ADB, World Bank, Canada, Australia, inter alia, engaged in educational activities similar to HEDS but in other geographical regions of Indonesia. HEDS will provide bridges between these other donors in both administration and technical fields. Contractors will be encouraged to meet with counterparts in other projects, but more importantly, contacts will be fostered between university personnel in other geographical areas.

3. University-Business Links

The HEDS project will provide technical assistance to universities in establishing formal links to the business community, primarily through the establishment of job placement centers in each project university as well as with other universities within BKS/B who express interest. Within the WUAE project, UNSRI is receiving assistance in establishing such a center with the backing of the Minister of Manpower and the DGHE, thereby demonstrating that this concept is recognized by the GOI as a useful mechanism in promoting external efficiency in the utilization of university graduates. To promote financial independence, approaches which have proved successful in the US will be explored. These include private sector funded scholarships and departmental chairs, research endowments, career days, and joint research boards.

Another university-business sector intervention will be to form undergraduate multi-disciplinary teams consisting of the best students from relevant faculties who will be assigned to small businesses to work on their problems. The students will be advised by faculty members and receive credit for their work. The students, although not receiving a salary, will obtain valuable practical experience, while the business owners will get a fresh look at their problems and perhaps some solutions. The students will get hands-on experience in the inter-disciplinary approach to solving problems while the instructors will gain practical experience which can be used to improve the quality of instruction. An undergraduate work study program will also be implemented. These kind of activities have already been undertaken by one of the targeted private universities. Another feature of this component to further better university-business links includes strengthening the concept of marketing of instructor consulting services to the private sector through the universities.

4. Policy Support

HEDS Policy Support component will assist the GOI to develop and test ways of implementing reforms of higher education policy by: (1) identification, research and analysis of policy constraints, (2) development and testing of workable models, (3) implementation and spread of successful models.

HEDS plans to undertake a series of baseline studies prior to the award of the major implementation contract that will enable the contract implementation team to hit the ground running on the Policy Support component. Approximately twelve person months of consultants is programmed to carry out studies related to:

University administrative operations and financial management including a) information/communications flow, b) financial management controls and procedures, c) registrar operations, d) capacity to manage physical plants, and e) staffing patterns and practices;

Establish permanent methodology to trace public and private university graduates in agriculture, applied sciences and business administration to assess: a) type of job obtained, b) length of time to gain employment, and c) relevance and quality of training (through employer and employee questionnaires);

The relationship between university programs and job market requirements including: a) employment forecasts, b) course offerings, and c) course content; and

The quality of private universities including: a) curricula, b) physical plants, c) financial position/flow, d) staff positions such as number and education level of faculty, e) competitiveness such as number of applications/acceptances and entrance level quality of student bodies, and f) certification status.

Based upon benchmarks set by the GOI, and particularly by the DGHE Task Force, the Project Steering Committee will identify issues that require research or study, and establish a multi-year policy agenda. The Committee will review progress on an annual basis, or more frequently if conditions require. Implementation of research and development pertaining to policy reform will be the responsibility of the Project Management Unit (PMU). The likely agenda for policy support under HEDS is described below:

a. Financial management and university administration. It is expected that by the end of this project, each of the public and private universities participating in HEDS will have developed effective management procedures and will have trained appropriate staff in the management of human, financial and physical resources. Each participating university will be capable of functioning autonomously with regard to the planning, allocation and control of these resources. This will be achieved through the provision of short-term technical assistance, study tours within the United States, in-country training, and through visitation by resident long term T.A. Management and administration training and benefits will be made available to other BKS/B institutions in Level Two.

b. The relationship of university programs to the job market. HEDS project will undertake research to assess whether university programs are relevant, both qualitatively and quantitatively to the needs of the job market. Tracer studies will be conducted, but more importantly, methodology will be developed to enable university faculties to expand or contract in reponse to student and community demand.

Job Placement Offices will serve as the principal focus for activities that relate to the external efficiency of the universities. By the end of this project, the Job Placement Offices of each university will have developed mechanisms to institutionalize the tracking of graduates, thereby obviating the need for periodic tracer studies. They will also have developed channels for communication between public and private sector employers and university officials. The level of participation on the part of employers in university operations, which is currently non-existent, will be both apparent and important.

c. Infrastructure, academic quality and internal efficiency. The GOI is interested in a process of consolidating the functions of specific institutions such as research and graduate institutions, inter-university centers, KIP's. HEDS will provide funding for study tours, and short-term T.A. relative to the overall configuration of the university system. This research will take the form of university mapping with regard to (a) population density, (b) socio/economic distribution, (c) economic growth forecasting, and (d) regional distribution of public and private higher education.

HEDS will also sponsor research that seeks to establish indicators of higher education quality and internal efficiency. The goal of this research, probably beyond the life of HEDS, is to develop autonomous resource allocation models that will minimize the amount of time necessary to complete various degree programs. HEDS will attempt to benefit from centrally funded project activities that have established such indicators at the secondary and university level. Funding will be provided for short term T.A. to set up and periodically review research progress, but the actual implementation of the research will be carried out by Indonesian T.A.

The 744 private universities have a greater enrollment than do the 47 public universities. USAID regards this as a positive development that results in at least partial privatization of a heretofore social service. The quality of these private institutions is, however, uneven. The HEDS project will include selected private universities in all university strengthening activities, and will assist the GOI to modify its accreditation system to establish new benchmarks for provisional and permanent accreditation.

Repelita V highlights the need for closer relationships beween the public and the private university

system. A.I.D. will use project funds to foster such collaboration through inclusion of private universities in networks, tracer studies, participant training, management/administration training, and curriculum development. To a large extent, the record of private schools with regard to job placement and therefore, relevance, surpasses that of many public universities. Therefore, HEDS will also serve as a catalyst for the sharing of such benefits among institutions.

d. Equity of resource distribution. There is a trade-off in Indonesia between equity in terms of quantitative access to education and in terms of quality of education. Clearly, it is not feasible for the GOI, even with donor assistance to achieve uniform excellence in Indonesian higher education over the short to mid-term. There are, and there will continue to be outstanding institutions with outstanding faculty, along with fledgling institutions with predominately junior faculty. The problem, until now, is that most, if not all of the outstanding institutions are located in Java, and that students almost always attend universities that are located within their region. The result of this policy is that Javanese generally have access to a higher quality education than do populations of other areas. The GOI has made a genuine attempt to improve facilities in these provinces, but progress is slow because of the pace of faculty development and a general desire on the part of more qualified faculty to live and work in developed urban areas. These faculty members and their families have greater opportunity to seek additional outside employment in large cities than they would in smaller provincial towns. The problem of equity in access to quality education is partly a question of mobility, and the willingness of the GOI to identify and accommodate students with outstanding academic potential in the institutions with the best academic programs. HEDS will assist the GOI to conduct research and mapping activities related to the distribution of educational opportunity throughout the archipelago. A.I.D.'s plan of action is to: a) conduct research to ascertain the magnitude of the equity problem, and b) to effect policy change that will enable all students with requisite academic capacity to obtain a quality education.

HEDS is not the only project engaged in educational research. Through its Education Policy and Planning (EPP) project, USAID is undertaking significant research pertaining to Primary and Secondary education in cooperation with BALITBANG DIKBUD, the research and development arm of the Ministry of Education and Culture. Included, under EPP, is research on the rate of return to Vocational Education. EPP has developed models for tracer studies and quality indicators that may well be useful for HEDS. EPP will finance, through DEPNAKER, the Manpower Ministry, research on market demand for human resources, which will provide useful feedback to placement services in BKS/B universities. In similar manner, HEDS will sponsor tracer studies of university graduates that will corroborate or refute EPP findings.

IV. IMPLEMENTATION PLAN

A. Management

1. The project will be managed by the DGHE within the Ministry of Education and Culture (MOEC) and the U.S.A.I.D. Office of Education and Human Resources (EHR). The DGHE shall provide one Project Director with appropriate support staff and AID shall designate one USDH Project Officer with support staff.

2. Decision making will be a function of a Project Steering Committee consisting of the GOI Project Director, the AID Project Officer, the Chairman of the Badan Kerja Sama/Barat (BKS/B), one Rector appointed annually from the BKS/B universities, and the Secretary of the Kopertis (one appointed for 3 years from each of the two Kopertis in the Project). The contractor's Chief-of-Party and the Indonesian Program Coordinator, and a representative from the private sector shall be ad hoc members.

The Steering Committee will meet four times a year to outline the workplan for each GOI fiscal year, grant final approval for all training participants and monitor implementation of the Project.

3. The Project will be managed and implemented through an AID Direct Contract which will finance a Chief-of-Party (US), Project Coordinator (Indonesian) and an Administrative Officer (Indonesian), all located in Jakarta.

The contractor's COP, Project Coordinator and Administrtive Officer shall work in the Project Management Unit (PMU) which will be located within the Directorate General of Higher Education in Jakarta. Experience has shown that at the managerial level, close coordination is required between the contractor and the GOI. Locating the PMU in Jakarta also allows for close coordination between the COP and the DGHE in developing policy issues for study. The technical assistance personnel will be located at five individual universities. Each contractor will be assigned to a home university from which he/she will travel to the other universities. Each contractor will rotate among universities on a fixed schedule first to propose a plan of action for that university, and later to monitor progress, revise or update the universities plan, etc. In this way all faculties will receive a considerable amount of personal attention, with plans tailored to their specific needs.

B. Implementation

1. Individual members of the contract team will be stationed in each of the five university cities in the project. It is impractical and unneccessary for each university to have its own mathematics, physics, biology, chemistry and business administrative advisor. It is planned therefore, that each

university will have one American and one Indonesian contract advisor in residence.

The Indonesian contractor will assist the university in upgrading programs in his/her specialty as well as designing interventions to upgrade other target faculties. The American contractor will rotate among universities, designing programs to be carried out in his/her absence. On follow up visits progress will be assessed and new activities designed. Over a one-year period each university should receive approximately two months of assistance in each of the areas of mathematics, physics, biology, chemistry and business administration. Generally the Indonesian contractor will travel less, remaining primarily on one campus to give continuity to that university's program.

HEDS finances [redacted] person months of short-term technical assistance. These individuals can be requested through the PMU by any of the specialized long-term contractors to design and assist in teaching courses of a specific or general nature, or to provide specific assistance to one university. The project will purchase or lease FAX machines for all offices, thus enabling contractors and universities to easily share information and programs.

2. The project provides for intensive English language programs. In addition to one English Language Coordinator, each of the five universities will have a resident TEFL instructor. These individuals will be in place for three years and will have two functions: (1) to assist in instructing those dosen nominated to study abroad and (2) to assist in upgrading the staff and the administration of the language centers.

3. The project provides for one American and one Indonesian job placement center contractors. As in the other fields, the American will rotate among universities. These contractors will work closely with the target faculties, as well as the other members of the technical assistance team, to help design work-study programs and under graduate study teams. They will also work closely with university officials in promoting contacts between other universities and between each university with the business community.

4. According to demand, short-term contractors will be used to intervene in specific problem areas of a university, or to assist in designing and teaching short courses.

5. Without jeopardizing proper monitoring and oversight responsibilities, the project has been designed to allow the contractor as much latitude as possible in implementing the project. Direct AID management will be reduced to a minimum.

C. Project Monitoring

The project will be monitored by the Project Steering Committee (PSC) which will also determine the general implementation activities of the project and give guidance to the technical

assistance contractor. The Project Steering Committee shall meet at least four times a year. A key meeting will be held before the GOI fiscal year planning process begins in order to map out budgetary strategy. A second shall be held once the GOI allocations are known so that the contractor can be notified of the amount of funds authorized for expenditure during the coming fiscal year.

There will be, at a minimum, an annual meeting of all rectors, vice rectors and appropriate administrative and support staff and deans. At these meetings, general policy will be discussed, particularly as they relate to the stated outputs and EOPS of the project. Also, once a year the universities will be required to submit detailed statements of their contributions to the project, both monetary and in kind (with a value included) so that tracking of GOI contributions can be maintained.

D. Contracting Modes

1. Grey Amendment

Proposals for an institutional contractor will be accepted from only U.S. (A.I.D. Code 000) and Indonesian organizations, individually or in association. A.I.D. encourages the participation to the maximum extent possible of small disadvantaged, and women-owned small business concerns in this activity as contractors or subcontractors in accordance with Part Nineteen of the Federal Acquisition regulation in this respect. It is anticipated that the prime contractor will make every effort to use such concerns for at least 10 percent of the subcontracting effort. All other selection evaluation criteria being found equal, the participation of such concerns may become a determining factor for selection.

2. Direct Institutional Contract for Technical Assistance and Participant Training

There will be one prime A.I.D. direct contract let through full and open competition. This contract will include both technical assistance and participant training. It has been determined that in order to respond to the Mission's Action Plan to reduce workload, the institutional contract will include all of the contractor's in-country costs associated with implementing this project and will be provided on a yearly basis. This includes funds for all in-country travel and per diem for the contractor as well as participants for short courses, support funds for short courses and network activities. Excluding Wave I participants and the evaluation, the contract will encompass most project activities. Funds for yearly implementation will be incrementally added to the contract.

3. First Year Participant Training

The Project intends to place approximately twenty-five participants in U.S. universities in 1990. As no institutional contractor will yet be in place, the Project will utilize the services of the Overseas Training Office (OTO) and the contractor,

MUCIA, for the first year. OTO will be responsible for handling all PIO/P's and other paper work required and MUCIA will place the participants on a fee-reimburseable basis. Both DGHE and OTO have agreed to this arrangement. Actual screening and selection of the participants is described on p. II-6 of the PP. After the first year of Project implementation, during which time the prime contract will be let and the contract personnel are in-country, participant placement will be the function of the prime contractor.

4. Project Monitoring and Evaluation

a. Several baseline studies will be required soon after the Project Agreement is signed and prior to the start-up of the prime contract. Since the results of these studies will be necessary before the prime contract is operational, and will in fact constitute a baseline for project implementation and evaluation, contractual arrangements will be separate from the prime contract.

b. Per PID approval cable guidance, careful and on-going monitoring and analysis of the project is suggested. Information and observations made during frequent monitoring process will provide project management with the information needed to make adjustments and corrections quickly, to ensure achievement of the project purpose. This will include procedures to review verifiable indicators and assumptions made at the design stage, but which may change during the life of the project. The schedule for the process below indicates critical points which could require possible changes in the implementation:

1. advanced degree training - twelve to eighteen months after the first trainees depart for the U.S.,

2. short-term training - twelve to eighteen months after first course begin,

3. job placement centers - twelve to twenty-four months after technical assistance is fielded,

4. networks - twelve to eighteen months after technical assistance is fielded,

5. English language training - one month after the first trainees depart for the U.S.,

6. technical assistance - eighteen to twenty-four months after technical assistance is fielded, and

7. project management - eighteen months after technical assistance is fielded.

A mid-term and final evaluation will be conducted to assess project progress.

5. Contract Options

The Mission weighed the benefits of Host Country vs. Direct contracting. In consideration of the complexity and comprehensive nature of the prime contract, the Mission opted for a direct institutional contract.

E. Procurement of Commodities

a. PIO/C's will be used for procurement of vehicles for the PMU and field offices, fax machines and computers/word processors.

b. Small scale procurement will be through the prime contract or by other methods as appropriate. This kind of procurement would be small items such as materials or small equipment needed for short courses, curricula revision, teaching methodology, etc. Procurement of all equipment is expected to be done in-country.

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Implementation Schedule

	Action	Date	Responsibility
		CY 1990	
1.	Project Authorized	February	AID
2.	Participants Wave I (25) interviewed for academic year, Sept. 1990	February-March	AID/GOI
3.	PIO/T draft completed	March	AID
4.	Project Agreement signed	March	AID/GOI
5.	Notice to CBD for prime contract	March	AID
6.	First Rectors' meeting	April	AID/GOI
7.	First meeting of Project Steering Committee/Tentative Action Plan written for GOI FY 1990/91	April	AID/GOI
8.	Agreement with OTO Wave I participants	April	AID/GOI
9.	Annual funding PIL	April	AID/GOI
10.	Contract for Baseline Studies	May	AID
11.	Wave One Participants depart for US	June	AID/GOI
12.	Baseline Studies begin	June	AID/GOI
13.	All bids due for prime contract	July	AID
14.	Negotiate/sign prime contract	August	AID
15.	Participants Wave II (75) interviewed for US academic year 1991/92	August	AID/GOI
16.	Wave I Participants enter training in the US	September	Contractor
17.	Project Steering Committee approves final participant selection Wave II	September	AID/GOI
18.	Wave II begin intensive English training	September	AID/GOI
19.	Second obligation of funds	October	AID
20.	Prime contractor organize, set up office	October-November	CONTRACTOR
21.	COP, Program Coordinator, Administrative Officer in place	October	CONTRACTOR
22.	PIO/C written for project vehicles and equipment for TA stations	October	AID
23.	Project Steering Committee meets	November	AID/GOI
24.	Rectors' meeting	November	AID/GOI

Note: CONTRACTOR = Prime contractor
Contractor = any other contractor, ie. IQC, PSC, etc.

DRAFT

	Action	Date	Responsibility
	DRAFT	CY 1991	
1.	Prime contractor personnel begin arrive in-countruy	January	CONTRACTOR
2.	Participants Wave III (50) interviewed for US academic year 1992/93	February	AID/GOI
3.	Rectors' meeting to plan GOI FY1991/92	February	AID/GOI
4.	Prime contractor personnel finish language training	March	CONTRACTOR
5.	Contractor personnel in place	March	CONTRACTOR
6.	Project Steering Committee meets to finalize Annual Work Plan	March	AID/GOI
7.	Annual funding PIL	March	AID/GOI
8.	Funds added to prime contract to implement Annual Work Plan GOI FY1991/92	March	AID
9.	Wave III begins intensive English training	April	AID/GOI
10.	Wave II Participants depart for US	May	AID/GOI
11.	Short courses begin based on Annual Work Plan	May 91 to March 92	AID/GOI/CONTRACTOR
12.	Short-term contractors address special issues	May 91 to March 92	CONTRACTOR
13.	Wave Two Participants enter US Training	September	CONTRACTOR
14.	Third and final obligation of funds	October	AID
15.	Rectors' Meeting	November	AID/GOI
16.	Project Steering Committee meeting	December	AID/GOI

DRAFT

DRAFT

	Action	Date	Responsibility
		CY 1992	
1.	Rectors' meeting to plan GOI FY1992/93	February	AID/GOI
2.	Project Steering Committee meets to finalize Annual Work Plan, review academic status of participants	March	AID/GOI
3.	Evaluation of Wave I & II participants	March	AID/GOI/ Contract
4.	Evaluation of effectiveness of networks	March	AID/GOI/ Contract
5.	Evaluation of first year of short-term training	March	AID/GOI/ Contract
6.	Evaluation of Job Placement Centers	March	AID/GOI Contract
7.	Annual funding PIL	March	AID/GOI
8.	Funds added to prime contract to implement Annual Work Plan GOI FY 1992/93	March	AID
9.	Wave III Participants depart for US	May	CONTRACTOR
10.	Short Courses begin based on Annual Work Plan	May 92 to March 93	AID/GOI/ CONTRACTOR
11.	Short-term contractors address special issues	May 92 to March 93	CONTRACTOR
12.	Evaluation of Technical Assistance Contractor	June	AID/GOI/ Contract
13.	Evaluation of Project Management	June	AID/GOI/ Contract
14.	Based on evaluation, decision made which long term contractors to extend for second tour	July	AID/GOI
15	Wave III Participants enter US US training	September	CONTRACTOR
16.	Rectors' meeting	November	AID/GOI
17.	Project Steering Committee meeting	December	AID/GOI

	Action	Date	Responsibility
		FY 1993	
1.	Wave One Participants begin to return to Indonesia	January	GOI/Contractor
2.	Rectors' meeting to plan GOI FY1993/94	February	AID/GOI
3.	Project Steering Committee meets to finalize Annual Work Plan/ recommend extensions for PhDs	March	AID/GOI
4.	Annual funding PIL	March	AID/GOI
5.	Funds added to prime contract to implement Annual Work Plan GOI FY1993/94	March	AID
6.	Short courses begin based on Annual Work Plan	May 93 to March 94	AID/GOI/ CONTRACTOR
7.	Short-term contractors address special issues	May 93 to March 94	AID/GOI/ CONTRACTOR
8.	Overall evaluation of the Project	June-July	AID/GOI Contract
9.	Rectors' meeting	November	AID/GOI
10.	Project Steering Committee meeting	December	AID/GOI

	Action	Date	Responsibility
		1994	
1.	Wave II participants begin to return to Indonesia	January	AID/GOI
2.	Rectors' meeting to plan GOI FY 1994/95	February	AID/GOI
3.	Project Steering Committee meets to finalize Annual Work Plan	March	AID/GOI
4.	Annual funding PIL	March	AID/GOI
5.	Funds added to prime contract to implement Annual Work plan	March	AID/CONTRACTOR
6.	Short-term contractors address special issues	May 94 to March 95	CONTRACTOR
7.	Short courses begin based on the Annual Work Plan	May 94 to March 95	AID/GOI/ CONTRACTOR
8.	Rectors' meeting	November	AID/GOI
9.	Project Steering Committee	December	AID/GOI

	Action	Date	Responsibility
		CY 1995	
1.	Wave III participants begin to return	January	GOI
2.	Rectors' meeting to plan GOI FY1995/96	February	AID/GOI
3.	Prime contractor's long term personnel begin to return home	March	CONTRACTOR
4.	Steering Committee meeting to finalize Annual Work Plan	March	AID/GOI
5.	Annual funding PIL	March	AID/GOI
6.	Funds added to prime contract to implement Annual Work Plan	March	AID/CONTRACTOR
7.	Short term courses begin based on Annual Work Plan	May 95 to March 96	AID/GOI/CONTRACTOR
8.	Short-term contractors address special issues	May 95 to March 96	CONTRACTOR
9.	Rectors meeting	September	AID/GOI
10.	Steering Committee meeting	December	AID/GOI

	Action	Date	Responsibility
		CY 1996	
1.	Final Impact Evaluation of the Project	January/ February	AID/GOI/ contract
2.	Rectors' meeting to plan GOI FY1996/97	February	AID/GOI
3.	Last of prime contractor's long term personnel begin to depart post	February	CONTRACTOR
4.	Final Meeting Steering Committee	March	AID/GOI

V. EVALUATION PLAN

DRAFT

A. Pre-Design Analyses

Prior to the design of the Project Paper, four studies were independently undertaken which were used in determining the general parameters of the Project:

DRAFT

1. A tracer study of agriculture graduates from BKS/B Universities was conducted in mid 1987. During this study, current fourth year students and current instructors were interviewed, and graduates from the previous three years responded to a questionnaire in the mail. A one volume analysis was printed. There are six large volumes of computerized data on file.

2. In July 1988 the WUAE Project, along with a team from JICA, conducted an analysis of all public universities on Sumatra and Kalimantan. Overall university administration and management was assessed, with special emphasis on the faculties of engineering, agriculture, fisheries, veterinary sciences, animal husbandry, forestry, economics, and mathematics and sciences. An assessment of each of the above faculties was made, including the size of the teaching staff, types and numbers of degrees held by the staff and deans, Indonesian or foreign degrees, male/female ratio, physical condition of labs, etc.

3. In July and August, a survey was made of eighteen private universities on Sumatra and Kalimantan. This assessment was made using basically the same guidelines and questionnaire, and assessing the same management issues and same faculties as was done for the public universities. This report was also printed and distributed.

4. Also in July and August 1989, a survey was conducted by a local consulting firm on the demand for university graduates in Sumatra and Kalimantan. This survey must be viewed in the context of the Indonesian business community, which, perhaps for historical reasons, is not always open and candid about their current or future needs.. The consulting firm expressed these concerns before undertaking the study. Thus the results may not be as comprehensive as one might have wished. In general, the survey pointed out, not surprisingly, that there was little market for "science" graduates, but there was a general demand for engineers (mechanical, civil and mining), agriculture related graduates (agriculture engineers, forestry, and ecology), economists (accounting and management) and business administration. It is interesting that the new Repelita V listed the same subject areas as targets for the next five years. Many local firms were not confident about hiring local graduates, and few knew much about their local universities. The study projected provinces and areas of potential economic growth.

DRAFT

B. Project Monitoring and Evaluation

The HEDS project proposes an innovative methodology for periodic monitoring and feedback on interim benchmarks. This is combined with a traditional mid project evaluation and an end of project impact or threshold evaluation.

Information and observations obtained from the baseline studies will provide project management with the information needed to make adjustments and corrections quickly to ensure achievement of the project purpose. This will include procedures to review verifiable indicators and assumptions made at the design stage, but which may change during the life of the project. The schedule for the evaluation process below indicates critical points in the process which might require possible changes in implementation:

1. advanced degree training - twelve to eighteen months after the first trainees depart for the U.S.,

2. short-term training - twelve months after technical assistance is fielded,

3. job placement centers - twelve to twenty-four months after technical assistance is fielded,

4. networks - twelve to eighteen months after technical assistance is fielded,

5. English language training - one month after the first trainees depart for the U.S.,

6. technical assistance - eighteen to twenty-four months after technical assistance is fielded, and

7. project management - eighteen months after technical assistance is fielded.

An overall mid-term evaluation and final impact evaluation will be conducted. Scopes of Work will be developed at the end of project years 2 and 5.

The primary rationale for the HEDS project is to assist universities to do a better job of linking university education with the needs of the job market (external efficiency). This implies that there is a relationship between the quality and relevance of higher education and job performance. It further implies that the inputs contained in the HEDS project (staff and faculty development)

will, in fact, engender higher quality education and more relevant education. The final link that needs to be examined closely is whether better faculties of basic science and business education contribute toward open markets and/or open societies as defined in various A.I.D. documentation.

The HEDS project officer, with contractual assistance, will work with the Mission evaluation officer and his staff to develop a research/evaluation plan during the first year of project implementation that will enable A.I.D. to establish whether causal relationships among various project interventions can be attributed to expected and actual outcome.

Specifically, will better trained faculty yield a higher quality student? Will the aggregate of project interventions result in more relevant education? Will upgraded faculties of basic sciences and business administration impact favorably upon economic and industrial growth. Will project inputs contribute directly toward a more open society in Sumatra and in Indonesia?

The contractor shall present to the Steering Committee a plan for continuous monitoring of project inputs. Such a plan shall include a mechanism to track and maintain training records by gender, and provide indicators that would assist Project Managers in meeting gender targets. The monitoring plan shall also include benchmarks to track and measure progress toward the project's objectives.

Clearly, various tracer studies and a subjective interview process will be needed. We have made budgetary provision for the above questions to be framed and analyzed within the context of project monitoring and project evaluation.

C. Non-Federal Audit

Provision has been made for a non-federal audit of the financial management capacity of the Directorate General of Higher Education.

D. Monitoring and Evaluation Outputs

By the end of the Project, two outcomes of the monitoring and evaluation process are expected. First, the continuous nature of the monitoring will allow corrections to be made during implementation of the project, thus providing timely information to project management to institute rapid corrections leading to the achievement of the project purpose. Secondly, at the completion of the project, the BKS/B universities and selected private universities specifically, and the GOI in general, will have the framework in place to maintain ongoing tracer studies and evaluations. Furthermore, the expertise will be in place to replicate these procedures in other universities or consortia.

VI. SUMMARY ANALYSIS

A. Technical Analysis

Based on the experiences of the Western Universities Agricultural Education Project, and upon four studies conducted in 1987 and 1988 in conjunction with pre-design issues of HEDS, no major technical constraint was highlighted. On the contrary, all public universities have had extensive experience with an AID-assisted project, thus making anticipated implementation considerably easier.

Efforts have been made to ensure compatibility with Japanese assistance. It is understood that AID will include assistance to two universities with important faculties of fisheries and forestry, but which have no engineering faculties.

It is recognized that many participants will arrive at the end of the technical assistance component. However, a study of the five public target universities done in 1988 indicates that the percentage of dosen with advanced degree in the Faculties of Math/Basic Sciences, Economics (Business Management) and Engineering range between 25 to 40 percent. Thus there is a core group for the contractor to work with regarding staff development activities.

Consideration was given to two other possible interventions in education. The first consideration was to continue the Western Universities Agricultural Education Project in supporting only faculties of agriculture and related fields. The second consideration was to support mathematics and basic sciences but targetted at primary and secondary education. Neither of these approaches were considered supportive of the Mission's long-term strategy.

Social Soundness Analysis

Based upon historical experience in the Western Universities Agricultural Education Project, no major socio-geographic problems are anticipated.

The project has a goal that thirty percent of long term participants will be women. Cultural, social and religious practices were taken into consideration in the design of the project. While striving for thirty percent, the target of twenty percent has been set with women competing against each other and not against the larger pool.

C. Economic Analysis

Between 1965 and 1980, Indonesia's gross domestic product (GDP) grew at an annual average rate of [illegible] percent. However, since the early 1980s, the external environment faced by Indonesia has worsened considerably. Over the past five years until very

recently, real oil prices (adjusted for rising import costs) have fallen by more than 50 percent. At the same time, the burden of Indonesia's external debt has increased sharply. Therefore, the GOI took decisive action which led to increased mobilization of domestic resources, and set in motion the structural changes needed to develop the non-oil economy.

The introduction of major new policy reforms by the GOI has demonstrated a willingness to restructure the economy in a way which restores growth. As a result, the current account deficit fell from 7.7 percent of GNP in 1982/83 to 2.4 percent of GNP in 1985/86. Demand restraint has kept domestic inflation to about 9 percent. Attention is now given to promoting manufactured exports. To support this strategy, the GOI is expected to continue to liberalize the economy through trade reform, enterprise deregulation and financial sector development.

There has been rapid growth in manufacturing employment. For example, between 1980 and 1985, manufacturing employment on Sumatra rose by 25 percent and on Kalimantan by 56 percent. Notwithstanding this progress, Indonesia faces a major labor absorption problem. The World Bank projects that real GDP growth will average less than 3 percent through 1990, while income per capita will stagnate. On the basis of these projections and historical employment-output elasticities, less than 40 percent of the 10 million new entrants to the labor force during the 1986-1990 period can be expected to find employment.

Particularly, there are worrying signs of open unemployment in urban areas, especially among the educated. These signs raise questions regarding the appropriateness and quality of university-trained human capital to meet the demands of an export growth scheme. Using Korea for purposes of comparison, it is clear that Indonesia needs to expand educational levels to support its growth strategy. For example, by the time Korea reached the fast take-off stage, 32 percent of its labor force had at least a secondary level education and 6 percent was college educated. Presently, 12 percent of the Indonesian labor force is educated to the secondary level while only 1 percent has college degrees.

It is, therefore, not surprising that rates of return to secondary and higher education in Indonesia are high. Estimates of return range from 7.6 percent to 32 percent for secondary education and from 9 percent to 21 percent for university education.

HEDS is directed at promoting a qualitative expansion of university output by reducing internal and external inefficiencies. There is evidence that a significant amount of inefficiency is associated with higher education. For example, it takes an average of 8 to 10 years of training to turn out a single graduate; some college graduates engage in long job searches and experience low absorption into the private sector. Low quality appears to be a major factor in these inefficiencies. Fewer than 21 percent of university faculty have graduate degrees, library holdings are extremely limited, and laboratory facilities are poor.

There is a paradoxical circle in the relationship between job opportunities and the economic expansion of the Indonesian economy. On the one hand there is educated unemployment. On the other hand there is the lament from the business community that expansion is difficult because of an unqualified labor force. Recent studies conducted for this Project indicate that the business community perceives a lack of an adequately trained managerial and technical work force needed to expand into new economic fields. The manager of a foreign bank in Jakarta recently stated that when he came to Indonesia in 1968 applicants for vacancies in the bank were so few that the bank would hire almost anyone with a minimum education. Today, twenty years later, hundreds of people apply for job vacancies but the level of skills has barely improved at all. Therefore, if the higher educational system is to meet the challenges of the nineties, the system must improve in both quality and efficiency.

HEDS activities focused on quality will result in significant non-quantifiable benefits such as improved teaching methodologies, improved communication between peer groups at target universities, strengthened university-industry interaction, and increased levels of professional diligence. These benefits combined with those that can be quantified (e.g., increased earning potential, improved planning services) suggest indicate that the social return to HEDS is high. The planned investment by the Japanese in equipment and training of engineers at the target universities strengthens the economic case for HEDS, since it ensures further that quality gains will be realized.

D. Administrative Analysis

Within the Ministry of Education and Culture (MOEC) the Directorate General of Higher Education (DGHE) is directly responsible for four areas of higher education each under the administration of a Director:

a. Academic Affairs
b. Private Universities
c. Research
d. Student Relations

In the past ten years the Ministry has managed approximately $1,780,000,000 in donor resources, with half of that going to higher education. Thus the experience within the ministry to coordinate large programs has been demonstrated.

AID has had experience with the DGHE which extends back three decades. Currently, AID and the DGHE are implementing the Western Universities Agricultural Education Project (WUAE). The five public universities scheduled for assistance in HEDS are in the WUAE project. A recent audit and evaluation have not indicated any serious implementation problems. AID has no previous experience with the private universities.

The public universities are staffed to benefit from this project as experience in the WUAE project indicates. Recurrent costs should not increase as a result of this project. On the contrary, this project supports policy reforms of the GOI aimed at making the universities internally more efficient. Returned participants should not increase the GOI budget as they are already civil servants whose salaries will not increase as a result of this project.

附属資料3.

プロジェクト形成調査団（第3次調査）

帰国報告会資料

平成元年4月26日

1. 調査の背景・経緯

(1) 日米共同プロジェクトとしてアメリカから提案のあった「高等教育開発計画」について、プロジェクトデザイン時からの日本側の参画がアメリカ側から要望された。

(2) この要請を受け、ＵＳＡＩＤが実施する第１次調査のスマトラ島及びカリマンタン島の国立大学現地調査（63.7.3～63.7.30）に参画し関連情報・資料の収集を実施した。併せて、インドネシア国高等教育総局及びＵＳＡＩＤインドネシア事務所等との意見交換を行った。

(3) ＵＳＡＩＤより第２次調査への日本からの参画を要請された。併せて、日米共同プロジェクトとしての日本側協力内容の提示を要望された。

(4) 第２次調査（63.11.8～63.11.16）においてＵＳＡＩＤ作成のProject Paperに盛り込まれるアメリカ側の協力内容の最終案を聴取した。暫定的な日本側の協力内容検討案についてインドネシア・アメリカ側に説明した。

2. 調査の目的

(1) 日本側の協力内容についてインドネシア国高等教育総局に説明・協議を行い、併せて、協力対象大学等の現状調査を実施する。

(2) ＵＳＡＩＤに日本側協力内容を説明し、実施にあたっての意見・情報交換を行う。

(3) 協議・現地調査等を踏まえ日本側の協力形態・内容等を最終化する。

3. 調査団の構成

団長／総括	西野文雄	東京大学工学部土木工学科教授
	新山浩雄	東京工業大学理工学国際交流センター教授
	星　鐵太郎	豊橋技術科学大学教授
	奥　克彦	外務省経済協力局政策課課長補佐
	牧山助友	文部省高等教育局専門教育課係長
	森　千也	国際協力事業団社会開発協力部海外センター課
	笠原秀昭	国際協力事業団企画部地域課課長代理

4. 調査日程

4月9日（日）	東京　→　ジャカルタ
10日（月）	ＪＩＣＡ事務所打合せ
	日本大使館打合せ
	高等教育総局協議
11日（火）	ジャカルタ　→　バンドン

バンドン工科大学協議・現地調査

バンドン　→　ジャカルタ

12日（水）　ジャカルタ　→　メダン

北スマトラ大学現地調査

在メダン日本総領事表敬

13日（水）　ノメンセン大学・イスラム大学・ダルマアグン大学・メダンエリア大学現地調査

14日（金）　（A班）メダン　→　バンダ・アチェ

シャクアラ大学現地調査

（B班）メダン　→　ジャカルタ　→　ポンティアナック

15日（土）　（A班）シャクアラ大学現地調査

バンダ・アチェ　→　ジャカルタ

（B班）パンチャバクティ大学・タンジュンプラ大学現地調査

ポンティアナック　→　ジャカルタ

16日（日）

17日（月）　ＵＳＡＩＤ事務所協議

ＳＥＫＫＡＢ協議

高等教育総局協議

18日（火）　ＵＳＡＩＤ事務所協議

ＢＡＰＰＥＮＡＳ協議

ＪＩＣＡ事務所報告・打合せ

日本大使館大使表敬報告

19日（水）　ジャカルタ　→　東京

（注）A班：新山、星、牧山、森

B班：西野、奥、笠原

5. 主要面会者

(1) インドネシア

SUKADJI RANUMIHARDJO	高等教育総局長
YUHARA SUKURA	高等教育総局私立大学局長
BAMBANG SUHENDRO	高等教育総局学術局長
山田和俊	高等教育総局ＪＩＣＡ派遣専門家

TILAAR	BAPPENAS 教育文化部長
MOERASLIN PARINDURY	SEKKAB 総務部長（委員長代行）
DIDIN BURHANUDOIN	SEKKAB コロンボプラン課
WIRANTO ARISMUNANDAR	バンドン工科大学学長
JUSUF HANAFIAH	北スマトラ大学学長
AMUDI PASARIBU	ノメセン大学学長
YUSUF RANGCUT	イスラム大学学長
R. SIDJABAT	ダルマアグン大学学長
SALIM SIREGAR	メダンエリア大学オーナー
ABDULLAH ALI	シャクアラ大学学長
BUYUNG DJUMAANRIVAI	バンチャバクティ大学学長

(2) アメリカ

LEE TWENTYMAN	ＵＳＡＩＤインドネシア事務所次長
NORMAN RIFKIN	ＵＳＡＩＤ事務所教育人材開発部部長
ERNEST C. KUHN	ＵＳＡＩＤ事務所プロジェクト担当

(3) 日本

枝村純郎	日本大使館大使
伊集院明夫	日本大使館公使
塩崎　修	日本大使館参事官
太田真一	日本大使館一等書記官
鶴田　剛	メダン総領事館総領事
北野康夫	ＪＩＣＡインドネシア事務所長
米田一弘	ＪＩＣＡインドネシア事務所所員

6. 協議概要

主要協議項目は、(1)「イ」側政府関係機関（DGHE, SEKKAB, BAPPENAS）については我が方協力内容説明、先方同意の取付け及び in-country training に要するローカルコスト手当ての要請、(2)ＵＳＡＩＤについては日米共同プロジェクトとしての位置付けの確認、とし当初の意図は概ね達成された。相手先別の協議の概要は次の通り。

(1) ＤＧＨＥ（10日及び17日の二度実施。10日はスカジ総局長、ユハラ私立大学局長、バンバン学術局長、17日はバンバン学術局長のみとの協議）

(イ) ＩＴＢを拠点としたプロ技協実施につきＤＧＨＥ側も評価。ＤＧＨＥとしても世銀ローンにより設立される Inter University Center（IUC）を有するＩＴＢ及びガジャマダ大学

の2校を工学分野での拠点校として位置付けたい意向の由であり、この意味で我が方協力は先方の政策に沿ったものと言える。

(ロ) ローカルコスト負担については、スカジ総局長よりＤＧＨＥは年間約770億ルピアの予算を有しており、仮に本件のために年間2億ルピア必要だとしても充分手当し得ると明言。具体的に如何なる方途で予算をはりつけるかは「イ」政府内部の問題であるとしつつも、仮に日本側の協力が2000万米ドルとして、700万ドル相当分の内貨を予算手当することは何ら問題ないとの対応であった。我が方としては昨年11月作成の我が方協力案をベースにしたＤＧＨＥ作成の要請書案が既にＤＧＨＥからＳＥＫＫＡＢ、ＢＡＰＰＥＮＡＳへ送付済との由であったので、右を踏まえかつローカルコスト手当てをＤＧＨＥ側がコミットするとともに in-country training のための capacity をＤＧＨＥがアレンジするとの内容のミニッツ（別添）を作成、17日の協議の際に西野団長とバンバン学術局長との間で署名した。

(ハ) 他方、調査団が協力対象大学の現地調査を行った際、ＤＧＨＥが国内留学の際手当てする生活費（10万ルピア／1人／1ケ月）では生活が困難であり15万ルピアの上乗せが必要との意見が数校の教官からだされた。この点を加味し、ＤＧＨＥ側が通常の国内留学とは一線を画し、本件協力は日本での研修が含まれ、また無償による機材供与も含まれているパッケージであることから特別の手当てをするようバンバン局長に再三にわたり強く要請した。

(2) ＳＥＫＫＡＢ（モレサリーム委員長代行、ディディンと協議）

ＤＧＨＥからの要請書は未接到の由であったが、我が方協力内容を説明の上、高いプライオリティーを付して正式要請書を提出するよう依頼したところ先方は右を了解した。

(3) ＢＡＰＰＥＮＡＳ（ティラール教育部長　協議）

ＤＧＨＥからの要請書は一応届いている趣（秘書が保持している由）であったが、ティラール部長自身は未だ検討していない由。当方よりＳＥＫＫＡＢとも連絡の上、高いプライオリティーを付して正式要請書を提出するよう依頼。我が方大使館からのこれまでの働きかけもあり、先方は将来の円借款も活用したローカルコストの負担のための予算はりつけは問題ない旨明言した。

(4) ＵＳＡＩＤ（17日にリフキン教育人材開発部長、キューン担当官、ヤコブ補佐官と協議。18日にキューン、ヤコブ両名にトゥウェンティマン次長を交えて再度協議）

(イ) 日米共同プロジェクトとしての位置付けを明確にすべく協力対象大学を極力同一のものとしたいとの先方意向を受け、当方より以下の9大学を日本側の対象大学としたい旨説明した。

（スマトラ島）シヤ・クアラ、北スマトラ、ランポン（以上国立）

ノメンセン、イスラム、ダルマ・アグン、メダン・エリア（以上私立）

（カリマンタン島）ランブン・マンクラット、タンジュンプラ（全て国立）

(ロ) 先方は対象大学を絞り込めていない由であったがとりあえず、我が方対象大学のうち、タンジュンプラに代えてパンチャバクティ（カリマンタン、私立）を更にベンクール、リアウ（スマトラ、国立）を追加したい意向の由。ＡＤＢの新規ローンがタンジュンプラ大学には予定されている可能性があり、右をも加味して対象大学を最終調整したいとのことであり我が方も了承した。

但し、我が方としては前回調査団の際に想定していた対象大学が再度変更されていたこともあり、双方の理解を確認しておくため、現時点での日米間の協力対象大学の一覧（別添）を先方に手交した。

(ハ) 先方 project paper は依然ドラフト段階で未確定。先方は、農業分野でのスマトラでの協力実績（ＷＵＡＥ）を引用しつつ、90年９月からの米国大学への留学生の送り込みに加え、「イ」国内での短期ないしは長期専門家によるセミナー、ワークショップのモデルを種々説明越したが、いずれも最終決定を得ていない由。米側協力は我が方が予想していた程には進捗しておらず、場合によっては我が方が先行する形ででも協力を推進すべきものと思われる。

7. ＩＴＢ及び協力対象大学の現況

スマトラ、カリマンタン島における教育の現状

新山浩雄　東工大理工学国際交流センター
（教授　化学工学部門）

インドネシア国での全ての面での中心はジャワ島であり、有力大学（ITB, GMU, UI, ITS）もそこに集中している。スマトラ島は開発の面から言えば第２の地位にあるが、ジャワ島との格差はきわめて大きいことを実感した。カリマンタン島については本報告者は訪問できなかったが、その格差はさらに大きいことは容易に推察されるところである。

しかし実際に訪問し、個別に話し合ってみると、個々の教官がその素質において劣っているとは必ずしも言えない。格差を生じている主たる原因は情報からの孤立、向上のための機会の少なさなどであろう。実際本報告者の訪問した大学の若手教官の多くがジャワ島の有名大学の卒業生（当該地方の出身者である場合が多い）である。

最も大きな向上を妨げている原因は（これはジャワ島でも同様であるが）大学教官のサラリーの低さであろう。そのため多くの教官は家族の生活を支えるために Side Job を持たざるを得なくなる。ある特定の大学では充分の給与を与えた上で Side Job を禁止しているが、その

場合には教官はかなり積極的に教育及び学生のカウンセリングに取り組んでいた。しかしそのような学校はわずかであるとの現状認識を基礎においてプロジェクトを考えていく必要がある。本プロジェクトにおいても、In-Country Training の3年間（or morg）というやや長い期間、Trainee に対し彼らの家族の生活レベル維持をいかに保証するかということが成否の重要な鍵であろう。

また、各大学の Activity を決めている要因の一つに、学長の意欲、指導力、事務能力などがある。プロジェクト運営にあたって、この国は Top Duwn 型の意志決定方式をとることに留意する必要があろう。

次に本報告者の専門であるところの化学工学分野の現状を述べる。

化学工学は一つの中心的な工学分野としてジャワ島の有力大学にはすべて設置されているが、スマトラ島では国立の2校が持っているに過ぎない。その理由の一つは、Bambung 教授（Director of Academic Affairs, DGHE、彼はガジャマダ大学化学工学科教授で、本報告者とは以前から面識有り）が指摘したように、化学工学教育には比較的高価な設備が必要とされ、多数の Engineer が要求されている同国の現状においては Cost performance が悪いことにあろう。しかしそれであるからこそ、このような機会をとらえて充実を図る必要があるとも言える。

そのような理想とこの分野の層の薄さという現実の妥協点として、本プロジェクト中での化学工学の占めるべき重要性は、他の3分野をそれぞれ1としたとき0.5程度が適当ではないかと考える。

いま一つ本報告者の委嘱された電気電子工学分野の現状についてのべる。設置している大学の数、教員数共に土木工学に次ぎ、また機械工学に並んでいる。また多くの大学でこの分野の充実が望まれていることから、本プロジェクトの対象となるべき下地は充分に備えている。大学卒業生の全てにコンピュータの素質が要求されている現状からすれば、電気電子工学の基礎的面のみに限定せず、その応用である通信、情報工学分野を含む方が望ましいと考える。しかし、今回の調査団ではこの分野の専門家が参加していないのでこれらについては次回以後に考えていくことが適当である。

以下、大学人としても最も関係の深いと思われる短期集中講義の運営について思い付くことを述べる。

① 短期集中講義受講者への Encouragement

短期の講義受講者のメリットは何か。単なる義務感（DGHE 或は学長に対する）から受講されても困る。日本側派遣専門家の士気、意欲にも影響して来る。

② 供与機材をよく活用するために、pre-S_2 コースでその機材を使った実験指導を行ってはどうか。短期派遣専門家としての滞在中の、In-Country Training への協力の一つとして。

③ 日本側派遣教官（短期）による集中講義は下記程度ならば過重負担とはならないと考える。

開催回数：年２回、春休み及び夏休みを利用

派遣人数：１回に２～３人／各分野、年間５人。６年間に30人

内容：２単位程度の模範講義（90分×15回）１実習、実験（１～２回）＋Target Univ. or ITB での特別講演

④ 一回の派遣教官の専門分野は出来るだけ近いものとし、受講者が２つないし３つの講義の全てに参加できるようにしたい。

1. バンドン工科大学（ＩＴＢ）の電気、電子、機械工学科の実験実習研究設備の状況

全般に設備類はかなり揃っており、維持管理の状況も良い。

特に、新しい技術分野の教育・研究設備を意欲的に整えており、電子工学科のマイクロエレクトロニクス部門では、マイクロプロセッサ開発システム（ＭＤＳ、ＨＰ社ミニコンベースのモデル２セット）、プリント基板ＣＡＤシステム、パーソナルコンピュータ（ＩＢＭ－ＰＣ）による特定用途向ＩＣ設計システム（ゲートアレイとスタンダードセルＡＳＩＣＳ）が研究用に使用されており、画描装置（リソグラフィ）を含むＩＣ製作実験室を運用している。

機械工学科でも新しい技術分野への取り組みが多くみられ、工作機械実験室ではマシニングセンタ、ＮＣ旋盤を備え、ロボットを含むファクトリオートメーション（ＦＡ）や振動解析の研究を行っている。内燃機関実験室と機械構造実験室も視察したが、後者では国営航空機工場製作のＣＰ 235形旅客機の主翼を題材として静変形と振動特性実験を行っていた。

2. スマトラ島内訪問大学の状況

２－１　Ｓ－２（修士）課程国内研修見込者数

若手教員を対象とするＳ－２（修士）課程の国内研修に対する需要は強く大きい。

表　各大学の管理者から出向させたいとの希望表明のあった
Ｓ－２課程国内研修者の数

大学名	毎年の数	５年間の総数	発言者
〔メダン市〕			
1.北スマトラ大学（国立）	１学科当り ２名	１学科当り 10名	化学、電気、機械の学科 主任又は主任補佐
2.ノメンセン大学（私立）	工学部全体 ２～５名		学長
3.北スマトラ・イスラム大学（私立）	工学部全体 常時５名	工学部全体 20名	前学長
4.ダルマ・アグン大学（私立）	工学部全体 常時10名	工学部全体 20名	副学長
5.メダン・エリア大学（私立）	人数については質問を出さなかった		
〔バンダ・アチェ市〕			
6.シアークアラ大学（国立）	工学部全体 毎年10名	工学部全体 50～55名	アブドラ・アリ学長

2－2　研修見込者の経済事情

国立大学においては全ての教官が兼業（若手教員の場合には主として私立大学のパートタイム授業）によって本務校よりの給与と同額程度の収入を得て生活を維持しているため、本務地を離れて2～3年の研修に出向く場合、兼業収入を補塡するに十分な額の奨学資金の給与が強く要望されている。私立大学の専任教官は兼業ができないが給与は国立大学のほぼ2倍あり、出向中の収入の保証は大学側で行えるとの説明であった。

国立私立ともに、若手教官が生活の心配なしに本務校を離れて研修に出向できるだけの奨学金が与えられるようにすべきである。

2－3　機械工学科における実験実習設備の状況

訪問した6つの大学のうち最も整っているのはシア・クアラ大学(バンダ・アチェ市、国立)であり、次いでノメンセン大学（メダン市、私立）、ダルマ・アグン大学（メダン市、私立）の順であった。北スマトラ大学（メダン市、国立）はかなりの設備を有するものと推察されるが、建物拡張工事中で一時撤去しているとの理由で視察できなかったため未確認である。メダン・エリア大学（メダン市、私立）は新キャンパスにあり、電気制御の実習設備は学生による内作のものを整えていたが、機械工学関係の設備は無い。北スマトラ・イスラム大学（メダン市、私立）は工学部の実験実習設備は皆無で、北スマトラ大学に学生を出向かせ使用しているとの説明であった。

最も良く整っているシア・クアラ大学の機械工学関係の設備は次の通りである。

(イ)　機械工場（建物面積 300 ㎡）

フライス盤	3台（西ドイツ製）
ボール盤	2台
普通旋盤	4台
工具研削盤	1台
鋳造用溶解炉	1基（学内製作のもの、可搬式、アルミ・亜鉛合金用）
電気溶接機	1台
万力台及び万力	10名分程度

(ロ)　材料試験装置

万能引張試験機	1台（上記の機械工場内に設置）	
硬さ試験機	1台	（別のコンクリート実験室内に設置）
シェルビー衝撃試験機	1台	（別のコンクリート実験室内に設置）
エリクセン板材試験機（使用不可）	1台	（別のコンクリート実験室内に設置）

(ハ)　その他の教材装置

水力タービン実験装置	1台

遠心ポンプ　　1台

内燃機関実験装置（動力計）　　1台

これらは欧州製の教材モジュールで、300㎡の別の建物内の約1／3の面積を整備して設置されている。

標準的な機械工学実験実習設備からすると、塑性加工、金属組織、熱力学、伝熱学、制御工学、機械力学、材料力学ならびに振動工学の機材が欠落しており、パーソナルコンピュータ程度のコンピュータ設備も必要である。

2－4　標準的な機械工学教育用設備（学部レベル）

機械工学関係で基本的な施設である機械工場（ワーク・ショップ）は他の全学内の機械設備の修理等に行うもの必要なものであるが、これを持つ大学はシア・クアラ大学以外にはノメンセン大学（メダン市、私立）のみであった。ノメンセン大学の機械工場は卓上旋盤（中国製）1台、ボール盤1台、万力若干数という極小規模である。ダルマ・アグン大学には機械工場は無く、地元の民間工場へ学生を出向かせて実習させているとの説明であった。

日本国内の学部課程教育設備としてすでに標準となっている数値制御（ＮＣ）工作機械やCAD／CAN設備は、まだインドネシア国内の産業で使用されていない事、ならびに故障修理が現地では不可能な事から供与資材に含める必要が無いと考えられるが、シア・クアラ大学と同等の設備に若干の塑性加工機械（板金切断機と板曲げ機）を加えた程度の機械工場は最低限のものとして設備するべきものである。

これに材料試験（各種試験機と顕微鏡組織観察用）機材、熱力学、伝熱学、原動機、流体機械、制御工学、機械力学の各分野の教材モジュール、応力・歪測定などの材料力学と振動工学の機材に演習用のパーソナルコンピュータを加えるのが理想的な標準の学部教育用設備として適当であろう。

以　上

平成元年4月26日

西野文雄　記

カリマンタン島大学調査の概略

1. バンチャ・バクティ大学

西カリマンタンのポンティアナック市にある私立大学であり、ＨＥＤＳプロジェクトのＵＳＡＩＤ対象校の一つに選ばれている。工学部には土木工学科のみが存在する。ＵＳＡＩＤの調査では土木工学科には38名の教員が関与しており、28名の専属教員が居るとのことであった。実際は専属教員は８名であり、残りは全て同市のタンジュンプラ大学の教員が非常勤（パート・タイム教員）で教えている状況であった。

実験室の類は全くなく、全てタンジュンプラ大学の設備、および同市の土木試験所の設備を使って実験、実習を行っている。測量用の器具もないというのは調査した大学の中でも極端な例に属する。

以上のような工学部の状況では、今回のＨＥＤＳプロジェクトの対象校に含めるのは適当でないと判断して良いであろう。

2. タンジュンプラ大学

バンチャ・バクティ大学での教育は実質的にはタンジュンプラ大学に負っていると考えて良いことから、タンジュンプラ大学を対象校に選べば、その成果は実質的にバンチャ・バクティ大学におよぶと思われる。このため予定を変更し、訪問先に含めていなかった、タンジュンプラ大学を調査した。

タンジュンプラ大学の工学部には、土木工学科と電気工学科が存在する。土木工学科には教員が35名おり、全員がタンジュンプラ大学の卒業生、その内一人のみがＡＩＴで修士の学位を得ている。電気工学科には19名の教員がおり、一人はオーストラリアで、他の１名はＩＴＢで修士の学位を得ている。残りの17名は、全てタンジュンプラの学士卒業者である。

土木工学科には測量器具を置く部屋と、コンクリートおよび土質実験を行う実験室があり、これらの分野では低い水準であるが学生実験ができる状況にある。他の実験室は全くない。

電気工学科には物理の基礎実験を行う部屋と、基礎的な電気回路の実験を行う部屋を含む実験棟が一つ存在する。オーストラリアからの援助によると思われる実験器具類、16ビットの計算機数台が入っており、積み重ねられた状態で、学生実験が行われている様子ではなかった。

西カリマンタン地域の大学からＨＥＤＳプロジェクトの対象校を選ぶとすると、教員構成の面からと、土木工学科以外に電気工学を有している、という２つの理由でタンジュンプラ大学を選ぶのが適当と考えられる。現状では実験棟が不足しており、実験器具の援助をしても収容

する場所がないといった状態になり、援助内容は教員の長、短期研修に限らざるを得ないであろう。

アジア開発銀行からのローンによってタンジュンプラ、および南カリマンタンのランブン・ムンクラット大学の整備を行うことがＤＧＨＥで考えられている。計画の内容は不明であるが、過去の他大学の実例から、もし実施されれば、建物の建設、実験施設の整備、教員の養成が行われるものと想像される。

8. 調査の結論及び今後の対応

(1) 高等教育総局は本件に係る正式要請書をＢＡＰＰＥＮＡＳ及びＳＥＫＫＡＢに提出済であり、日本側協力の主柱であるバンドン工科大学における In-Country Training に合意し、この実施に必要なローカルコストは全てインドネシア側において手当する旨確約した。

(2) バンドン工科大学はインドネシア側のプロジェクト実施機関として十分な能力・機能を有している。バンドン工科大学自身も現在の大学院マスターコースを活用して In-Country Training を実施することに合意を示した。

(3) スマトラ島及びカリマンタン島の協力対象大学は国立大学と私立大学の基本的関係・規模（学生数・学科数、施設等）等から判断して国立大学を中心に技術協力を実施する。特に無償資金協力による機材供与においては私立大学の学部教育の現状（国立大学の実験施設の借用）、維持管理能力等から判断して全大学に機材供与の必要はない。

また、ＵＳＡＩＤはメダンの私立４大学をパッケージとして他の大学１校分の協力規模を想定しており、日本側としても妥当な考えと判断され濃淡のある協力規模となることが想定される。

(4) ＵＳＡＩＤ側の進捗は当初予定（昨年12月ないし本年１月中にインドネシア側との実施協定締結）より遅れており、Project Paper はいまだドラフト段階であり、協力対象大学、一部協力内容等が最終化されていない。協力対象大学はＵＳＡＩＤに現地調査結果を踏まえ日本側案を提出してあり、日・米・イで早急に確定する必要がある。

(5) 日本側の協力内容は昨年11月の第２次調査の際説明した検討案と基本的に同一（In-Country Training, Non-Degree Short Training, 日本での短期研修、長期・短期専門家派遣、機材供与）である。本件計画を効果的・効率的に実施するために協力形態はプロ技協とすることが最も望ましい。

(6) 本件計画を効率的に実施し、かつ日米協調の観点から1990年９月（インドネシアの新学期）にバンドン工科大学における In-Country Training の開始が肝要であり、それに必要な全ての準備（Ｒ／Ｄ締結まで）本年度内に完了する。

また、協力対象大学等に対する供与機材に係る無償資金協力についても来年度早期にＥ／Ｎ署名を実現すべく可及的速やかな調査団の派遣が必要である。

(ニ) 我が方より、インドネシア国内での諸経費（例：日米共同のステアリング・コミッティー用の事務経費）の無償による供与は困難な旨説明。機材については米国からの要望あらば工学分野に限らず供与の可能性を検討したい旨説明した。

(ホ) 全体を通じてＡＩＤ事務所内での最終的意思統一が必ずしも図られていない趣。もっとも、本件プロジェクトはＡＩＤインドネシア事務所のみの判断でゴーサインを出せる由であり、米側としては現段階で協力内容を確定する必要はないものとも考えられる。

MINUTES OF DISCUSSIONS BETWEEN THE JAPANESE PROJECT FORMULATION SURVEY TEAM AND THE AUTHORITY CONCERNED OF THE GOVERNMENT OF INDONESIA ON THE HIGHER EDUCATION DEVELOPMENT SUPPORT PROJECT

The Japanese Project Formulation Survey Team (hereinafter referred to as "the Team") organized by Japan International Cooperation Agency (hereinafter referred to as "JICA") and headed by Dr. Fumio Nishino, Professor, Faculty of Engineering, Tokyo University, visited Indonesia from April 9 to 17, 1989, and exchanged views with the concerned officials of the Government of Indonesia.

As a result of discussions, both parties came to the common understanding concerning the matters referred to in the document attached herewith.

17th April, 1989
Jakarta

Dr. Fumio Nishino
Leader,
Japanese Project Formulation
Survey Team,
JICA

Dr.Ir.Bambang Suhendro
Director of Academic Affairs
DGHE

DGHE and JICA team had a meeting for a possible future cooperation for the Higher Education Development Support Project (hereinafter referred to as "HEDS"), which is to be implemented under Japan-US collaboration. The objectives of HEDS concerning the Japanese contribution are 1) to upgrade academic staff from target universities in Sumatera and Kalimantan in deciplines of engineering through providing support for in-country post graduate study and for seminars and workshops in-country and abroad, 2) to promote the professionalism of the faculty at target universities, and 3) to alleviate constraint on the efficiency and effectiveness of the Indonesian educational system. DGHE appreciated these objectives and both parties shared a view on the following points :

1. DGHE will allocate appropriate budget for HEDS which is necessary for smooth and effective implementation of the Japanese cooperation.
2. The budget allocated by DGHE is to be spent for all the local costs which include tuition, housing and boarding payments, transportation fees, salaries and other expenses necessary for 1) in-country S2 and S3 study, 2) in-country seminars and workshops, and 3) in kind services.
3. JAPAN's grant aid and technical cooperation under HEDS are to cover

    1) long term and short term expert services,
    2) non degree short term training in Japan,
    3) equipment necessary for target universities for undergraduate education,
    4) equipment necessary to make in-country training under HEDS more effective, and
    5) other equipment necessary to make the management of target universities more efficient.

4. DGHE takes the responsibility to find the places for in-country degree study for the selected teaching staff from target universities.

5. Detailes of Japan's grant aid and technical cooperation are to be worked out by the following-up missions basing upon the requests by the Government of Indonesia for HEDS.

Participant List

1) Indonesian Side

Prof. Dr. Sukadji Ranuwihardjo MA.	- Director General of Higher Education, Ministry of Education and Culture.
Prof. Dr. Yuhara Sukra	- Director of Private University, DGHE, Ministry of Education and Culture.
Prof. Dr. Ir. Bambang Suhendro	- Director of Academic Affairs, DGHE, Ministry of Education and Cullture.
Prof. Dr. Kazutoshi Yamada	- JICA Expert to DGHE, Depdikbud.

2) Japanese Side

Prof. Dr. Fumio Nishino	- Leader of the Mission
Prof. Dr. Hiroo Niiyana	- Member of the Mission
Prof. Dr. Tetsutaro Hoshi	-do-
Mr. Katsuhiko Oku	-do-
Mr. Suketomo Makiyama	-do-
Mr. Senya Mori	-do-
Mr. Hideaki Kasahara	-do-
Mr. Osamu Shiozaki	- Counselor, Embassy of Japan in Indonesia
Mr. Shinichi Ota	- First Secretary, Embassy of Japan in Indonesia
Mr. Kazuhiro Yoneda	- Assistant Resident Representative, JICA Indonesia office

List of Target Universities under HEDS

(to be finalized)

April 18.1989

JICA Survey Team

Name of University	Japan	U S
(Smatera)		
Syiah Kuala	×	×
Sumatera Utara	×	×
Lampung	×	×
Bengkulu		×
Riau		×
Nomensen (*)	×	×
Islam North Sumatera (*)	×	×
Darma Agun (*)	×	×
Medan Area (*)	×	×
(Kalimantan)		
Lambung Manghurat	×	×
Tanjungpura	×	
Mulawarman		×
Panca Bhakti (*)		×

（注）＊は私立大学。他は国立大学。

平成元年4月28日

第2工学系　　星　　鐵太郎

インドネシア国高等教育開発計画の件（帰国報告）

4月9日から19日まで上記プロジェクトの予備調査団に参加し、インドネシア国（以下、イ国）を視察して参りました。以下プロジェクトの内容と現在の進捗状況を報告します。

1. **Project名**：Higher Education Development Supports（"HEDS"）
（高等教育開発支援）

2. **背景**：インドネシア政府はジャワ島とそれ以外の地域との格差解消ならびに高等教育の水準向上をめざし、外領（ジャワ島以外）の地域における教育条件の改善のための支援を各国に要請している。これに応え米国の途上国支援機関であるUSAID（日本のJICAに対応する機関）は上記の"HEDS" Projectの構想を提案した。しかし、米国の財政難などから一定の限界があり、そのため日本と協力してより効果的なものとしたいという観点から外務省に協力を申し入れた。JICA（および外務省）も協力プロジェクトとして検討を開始し、そのため、USAIDの第2回調査には東大・西野教授が参加して共同プロジェクトとしてのFeasibility Survayを行った。その結果、対象地域としてスマトラおよびカリマンタン島、対象とする教育分野として以下のものとした。

アメリカ側：工学の基礎としての数学，Basic Science,
Business Administration

日　本　側：工学分野

援助の実施方法は両国の事情に合わせて独自に考えることとし、また、援助の性格からインドネシア政府がある部分における財政的負担に責任を持つことが必須とされた。プロジェクトの総額は

USAID側プロジェクト

米国：US$　20,000,000　　イ国政府：US$　7,000,000

JICA側プロジェクト

日本：US$　20,000,000　　イ国政府：US$　7,000,000

とされた。

USAID側の構想は、対象大学（スマトラ及びカリマンタン島の有力大学）の低学位保持教員の中から選抜した人を、イ国における語学研修の後、アメリカの大学の修士課程においてS_2

degree（イ国における修士号の略号、ちなみに、学士号をS_1、PhDをS_3と称する。）を取得させることを主たる内容としている。それに対し、日本側の内容は同様の対象者（180名）をジャワ島内の有力大学（バンドン工学，ITB）においてS_2 degreeを取得させることを主たる内容とし、それに対し日本側専門家が側面から援助することを主な内容とする。

3. 今回の予備調査の目的

1) インドネシア政府教育省高等教育総局（DGHE：Directorate General of Higher Education）の真意、協力態勢。イ国からみたプロジェクトの問題点、重点の置き方など。

2) ITBのIn－Conutry Training siteとしての適格性、受け入れ意思及び態勢。必要な教材供与。

3) USAIDとの調整：分野分担、Target University。アメリカ側のプロジェクト立案の進捗状況。

4) Target Universityのいくつかについて実状視察。

4. 調査団構成

団長：西野　文雄　　（東大土木工学科教授、土木工学）

団員：新山　浩雄　　（東工大理工学国際交流センター教授、化学工学）

星　鐵太郎　　（豊橋技科大第2工学系教授、機械工学）

奥　　克彦　　（外務省経済協力局政策課課長補佐）

牧山　助友　　（文部省高等教育局専門教育課高等専門学校係長）

笠原　秀明　　（JICA企画部地域課課長代理）

森　　千也　　（JICA社会開発協力部海外センター課）

なお、現地でJICA Jakarta Officeの米田氏、JICA長期派遣専門家としてDGHEのAdvisorをしておられる山田和俊氏（千葉大工業化学科教授）が参加された。

5. JICA担当のHEDSプロジェクトの内容及び日本側の協力内容

以下の内容は正式に決まったものではないが、4月26日の帰国報告会にて討議され、今後予定されている事前調査団により、さらに具体化される予定である。

1) In－Country Training at ITB

対象大学（別添資料）の教員より選抜しITBにおいて教育し、6年間に180名のS_2コース修了者を出すことを目的とする。若手の、S_1 Drgree Ownerが有資格者となる。

Pre－S_2 Course ： 1 yr（修士課程に先立ち基礎教育を行う）

S_2 Course ： 2 yr

ITB教官の言ではPre－S_2 Courseにおいて相当の落ちこぼれがあろう、またS_2卒業も2

年以上かかったり、また卒業できない人がでることを覚悟する必要があるとのこと。卒業認定などはITBの基準による。

これに係わる費用は基本的にDGHEの負担である。但し、ITBに対する、ある種の（機材供与を含む）援助は何等かの方法で考える。

分野はとりあえず、土木、機械、電気電子、化工（重みは1：1：1：0.5程度）とする。

2) Non－degree Traning in JAPAN

上記のS_2コース修了者の全員を日本に招待し6ケ月程度の短期研修を行う。受け入れは協力大学が主体となる。

コースの講義は基本的にはITB教官が行うが、後述の短期派遣日本人専門家による特別講義があってもよい。

3) Short－term non－degree traning at in－country site

1)に該当しない教員（senior staff, S2 or Higher degree owner）をITBなどに集め、日本人専門家による当該分野の学部レベルの横範講義を行う。専門家の出張期間は約1ケ月、年3回（春休み3月、夏休み7月と8月を利用する）、講師の数は2～3人／分野。従って全体で6年間に（3人×3回×6年＝54人ないし3人×3.5分野×3回×6年＝189人）送ることになる。

4) Donation of Equipments for Undergraduate Education

対象大学における教育用／学生実験用機材の供与。ITBに学生実験用「モデル実験室」をつくり、それと類似あるいは同様のものを各大学につくる。このような実験の手引の作成についても日本側教官が協力する。

これらの内容により、当プロジェクトを実施すべきであるというのが、今回の予備調査団の結論であり、4月26日の報告会において外務省経済協力局に伝えられた。

6. 日本側協力体勢

日本側協力大学

東大：土木工学のみは担当できそう

東工大
豊橋技科大学
長岡技科大学
} 化学工学、電気・電子工学、機械工学、土木工学

短期集中コース運営、その他の企画などのための国内委員会をつくる。

今回の調査は予備調査であり、本来の意味での事前調査ではない（イ国からの公式要請もまだ提出されていない）。本年度中にプロジェクト技術協力の事前調査団、無償資金協力（機材供与のための）のための調査団を派遣する。

7. 派遣専門家

1) 長期派遣専門家

Chief Advisor ： 1名（1～2年交替で全期間中）大学から。
ITB入学候補者選考、ITBとの調整、短期派遣専門家による講義等の準備、USAIDとの共同作業。

Coordinator ： 1名 JICAより全期間中。事務担当。

2) 短期派遣専門家

1回の短期集中講義コースに一分野当り2～3人、1～3.5分野、年3回。

したがって延べ人数は、

土木、機械、電気電子：各分野15人ないし55人

化工：8人ないし28人

S_2コース入学者以外に対する短期コースを教授するとともに、同じ専門分野のITB教官および研究室と研究上の交流を行う。S_2コースのための特別講義を行う事も考えられる。

8. 研究生受け入れ

講義を行っていただいた先生方を中心に受け入れて頂く。1993年9月に第1回生が卒業。

別添資料

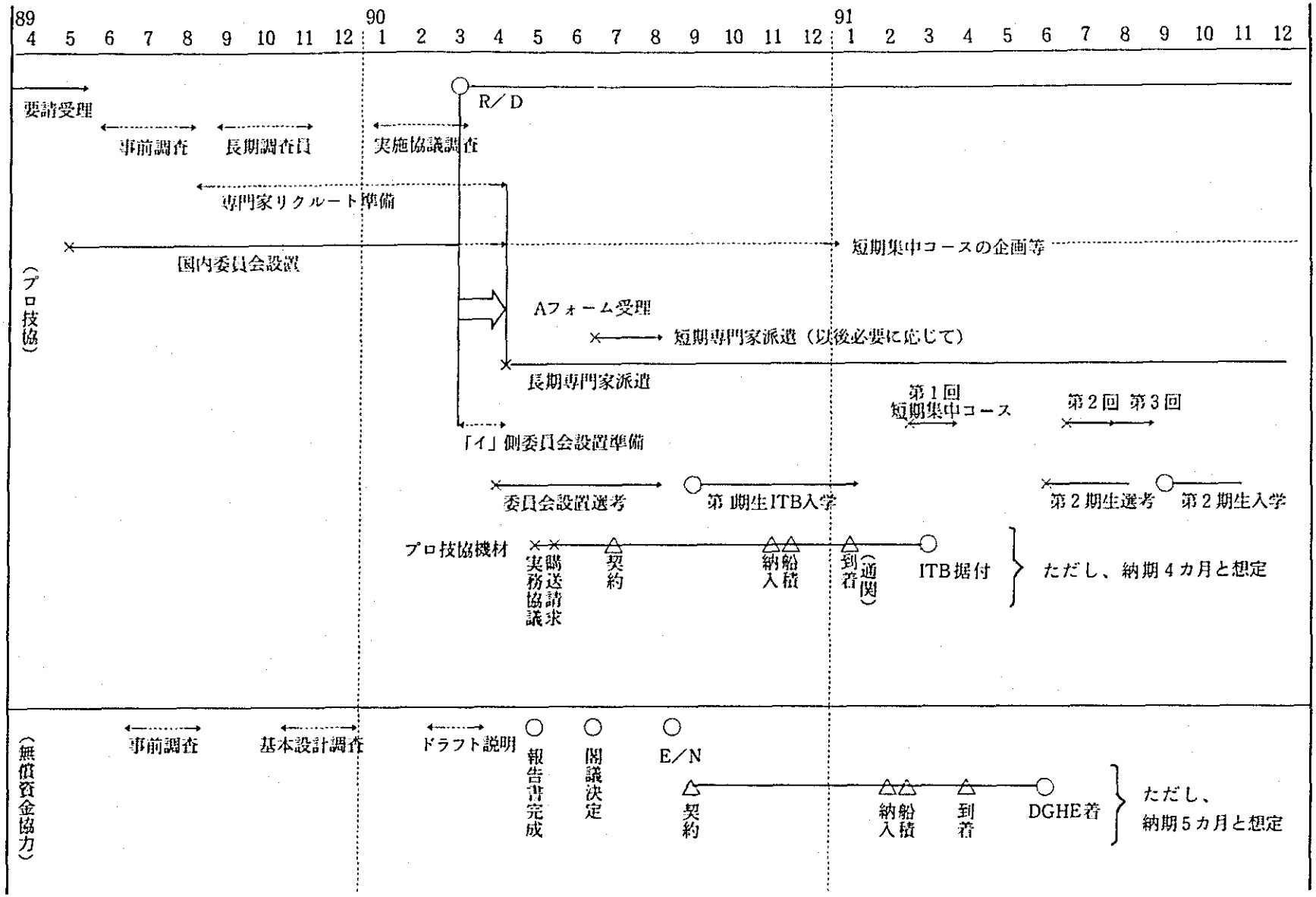
イ：Target University

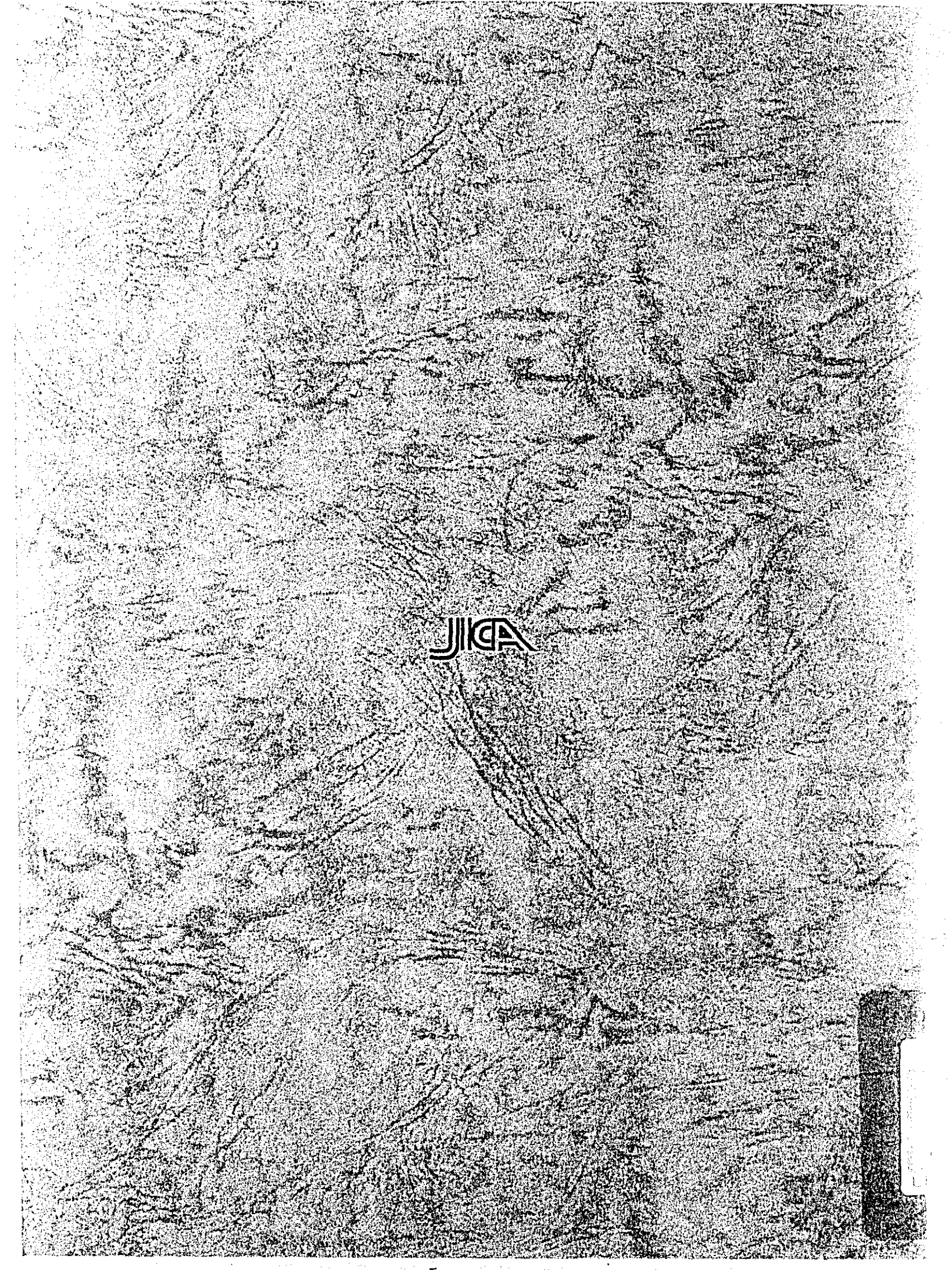
ロ：Time Schedule (Prepared by JICA)

1. List of Target Universities under HEDS

Name of University	National/Private	JICA	USAID
Sumatera			
Syiah Kuala	N	○	○
Sumatera Utara	N	○	○
Lampung	N	○	○
Bengkulu	N	–	○
Riau	N	–	○
Nomensen	P	○	○
Islam Sumatera Utara	P	○	○
Darma Agung	P	○	○
Medan Area	P	○	○
Kalimantan			
Lambung Manghurat	N	○	○
Tanjungpura	N	○	–
Mulawarman	P	–	○
Panca Bhakti	P	–	○

ロ. Time Schedule （JICA）




JICA