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UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION AGENCY  
AGENCY FOR INTERNATIONAL DEVELOPMENT  
Washington, D.C. 20523

PROJECT PAPER

INDONESIA

WESTERN UNIVERSITIES AGRICULTURAL EDUCATION

497-0297

APRIL 1981

UNCLASSIFIED

NOTE: The text of this Project Paper has not been altered to show consistency with the authorized loan and grant levels approved by the Bureau. The total authorization is for \$9,850,000, which is \$350,000 below the \$10,200,000 requested in the Project Paper. As the project is implemented at the authorized level, it is expected that most of the \$350,000 in cost reductions will be taken from the AID-financed portion of project operating costs ("Other Costs") and reduced campus backstop costs.

<b>AGENCY FOR INTERNATIONAL DEVELOPMENT</b> <b>PROJECT DATA SHEET</b>	<b>1. TRANSACTION CODE</b> <input type="checkbox"/> A = Add <input type="checkbox"/> C = Change <input type="checkbox"/> D = Delete <span style="font-size: 2em; border: 1px solid black; padding: 2px;">A</span>	Amendment Number _____	<b>DOCUMENT CODE</b> 3
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<b>2. COUNTRY/ENTITY</b> INDONESIA	<b>3. PROJECT NUMBER</b> <span style="border: 1px solid black; padding: 2px;">497-0297</span>
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<b>4. BUREAU/OFFICE</b> ASIA	<b>5. PROJECT TITLE (maximum 40 characters)</b> <span style="border: 1px solid black; padding: 2px;">Western Universities Agricultural Educ.</span>
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<b>6. PROJECT ASSISTANCE COMPLETION DATE (PACD)</b> MM DD YY <span style="border: 1px solid black; padding: 2px;">0 6 3 0 8 6</span>	<b>7. ESTIMATED DATE OF OBLIGATION</b> (Under 'B' below, enter 1, 2, 3, or 4) A. Initial FY <span style="border: 1px solid black; padding: 2px;">8 1</span> B. Quarter <span style="border: 1px solid black; padding: 2px;">2</span> C. Final FY <span style="border: 1px solid black; padding: 2px;">8 6</span>
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8. COSTS (\$000 OR EQUIVALENT \$1 = )						
A. FUNDING SOURCE	FIRST FY			LIFE OF PROJECT		
	B. FX	C. L/C	D. Total	E. FX	F. L/C	G. Total
AID Appropriated Total	1,174	184	1,358	8,751	1,099	9,850
(Grant)	( 397 )	( - )	( 397 )	( 3,900 )	( - )	( 3,900 )
(Loan)	( 777 )	( 184 )	( 961 )	( 4,851 )	( 1,099 )	( 5,950 )
Other U.S.						
1.						
2.						
Host Country		1,004	1,004	-	8,713	8,713
Other Donor(s)						
<b>TOTALS</b>	1,174	1,188	2,362	8,751	9,812	18,563

9. SCHEDULE OF AID FUNDING (\$000)									
A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE		D. OBLIGATIONS TO DATE		E. AMOUNT APPROVED THIS ACTION		F. LIFE OF PROJECT	
		1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan
(1) FN	210 B	690	690					3,900	5,950
(2)									
(3)									
(4)									
<b>TOTALS</b>								3,900	5,950

<b>10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each)</b> 070    250    060    620    660	<b>11. SECONDARY PURPOSE CODE</b> 680
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<b>12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)</b> A. Code    XII    BR    TECH    TNG					
B. Amount					

**13. PROJECT PURPOSE (maximum 480 characters).**

To strengthen the capability of the member institutions of the Association of Western Universities (BKS-B) to play increasingly effective roles in Agricultural and Rural Development by:

- 1) Improved staff, teaching and better trained graduates.
- 2) Institutionalized system of university/rural public service.
- 3) Organized and integrated faculty research.

<b>14. SCHEDULED EVALUATIONS</b> Interim    MM YY    MM YY    Final    MM YY <span style="border: 1px solid black; padding: 2px;">0 6 8 2</span> <span style="border: 1px solid black; padding: 2px;">0 6 8 3</span> <span style="border: 1px solid black; padding: 2px;">0 6 8 5</span>	<b>15. SOURCE/ORIGIN OF GOODS AND SERVICES</b> <input checked="" type="checkbox"/> 000 <input checked="" type="checkbox"/> 941 <input type="checkbox"/> Local <input type="checkbox"/> Other (Specify) _____
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**16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a \_\_\_\_\_ page PP Amendment.)**

<b>17. APPROVED BY</b> REVISÉD	Signature _____ Title _____	<b>18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION</b> MM DD YY <span style="border: 1px solid black; padding: 2px;">0 4 16 8 1</span>
	Date Signed MM DD YY <span style="border: 1px solid black; padding: 2px;">     </span>	

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- E. Social Soundness Analysis
- F. Technical Analysis
- G. Administrative Analysis
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- K. Logical Framework
- L. Statutory Criteria Checklist
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- N. GOI Application for Assistance
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## I. Introduction and Summary

### The Importance of the Project

As the fifth most populous country in the world, and one of the most underdeveloped, Indonesia is struggling to build the infrastructure it so desperately needs. There are many mineral, agricultural and other natural endowments to be tapped, but the abundant human resource largely lacks the skills, knowledge and organization to develop them effectively. Such skill centers as do exist in Indonesia are unevenly distributed in the densely populated island of Java--more a result of historical factors than of national planning--while the vast, potentially productive areas of other provinces are comparatively unserved. This is especially evident in Western Indonesia.

Large numbers of highly trained people with advanced academic credentials and concomitant skills are essential in every area of development endeavor for research, innovation, quality control, dissemination and application of new, better and more cost-effective ways of utilizing resources.

This is particularly true in agriculture, in which more effective systems of food production and distribution are so basic to the well-being of the people of Indonesia.

Thus, this project responds to a special need for assistance. While every AID project should meet this test, in this case the GOI's request has particular force: first, because the requested assistance will be directed to the relatively less developed area of Western Indonesia; second, because increasingly the higher education system of Indonesian is making use of the American higher education model to achieve quality improvements. Indonesia is not adopting wholesale all of our ideas and ways when it comes to the development of its university polity, structure and mode of operation. But important borrowings have taken place in the last few years and more will probably follow as a result of activities sponsored under the project. This is both a considerable compliment to the United States and its higher education system and a substantial responsibility.

With this responsibility clearly in view, the project aims to bring to bear high calibre technical expertise from the University of Kentucky in an institution-building enterprise which will have major impact in assisting the GOI to implement a number of specific policy changes as well as to strengthen the ten institutions participating in the project. Indeed, the imperative to institutionalize quality improvements in Indonesian higher education has run like a common thread through analytical reports prepared by the Directorate General of Higher Education (see especially D.A. Tisna Amidjaja and S. Sapi'ie, "Higher Education in Indonesia, From Random Growth towards a National System," Jakarta, December 1977, and Supplementary Document No. 6, "Policy Paper in Higher Agricultural Education in Indonesia"); the World Bank (particularly the "Staff Appraisal Report" for the ninth loan); and by the Projects Department of the World Bank in its recently conducted, although not yet published manpower in agriculture study (see the summary discussion, paragraph 1.02).

Universities and IKIPs need systematic strengthening to supply leadership to the Provinces. Indonesia looks to its higher education system for basic development support, and with few exceptions, finds its universities lacking. The Provincial Governors and their development agencies must rely heavily on local university staff for research, planning and implementation. However, all public universities and institutes are relatively young, with most being organized during the past two decades.<sup>1/</sup> In the fields of agriculture and rural development, a medium-size rural high school in the United States will have a better-trained agricultural staff, better laboratories and field facilities, a larger, more up-to-date library, more students doing library research, a curriculum better geared to the agricultural needs of its community and a much higher productivity rate than most of the universities to be assisted by this project.

Not only is the academic training level of project universities very low, but four do not have a single person with a Master's degree on their entire agriculture-related staff. A few employ instructors who have not yet completed a bachelor's level program. Libraries are pitifully small, behind times and seldom used, because most technical materials are in English. Experimental plots are almost non-existent and laboratories are equipped for only a few of the most basic experiments. Modern research procedures are little known.

Yet students are clamoring for admittance, and each university has plans for expansion. This project focuses on essential systematic improvement in all of these areas at each BKS/Barat institution, to provide a take-off base for future significant programs for continual improvement.

For example, about seventy Indonesians will be selected to undertake graduate study in the United States, one-fourth of whom will receive doctorates. In addition, another forty individuals will be given short-term study opportunities in the United States over the five years of the project. The World Bank Manpower Study underscored the importance of these kinds of training programs:

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<sup>1/</sup> The ten project institutions comprising the Association of Western Universities consist of eight public universities and two public teacher education institutes known as IKIPs. The term "universities" will be used in this paper to apply to both kinds of higher education organizations. The institutions and their years of founding are:

<u>Year</u> <u>Founded</u>	<u>University</u>	<u>Year</u> <u>Founded</u>	<u>University</u>
1952	Sumatera Utara (USU)	1963	Jambi (UNJAM)
1956	Andalas (UNAND)	1963	Tanjung Pura (UNTAN)
1960	Sriwijaya (UNSRI)	1964	IKIP Medan
1961	Syiah Kuala (UNSYIAH)	1964	IKIP Padang
1962	Riau (UNRI)	1965	Lampung (UNILA)

"Although it is imperative that in future Indonesian higher education institutions become the source of the majority of postgraduate manpower, it is at present not able to do so. Therefore, unless Indonesia is prepared to delay the improvement of its teaching, research and management capacity for many years, which for agriculture would be a risky option, it is necessary for Indonesia to accept that a substantial proportion of the total postgraduate training will need to be done overseas." (Ibid., p. 39.)

Moreover, participant training is an endeavor in which AID has compiled an impressive record, especially in Indonesia. USAID/Jakarta has overseen the selection, placement and management of more than 7000 Indonesian participants over the thirty-year span of U.S. development assistance to this country. Nearly every one of these individuals have returned to take positions of leadership.

Indeed, this project is important because it continues a process of assistance to Indonesia in higher education in which we have been successfully engaged for a number of years. The University of Kentucky, as a matter of fact, took the lead in this process by assisting IPB between 1957 and 1966. Over two hundred staff were enrolled in U.S. Land-Grant Universities in the project, and more than one-half received graduate degrees. At any one time approximately twelve University of Kentucky specialists were living in Bogor, each staying two years or more. As a recent World Bank study stated in commenting on this experience, "Although the University of Kentucky made no claims to specialized expertise in tropical agriculture, it is inconceivable that IPB would be in its present pre-eminent position if the project had not taken place." (p. 40, "Technical and Managerial Manpower in Agriculture," June 2, 1980, Projects Department, World Bank.)

Over the years, USAID has supported university strengthening programs at the Institute of Technology, Bandung (where 85 per cent of the staff is U.S.-trained), the University of Gadjah Mada, and the University of Indonesia. In recent years, new projects have been undertaken with MUCIA at UGM, IPB and other major Indonesian universities; with the University of Wisconsin (working with the graduate agriculture faculty at IPB); and with Washington State University, assisting eight institutions of the Eastern Islands Association in Kalimantan, Sulawesi, Moluccas and Irian Jaya.

Much has been learned from these projects, and the lessons gained have been employed in the design of each successive project. That these projects have performed well may justly be inferred from the fact that the GOI continues to look to the U.S. for assistance in further university institution-building and strengthening. A final step in the process, helping to upgrade the agricultural programs of Nusa Tenggara, may be decided upon by the GOI. There is good reason to believe AID will be asked to participate in this new venture.

Important in this context is the fact that of the institutions included in this project, only the University of North Sumatra and Andalas University will also receive significant agriculture-related assistance from other donors. Agriculture in these two oldest and largest universities of Sumatra has had AID assistance under the MUCIA Agriculture Education for Development project. The present project will draw on their generally higher calibre staff for work with the relatively smaller, weaker institutions. Direct assistance provided to USU and UNAND will complement what they are receiving from other donors.

Much of the foregoing discussion underscores the point that this project is important because it enables us to make a contribution in a discipline in which we have a singular comparative advantage. There is no other country in the world that can equal the record of U.S. agriculture; no other system of agricultural extension, education research and practice has been as productive and successful as that of the United States. A key element in this genius is the U.S. Land-Grant College system, with its heritage of grassroots support on the one hand and community service on the other.

This project is very closely linked to other components of the Mission agriculture program, which also make use of pre-eminent U.S. agricultural expertise. This is especially true of the research emphasis of the Mission's program, in that this project will upgrade the research skills of Indonesian university staff members who will in turn direct graduate students in individual research projects and themselves join as partners in the network of research centers to be established throughout Sumatra (under the USAID-Sumatra Agricultural Research project).

In a broader sense, the project will complement all Mission (and GOI and other donor) activities in the agricultural sector by materially adding to the numbers of trained high-level workers. An IBRD report on Indonesia, for instance, makes the point that "traditional agriculture faces diminishing returns to labor input unless accompanied by other inputs, including skilled and innovative high-level agriculturalists." (p. 45, World Bank Report, 3000 a - IND, August 4, 1980). The manpower study quoted earlier points out that, "there are a number of quite clear indications that in terms of university graduates there is likely to be a deficit of graduates at the PhD and Msc level." (Ibid., p. 37.)

### Summary: Project Activities Which Will Meet University Development Priorities

Training. This project will contribute to the achievement of training priorities by sending Indonesian faculty members for long-term degree training in U.S. universities where they will also be exposed to the American institutional model, and sending selected administrators for short-term study programs which focus upon the organization, structure, and administration of academic programs in U.S. universities.

Technical Assistance. This will involve interchange and exposure on a regular basis of Indonesians to both short and long-term University of Kentucky faculty members, representing a variety of disciplines, who will be assisting and advising in adapting the U.S. model to Indonesian resources and expressed needs, and the development of networks designed to utilize more efficiently the technical resources (human) which are presently spread very thinly among the ten institutions participating in the project.

English-Language Upgrading. It is clear that a greatly strengthened institutional capability in the English language is a necessary condition for the continued growth and development of these universities. The current limitations imposed by weak English language capability impact in a number of critical ways: 1) the bulk of the technical literature (text books, journal articles, etc.) contained in the university libraries is printed in English but is little used; 2) professors are hesitant to make homework assignments in English because they themselves are uncomfortable in the language and their students have quite weak English backgrounds; and 3) faculty members haven't the requisite English language competency for study abroad, and this severely constrains efforts at faculty upgrading even when funding for foreign educational programs is provided. The approach to strengthening English language competencies under this project should have a high payoff in overall institutional development both in the short-run and in its longer-term impacts.

Physical Plant Improvement. The GOI will provide the major financial support for improved facilities. Technical assistance in the selection of appropriate equipment, and in some cases in design and layout of specialized facilities, will be provided by both Indonesian and Kentucky specialists.

Commodities. Library resources in English and Indonesian will receive considerable strengthening. Appropriate duplicating and reproduction equipment should help each university to disseminate important studies, reports, research findings and other materials. In a separate, internal project the GOI is planning substantial increases in laboratory equipment and supplies during the next few years. Project-funded commodities will be for specialized equipment for specific activities not covered by the more general GOI budget.

Inter-University Cooperative Actions. Networks will be established for the major technical areas including soil science, plant science, animal science,

and the educational sciences. Key individuals representing these disciplinary areas will be identified at the ten institutions and will be brought together on a regular basis to accomplish specific tasks. For example, the soil science network might initially undertake the task of establishing priorities for soils courses to be developed and offered in the Association of Western Universities (BKS/Barat), planning how they might be phased-in over time in accordance with present and future faculty resources and recommending the credit hours to be required in specific technical areas. Assistance and guidance from MOE officials from Jakarta would assure that the BKS/B institutions are moving in accord with overall GOI policy objectives.

Subsequently, subcommittees will begin working on the development of prototype syllabi, class notes, visual aids, laboratory exercises, and the identification of appropriate texts and other printed materials. The in-country technical assistance team will assist and cooperate closely with the networks, and short-term specialists will be utilized as specific areas of need are identified by the networks. These specialists will be drawn both from the University of Kentucky and from Indonesian institutions such as IPB, the University of Gadjah Mada, and others.

As professionals in the various institutions develop closer working relationships through the networks, it is expected that this will also facilitate the exchange of professors among the BKS/B universities as well as the exchange of teaching materials.

BKS and University Administration Strengthening. The institutional framework for planning, implementation and management of project activities, and the linkages to BKS/B, will be developed and will provide the administrative mechanism for continued collaboration of the ten institutions following completion of this project. For this reason, the administrative-management plan for the project specifies an Indonesian project director and associate director plus a university project office located on the campus of each of the participating institutions. The University of Kentucky team chief of party and his staff will work directly as counterparts to the project director and his staff, but the administrative mechanism will be Indonesian rather than American, thus reducing the potential administrative disruptions when the project phases out.

#### Development of the Project

This is a Title XII project. More than one year ago the University of Kentucky was selected by a panel of GOI and AID officers, following a period of careful evaluation of its technical capabilities, prior record in overseas development work, and institutional commitment in undertaking a project of this type in Indonesia.

The Title XII mechanism has its strength in binding together the selected university, host country experts and USAID officers in a collaborative project design effort. Over the past year, all echelons of the GOI have been sounded out and involved in this project: the Cabinet Secretariat, BAPPENAS, the Director General of Higher Education, the head of the Agricultural Consortium, the Rectors of the ten project institutions, and the Governors and other

high officials of the provinces of Sumatra. Within the DGHE, many senior members of the Director General's staff have attended dozens of meetings, with venues in the university cities of Sumatra, in Jakarta, at IPB and other Bogor locations, --even in the Puncak--where several intensive design sessions were held in the U.S. Embassy guest house.

Indonesian and University of Kentucky team members never stinted, over many months, in contributing their labors to the preparation of the project. In addition to their attendance at numerous meetings in Indonesia, Dr. Soekisno and Dr. Yuhara traveled to the United States to attend the first project review meetings in Washington in October, and subsequently visited the University of Kentucky to lay plans for revision of the project. Dr. Herbert Massey, University of Kentucky team member, and his colleagues, Dr. Kurt Ansel and Dr. Russell Brannon, gave several weeks to revision and rewriting following the October review, additional to the six weeks they spent in Indonesia, visiting each institution of Sumatra, meeting and interviewing government and university officials, and towards the end, preparing their Project Paper draft.

Other University of Kentucky officials have also had roles in preparing this project, including Dr. George Denmark, Dean of the College of Education, Dr. John Robertson, Assistant Dean for Instruction of the College of Agriculture, and Dr. Dennis Schneider, expert in the teaching of English to foreign speakers. Dr. Schneider came to Indonesia in early December 1980, and spent one month visiting project institutions in order to "fine tune" project plans for improving the English language situation. Dr. Lewis Cochran, Vice-President of the University of Kentucky, has represented the President and University Board of Governors throughout the entire period. Together with Dr. Robertson and Dr. Brannon, he came to Indonesia in late January of this year on a month-long program of visitation to project institutions. Their trip is designed to lay final plans for getting the project swiftly underway once the project is approved, including conferring with their Indonesian counterparts in the selection and certification of the first participant trainees, finalizing agreements on location of project offices and residences for University of Kentucky long-term specialists, and taking part in pre-implementation contract negotiations.

In sum, this Title XII project has, in its initial stages, succeeded very well in identifying an important area for collaborative endeavor. The months of meetings, discussions, review and revision have not dampened the interest of the University of Kentucky and GOI officials. They continue to assure USAID/Jakarta of their full cooperation in moving the project into full implementation.



## II. Detailed Project Description

### Overview of Indonesian Higher Education

Authority for all education in Indonesia rests with the Department of Education and Culture (P dan K). Within P dan K, the Directorate of Higher Education (DGHE) controls 41 public institutions of higher education and through its coordinator for private institutions, oversees the operations of 360 non-public programs. As the chief administrator for higher education, the Director General is assisted by a standing advisory staff of experts on secondment from universities; ad hoc committees convened to consider special issues; and a board comprised of the heads of eleven academic disciplines consortia.<sup>1/</sup>

Four major kinds of institutions provide higher education: universities with several semi-autonomous faculties; institutes with a number of faculties in a single professional field; academies with a single faculty; and teacher training institutes (IKIPs). The system that was widespread until very recently was one that offered an intermediate degree (Sarjana Muda) after three years of study and the principal degree (Sarjana) after a total of five years of study. All institutions save the academies offer these degrees, while diploma/certificate level courses of two or three years' duration are given by the academies. The seven existing public academies will be consolidated into one university in the immediate future.

In 1978 approximately 250,000 students were enrolled in universities and institutes giving Sarjana Muda and Sarjana degrees. This figure represented 2 per cent of the 19-25 age group. About 150,000 were enrolled in 30 public institutions and the remainder in 70 private institutions. In 1978, approximately 20,000 students were enrolled in faculties of agriculture.

Degree programs in agricultural science as given by 27 institutions comprise seven major areas: crop production, veterinary medicine, animal husbandry, forestry, fisheries, agricultural engineering and food technology. Enrollment grew from 11,400 in 1973 to 20,120 in 1978, and Sarjana degree graduates increased from 1,100 in 1976 to 1,300 in 1978. Of nearly 25,000 applicants for agricultural science programs in 1978, only 20 per cent were accepted. The University of Gadjah Mada has the largest agricultural faculty, followed by the Institute of Pertanian Bogor (IPB) and the Universities of Hasanuddin, Brawijaya, Padjadjaran, Andalas and North Sumatra.

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<sup>1/</sup> Consortium for education, social sciences and humanities, medical sciences, engineering, mathematics and natural sciences, law, economics, literature, psychology, interdisciplinary studies and agricultural sciences. These consortia have representatives from both the private and public institutions. They are responsible for preparing minimum curricula for their discipline, which are reviewed and upgraded every two to three years.

Total expenditure on education in Indonesia has increased rapidly in recent years, from about 2 per cent of GNP in 1969 to 3.5 per cent in 1976-77. Of this, about 1 per cent came from private sources and the rest was from public sources, mainly the Central Government (11 per cent of its budget). Of the total Central Government educational funds in 1975-76, 69 per cent was allocated to primary, 21 per cent to secondary and 10 per cent to higher education. More recently there has been a rapid increase in funds allocated to higher education; funds channelled through the DGHE increased from Rupiah 16 billion in 1974 to 60 billion in 1978. In the same period, the routine education budget grew at an annual rate of 30 per cent to Rupiah 32 billion, and the development budget increased at an average rate of 55 per cent p.a. to Rupiah 28 billion. Despite this rapid growth, Indonesia's investment in higher education has been comparatively small. This is evident when Indonesia's ratio of expenditure on higher education to GNP is compared with that of other East Asian countries.

Ratio of Expenditure by Education Level to GNP, 1973 <sup>1/</sup>

	<u>Total</u>	<u>Higher Level</u>	<u>Secondary Level</u>	<u>Primary Level</u>
Indonesia <sup>a/</sup>	2.17	.19	.43	1.54
Thailand	2.97	.50	.71	1.15
Korea (Republic of)	3.37	.57	1.21	1.57
Malaysia	4.99	.82	1.82	2.34
Philippines	4.93	1.26	.94	2.73

<sup>a/</sup> Although the investment in higher education had grown rapidly since 1973, its share in GNP in 1976 remained at about the same level with that in 1973 since GNP itself increased rapidly. The corresponding share in Asian countries (excluding Japan) in 1976 was estimated at .62 per cent.

The recurrent cost per student for university education in Indonesia is about \$350 per student, lower than the average unit cost in Asian countries. In 1976, public recurrent expenditure per student in higher education institutions in Asian countries averaged \$560. To partly compensate for the low recurrent allocation, tuition fees averaging about \$130 per year are charged by Indonesian institutions, amounting to over one-third of per capita income.

<sup>1/</sup> Tabular data, as well as other material in this section derived from the draft World Bank "Staff Appraisal Report," June, 1980.

## Relevance to Government of Indonesia Plans for Higher Education

The development of higher education is geared to the fulfillment of its three missions: teaching, research and public service, all of which figure prominently in this project. Higher education is charged with developing experts required for staffing the technostructure of the society producing scientific findings and promoting the use of expertise and scientific findings in national development.

Improvement in higher education is given special emphasis in the third 5 year plan (PELITA III: 1979/80 to 1983/84). This is to be accomplished through greater educational efficiency, particularly in strengthened undergraduate and building programs<sup>1/</sup> and through structural improvements.<sup>2/</sup> Under Pelita III, 800 MS and 550 PhD candidates are to be enrolled.<sup>3/</sup> Attention will also be given to improvement of teaching methods, faculty members' capability to undertake research, and to upgrading educational facilities including libraries, laboratories and other supporting structures.

In terms of specific objectives, the GOI hopes to enroll 5 per cent of the 19-25 age group by the turn of the century. This implies an average rate of increase in the student population of 5 to 6 per cent annually, and assumes improvements in productivity (graduates as per cent of total enrollment) from the current 5 per cent to 10 per cent by 1983/84. Public universities having productivity levels below 5 to 6 per cent will be denied funds to increase enrollment.

The Directorate General of Higher Education has established student population and productivity targets (Sarjana, or first degree level) to be reached by 1983-84 as follows:

Total Enrollment, Productivity and Output Targets  
in Selected Fields for 1983-1984

Field	Total Enrollment %	Productivity %	Output <sup>4/</sup>
Agriculture	7.3	11	2,000
Basic Sciences	5.1	8	1,000
Education	41.4	10	9,000
Health	5.5	14	2,000
Social Sciences & Humanities	31.7	9	8,000
Technology	9.0	8	3,000
Total(all fields)	100	10	25,000

<sup>1/</sup> Ministerial Decree 0124/U/1979

<sup>2/</sup> Government Decree 5/1980.

<sup>3/</sup> These figures refer only to post-graduate training. Total need for university graduates is estimated at 300,000 persons during the period 1978-85.

<sup>4/</sup> Assumes 1978 enrollment in all fields would grow at 6% p.a.

The importance of productivity improvement is seen with the field of agriculture as an example. Over the next decade Indonesia will need 22000 new agriculturalists, exceeding current university output by 61 per cent. Put another way, if productivity improvements are not realized, Indonesia will have on the order of 5500 fewer new agriculturalists than it will require in the 1980-1990 period.

Based on the urgency of workforce requirements and capability of existing preparatory programs, the GOI has assigned priority to the various disciplines in the following order: teaching, technology, basic sciences, management, agriculture, health, social sciences and humanities. Every state and private higher education institution has been asked to develop a program consistent with these priorities.

The GOI Strategy in Higher Education Development. In mid-1979 the GOI announced a gradual introduction of a credit system of course requirements, under which each program of study will consist of required and elective courses. Credit will be awarded each student who successfully completes each course, irrespective of that student's performance in other courses. Graduation eligibility will be determined by attainment of the stipulated credits for a given degree.

Also introduced was a new system of educational stratification, consisting of the Diploma (S<sub>0</sub>), Sarjana (S<sub>1</sub>), Pasca Sarjana (S<sub>2</sub>) and Doctoral (S<sub>3</sub>) levels. This system is tied to the credit system, with the following requirements established for each level:

	<u>Diploma Stratum</u>	<u>Credit Hour Requirement</u>	<u>Years Required</u>
Diploma	(S <sub>0</sub> )	35 - 120	1 - 3
Sarjana	(S <sub>1</sub> )	140 - 160	4 - 4.5
Pasca Sarjana	(S <sub>2</sub> )	S <sub>1</sub> + 60 - 80	+ 2
Doktor	(S <sub>3</sub> )	S <sub>2</sub> + 60 - 80	+ 3

The GOI plans to provide an opportunity to all public institutions to improve their programs following a ten-year sequence of steps of planning, preparation, implementation and evaluation. The planning stage of approximately two years' duration will prepare master plans encompassing both physical and academic dimensions. The preparatory stage, of about the same duration, will flesh out plans with specifications in greater detail concerning such things as the organization and structure of staffing and management, recruitment of new personnel, and architectural site planning. Implementation and evaluation stages will last five years and two years, respectively.\*

#### Basic Data for Project Preparation

The Master Plan for Agricultural Education. The PID approval cable sent to USAID/Indonesia in June 1978 made the point that the agricultural education

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\* A fuller exposition of these plans may be found in "Coordinative Program Memo," DGHE, Jakarta, May 1978, 50 pp.

projects proposed by the Mission should be "... planned and implemented in the context of a broader plan for upgrading agricultural education, that assures consistency with Indonesian financial and administrative capabilities. The PP should clarify the relationship of activities under the subject project to the strategy delineated in the master plan."

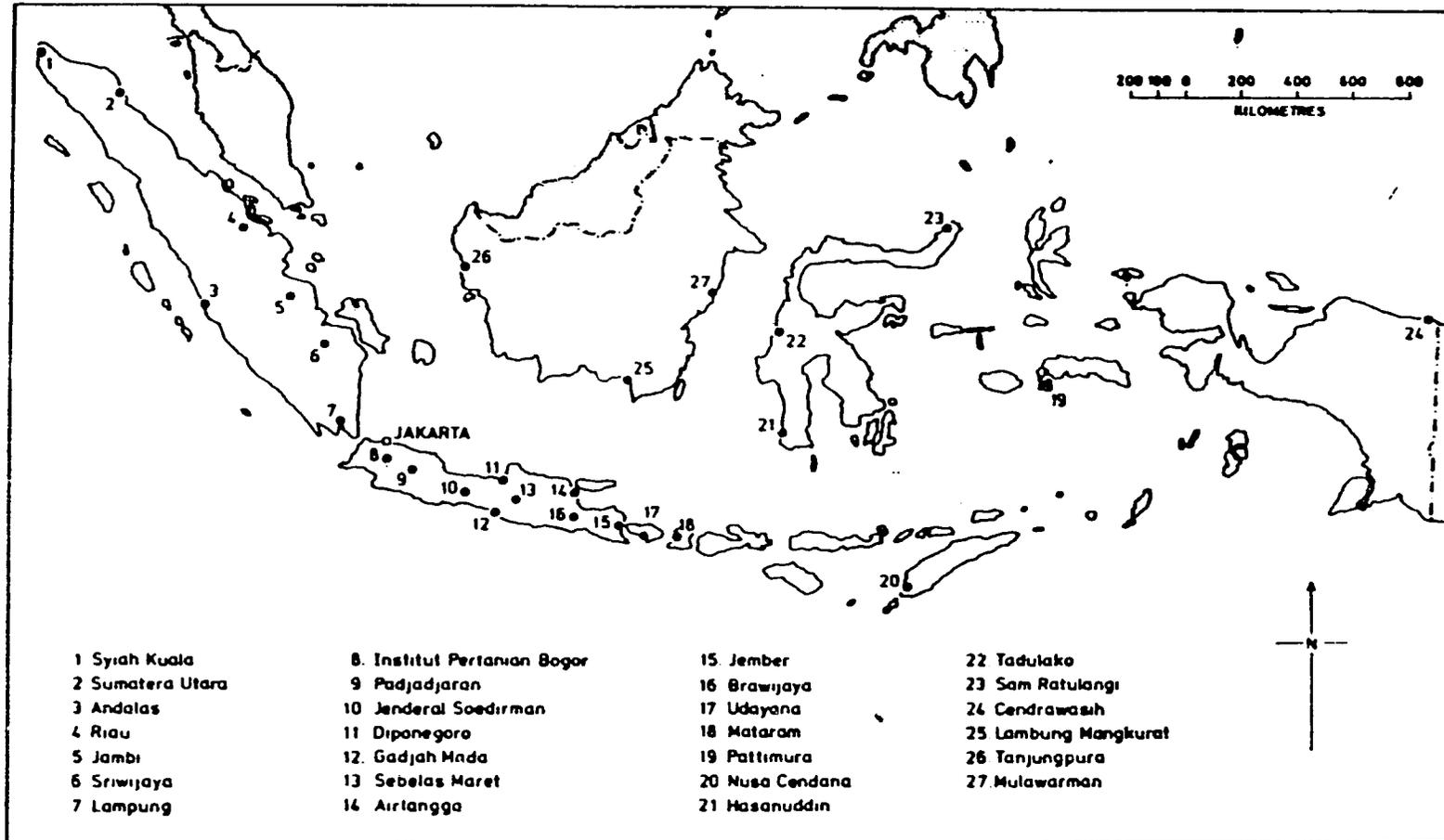
There is no doubt that the design team would have found it helpful to have had access to such a "master plan." One may assume as well that the World Bank would have found such a plan helpful in its deliberations for its recent \$45 million loan to the DGHE. Unfortunately, such a master plan does not yet exist, although efforts to develop it are well underway. The IBRD has in fact included two elements in its loan, relating to the development of master planning, although not having to do exclusively with agriculture: technical assistance to set up a management information system in the DGHE and to develop "organizational and staffing" master plans for the three institutions receiving help under the loan (University of Indonesia, Gadjah Mada and Andalas). (See following section on Other Donors Activities).

AID has encouraged the collection of data useful for the preparation of a Master Plan for Agriculture Education. A small USAID research grant plus some technical assistance from the Agriculture Education for Development project (497-0260) have supported a Baseline Study of Higher Agricultural Education conducted by the IPB Foundation. Although a preliminary draft has been produced in Indonesian, a final report, in English, will probably not become available until mid-1981.

Nevertheless, some of the data collected to date from the Baseline Study were made available for reference in the design of this project. These, together with recent reports of the World Bank and the DGHE, and information obtained from personal interview and observation in the course of travel to the project campuses, are presented and discussed in following sections.

Agricultural Related Faculties. Twenty-seven of forty public universities (see map for geographical distribution) have faculties in the agricultural sciences, consisting of ten major program areas, as follows.

<u>Faculties</u>	<u>Number</u>
Agriculture	20
Agricultural Sciences	2
Veterinary Medicine	3
Veterinary Medicine and Animal Husbandry	2
Animal Husbandry	11
Animal Husbandry and Fishery	2
Fishery	4
Forestry	4
Agricultural Mechanization & Technology	2
Biology	1
Total	<u>51</u>



GEOGRAPHICAL DISTRIBUTION OF AGRICULTURAL RELATED UNIVERSITIES.

These faculties are located on different islands. Seven are found in Sumatra (all project institutions), nine in Java, three in Sulawesi, three in Kalimantan (one project institution), and one each in Bali, Lombok, Ambon, Kupang and West Irian.

This project focuses on Sumatra, and is designed to assist in the development of nine public institutions, including seven universities and two IKIPs (institutes of teacher training and education). The University of Tanjung Pura will be joined with the Sumatran institutions in the project and in the Association of Western Universities (Badan Kerja Sama Universitas - Indonesia Bagian Barat - BKS/B). This Association will serve both to guide and to monitor the proposed project. Details concerning current individual institutional budgets, student numbers and professional staff are available in the summary tables prepared from the questionnaire survey.

In 1980, twenty-seven per cent (12,549) of the BKS/B institutions' total student population of 45,740 were enrolled in faculties directly related to this project. Thirty-two per cent of the 3573 staff members were assigned to project-related fields. Thus within the public higher education system, this project will impact directly on twenty-five per cent of the institutions and on 32 per cent of the faculty and 25 per cent of the student body of these institutions who focus on careers in the agricultural sciences and rural development fields.

Current Institutional Development Problems. Rectors and professional staffs of the cooperating institutions, as well as the Directorate General of Higher Education, have identified a number of key problem areas which this project will help to address. Among the more important of these are:

1. Most of the professional staff are inadequately trained to carry out a program of higher education in the agricultural sciences.<sup>1/</sup> Of a total professional agricultural faculty of 497 in the eight institutions, there are only 9 PhDs (2 per cent) and 26 MS (6 per cent) or equivalent levels of training.<sup>2/</sup> Furthermore, a high degree of "in-breeding" exists, with some 70 per cent of the total staff having received their entire education at the institution in which they are currently employed. Many, if not most, of the problems listed below derive from scarcity of well-trained staff.

2. The quality of the teaching program suffers both from the weak preparation of many of the instructors and from a number of structural

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<sup>1/</sup> It should be noted that there are a few highly trained and very capable faculty members at each institution, but their ranks are thin. The well-trained professionals are over-committed with many special assignments and responsibilities in addition to their normal academic duties.

<sup>2/</sup> Although we refer to ten institutions, there are actually only eight which have agricultural faculties. The two IKIPs do not.

TABLE I. SUMMARY DATA FOR TEN WESTERN ASSOCIATION PUBLIC INSTITUTIONS OF HIGHER EDUCATION (1979-1980)

	Univ. North Sumatra	Andalas Univ.	Univ. of Sriwijaya	Syah Kuala University	Univ. of Riau	Jambi Univ.	Univ. of Tanjung Pura	Lampung Univ.	IKIP Padang	IKIP Medan	
<b>Year Established</b>	1952	1956	1960	1961	1962	1963	1963	1965	1964	1964	
<b>Routine Budget (Rp.million)</b>	1,295.1	874.6	781.1	667.7	348.4	141.9	257.6	237.5	877.8 <sup>1/</sup>	793.9	
<b>Development Budget</b>	533.1	793.9	411.0	622.7	155.9	187.6	255.8	260.1	626.1	302.1	
<b>Provincial Budget</b>	NA	10.0	250.0	140.0	167.2	59.0		170.3	12.5	-	
<b>Other Budget Sources</b>	NA	90.0	280.6	215.0	47.6	10.0		148.9	533.0	256	
<b>Total Budget</b>	1,828.2	1,768.5	1,722.7	1,645.4	719.0	398.5	-	716.8	2,049.4	1,352.2	
<b>Agricultural Faculties</b>										<b>FACULTIES</b>	
Agriculture	x	x	x	x	CP	x	x	x	x	x	Education (ED)
Animal Husbandry	-	x	-	-	-	x	-	-	x	x	Social Studies
A.H. & Veterinary	-	-	CP	x	-	-	-	-	-	-	(SS)
Fisheries	-	-	-	-	x	-	-	-	-	-	
Forestry	-	-	-	-	-	CP	-	-	-	-	
<b>Full-time Professional Staff</b>										<b>ED/SS STAFF</b>	
Agricultural	104	125	62	86	21	24	44	31	136	129	Sarjana Muda
Sarjana Muda	-	-	5	-	1	-	-	-	29	35	Sarjana
Sarjana	94	113	54	67	17	24	44	31	105	205	Prof. Degree
Professional Degree	-	-	-	12	-	-	-	-	-	11	MS MA
M.S./M.A.	7	9	2	5	3	-	-	-	1	4	PhD
Ph.D.	3	3	1	2	-	-	-	-	1	0	
<b>Percent Professional Staff from Own Institution</b>	75%	84%	72%	76%	52%	4%	27%	77%	NA	NA	
<b>Agricultural Students</b>	1,219	977	400	542	230	278	227 <sup>3/</sup>	292	1,714	2,709	ED/SS STUDENTS
<b>Percent of Students from Rural Background</b>	60%	70%	17%	95%	24% <sup>2/</sup>	25%	NA	73%	NA	75%	
<b>Graduates (1979)</b>											
Sarjana Muda	148	4/ <sup>4/</sup>	29	59	9	25 <sup>3/</sup>	10 <sup>3/</sup>	38	NR	390	ED/SS STUDENTS
Sarjana	57	77	18	15	6	-	13 <sup>3/</sup>	10	65	56	

1/ 1980; 2/ Fathers' occupation reported as farmer; 3/ 1978; 4/ No Sarjana Muda degree program.

NA = not available; CP = center planned.

shortcomings which the university administrations have identified and are striving to overcome. Among these are:

- a low capacity for making out-of-class reading assignments because scientific texts are primarily available only in the English language. Both students and professional staff are generally poorly equipped to use English; the number of texts is very limited - often only 1 or 2 texts for 75-100 students.
- limited access to current research findings and other professional developments both within Indonesia and internationally.
- few scientific texts, journals, monographs, or lecture notes have been prepared and reproduced in the Indonesian language; many instructors are unaware of those that do exist and therefore are not utilizing them.
- inadequate testing and evaluation procedures.
- student/teacher contact time low. Full time staff may teach only 3-4 hours/week.
- little preparation and distribution of course outlines detailing the purpose and structure of the course, learning expectations, material to be covered, evaluation procedures, and references.
- teaching aids such as slides, overhead transparencies or video-taped instruction which would draw upon existing Indonesian resources, have received little developmental attention.
- often weak primary and secondary level educational preparation of entering students in Sumatra compared to those students attending the more highly developed schools of Java.

3. As a result of the situation outlined above (plus other contributing causes) there is a low productivity rate, defined as the number of annual Sarjana graduates expressed as a percentage of the total student body. For the seven Sumatran institutions' agricultural faculties, this coefficient in 1979 was only 4.6 per cent. Educational "efficiency" is also low in terms of the average number of years required to complete a degree and the high number of dropouts. Specific figures for Sumatra were not available, but for all agricultural faculties, about 7.5 years are taken to complete the present 5-year Sarjana.

4. There is an inadequate base of physical infrastructure including classrooms and laboratories, scientific equipment, and library resources. Good progress is being made in this area through expanded central government expenditures. Several of the target institutions are currently in the process of establishing new campuses and physical facilities.

5. There does not exist a satisfactorily functioning system of inter-university cooperation, including exchange of faculty and students, exchange

of teaching and research materials, joint seminars, etc. Thus, the strengths of the relatively more highly developed institutions are not readily available to the weaker institutions.

6. Staffing of the outer island universities is difficult because there seems to be a strong desire to secure employment in Java, where social and professional opportunities are perceived as being superior. This problem is particularly acute for some of the smaller, more isolated institutions.

7. The Directorate General of Higher Education has determined that the academic credit system will be fully implemented by all public institutions of higher education by 1982. The implications and requirements for instituting such a system are not fully comprehended throughout the university structure.

8. The level of research training and experience of the majority of the professional staff is relatively low; thus they cannot produce students who are well prepared researchers. Similarly, exposure to training in public service techniques, methodology and philosophy is very limited.

9. The number of agricultural graduates is far below the manpower requirements for developing rural Sumatra and West Kalimantan. The needs of government agencies alone greatly exceed the annual production of new graduates. In 1979, the seven Sumatran universities with agricultural faculties produced only 183 Sarjana degree holders, and almost all of these accepted government employment. That same year, there was an increase of 634 in the number of extension personnel in Sumatra. Most of the new hires were Sarjana Muda graduates. The Extension program cannot upgrade its quality if it must continue to rely on only partially trained staff.

Despite the priority needs for skilled agricultural manpower, the seven Sumatran universities with agricultural faculties for example, currently enrol far greater numbers of students in economics (6021) and law (5325) than in the agricultural sciences (3938).

10. Although mandated to mount research and public service programs, these programs are still very weak. Successful models for coordination of university activities with those of other research and public service agencies have not developed.

#### Other Donor Activities

Assistance from the World Bank and the Asian Development Bank will be received by two institutions that are participating in the AID project.

World Bank Assistance to Andalas University. Under the new World Bank loan (Loan Nine) Andalas will be one of three Indonesian universities (besides the University of Indonesia and Gadjah Mada University) to share in a \$45 million project. The share going to Andalas is estimated to include:

- In technical assistance, 6 person years in agriculture, 10 person years in the sciences, and 1 person year in university management.

- In advanced training in agriculture, 24 person years (6 degrees) for PhD study and 28 person years (14 degrees) for MS study.
- In new activities to be undertaken by the DGHE, improved educational finance procedures and a new management information system, training of librarians and translation of textbooks.

A follow-on World Bank Loan (providing the first loan reaches its objectives) will provide Andalas with a new campus which will include facilities for agriculture.

Asian Development Bank Project for Developing the University of North Sumatra. Although details were not available to the USAID/UK/GOI design team, the ADB project has provisions for construction of agriculture facilities at the new campus, for centralizing all libraries of the university and for general staff upgrading (perhaps as many as 15 PhDs and 40 Masters degrees).

With respect to possible overlap as between the assistance to be provided project institutions from other sources and that provided by the AID project, all donor projects are coordinated by the same group of officials within the DGHE who have assisted in the design and approval of our project. The Directorate thereby assures that the programs of the various assistance agencies will be complementary and compatible with GOI policies and planning.

Moreover, Andalas and the University of North Sumatra, in view of the assistance they will be receiving from other agencies, will receive proportionately less direct AID assistance. This frees more resources for the smaller, younger, more needy institutions.

No further major programs are envisioned for the Western region by other donors at this time, although a number of smaller assistance projects are underway or contemplated by the Asia Foundation, the Japanese, German, Canadian, British, Dutch and Australian governments. Such programs are usually subject-matter oriented and provide small inputs for scholarships, technical assistance and limited commodities.

### Project Focus

Although recent DGHE policy was to concentrate on just a few universities as centers of excellence, the current GOI policy is to continue strengthening the stronger universities but, at the same time to make them leaders in regional subsystems charged with 1) improving basic study areas throughout the subsystems through grass roots networking and mutual development and support; 2) developing academic strengths in specific areas most representative of regional (provincial) needs. Together with the stabilizing effect of the credit system, this policy is intended to conserve financial and human resources,

to permit students to transfer from one university to another for specialized study after completing basic studies, and strengthen instructional resources and methodologies and generally raise instructional efficiency in all regional universities more quickly and at least cost.

Within the overall DGHE university development policy, the primary focus of this project is upon assisting in the development of a stronger institutional capability for carrying out the tri-partite teaching, research and public service mission in the areas of agriculture<sup>1/</sup> and rural development. It is recognized, however, that to achieve this objective, it may be necessary in some instances to strengthen supporting disciplines and services including the basic sciences, library resources, teaching methodology, university planning, management and operations, and English language programs.

The ten institutions vary greatly in their stage of development. As a minimum this five-year project will aim to lay a solid groundwork in terms of staff and programs at each institution which may be built upon by follow-on projects. Major attention and resources will be devoted to strengthening the teaching program by means of upgrading professional staff capabilities. Strengthened research and public service programs will also be made more feasible by staff upgrading. Assistance in organizing, managing and conducting these activities will be provided.

As noted, the ten project institutions to be served include two teacher training institutions (IKIP). The IKIPs do not have agricultural programs as such but do have heavy responsibilities for rural development in their respective areas through training rural teachers and home economic specialists and participation in a broad range of public service programs. Project assistance for the IKIPs will stress those activities having commonality with and roles supportative of activities relating to the agricultural institutions. Examples include basic science teaching, English language teaching, instructional methodology, communication techniques and public service activities.

There is no administrative entity under the Directorate General of Higher Education having specific and direct administrative responsibility for these ten institutions. Thus, in order to provide unity and direction, it will be necessary to establish a central project office operating under the Directorate General of Higher Education and through the Association of Western Universities (BKS/Barat).

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<sup>1/</sup> In this project paper, "agriculture" is defined to include the traditional agricultural and animal sciences; fisheries and forestry as well as the agricultural social sciences. The two IKIPs do not have agricultural faculties, but do train teachers who work in rural areas. They also provide special training in family life, nutrition, cooperatives, food preparation and preservation, community development and preparation of instructional materials.

Project activities will include degree training to both the MS and PhD levels. Approximately one-third of the degree level training will be at U.S. institutions, the other two-thirds at Indonesian institutions.

The project also provides for a sizeable component of in-country short course training averaging one month in duration. These short courses will be of two types. Some are designed to improve the academic background of the prospective U.S. degree candidates. These courses will be taught in English and in the style of teaching used in the U.S. Hence the course will also offer an opportunity for the candidate to become acquainted with English language lecturers and U.S. teaching methods. The second type of short course is designed for staff members of the ten institutions who will probably not be taking degree level graduate work. These courses will be discipline-oriented and their purpose will be to improve the capacity of the staff members in their professional areas. Such courses will usually be taught in Indonesian or in some cases in a combination of English and Indonesian. Both types of courses will be taught by either an Indonesian professor or a combination of an Indonesian and an American professor.

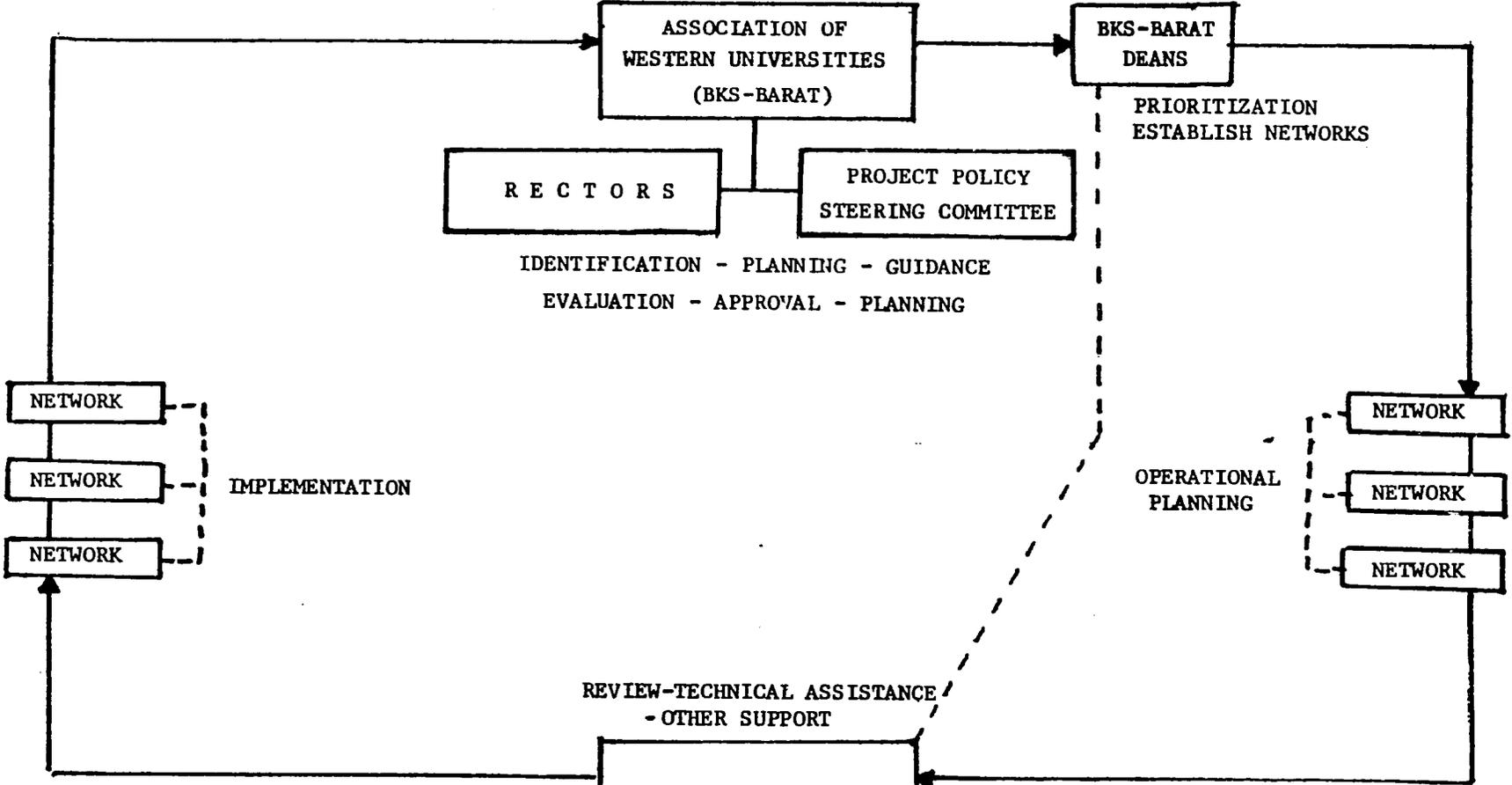
Establishing Networks. The project includes resources for network establishment and operation. Networks, consisting of appropriate individual staff from several or all of the institutions, will be established by BKS/Barat with operational responsibility assigned to the project. (See "Proposed Scheme for Operation of Network System," following). A network may be developed along either discipline, function, or commodity lines. Examples of each type might be soil science, public service and livestock production respectively. Depending on the purpose for which it is established, activities of a network may include preparation of teaching materials (course outlines, laboratory workbooks, visual aids, textbooks), collaborative efforts in a research program, improvement of library collections and services, developing policy and guidelines for public service activities, and so forth. A network may be designed to either function over an extended period of time or to accomplish a specific short-term task.

There are several reasons for the network approach. These include sharing scarce resources (money, staff, equipment and facilities), lessening institutional imbalances (an institution weak in a particular area can be helped by the institutions stronger in this area), and providing more open-ended opportunities for professional development. No matter how competent and well trained, a professional tends to atrophy if he does not have stimulating interchange with other professionals in his specialty.

The process of networking offers a unique opportunity for instructional improvement throughout the Association. As activity areas are selected by the BKS/Barat Policy Steering Committee, Rectors will appoint appropriate staff to work on the network teams. Under guidance of either Indonesian or American experts, each team will meet to discuss the objectives, design an implementation plan, and assign definite responsibilities and activities to be carried out on the various campuses over a short period of time (four to

PROPOSED SCHEME FOR OPERATION OF NETWORK SYSTEM

WESTERN UNIVERSITIES  
AGRICULTURE EDUCATION  
(BKS-BARAT)  
PROJECT 497-0297



BKS-BARAT

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USAID

six weeks). The team member then becomes the catalyst to enlist the support of his other colleagues in supplying data, trying out new instructional techniques, recommending library reading lists, supplying successful lecture notes, and writing up short case studies or completing whatever other type of assignment the team may have devised. The team will then meet again for several days to study and evaluate the results submitted by each university, discuss and consolidate the material as appropriate, define the next steps and make new assignments to be carried out on the team members' home campuses. As this process is repeated several times a year, a large portion of each university staff will be actively involved in this "action" research. This should result in the development, preparation and distribution of new instructional materials, methods, and improved study processes in specified subject-matter areas on each campus. Products developed in this way should be significantly effective in improving the learning environment and in raising instructional quality.

Networks primarily will be made up of staff from BKS/Barat institutions. In some instances it may be desirable to include staff from other institutions of higher education and for some network activities (especially public service and research networks) it will be desirable to include counterparts from other ministries or professional entities.

English language training is important to the achievement of project goals from two aspects. The staff of the institutions generally do not have an adequate level of English competence to go directly into graduate work in the U.S. or to utilize the technical books, journals and reports written in English. Therefore, each institution will provide intensive English training for the staff members it proposes for training in the U.S.

The second and more basic aspect of the need for English training is that neither the instructors nor the students have adequate confidence to make or carry out reading assignments in English language texts or references. Most technical materials in university libraries are written in English. Indonesian language texts and references are very limited. The problem is accentuated by the shortage of relevant materials for learning English which reduces the incentive for staff and students to develop the necessary skills. The project will provide additional relevant English language texts and references and work with the universities to improve their programs for developing English language reading skills. Technical English will be stressed.

## Project Goal and Strategy

The goal of this project is to improve Indonesia's ability to feed its people and provide a better livelihood for the rural poor. It is consistent with major Government of Indonesia targets included in Indonesia's third five-year development plan (1979-84), Repelita III. Under this plan higher rural living standards are expected by increasing food production through crop diversification and intensified farming in settled areas; opening up new food crop regions primarily through transmigration schemes; increasing production of rice, fruits, vegetables, legumes, beef, poultry and other farm products; and by improving the ability of universities to undertake research, to supply the knowledge and to produce the highly skilled manpower needed to convert theory into practical applications at the local level.

In support of GOI efforts to improve the technical manpower base, the strategy of the Project is to strengthen the ten Western Region institutions in their role in helping to increase food production in the Provinces of Sumatra and West Kalimantan. It places special emphasis on the direct involvement of university staff and students in the total development process and in creating linkages among the university personnel, other public and private development agencies and the rural population.

By training educators and research workers and by stimulating institutional development through activities involving U.S. universities, a number of results will be achieved:

- Better trained university staff and graduates will contribute to rural and agricultural development by participating in improved research and public services.
- Networks of inter-university focus on self-improvement and joint development activities will enable the university teaching, research and public service systems to improve their own products and help other agencies to carry out programs of agricultural research in food crop production, storage, marketing and utilization to benefit the end consumer.
- Technical experts from leading Indonesian and US institutions will develop and demonstrate innovative approaches to public service.
- Grass roots participation in farm and non-farm job and income-creating activities by students and staff will increase their awareness of people's needs and suggest ways in which curricula may be modified to encompass practical applications of knowledge to such needs.
- Provincial government and university rural development activities will be more effectively integrated and coordinated.
- Rural incomes and employment will increase.

Adequate supplies of manpower, well trained by university staff and graduates, represent a key input in meeting the Repelita III target of an agriculture sector annual growth rate of 3.5 per cent.

Project goals are consistent both with GOI development strategy and USAID/Jakarta assistance emphasis as delineated in the FY 1982 Country Development Strategy Statement.

### Project Purpose

The purpose of this project is to assist the universities of Western Indonesia to fulfill their mandate to carry out programs of education, research and public service. More specifically, the purpose is to strengthen the capabilities of the member institutions of the Association of Western Universities (BKS/Barat) to contribute more effectively to agriculture and rural development by assisting the Directorate General of Higher Education to:

- improve staff and teaching methods and produce better trained graduates;
- institutionalize a system of university rural public service; and
- organize and integrate faculty research.

At the end of the project, it is expected that the universities' educational programs will have been substantially strengthened as indicated by a significant number of staff having been upgraded through appropriate study programs, by implementation of an academic credit system which permits students greater freedom to design study programs better to meet their needs and by higher quality of graduates.

Public service in these universities is still in its infancy. For the most part it is provided on an ad hoc basis, with little administrative organization and planning. As a result of a 1979 directive, the universities must each establish an Institute for Public Service which will become the central administrative unit for planning, coordinating and implementing public service activities. It is expected that this project will contribute to stronger institutes by upgrading staff analytical and planning skills. With these capabilities sharpened, institutes can then do a better job of establishing linkages with other government and private agencies.

Research, like public service, is not yet fully institutionalized into the universities of Western Indonesia. Although a small program of research has been underway for many years, it was not until recently that the universities and the Directorate General of Higher Education placed major emphasis on the research function. Staff promotion criteria have been revised to include more emphasis on research and publication; a competitive program for funding research has been initiated by the Ministry of Education; and the establishment of Institutes of Research has been decreed. The Universities continue to lack the human, financial and organizational resources to mount a strong research program. In this project, the Universities' research institutes will be strengthened by assisting them to set up better administrative

and dissemination procedures; cooperate more effectively with each other and with other research agencies; and train their staffs in research techniques and research administration.

### Project Outputs

This project will have eight outputs, the most important of which is the first, a better trained professional staff. In order to upgrade the skills of as many staff members as possible, a wide variety of opportunities for training are incorporated into the project. At least fifty-eight staff members will receive training for the PhD and 158 will receive training for a masters degree. Additional staff who, because of family commitments or other constraints, will not undertake graduate studies, will have the opportunity to participate in non-degree studies of one to two semesters in the U.S. and/or intensive short courses to be offered in Indonesia. Forty-five staff will undertake such non-degree programs. Twenty-two upgrading courses will be offered, each with approximately twenty students.

A second major output of this project will be the upgrading of physical facilities to meet the minimum needs for mounting effective teaching, research and public service programs. This will include the provision of laboratory equipment for the basic science laboratories for each university, and where necessary under other GOI funds the buildings to house them. Selected equipment for research, laboratories and field facilities are included. Commodities constitute a major GOI contribution. The shortage of appropriate and recent textbooks, journals, and materials about Indonesian agriculture will be substantially alleviated by the purchase of approximately 9600 books and journals. Each university also will receive minimal printing facilities to make possible reproduction of educational materials such as lecture notes, extension publications, and research materials. To supplement GOI purchases, a total of \$660,000 of books and equipment will be purchased with loan funds.

The third output contributes directly to the implementation of the GOI policy that the Indonesian public universities form regional associations which undertake collaborative efforts to strengthen their universities and resources. This project will provide technical and financial assistance to the Association of Western Universities (BKS/Barat). A key mechanism for collaboration will be assistance in the development of networks of professional scholars and administrators. The project will assist in the formation of at least six networks, and will provide technical assistance necessary to the achievement of their goals. In order to facilitate the effective functioning of the networks, as well as other on-campus activities of the association, project offices on each campus will be established by the universities.

The fourth output will be increased research publications as measured by an increasing volume of published research from an average of five to at least ten publications per year per faculty (college), and increasing distribution among the BKS/Barat institutions. At present, little research is undertaken by the universities. Those faculties (colleges) reporting publication of any research averaged approximately five publications per year between 1975 and 1979. Most of these are mimeographed and receive limited distribution.

The fifth output will be increased public service activities as measured by numbers of short courses organized annually, numbers of leaflets published, and increased student involvement in community activities. The members of the BKS/Barat are at various stages of developing capability for mounting public service programs. None presently has fully developed and functioning programs. Several have not yet initiated an organized program of public service, while others have several years experience and an articulated administrative structure.

A sixth major output will be improved quality of teaching. The project will address such problems as increasing the amount of time university staff devote to teaching and student activities, implementation of the academic credit system in the universities (including revision of the faculty curriculum to include elective courses) and arrangements to permit students to take courses outside his/her faculty, and to transfer among universities. Networks will be utilized to undertake such activities as improvement of course syllabi, preparation of reading and laboratory materials, and introduction of improved teaching methods. Measures of improved teaching and curricula at each institution include: revision and increased standardization of the syllabi of the basic science courses and at least three agricultural or rural development related courses; preparation of at least three laboratory manuals; doubling the frequency with which agricultural and education students use libraries; at least one-third of agricultural teacher training instructors develop course outlines, assign readings, give tests and/or quizzes; student grades are based on at least two and preferably several tests given throughout the year. The English language will be taught as an essential tool to assist students in using the body of technical knowledge recorded in technical books and journals. Intensive English courses will be offered to all university staff seeking advanced degrees either in the United States or Indonesia under this project.

The seventh output of this project is improved university administration and planning, organization, and evaluation. Non-degree study programs and internships will be utilized to improve the skills of Indonesian academic administrators. The services of senior American academic administrators may be made available to BKS/Barat to provide specific training. Because of the need to adapt university record systems to the academic credit program, a measure of this output will be implementation of a new record system.

The eighth major output relates to increasing academic efficiency and productivity. It supports the GOI policy which establishes a system of credits as the basis for progress and degree achievement at all academic levels of post-secondary learning. Technical assistance and certain non-degree training opportunities will assist the Konsortium for Agricultural Sciences (KIP) and the project universities in reforming curricula, course offerings and instructional resources to comply with the government policy as quickly as possible. By the end of the project all Sarjana degrees of agriculture and rural development-related faculties in project universities will be modified to conform to credit and time requirements set forth in Article 5, item 3 of Ministerial Decree 0124/U/1979. The credit system establishes Sarjana (BA or BS) degrees based on successful completion of 140 minimal or 160 maximal credit hours. This is equivalent to four years of consecutive study and has a time limit of seven years for completion.

### III. Project Analyses

#### Conclusions of the Economic Analysis

A cost effectiveness analysis was carried out with respect to participant training; English language improvement; upgrading of teaching, research and public service; and implementing the credit system and undertaking more effective administrative procedures and arrangements. (See Appendix D, Economic Analysis).

Training. Several alternatives to the training approaches outlined in this paper were explored: providing all graduate training in Indonesia, by Indonesians; developing strong expatriate faculties at Sumatran institutions; undertaking more third-country training. The project strategy, combining as it does both U.S. and Indonesian graduate degrees, was felt to be superior.

English Language Competency. An alternative to the approach recommended in the Project Paper is to send 71 participants directly to the University of Kentucky for seven months of English. Another alternative is to enrol the 71 in a special program like that of the Economics Institute at Boulder. A third approach would be to use the British Council or other Jakarta-based training facility. All were felt to have important limitations as compared to the four-phased program of English language training worked out by the design team.

Improved Instruction, Research and Public Service. The approach presented in the Project Paper is basically the network concept. Alternatives to this approach would still need an institutional mechanism to bring specialists into cooperative conjunction, or following a very different tack, would undertake teaching, research and public service improvement measures on the individual campuses of the participating institutions. By varying the assumptions, various costs can be derived. However, the approach recommended by the Project Paper appears to be the most effective given project objectives.

Implementation of the Credit System and Building Administrative Capacity. This project does not intend to follow the more costly route of selecting large numbers of educators for extensive specialized training in the science of university management. Instead, it will expose trainees to U.S. collegiate administration by means of brief internships (2 to 3 months) or short (a few weeks) colloquia and seminars or one or two (regular academic term) courses over the period of U.S. study of each participant. Seldom will one individual have more than one or two of these elements in his/her U.S. training. In addition, short and long-term specialists in university planning, management and administration will be brought to Indonesia to participate in networks pursuing some aspect of their expertise, or otherwise to assist on a modest basis in the solution of problems related to implementing the credit system and building administrative capacity.

### Conclusions of the Social Soundness Analysis

The Social Soundness Analysis (Appendix E) noted the great diversity of ethnic and linguistic groups in Indonesia on the one hand, and the structural, organizational, and philosophical facets of the Indonesian Government's efforts to create and maintain a unified nation. One national language, Bahasa Indonesia, is a powerful force for unity, as is the national school system.

On the other hand, the educational system, and especially the universities, have to be of the region in which they are located, cognizant of local problems, drawing upon local resources, and undertaking research and public service activities that are designed in significant measure to address local problems (i.e., problems of the immediate community as well as the wider geographical region from which the institution draws most of its student body).

The cities of Indonesia are large population groupings and are increasing in size. They serve as powerful magnets to poor rural people. Strong, community-service oriented universities on the other islands may serve as a brake on the pull to emigrate to Java and to Jakarta.

Two organizations which increasingly have an important role in village life are the cooperatives and the schools. Cooperatives as developed in Indonesia are rooted in the indigenous concepts of cooperation and concord, a working together that extends beyond the single village cooperative to result in some cases in cooperatives of several thousands of members drawn from several villages adjacent to one another. There is no doubt that a very significant value of the cooperative system is that it provides a framework for the villager to learn about and accept innovations. It goes without saying that this project must (and the design encompasses the intention) work in and through the cooperatives system in every possible way.

The educational system of Indonesia is complex and growing, especially at the primary level, where 15,000 new schools will be built in 1980 and almost that many in 1981. As enrollment in primary education moves from the present figure of 85 per cent of the age group to near-universal enrollment by 1985, enrollment pressures will flow on upward to the secondary school and thence to the tertiary level.

It is this expanding educational system that promises larger and larger enrollments in the universities, and offers both opportunities and problems. The problems have been discussed elsewhere in this paper: e.g., the need to improve the quality of instruction, inefficient (i.e., low productivity) output of graduates, continuing shortfall of faculty with advanced degrees and trained in modern methods of research. The opportunities of most interest to this project are the prospect that reforms promulgated by the Minister of Education will lead to quality improvements and positively influence productivity. Training of new faculty in all priority fields, including this project's

efforts with the agriculture faculties of Sumatra, may with other improvements make it possible for Indonesia to meet its professional workforce targets by the year 2000.

A number of socio-cultural factors may affect this project. A narrow parochialism or in-breeding has concerned educational leaders in Indonesia. In this project attempts will be made to broaden perspectives of staff and faculty of project institutions through networking and the off-campus advanced training of more than 200 faculty members.

A second factor is the strong "call to Java." Opportunities for employment and social stimulation are seen as stronger outside Sumatra, where regional centers have not yet formed to the same degree as in Java. As the project universities grow in size and influence, the effect of this factor should be mitigated.

Women play a very important part in the economic support of the Indonesian household and in parts of Sumatra the societies are both matriarchal and matrilineal. The project has to give particular attention to this factor, and the Project Paper suggests a number of ideas in this vein.

The uninformed rural population in many ways is the basic factor--both barrier and opportunity--in this project. Project university experts, including foreign technicians as well as indigenous staff, must be imaginative and thorough if they are to create the means to reach this population, to comprehend its needs and peculiarities, and to respond effectively to them. The project will encourage this.

With respect to beneficiaries (see Appendix E for full discussion) direct beneficiaries are students and faculty of the several universities. The ultimate beneficiaries will be the rural population which should profit from improved research and public service programs, as well as local, provincial and national institutions which must recruit skilled workers.

The analysis considered the question, "what additional incentives does a university professor have that keeps him from changing his career?" The conclusion was reached that there are ample influences that motivate faculty members to remain faculty members and serve to blunt the force of attraction of permanent government service or private sector employment.

Considerable attention was also given to the matter of linkages to beneficiaries. Several channels appear to offer high promise and will be used by the project universities. The KKN scheme is one approach, in which university students live in the villages for several months. Another is preparation of printed materials responsive to village-level needs. A third is observation and active participation in the cooperatives, the schools, and other community organizations by faculty and students.

## Technical Analysis

There are a number of key problem areas in institutional development which have been identified by the Association of Western Universities (BKS/Barat), the Konsortium for Agricultural Sciences (KIP), USAID specialists, the Directorate General of Higher Education, and the joint project preparation team. These were discussed earlier ("Current Institutional Development Problems", page 13).

In sum, the Sumatran Universities are relatively new institutions compared to those in Java and some other areas. Although now developing rapidly, there remains a serious shortage of trained faculty as well as an inadequate supporting physical infrastructure. Furthermore, the prevailing educational approach is inconsistent with the system being promoted by the Department of Education and Culture. Professors teach primarily by lecturing from notes; textbooks are scarce, are generally in English, often date to the early 1960's and are seldom utilized; library reference materials are similarly scarce, out-dated, in English and little used; formal written course syllabi, outlines, evaluation procedures, objectives and statements of what is expected of the students are practically non-existent; laboratories are poorly equipped; university experiment farms are largely undeveloped and research activities are minimal.

The GOI has plans, however, to greatly increase research activities under the AID-funded Sumatra Agricultural Research Project (497-0263) which will establish a network of nine research stations throughout Sumatra under the Department of Agriculture. Close cooperation will be sought between the Department of Agriculture and university agricultural research projects through research grants and sharing of facilities, laboratories and scarce personnel.

Meetings held by the joint survey team with rectors and their staffs, deans, department chairmen, and individual faculty members suggest both a recognition of the problems and a strong desire to begin to rectify the weaknesses. High priority is assigned by almost everyone surveyed to the need for strengthening English language competency for both faculty members and students. This is viewed as a strong prerequisite both for the opportunity for foreign technical training, and for effective access to and utilization of textbooks and other scientific materials. This suggests the need for project attention to strengthened English language programs at each institution, and perhaps intensive short courses at central locations.

In order to achieve the project objectives of strengthening university programs of teaching, research and public services, inputs in the traditional areas of English language preparation, training, technical assistance and commodity support will be required. Each of these is discussed in Appendix F.

Technical Feasibility Assessment. The approaches to addressing the existing problem areas in most of the universities are generally known and have been tested, both in Indonesia and abroad. Materials, methodologies, and technical know-how can be assembled from diverse sources. There exists a climate of understanding of the problems, a willingness and enthusiasm to tackle them, and a base of Indonesian educators and administrators to implement the project. If the needed resources identified in the project are supplied, it is technically quite feasible of implementation.

## Administrative Feasibility

This project will have a central office at Palembang. A full-time Indonesian Director and Associate Director, together with the University of Kentucky Chief-of-Party (as counterpart to the Indonesian Project Director) will manage the project on a continuing basis. (See also Appendix G, Administrative Analysis.)

The success of this project is partly dependent on its establishing close working relationships and effective informational flows with the Directorate General of Higher Education including the Konsortium of Agricultural Sciences, and ultimately with the Association of Western Universities. Rather than integrating this project into one of these organizations and thereby possibly jeopardizing the relationships with the remaining two, all three will participate in policy decisions and evaluation of the project through membership on the Project Policy Steering Committee. Actual management and day-to-day implementation decisions however, remain with the central project office.

The funding of this project includes a grant component to pay for technical assistance and contractor's campus backstop components related to technical assistance. The need for grant funding of technical assistance is stressed in the USAID FY 1982 Indonesia Country Development Strategy Statement (January, 1980), as follows:

"Grant funds are needed to finance the critical ingredients of US consultant services and technical assistance, training programs and some local operations, particularly where innovation and demonstration are key project elements ..."

In order to assure that the appropriate quality of contract specialists can be supplied to the project in a timely fashion and in the quantities necessary for successful project implementation, all technical assistance is grant funded. The contractor's campus backstopping office is partly grant and partly loan funded to meet the requirements of technical assistance staffing, commodity procurement, and support of the participant training program.

The total administrative structure for the project has been developed jointly by the GOI (representatives of the Directorate General of Higher Education), USAID (the project manager designated by EHR), and the contract design team from the University of Kentucky. It is considered administratively feasible to implement the activities delineated in this project and to achieve the specified project purpose and objectives.

### Financial Plan

The total cost of this project will be \$18.9 million. It will consist of an AID loan of \$6.1 million and an AID grant of \$4.1 million. Host country contributions of \$8.7 million constitute the remainder. A contract with the University of Kentucky, a U.S. Land-Grant institution, will be entered into in accordance with Title XII provisions. The Directorate General of Higher Education of the Department of Education and Culture will administer the program for the GOI and will provide counterpart funds through budgets to the Association of Western Universities and its member institutions.

Following is the summary of cost estimates.

#### Summary of Cost Estimates (US000)1/

PROJECT AREA	AID						GOI		TOTAL PROJECT
	Grant		Loan		Total		Total		
	FX	LC	FX	LC	FX	LC	FX	LC	
I. Participant Training	-	-	3,237	-	3,237	-	-	4,318	7,555
II. Technical Assistance	3,600	-	-	73	3,600	73	-	646	4,319
III. Campus Back Stop	258	-	515	-	773	-	-	-	773
IV. Other Costs	-	-	-	1,181	-	1,181	-	2,709	3,890
V. Commodities	-	-	660	-	660	-	-	625	1,285
Evaluation	-	-	150	-	150	-	-	-	150
Contingency	193	-	291	-	484	-	-	415	899
<b>Total</b>	<b>4,051</b>	<b>-</b>	<b>4,853</b>	<b>1,254</b>	<b>8,904</b>	<b>1,254</b>	<b>-</b>	<b>8,713</b>	<b>18,871</b>

A breakdown of total costs of the project by project year and according to major cost categories follows. See also fuller treatment of major components of project costs in Appendix H. An analysis of recurring costs is also presented in Appendix H.

1/ These figures include a compounded adjustment for inflation (8.290) after year one, and are rounded to the nearest \$1,000. There are certain discrepancies in some totals, due to rounding.

Projection of Expenditures By Project Year  
(\$000)

	Year 1				Year 2				Year 3				Year 4				Year 5				Total			
	Grant	Loan	GOI	Total	Grant	Loan	GOI	Total	Grant	Loan	GOI	Total	Grant	Loan	GOI	Total	Grant	Loan	GOI	Total	Grant	Loan	GOI	Total
Training	-	341	330	671	-	893	873	1,766	-	996	1,249	2,245	-	707	1,118	1,825	-	300	748	1,048	-	3,237	4,318	7,555
Technical Assistance	353	9	63	425	713	16	130	859	919	18	169	1,106	830	19	144	993	785	11	140	936	3,600	73	646	4,319
Commodities	-	200	200	400	-	325	216	541	-	123	145	268	-	13	63	76	-	-	-	-	-	660	625	1,285
Campus Backstopping	44	87	-	131	48	95	-	143	51	102	-	153	55	111	-	166	60	120	-	180	258	515	-	773
Other Costs	-	140	411	551	-	230	503	733	-	252	535	787	-	282	620	901	-	278	640	918	-	1,181	2,709	3,890
Evaluation	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	150	-	150	-	150	-	150
Contingency (5%)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	193	291	415	899
<b>Total</b>	<b>397</b>	<b>777</b>	<b>1,004</b>	<b>2,178</b>	<b>761</b>	<b>1,559</b>	<b>1,722</b>	<b>4,042</b>	<b>970</b>	<b>1,491</b>	<b>2,098</b>	<b>4,559</b>	<b>885</b>	<b>1,132</b>	<b>1,944</b>	<b>3,961</b>	<b>845</b>	<b>859</b>	<b>1,528</b>	<b>3,232</b>	<b>4,051</b>	<b>6,107</b>	<b>8,713</b>	<b>18,871</b>

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#### IV. Implementation Plan

Introduction. Listed below is a schedule of key implementing actions. It features regular evaluation of project programs, an orderly expansion of staff and participants as absorptive capacity of the participating universities increases, and revision of implementation plans through the preparation of annual plans of work to be approved by the Steering Committee. Arrivals of project personnel are scheduled to be congruent with the U.S. academic year in order to minimize conflict with U.S. teaching responsibilities.<sup>1/</sup> Annual plans of work are scheduled so that they are coordinated with the GOI fiscal year (April 1 - March 31) activities.

#### Implementation Schedule

<u>Project Month</u>	<u>Action</u>	<u>Implementing Responsibility</u>
1	Loan/Grant agreements signed/CP met	USAID/GOI
1	First year US participants' intensive English begins	UK/AID/W
2	Implementation Contract signed	UK/AID/W(USAID)
3	GOI Project Director/Deputy begin work	GOI
3	First year foreign participants depart Indonesia	USAID/GOI
3	Chief-of-Party and administrative specialist arrive Indonesia	UK/USAID/GOI
3	First meeting, Project Steering Committee	GOI/UK Team/USAID
5	First group long-term in-country participants begin study	UK Team/GOI
5	Contract staff completes language training	UK Team
5	Universities staff completes language training	UK Team
6	Submission to AID of list of 1st year commodity procurement; procurement responsibility assigned	Project Office/AID

<sup>1/</sup> If the signing of the contract is delayed beyond May, 1981, this entire schedule will require revision. First year participants' departures will be delayed to June, 1982, and this will require extending the contract by one year if foreign training outputs are to be achieved.

<u>Project Month</u>	<u>Action</u>	<u>Implementing Responsibility</u>
6	Third long-term advisor arrives	UK/USAID/GOI
6	Second year participants selected	Selection Committee
7	Second year participants' records sent to Campus Coordinator	UK Team
7	PSA submits procurement schedule	PSA
8	Third advisor completes language training	UK Team
8	First volunteer arrives	UK/USAID/GOI
9	Network design completed	UK Team/GOI/BKS/B
10	First year commodities ordered	PSA/AID/GOI
10	Second year foreign participants begin English training.	UK Team/GOI
11	First network meeting held	UK Team/BKS/B
13	Second year participants' refresher course begins	UK Team/GOI
14	First annual Indonesian review in the US	GOI/USAID/UK
14	First annual work plan completed	UK Team
14	Three professional associates and three volunteers arrive Indonesia	UK/GOI/USAID
15	Second year foreign participants depart	UK Team
15	First annual evaluation	Evaluation Team
15	First annual work plan approved	UK/GOI/USAID
16	Second year commodities ordered	PSA/AID/GOI
17	Universities submit training nominations	BKS/B Universities
17	Second year in-country participants begin studies	UK/GOI
18	Third year participants selected	Selection Committee
19	Third year foreign participants' records sent to Campus Coordinator	UK Team
22	Third year foreign participants begin intensive English	UK Team

<u>Project Month</u>	<u>Action</u>	<u>Implementing Responsibility</u>
25	Third year participants intensive refresher course begins	UK Team
25	Third year commodities ordered	PSA/AID/GOI
26	Second annual Indonesian review in the U.S.	GOI/USAID/UK
26	Second annual work plan completed	UK Team
26	Chief-of-Party renewed or replaced	UK/GOI/USAID
26	Two long-term team members arrive; professional associates renewed/replaced plus one additional; volunteers renewed/replaced	UK/USAID/GOI
27	First year MS participants complete studies and return	UK
27	Third year foreign participants depart	UK Team
27	Second annual evaluation	Evaluation Team
27	Second annual work plan approved	Steering Committee
28	New team members complete language training	UK Team
28	Long-term advisor replaced or renewed	UK/USAID/GOI
29	Universities submit training nominations	BKS/B Universities
29	Third year in-country participants begin studies	UK/GOI
30	Fourth year participants selected	Selection Committee
31	Fourth year foreign participants' records sent to Campus Coordinator	UK Team
33	External evaluation begins	Special Evaluation Team
34	Fourth year foreign participants begin	UK Team/GOI
34	Fourth year commodities ordered	PSA/AID/GOI
36	Special Evaluation Team submits report to PSC	Evaluation Team
36	Third work plan reviewed	Steering Committee
37	Fourth year participants' refresher course begins	UK Team/GOI

<u>Project Month</u>	<u>Action</u>	<u>Implementing Responsibility</u>
38	Third annual Indonesian review in the US	GOI/USAID/UK
38	One additional long-term advisor arrives; professional associates renewed/replaced; one volunteer replaced/renewed; and two volunteers depart	UK/GOI/USAID
38	Third annual work plan completed	UK Team/GOI
39	Fourth year foreign participants depart	UK Team/GOI
39	Second year MS participants complete studies and return	UK Team
39	Long-term advisor arrives; volunteers, professional associates renewed/replaced	UK/USAID/GOI
41	Fourth year in-country participants begin studies	UK Team/GOI
42	Fifth year commodities ordered	PSA/AID/GOI
49	Fourth annual Indonesian review in the US	GOI/USAID/UK
51	Last annual evaluation	Evaluation Team
60	Five years completed since agreements signed	
63	Final report of project written	UK Team
63	Contract team departs - phase I completed	UK Team/USAID

## V. Evaluation Arrangements For The Project

Annual Review. This project will be reviewed annually, in the 15th, 27th and 51st project months by a team composed of one representative each of the Directorate General of Higher Education, the BKS/Barat, the Project Director, USAID/EHR, and the Contract Team. The initial evaluation should be carried out approximately twelve months following the arrival in Indonesia of the Contract Team and initiation of project activities. These reviews will be concerned primarily with progress of the project in terms of quality, quantity, and timeliness of inputs provided and outputs derived, and to insure that the project is following the path delineated by the overall goal and purpose statements. It is anticipated that the BKS/Barat representative, prior to the review, will have made a concerted effort to solicit the views and recommendations of the ten participating universities and will reflect their inputs to the review. Modifications in project work plan and activities will be based upon this review. The results will be prepared in writing and made available to all parties participating in the project. An executive summary will be prepared in English.

So that DGHE and BKS/Barat officials may also evaluate the portion of the project being carried out in the United States, adequate loan funding will be included in the Program Agreements to permit a representative of each organization to take part in four annual ten-day seminars on the University of Kentucky campus. An agenda will be prepared jointly by USAID/I, the Chief-of-Party of the UK Team and the DGHE and BKS/Barat, featuring interviews with project participants studying in the United States, meetings with faculty advisors, the campus coordinator and other University officials, and a review of status reports concerning all aspects of the project taking place in the United States.

The Indonesians undertaking this review will submit a written report of their findings to the Project Steering Committee for discussion at the first PSC meeting subsequent to their visit to the United States.

External Review. Approximately thirty-three months following the arrival of the contract team and initiation of project activities, an in-depth review will be undertaken by a team of three persons. These individuals should be knowledgeable and experienced with respect to agricultural education in developing nations; the United States land-grant college system; and USAID project evaluation procedures regarding projects of this nature. Although none of the team members will reside in Indonesia, it is considered desirable that at least some members have prior Indonesian experience and that at least one of these persons be a member of the AID/W BIFAD staff. Team members will be selected by the PSC.

The nature of this review will be determined jointly by the existing AID/W Project Evaluation Committee and the PSC. In addition to any special guidelines prepared by AID/W, the focus of the review and the reporting procedures will be similar to those outlined above for the annual review. However, more emphasis will be devoted to assessing progress towards

Summary of Evaluation Activities

<u>Activity</u>	<u>When Conducted</u>	<u>Conducted By</u>	<u>Purpose of Activity</u>	<u>Product</u>
1. Annual Evaluation	15th Project Month 27th " " 51st " "	One representative each of: - DGHE - BKS/Barat - Project Director - USAID/EHR - Contract Team	To ascertain progress of project in terms of quality, quantity, and timeliness of inputs and outputs; to assure project direction congruent with goal and purpose.	Written report and executive summary submitted to USAID and the PSC.
2. Review of Progress of U.S. portion	14th Project Month 26th " " 38th " " 49th " "	One representative each of: - DGHE - BKS/Barat <u>plus</u> UK campus Coordinator and other faculty staff.	To review participants' progress toward study objectives; to identify problems and issues related to U.S. - based aspects of the project.	Written report submitted to the Project Steering Committee.
3. External Review	36th Project Month	3 persons (including a BIFAD representative) not resident in Indonesia, to be selected by the PSC.	Same as for Annual Evaluations, but with greater detail, and focusing on project outputs.	Detailed written report submitted to the PSC.
4. Project Impact	Two years after Project Completion.	All details of this evaluation to be determined by AID/W		
5. Continuing Operational Review	Regular basis as project unfolds.	Project Staff, PSC, USAID/I.	Maintain current management cognizance and control; monitor all aspects of project progress.	Minutes of quarterly PSC meeting other management reports as appropriate.

the upgrading of professional staff; establishment and functioning of networks; improvement of laboratory, library, and experiment-farm facilities; improvement of course curricula, outlines, and teaching materials; strengthening of English training programs; strengthening of research program and research productivity; and strengthening of public service programs. Success, failures, constraints and necessary actions to be taken will be specified in a detailed written report.

To the extent requested, the Project Office Staff and the external review team will cooperate in data collection, field site visits, and other arrangements. This external review will provide the basis for recommendations regarding any further USAID assistance to the project universities. Funds for this review will be included in the loan portion of project funding.

Project Impact Evaluation. Some time must elapse before it becomes clear that the DGHE, BKS/Barat and individual universities institutionalize and continue practices established through the operation of the project (e.g., networking, English-language programs, public service and research programs, improved instructional approaches). Moreover, before the project concludes, a considerable number of trainees will not yet have taken their places in universities following graduate study. Therefore, the GOI and USAID will maintain all project records for at least three years after the project ends.

The impact evaluation will take place approximately two years after the project is over and its financing will be included in the budget for a second phase. Should the second phase not be undertaken, this evaluation must depend on AID/W special funds or financing available at that time. Details concerning the character, scope and methodology of this evaluation will be determined by AID/W with the concurrence of the GOI.

Continuing Operational Review. This is an ongoing management procedure. The project staff, in cooperation with the Project Steering Committee, will conduct continuing formal monitoring and review activities. These will provide the basis for modification of operational emphasis as the project matures, while assuring that basic purposes remain unchanged. The PSC will meet at least once every three months during the life of the project, beginning at the third month. Records will be kept of all official meetings by the Central Project Office.

GOI officials require trimester reports of academic and research studies of its participants while they are studying in the United States or in Indonesian universities. These will be furnished regularly to the PSC by the University of Kentucky campus coordinator, together with evaluations of short-term non-degree study.

Although complete and reliable baseline data have not been fully assembled, data will be available from a BKS/Barat survey of the participating institutions; the survey conducted by the joint GOI/USAID/University of Kentucky project design team (April-May 1980); an IBRD manpower survey, an Asian Development Bank study of Northern Sumatra University; from records of the DGHE and other sources. It is anticipated that further data will be assembled by the project staff in the form of enrollment statistics, staffing patterns, budgets, curriculum changes, trip reports, networking reports, and so forth, once project activities are initiated.

## VI. Conditions Precedent, Covenants, And Negotiating Status

### Conditions Precedent

In addition to the standard Conditions Precedent (opinion of Ministry of Justice and names of Borrower's authorized representative) the Project Loan Agreement and Grant Agreement, as appropriate, will contain the following Conditions Precedent.

1. Prior to any disbursement, or the issuance of any commitment documents under the Project Agreement, the Cooperating Country shall furnish in form and substance satisfactory to AID:
  - a) Assurance that the Directorate General of Higher Education concurs with the implementation plan prepared by the Project Design Team and detailed in the Project Paper and/or indicates to AID any deviation from the plan that he deems necessary;
  - and b) Assurance that the Central Project Office of the Directorate General of Higher Education has been legally established, and provided office space, and that the Director and minimum staff are appointed.
2. Prior to any disbursement, or the issuance of any commitment documents under the Project Agreement to finance training, the Cooperating Country shall furnish in form and substance satisfactory to AID a training plan detailing among other things the target numbers of participants, institutions represented, field of study anticipated, cost estimate of training, selection criteria, selection procedures and the establishment of a Selection Committee. Candidates for the first year overseas training will be identified.
3. Prior to the signing of the technical assistance contract, the Cooperating Country shall furnish in form and substance satisfactory to AID, a time phased procurement plan for the acquisition of staff housing including furnishings, office space, and vehicles for the technical assistance advisors.

### Covenants

In addition to the standard covenant, the Project Agreement will contain a covenant in which the Cooperating Country agrees to establish the Project Policy Steering Committee as envisioned by the Project Design Team and described in the Project Paper.

### Negotiating Status

The Project Design Team was made up of Indonesian officials, University of Kentucky, faculty and USAID officers and was developed in the collaborative style. The Indonesian offices and universities concerned with the project were directly involved in the development and the Design Team is confident that the project presented in this paper has the complete support of the Government of Indonesia.

## PROJECT DESIGN TEAM

The project design team for this project included the following persons and institutional affiliations:

Dr. Yuhara Sukra -- Chairman of Doctoral Program,  
Directorate General for Higher Education, Department of  
Education and Culture.

Dr. Abdullah Ali -- Deputy Rector for Academic Affairs,  
Syiah Kuala University.

Dr. Moses Tulihere -- Professor of Animal Science, IPB/Bogor  
and KIP staff member.

Dr. Robert Schmeding -- Chief, USAID/Jakarta Office of Education  
and Human Resources.

Dr. E. Clayton Seeley -- USAID/Jakarta Office of Education and  
Human Resources.

Mr. Arthur Thivierge -- USAID/Jakarta Program Office.'

Dr. Kurt R. Ansel -- University of Kentucky, Professor of  
Agricultural Economics, and Departmental Graduate  
Studies Director.

Dr. Russell H. Brannon -- University of Kentucky, Professor of  
Agricultural Economics.

Dr. Herbert F. Massey -- University of Kentucky, Professor of  
Agronomy and Director of the Office of International  
Programs in Agriculture.

Professor Soekisno Hadikoemoro represented the Director General of Higher Education in the organization and conduct of the project paper preparation. In this capacity, he participated in a number of formal and informal meetings and discussions of the project design team.

Dr. Kusmat Tanudimadja, Executive Secretary of KIP (Konsortium Ilmu-Ilmu Pertanian) also provided counsel to the team throughout its assignment.

Last, and most importantly, the Rectors, Deans, and faculty members of the ten project institutions of higher education all gave freely of their time, and contributed significantly through supplying statistical data, a needs and capability assessment, and many ideas for effective project organization and implementation. Similarly, the Governors of several of the provinces met with the design team, strongly supported the need for the project, and in some cases pledged additional provincial funds and facilities in support of the project.

AGENCY FOR INTERNATIONAL DEVELOPMENT <b>PROJECT IDENTIFICATION DOCUMENT FAGESHEET</b> To Be Completed By Originating Office				1 TRANSACTION CODE <input checked="" type="checkbox"/> A - Add <input type="checkbox"/> C - Change <input type="checkbox"/> D - Delete		PID 7 DOCUMENT CODE 1																									
3 COUNTRY/ENTITY INDONESIA				4 DOCUMENT REVISION NUMBER <input type="checkbox"/>																											
5 PROJECT NUMBER (7 digits) [497-0297]		6 BUREAU/OFFICE A Symbol ASIA B Code [04]		3 PROJECT TITLE (maximum 40 characters) TITLE XII - SUMATRAN UNIVER- SITIES AGRICULTURAL PROGRAMS																											
8 PROPOSED NEXT DOCUMENT A. <input checked="" type="checkbox"/> 2 - PRP B DATE MM YY [02 7 9] <input type="checkbox"/> 3 - PV				10 ESTIMATED COSTS (\$000 or equivalent, \$1 = Rp. 414.50)																											
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15 PROJECT GOAL (maximum 240 characters)																															
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16 PROJECT PURPOSE (maximum 480 characters)																															
[To strengthen the capability of the Association of Sumatran Universities to play increasingly effective roles in agricultural and rural development.]																															
17 PLANNING RESOURCE REQUIREMENTS (staff/funds)																															
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18 ORIGINATING OFFICE CLEARANCE						19 Date Document Received in AID/W, or for AID/W Documents, Date of Distribution																									
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STUDY 1. APAC APPROVES SUBJECT PID, WITH REQUEST THAT PP  
 CHRON ADDRESS FOLLOWING MATTERS:

END

2. MASTER PLAN FOR AGRICULTURAL EDUCATION - APAC CONCERN IS THAT FOUR AGRICULTURAL EDUCATION PROJECTS PROPOSED BY USAID BE PLANNED AND IMPLEMENTED IN CONTEXT OF BROADER PLAN FOR UPGRADING AGRICULTURAL EDUCATION THAT ASSURES CONSISTENCY WITH INDONESIAN FINANCIAL AND ADMINISTRATIVE CAPABILITIES. REF A IS RESPONSIVE TO THAT CONCERN. PP SHOULD CLARIFY RELATIONSHIP OF ACTIVITIES UNDER SUBJECT PROJECT TO STRATEGY DELINEATED IN MASTER PLAN. FYI, WE PROPOSE THAT SCOPE OF SURVEY, AND COMPOSITION AND TIMING OF CONSULTANT TEAM BE DISCUSSED BY USAID WITH BIFAD REPRESENTATIVES SCHEDULED TO VISIT INDONESIA IN JULY. WE WOULD THEN PROCEED WITH PROCUREMENT ARRANGEMENTS AS REQUESTED PARA 3, REF A. END FYI.

3. ORGANIZATIONAL PLANNING - ONE OF PROJECT OBJECTIVES (PAGE 1 OF PID) IS TO UPGRADE INSTRUCTION TO LEVEL EQUIVALENT WITH BEST U.S. AND EUROPEAN UNIVERSITIES. ACCORDINGLY, PP SHOULD INCLUDE BASIC DEVELOPMENT PLANS FOR PARTICIPATING UNIVERSITIES TO ASSURE ADEQUATE PROVISION FOR STAFF AND FACILITIES WHICH, TOGETHER WITH ASSISTANCE PROVIDED UNDER SUBJECT PROJECT, WILL ADVANCE OBJECTIVE CITED ABOVE.

PP SHOULD ALSO ASSESS LONGER-RANGE FINANCIAL IMPLICATIONS OF QUALITY IMPROVEMENT PROGRAM FOR SUMATRAN AGRICULTURAL UNIVERSITIES AND DETERMINE GOI CAPACITY TO PROVIDE NECESSARY FINANCIAL SUPPORT. AMONG OTHER THINGS, MASTER PLAN DISCUSSED IN PARA 2 ABOVE IS INTENDED TO ADDRESS GOI FINANCIAL CAPACITY TO UPGRADE CONCURRENTLY AGRICULTURAL EDUCATION PROGRAMS IN VARIOUS REGIONS.

4. ENGLISH LANGUAGE TRAINING - WE UNDERSTAND THAT ENGLISH LANGUAGE COMPETENCE HAS BEEN SERIOUS CONSTRAINT FOR SENDING FACULTY MEMBERS FROM OUTER ISLAND UNIVERSITIES TO U.S. FOR GRADUATE STUDY. RP SHOULD DISCUSS HOW THIS CONSTRAINT IS BEING ADDRESSED IN ORDER TO FACILITATE RAPID IMPLEMENTATION OF SUBJECT PROJECT.

PAGE: 2

5. TEXTBOOK FINANCING - PID SUGGESTS THAT AID FUNDS WILL BE USED TO PURCHASE INDONESIAN LANGUAGE TEXTBOOKS. APAC VIEW IS THAT LOCAL TEXTBOOK FINANCING SHOULD BE ON GOI ACCOUNT TO PROMOTE ADEQUATE RECURRENT BUDGET PROVISION FOR THIS PURPOSE. MORE APPROPRIATE USE OF AID FUNDS IN THIS AREA WOULD BE FOR DEVELOPMENT OF IMPROVED INDONESIAN TEXTS. VANCE  
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### Modifications in the Project

Change in Title. The Western Universities Agriculture Education project (497-0297) was listed in the FY 1981 Congressional Presentation under the title, "Sumatran Universities Agricultural Program." The title was changed because the regional university association (BKS/Barat) accepted a tenth (non-Sumatran) institution, Tanjung Pura University (UNTAN), located in Pontianak, West Kalimantan. Although Pontianak is not on the island of Sumatra, it is tied very closely economically and has communications linkages with Sumatra.

Change in Funding Levels. The Project Identification Document (PID) submitted in May 1978 proposed a project with total funding estimated at \$7 million with 29 per cent, or \$2 million, to be provided by the Government of Indonesia. The PID projected these elements:

1. An American university would be selected to help design the project under Title XII provisions.
2. Only Sumatran institutions would be included.
3. Seven Indonesian institutions would participate.,
4. Two Sumatran universities, Andalas and North Sumatra, would be primary institutions, working with the Title XII university to assist the other Sumatran universities.
5. The Title XII institution would help prepare, "... an expanded and detailed Project Identification Document." The PID made the point that "... the present document is submitted as provisional with the expectation that the (Title XII) university will have considerable latitude in reviewing and modifying the final document."
6. Assistance would be sought for these purposes:
  - To develop the "network concept to improve communication and mutual support among the universities and to strengthen the association."
  - To improve curricula and "make them more relevant to rural development requirements."
  - To develop teaching methods and materials of higher quality.
  - To develop an "applied research program appropriate to needs and problems of universities' communities."
7. U.S. inputs would encompass participant training, long and short-term technical assistance, purchase of training aids, library materials, Indonesian textbooks and other commodities, and not least, "... a strong focus on upgrading English instruction."

The Project Paper proposes a five-year program costing \$19 million. The AID share rises from the estimated \$5 million of the PID to \$10.2 million. The GOI contribution increases from \$2 million to \$8.8 million, or 46 per cent of the total project cost.

Although the pace of inflation has quickened in the past three years and a renegotiated overhead rate has introduced additional unanticipated burdens contributing to an escalation in overall project costs, the major reason for the dollar difference between the PID and PP is one of broadened project scope.

Indeed, a number of changes were made in the project as outlined in the PID, consonant with the directive given to the design team to build on experience with the Eastern Island Project. The University of Kentucky understood that it was to fashion a program of high quality and, as the PID itself recommended, the Title XII team was given "... considerable latitude in reviewing and modifying the PID."

The design team prepared a questionnaire to structure interviews with officials of the 10 participating institutions. In keeping with preferences of DGHE, BKS and university officials, completed questionnaires and individual campus plans are not included in the Project Paper.

The design team nevertheless factored all relevant data and figures into its recommendations for this new project, giving particular attention to the contributions to higher education development from other donors; resources being made available by the GOI (both regular budget and development budget); and assistance rendered to individual institutions from provincial funds.

On the basis of eight weeks of travel, observation, interviewing and study, therefore, the design team decided on a project in which:

1. One Kalimantan institution would be included with the Sumatran institutions (see above);
2. Ten Indonesian institutions would participate;
3. The concept of "leader" or "primary" universities would not be followed; instead; approximately equal attention would be given to all participating institutions; and
4. Major components of the project would be of a higher order of complexity than was foreseen at the PID stage.

The best example of this latter point is the "Network Concept." Although not a new idea and already part of the Eastern Islands Project, it was one with which there had nevertheless been little real experience in Indonesia. As designed by the Title XII-GOI team, the networking process

should materially strengthen the association of universities and create problem-solving task forces to deal with a wide variety of concerns. The PID said very little about the networking idea, and made no attempt to put a price tag on it. Our best estimate is that network meetings alone will cost \$800,000, technical assistance assigned to aspects of the Network's operation another \$1.2 million, and other costs (transportation, facilities, materials, etc.) \$1.5 million. Therefore, what the PID referred to in rather vague terms turned out to be not only an excellent idea, but one whose creation and execution will require an investment of some \$3.5 million, or 50 per cent of the total project cost estimated in the PID.

Another example has to do with the PID desire to upgrade English instruction. Within the nearly three years since the PID was approved, the significance of English proficiency for qualifying for study in the United States (and increasingly, in other places offering instruction in English), and for completing that study in good time, has become much clearer. Recognizing the importance of preparing Indonesian candidates for graduate study in America, and strengthening English language programs on all campuses of all project institutions for their long-term value beyond this project, the PP describes a four-phase program that will cost nearly one-half million dollars.

Therefore, these two project elements, networking and English-language improvement, when carefully planned out and designed for best effect, account for \$4 million of the \$7 million originally estimated in the PID. If we assume that the PID intended that the major portion of the technical assistance component would be assigned to these two functions, the shortfall in what the PID allocated (\$1.8 million) and what these things will cost is \$2.2 million.

With only \$3 million of the PID funding level of \$7 million thus remaining for training, commodities, indirect costs and project management, an effective project simply could not be designed at the level estimated by the PID. In fact, the PID itself projected these costs to be of the order of \$5 million.

As the design team considered current GOI priorities, progress under existing university strengthening programs, possible new forms of assistance from various sources, and increasing pressure to expand enrollments in most subjects and especially in the agricultural sciences, it became clear that the size of the training element in the PID would not be adequate for needs.

In some respects, the PID posed a dilemma to the design team, because on the one hand it proposed that through the project "... instruction received by students (should be) equivalent to that received in a U.S. or European top-flight university," and on the other hand suggested that U.S. graduate training be provided to no more than "... two or three professors from each agricultural faculty ..." and to two administrators from each institution (specialized short-term training and internships).

Overall, the PID suggested that 90 person/years of degree training and 75 months of short-term, non-degree training be provided. Both amounts were

found by the design team to be insufficient in view of requirements, and certainly unrealistic in light of the high quality effects upon instruction desired.

One very important factor leading to a greater amount of U.S. training being built into the project was GOI interest in as much American training as possible. There are several reasons for this preference. First, the value placed on U.S. education, especially in the agriculture disciplines, is very high. Further, the GOI is adopting several features of the U.S. academic system which are felt to be conducive to the high productivity rate of American higher education. Some of these features are the semester timetable, the credit-hour accounting procedure, and a number of changes in the way coursework is organized and presented (greater reliance upon library resources; use of a variety of teaching methods; more contact between students and professors; frequent testing). The point is that the transition to this new system is facilitated as the numbers increase of Indonesian faculty trained in the United States and therefore exposed to the U.S. system.

Second, Indonesian agriculture is at a critical juncture, where better research, particularly applied research, is needed if the nation is to become self-reliant in foodcrops and bring to its agro-industry greater benefits of new knowledge. Along with this is the need for Indonesian universities to engage both students and faculty more effectively in public and community service activities. The Directorate of Higher Education believes that exposure of its agricultural scientists, as they pursue graduate study, to American research methods and processes and to the U.S. cooperative extension system, will convey substantial additional benefits.

Together with these considerations, the Universities of Sumatra are expanding, and given the key role of agriculture in Sumatra, the demand for trained agricultural scientists will escalate. Through this project, the U.S. is being asked to assist in a system-wide Sumatran improvement of higher agricultural education, an assignment proffered to no other agency.

For these reasons, the design team decided on a training program of 178 person years of U.S. degree training, or double the amount projected by the PID. Instead of 75 person/months of non-degree training, 135 will be provided. To match this U.S. effort, the GOI will undertake over 400 person/years of in-country training under this project.

These training components then, amount to \$7.5 million, as compared to the PID's \$2 million. This is an increase of more than three and one-half times the original projection.

Finally, it should be made clear that institutional development is a lengthy process at best. Although this project is for five years (and thus AID will invest about \$2 million per year or a little more than \$200,000 per institution), and will accomplish its purposes, the institution building effort will not end when this project ends. There is every reason to believe that the GOI will be able to move into a second phase beyond the "first phase" represented

by this project. In this sense, then, the \$10.2 million AID contribution represents an investment in a significant development process extending through and beyond the five years of this project.

Taken together, the changes made in the project require a greater U.S. contribution to the purpose of strengthening the universities of the BKS/B than originally envisaged. It is our belief that the Project Paper contains adequate justification for the design team's decision to present a project of this size.

## Economic Analysis

### Cost Effectiveness

Alternative means of achieving important project objectives, costed out, offer a comparison with costs associated with project means of achieving the same objectives. For this analysis we shall focus on 1) upgrading of faculty through advanced degree training; 2) improvement of English language competencies; 3) improved quality of teaching by faculty (teaching materials, testing procedures, faculty-student relationships, and so forth); and 4) institution of the credit system and related activities.

Faculty Upgrading. A major prerequisite for strengthening the overall academic programs of the participating institutions is the development of well-trained faculty in the major agricultural disciplines and in key supporting areas among the basic sciences. The project proposes to address this problem by providing U.S. graduate training through the MS level for 53 faculty members and through the PhD level for 18 faculty members. In addition, in-country training will be provided at the MS level for 105 persons and at the doctorate level for 40. It is important that a critical mass of well-trained faculty representing the various essential disciplines be assembled at each institution if their academic programs are to have the requisite intellectual depth and rigor. It is planned that faculty members will be educated at several U.S. universities in order to ensure diversity of educational experiences and the development of a range of professional contacts. During this academic training, Indonesian faculty members will also be exposed to the American model of higher education (credit hours, teaching and testing procedures, homework assignments, student-faculty relationships, college and departmental structure, and so forth), and this will facilitate their meaningful participation in the institutional changes in this direction which will be required under GOI higher education policy. In the present Project Paper, there is provision for training some of the participants in Indonesia and some in the U.S.

The uninflated cost of graduate training per year in the U.S. is currently estimated at \$12,000 plus international travel costs and insurance. It will require an estimated two years to complete an MS and four years to complete a PhD. Thus, the cost to produce an MS would be \$27,200 ( $\$12,000 \times 2$  plus \$2600 travel + \$600 insurance). The PhD would cost \$51,800. GOI salary costs of \$2400 per year are not included in these figures since they would be incurred whether the faculty member is in training or not.

An alternative to be considered would be to carry out all graduate training in Indonesia. The uninflated cost per year is estimated at \$5500 (exclusive of salary) plus small travel costs (approximately \$200) from the institution to IPB, Gadjah Mada, or another Indonesian institution. Based upon an assumed two years to produce the MS degree, the cost would be \$11,200 ( $\$5,500 \times 2$  plus \$200 travel). The PhD would cost \$19,450 (assuming 3.5 years to complete the training). Thus, the cost of producing a domestic PhD costs about 38 per cent as much as a US doctorate. There are, however, a number of considerations of a practical nature which militate against this approach.

1) The capability of existing graduate faculties and facilities to accept significantly increased graduate student loads at the few Indonesian institutions with quality graduate programs in agriculture is limited, and the requirements for training under World Bank and Asian Bank development projects will impose added pressure on available spaces. Indeed, only after lengthy and very careful analysis of enrollment and schedules of entrance of new master's and doctoral candidates, was the project design team able to establish, as a defensible quantity, the numbers of students to be enrolled in Indonesian institutions under this project (in-country training for 145 persons). This is the upper limit.

2) Indonesian graduate programs do not yet have either the breadth or depth of academic offerings in many of the desired disciplines that can be obtained in most U.S. universities.

3) The value of developing competency in the English language and the broadening of experience through exposure to another (U.S.) culture is foregone.

4) The experience within a system of education which Indonesia plans to adapt to its own needs as it restructures Indonesian higher education is foregone.

5) The professional contacts which are established and drawn upon in future years are foregone; the value of continued exchange of information between U.S. and Indonesian universities is critical to continued growth and development in the years following termination of the project.

A second approach to upgrading of professional faculty through in-country graduate training would be to develop strong expatriate faculties at one or more of the Sumatran institutions and have them actually engage in teaching, research, and extension programs. This would require assigning sufficient numbers of American professors in each of the required disciplinary areas to provide quality graduate programs in each of these areas. The drawbacks to such an approach are obvious:

1) The numbers of professors required to develop a program which would approach the breadth of a U.S. graduate school are beyond consideration; even a small department in a U.S. university would have 15-20 specialists in a single discipline.

2) At an estimated (uninflated) annual cost per expatriate of \$105,000 per year, the costs would be very high even if the requisite numbers of professors could be recruited.

3) The diversity and depth of the program would not approach that which can be offered at most U.S. universities.

4) All Indonesian faculty members (students) would be receiving the same educational package, and thus the desired diversity of experience and future cross-fertilization of ideas would be foregone.

A third possibility would be to undertake more third country training, perhaps even to substitute the major portion of the U.S. training for programs in other countries. This alternative was studied, and rejected for these reasons:

1) Current demand for spaces in institutions within the Asian region is quite high. Indonesia is already placing a great number of students in the Philippines and Thailand, to name the less expensive training sites, as well as in other countries. The summary table below indicates countries in which Indonesian students are placed each year, at the advanced level. It should be noted that while the majority of those placed in U.S. institutions are in graduate agriculture programs, placements in other countries span the entire range of advanced study.

		<u>%</u>
Belgium	20 Master's	7
Canada	5 "	2
England	15 "	5
France	35 Ph.D.	13
Holland	15 Master's	5
Japan	25 "	9
Philippines	20 "	7
New Zealand	20 "	7
Thailand (AIT)	20 "	7
United States (actual (count, this year)	70 Master's & Ph.D.	25
All Others	30 " "	11
	275	

2) Third-country institutions do not by and large provide the mix of linguistic and substantive (technical) experiences the Government of Indonesia desires for its candidates in the agricultural sciences. Put another way, given Indonesian goals for its agricultural development, to the degree that students cannot be accommodated within Indonesian institutions, and to the maximum extent otherwise, the GOI wants to place candidates in U.S. institutions, for many of the reasons expressed earlier.

Thus, we believe that the currently proposed approach which combines U.S. graduate degrees and Indonesian graduate degrees is a superior procedure for achieving the desired objectives of this project.

Developing English Language Competency. The project provides for the development of English language competency for potential participants through a three-phased approach which would include 1) training at the various campuses of the participating universities in a non-intensive manner utilizing existing resources plus volunteers provided under the project; 2) a ten-week intensive English course to be held at one or two of the participating universities; and 3) three months of intensive English training at the University of Kentucky prior to being placed in their respective graduate programs. (The Project Paper delineates a four-phase approach to developing

English competency, including training courses for faculty members. While it is true that these courses will expose students to English, their major objective is to upgrade the technical competencies of faculty members. Thus, it is not appropriate to assign their costs to the English language component of the project.)

The following analysis assumes that 71 participants will be involved in the full English preparation program. An approximation of the total costs can be developed as follows:

	<u>Total</u>	<u>AID</u>	<u>GOI</u>
<u>Phase I. On-Campus Training</u> (Indonesian institutions): Costs of Volunteers (assumes that the volunteers would spend about 25 per cent of their professional time on this aspect of the English strengthening program; thus \$239,400 x .25 plus \$108,000 x .25)	\$ 86,850	\$ 59,850	\$ 27,000
<u>Phase II. In-country Intensive English</u> (costs estimated on the basis of \$110 per student from loan x 71, plus \$540 per student from GOI x 71)	\$ 46,150	\$ 7,810	\$ 38,340
<u>Phase III. UK Intensive English</u> (costs estimated on the basis of \$12,000 per year for academic training at the University of Kentucky, pro-rated for three months: \$12,000 x 71 x .25 = \$213,000. Salary costs estimated at \$2400 x 71 x .25 = \$42,600)	\$255,600	\$213,000	\$ 42,600
<b>Total</b>	<b>\$388,600</b>	<b>\$280,660</b>	<b>\$107,940</b>

One alternative approach would be to send the 71 participants directly to the University of Kentucky for a seven-month intensive English program. This cost would be \$497,000 (71 x 7/12 of \$12,000) plus GOI salary support of \$99,400 (7/12 x \$2400 x 71). The total cost of this approach would be \$596,400.

Another approach might be to send all 71 participants to the Economics Institute program at Boulder, Colorado (assuming the Institute will accept non-economics students into the intensive English program). This program runs for approximately eight months (January-August). Costs would be \$6,555 per enrollee or \$465,405 for the 71 students plus GOI salary support of \$113,600, for total costs of \$579,005.

A third approach would be to send all participants for a 7-8 month intensive program in Jakarta at the British Council or some private English

language training program. Using the British Council rates, tuition would be \$3 per hour x 71 x 840 hours (for 28 weeks), or \$178,920. Housing and per diem would amount to \$192 per month x 7 x 71, or \$95,424. Added to this would be salary support of \$99,400 for a total of \$373,744.

While it is believed that any of the above approaches would accomplish the objectives of preparing the participants to study in the English language, there are nevertheless some drawbacks to each:

1) None of these alternatives would contribute to developing the institutional capacity on Sumatra to provide improved quality English language programs either for faculty members scheduled for education abroad or for faculty and students remaining on campus.

2) Both the first and second alternatives are significantly more expensive than the approach recommended in the project paper.

3) Alternative three, while less expensive than the recommended approach, does not provide an opportunity for the participants to spend the three months at the University of Kentucky becoming familiar with U.S. academic practices and the American culture prior to embarking upon graduate degree programs. This is felt to be very significant in determining overall graduate program success rates.

Improved Quality of Teaching Materials and Teaching Programs, Research, and Public Service. The approach recommended in the Project Paper relies heavily on the development of networks of specialists drawn from among the participating institutions and providing short-term specialists (both American and Indonesian) to assist in the development of syllabi, class notes, testing procedures, texts, laboratory assignments, visual aids, and other materials. The networks will also provide the management entity for in-service training of faculty in intensive technical short courses and providing assistance in the development of research and public service activities. This network approach brings into professional contact, on a regular basis, the key individuals from the Sumatran institutions who will have ultimate responsibility for curriculum development and program implementation in the various disciplines. Technical assistance is to be provided through a small cadre of long-term specialists, supplemented with professional associates and short-term specialists. This objective will receive a major portion of the professional time allocation of the professional associates and the short-term specialists. If one assigns all costs of network meetings, training courses, production of educational materials, library book purchases, short-term specialists, and professional associates to this output, the costs would be as follows:

	<u>Total</u>	<u>AID</u>	<u>GOI</u>
Network Meetings	\$ 792,000	\$ 144,000	\$ 648,000
Training Courses	254,150	85,000	169,150
Production of Educational Materials	91,000	34,000	57,000
Library Books	270,000	240,000	30,000
Long-Term Specialists	1,430,184	735,169	695,015
Short-Term Specialists	293,150	231,650	61,500
Professional Associates	406,000	322,000	84,000
Total	\$3,536,484	\$1,791,819	\$1,744,665

With respect to long-term specialists who should be assigned to this category, the Chief-of-Party and the Administrative Specialist are unlikely to have much of their time allocated. Other long-term specialists will be working with this activity as well as participant selection, commodity orders, assistance in implementing the credit system and other miscellaneous project duties. For purposes of this analysis, twelve person-years of long-term technical assistance are assigned as the best estimate.

Any alternative approach would still either have to develop some institutional mechanism for bringing together the specialists of the various disciplines to cooperate in activities to develop and strengthen the disciplinary programs, or individual programs would have to be mounted in each of the participating institutions. If the latter course of action were selected, one approach would be to assign a team of long-term specialists at each of the institutions. Let us assume that to have any impact a minimum of five long-term specialists would have to be assigned to each of the participating institutions. Assuming ten institutions, the cost of this technical assistance would be  $50 \times \$102,500 \times 5 \text{ years} = \$25,625,000$ . To this would be added the costs of library books, production of educational materials and training courses. By varying the assumptions regarding the required amount of technical assistance and the mix of long-term specialists, short-term specialists, and long-term professional associates, various costs can be derived. However, the approach recommended here appears to be the most effective given the objectives of the project and the funding limits imposed.

Implementation of the Credit System and Building Administrative Capacity. The effective implementation of the credit system, strengthening administrative capabilities, and the broader implications for the entire educational system, depend upon the efficient interaction of a number of project inputs (particularly short and long-term technical assistance and short and long-term training programs in the United States for faculty members and educational administrators). As a result, it is practically impossible to assign a meaningful cost figure to realizing this particular objective. It is clear, however, that given the GOI decision to carry out such a system based on the American model, it is essential that those administrators who will be responsible for implementing the new credit system and those faculty members who will be expected to operate it, gain exposure to the model and to educators experienced in its operation. The present project design provides for this exposure through a variety of means (i.e., coursework and limited internships of participant trainees; technical assistance by visiting short and long-term experts; network task forces that focus on different aspects of working with the American model).

One alternative might be to program a significantly larger number of academic administrators as participants in the United States than currently planned and to structure their programs heavily towards educational administration. It is self-evident that this would be more costly than the more modest approach of this project. There are, moreover, serious drawbacks to this alternative, including the following.

- 1) There is a finite budget available for participant training, and each additional participant programmed for educational administration results

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in one less faculty member trained in the agricultural sciences or the basic sciences.

2) University administrators are customarily appointed on a rotating basis for definite time periods, and then they are recycled into the ranks of technical teaching and research faculty.

It is believed that exposure of Indonesians to the American model (as students in the various technical disciplines) will provide sufficient understanding of the structure and operation of the system and that these faculty members can be an effective force in modifying their home institutions' programs in accordance with the desires of the GOI. Immediate preparation of a few key administrators can best be accomplished through such things as short-term programs in the United States, and in-country seminars. These and other approaches recommended in this PP are considered to be both more cost effective and superior--in terms of project purposes--than alternative approaches.

### Social Soundness Analysis

Socio-Cultural Environment. As expressed in the Indonesian coat of arms Bhinneka Tunggal Ika ("Unity in Diversity"), Indonesia has an extremely diverse population. Over the centuries the nation's island character has encouraged the development of many ethnic groupings and some 250 languages.

Indonesia is a centralized republic, divided into 27 provinces and two special area-cities (Jakarta and Yogyakarta). The whole administrative machinery of government, civil and military, is calculated to make for national unity. Each province is under a governor directly responsible to the President, but with close administrative links with the Department of Home Affairs, and with branch offices of his provincial administration in districts (Kabupaten, under the control of a Bupati) and sub-districts (Kecamatan). There are also provincial offices of the central government departments, each responsible to the appropriate minister in Jakarta.

Besides these institutional bonds, there have been other less material influences making for national unity. The most pervasive of these is the common national language, Bahasa Indonesia. It is the mother tongue of only a small percentage of Indonesians, but by law it is the only language of instruction after grade 3 of the primary school. This is the place where the educational system most explicitly serves the policy of national unity. Studies of primary and secondary school curricula have revealed nothing that could be regarded, by accepted world standards, as excessively nationalistic in flavor. It is probable that any proposal for decentralization of the control of the schools and of what is taught in them would be carefully scrutinized to ensure that it would not jeopardize in any way the overriding policy of unity. A major argument for decentralization, next to that of local financial support, is that the content of instruction should more nearly reflect local (i.e., regional) conditions and needs. Both arguments for decentralization would apply to the universities, the latter argument being more persuasive than the former.

As an immediate social and educational problem, the differences within regions may create more problems vis-a-vis unity than the problems between them. This is especially the case in the cities, where much of the poverty one sees has been brought there from rural areas by the millions of people who have drifted in from their villages in search of work or of the stimulation of urban life. This is a common story in most developing countries, and is probably not as bad in Indonesia as in some of the rest, but the fact that so many country folk prefer to live under such miserable conditions is in itself a measure of the quality of the rural life they desert. In this regard, developing universities in the more rural, less populous areas of Indonesia may indeed serve as a brake on the pull to emigrate to Java and to Jakarta. On the other hand, it is surely a task of no small dimension for the universities of this project to undertake as many local improvement activities as possible.

There are of course many different kinds of inequalities in Indonesia, as in every country. Of those between the provinces, between the rich and poor,

between town and country, and between the established middle-aged and frustrated young, perhaps the one that is of special relevance to the kinds of developing universities we are working with in this project is represented best by complaints from some of the provinces that a "Java-oriented administration" has ignored the special character of the other islands and has neglected their social and economic development. There is no doubt this has been a factor in the Government's decision to use all the social agencies, including the schools and universities, to meet regional demands without weakening national unity - a not inconsiderable task.

Besides the upper administrative entities, at the lowest levels there are group heads (kepala kelompok), neighborhood heads (kepala rukun tetangga), sub-village heads (kepala rukun kampung) and village heads (kepala desa or lurah). These local government units are strongly cohesive and often organized on a kinship basis. Their heads, and even the kepala desa, are often quite paternalistic and make sure that their people are aware of opportunities for improvement and progress. If recalcitrants cannot be persuaded to adopt new ideas deemed to be of benefit, they may very well be ordered to do so.

The life of the Indonesian villager is focused on his village (desa) as a social unit and as a physical unit. He belongs to a group of people who inhabit a given physical area which blends into and becomes part of the landscape. By and large, the village is not obtrusive in its setting and by and large the villager is not individualistic except within the limits acceptable to his group. His key value is identifiable as that of concord (or the appearance of concord) with his social and physical setting. Ideal expressions of this value can be seen in formal courtesy in manners, in adjusting to rather than combatting or controlling a relatively benign climate and terrain, in communal and cooperative activities which enhance village cohesion, and in the administration of the village.

The construction, maintenance and repair of village or common property is the responsibility of the villages. Voluntary labor maintains irrigation canals and channels, springs, bridges, culverts, school and community buildings. For example, roads immediately leading to, and within, a village are maintained by the people of the village through communal volunteer labor.

More modern manifestations of group cohesion are village sports teams: soccer, badminton, pingpong, volleyball, and occasionally basketball.

Two organizations which have an increasingly prominent role in the lives of rural people are first, the cooperative, which has become a part of village life to a greater degree than the second, the school.

The Formal Cooperatives System of the Government and its Role in Village Life. Rooted in and integrated with the traditional concept of cooperation and concord is the system of formal cooperatives organized by the Government of Indonesia, specifically through its Directorate General of Cooperatives (DGC), Department of Manpower, Transmigration and Cooperatives.

An office of the DGC is located in the capital of each district (kabupaten) and an officer is assigned, as necessary, to each sub-district

administrative center within the kabupaten. It is his job to encourage the formation, and guide operation at least in the initial stages, of cooperatives. Later, when the cooperative is in full operation, his job may become that of occasional advisor and supervisor.

While the formation of independent cooperatives of twelve to twenty persons is not precluded, such units usually tend to be integrated, or at least loosely allied with a larger, centralized general cooperative. This larger cooperative is not necessarily based on a single village or a given number of people but on those farmers, living in one area, where aggregate paddy-fields total 600 to 1,000 hectares. These paddy-fields, moreover, must have a year-round supply of water and produce at least two crops. Thus the membership of a cooperative may range from about 400 to 3000 individuals and may be drawn from several villages adjacent to one another.

An annual meeting of members elects a board of directors and a board of supervisors, plus several committees. These bodies deal with such matters as the securing and control of external funds (e.g., grants from the GOI, loans from banks, gifts) and the welfare of members and protection of their rights.

The board of directors appoints a manager, who in turn hires his own staff for general and financial administration and for heading service and operational sections which would variously include some or all of the following: procurement of supplies, distribution of fertilizer and seeds, milling and marketing of rice, raising and marketing of poultry, furniture making, brick-making, house-building and so forth. The manager gets a salary ranging from about Rupiah 20,000 to Rupiah 50,000 per month.

A special cooperative can be set up in cases where it is warranted by, for example, the importance of certain cash crops such as sugarcane, tobacco, jute, cloves and coconuts. House-building cooperatives can be found. For example, in Lampung, Sumatra, groups of twenty men build each other permanent houses, pooling labor and material resources, at the rate of two per year (one after each rice harvest).

Since a farmer is often faced with the necessity, at short notice, of raising small sums of money which would make the difference between success and failure in any given year, credit cooperatives can also be found. Because of the short notice involved, the raising of these sums would be beyond the service offered by a central and general cooperative which normally actively helps its members to get bank loans.

The reasons for seeking loans can be social (a child to send to school, a wedding, a funeral) or, more often, economic (to start a stall, to purchase livestock or fertilizer, to transport special clay for tile-making, to buy thread for weaving). Interest rates are higher if the loan is for a social reason rather than economic, but in either case they are lower than if the money were borrowed from a money-lender (whose activities are now illegal).

These special cooperatives can exist side by side with the central cooperative; they are not necessarily integrated with it as one of its operational sections.

In sum, the cooperatives system of Indonesia can be seen as an extension of the traditional system of village cooperation and concord. It helps the villager cope with the exigencies of modern life and provides a framework for his acceptance of innovations.

The School System. The educational system is of special concern to us in this project because we are dealing with institution building within this system. We therefore need to have at least a fair idea of the several components and their relationship to each other.

The educational system of Indonesia is extraordinarily complex. Schools are established and controlled by a number of different bodies, but most conform to the pattern of schools under the Department of Education and Culture (P dan K). This is a 6-3-3 structure: primary schools (SD), grades 1-6; junior secondary schools (SLTP), grades 7-9; and senior secondary schools (SLTA), grades 10-12. The complete education cycle includes three to five years of higher education, or seven for the highest degrees.

Legally, children may enter primary school at the age of 6, but most of them do not do so before 7, and many, because of the shortage of places, have to wait until they are 8. Schools at this stage are usually coeducational. In 1978, the number of primary schools was 92,500, of which 31,000 were public. The private schools, although under the aegis of P dan K, are controlled by legally constituted foundations (Yayasan).

The amount of state aid given to private schools, depends, after a short probationary period, upon their willingness to conform to state school standards in such matters as curriculum and the achievement of their pupils. Fully private schools get no state aid, but with the exception of schools for foreigners, most of them follow the rules concerning teaching in the Indonesian language.

After a period of probation, an aided school may obtain the status of a state school on demonstrating its efficiency, and many private schools are established with this ultimate purpose in view. Such schools are set up by parents or local communities to fill the gaps in the provision of state schools and to exercise pressure on P dan K to take over full responsibility as soon as possible. The standards of the rest of the private schools are commonly regarded as inferior to those of the state schools.

There are some sixteen different kinds of secondary school under P dan K, but the majority of them fall into nine types, 4 at the junior level and 5 at the senior, as follows.

### Main Types of Secondary Schools

#### Junior Secondary

SMP : General (i.e., academic)  
 SMEP: Commercial (vocational)  
 SKKP: Home Economics (vocational)  
 ST : Technical

#### Senior Secondary

SMA : General (academic)  
 SMEA: Commercial(vocational)  
 SKKA: Home Economics (vocational)  
 STM : Technical  
 SPG : Teacher Training

Because of shortages of equipment and of specialized staff, the work in these different schools does not vary as much as their names would suggest; most of the teaching in any type of school is, of necessity, largely theoretical. In the late 1960's, the GOI, as part of its drive to modernize the economy, stated its intention of increasing the proportion of technical and vocational schools in the system, and their numbers did increase very rapidly, often by the conversion of academic schools into one or other of the more vocational types.

The SMP, with 70 per cent of the students, is an academic program, preparing children for entrance to the SMA. The technical and vocational junior secondary schools are to be gradually transformed into SMP's with facilities for teaching practical skills, according to plans of P dan K.

Four of the five senior secondary schools correspond to the four junior schools. The fifth is a school that gives its students, in the usual three years, both a secondary education and training as a primary school teacher. The SMAs have a little less than one-half of all secondary students, and concentrate on the academic subjects necessary for entry into higher education. They devote little time to practical skills of any kind.

In addition to schools operated by P dan K, a large number is operated under other government departments. A very small percentage of these are specialized schools giving training in such fields as agriculture, forestry and pharmacy, but the great majority are under the Department of Religion. Most of these are private schools; at the primary level, for instance, only 2 per cent of all the religious schools are actually run by the state, and even where the state institutions are most numerous, among the primary teacher training schools, they amount to only 13 per cent of the total. The status of private schools under the Department of Religion is roughly the same as under P dan K.

Religious Education is a compulsory part of the curriculum of all schools in Indonesia, and the Department of Religion provides teachers of religion for Muslim, Christian, Hindu and Buddhist pupils in the schools under P dan K. It also runs a wide variety of institutions offering strictly religious training. However, in addition to this, the Department of Religion is responsible for a complete system of primary and secondary schools (Madrasah) that run parallel to the schools under P dan K, and give secular as well as

religious instruction. The time given to religious studies varies greatly, and the Madrasah range from those catering for students who will probably devote their lives to religion to others that differ from P dan K's schools only in their control and in the somewhat greater emphasis they give to religious subjects in the curriculum.

In 1972 there were approximately 22,000 primary Madrasah, 3,000 at the junior secondary level, and 800 at the senior, as well as schools for training teachers. In that same year a Presidential Decree stated that all primary and secondary education must be under the overall control of the Minister of Education and Culture, but progress has been slow in carrying out the intentions of the decree. In the meantime, the existence of two parallel and relatively independent systems of state schools, both with their staunch adherents in the community and in the Government, poses very real problems for the reform and modernization of education in Indonesia.

Higher Education. Higher education in Indonesia was begun during the latter part of the Dutch colonial period, with the opening of the College of Engineering in Bandung, West Java, in 1920. Shortly thereafter, a college of medicine and a college of law were established in Jakarta. The three schools were subsequently incorporated and formed the key colleges of the University of Indonesia during the 1940's through the early 50's. In 1950 there were fewer than 1000 people of a population of 70,000,000 who had completed university education.

The Dutch hegemony was terminated in 1942 by invading Japanese troops who subsequently held the islands until the close of World War II. At the end of the war in 1945, the Indonesians declared their independence.

Until the early 1950's, only two universities existed in Indonesia. Besides the University of Indonesia, with main administration located in Jakarta, the University of Gadjah Mada was founded in Yogyakarta, Central Java, in the early days of the nation's struggle for independence.

There are three types of institution now offering degrees, and each type has a variety of entrance requirements:

- Universities, which consist of a number of different faculties, covering a range of professions and specialties;
- Institutes, each of which has a number of faculties within one professional field, such as teaching or religion;
- Academies, consisting of a single faculty, perhaps divided into departments; for example, irrigation and electrical and mechanical engineering.

As explained in Part II of this paper, all institutions of higher education come under the final authority of the Minister of Education and Culture. Nevertheless, standards vary widely, and the general quality of training offered in the private institutions is well below that of the state institutions. P dan K operates 11 institutes of teacher training and educational

sciences (IKIPs), which train secondary teachers in a number of fields, and so exercise an influence on the schools through their products as well as through their entrance qualifications. IKIPs thus also exercise an influence-through the schools-on the local community. This influence is important to the present project, linking as it does two IKIPs with eight universities.

During a period of 25 years, roughly from 1950 to 1975, the higher education system could be characterized as experiencing random growth, at least in the implementation of policies. During that period, relatively few specific policies were adopted regarding patterns, operational concept, and organizational structure of tertiary education. This, along with other factors, resulted in low production efficiency in terms of number of graduates, scientific findings, and public services per unit of input. The system primarily evolved along the Dutch pattern, wherein students were provided little guidance in pursuing their academic activities.

American influence on the higher education system began to have an impact in the middle of the 1950's, through substantial inputs of equipment, technical assistance, and scholarships granted to young Indonesian scholars for non-degree and degree training in various disciplines in the U.S. Upon their return, these people constituted teaching cadres at their respective universities both in Java and in many of the newly established universities in the outer islands. Many of them were given administrative duties in addition to their teaching assignments.

The development of higher education is geared to the fulfillment of its three missions: teaching, research and public service. Higher education is charged with developing experts required for staffing the technostructure network of the society, producing scientific findings, and promoting the use of expertise and scientific findings in national development.

### Socio-Cultural Factors Which may Affect the Project

Narrow focus and limited experience. Traditionally and culturally the provinces are so unique and disparate that it is difficult for a university to respond to more than the development needs of its own province. Strong cultural ties have made it necessary for the universities to recruit the bulk of their staffs from among their own graduates as the academic staff have not only to understand the culture in which they are working, but must also be accepted by the local people in order to effect change. However, in-breeding, where weak institutions must rely heavily on their own products, narrows the depth and scope of intrinsic experiences and resources they may call upon for improvement of professional skills and services. In part to address these constraints, this project will bring university staff of the ten institutions together through the various networking activities to share their individual expertise and to be exposed to views and perspectives of outsiders. The networking program will in effect broaden the resources available to all BKS/Barat staff. In addition, as staff leave their posts for long-term

training, they will be replaced by individuals of whom a fair number are expected to come from other parts of Indonesia. Finally, the DGHE has a new program of moving faculty from stronger institutions to weaker ones as a means of strengthening the latter. This should remedy to some degree the in-breeding tendency.

The strong "call to Java." A potential constraint to effective staffing and administration is the attraction of Java as a place where employment opportunities and social stimulation, particularly in and around the larger cities, are perceived to be superior. Younger staff of the universities are felt by some to be particularly susceptible to this "brain drain" since they have not as yet attained the status needed to assure additional income - producing activities to supplement their meagre salaries. This has in fact proven to be less a problem than anticipated for this kind of project. For one thing, a person who has been trained under a government program (such as this project) is expected to serve the government at the place appointed, for three years for every year of training awarded. Second, individuals in the specialized disciplines such as agriculture have not migrated as much as specialists in other fields (e.g., economics, political sciences, languages, history). Given their several options (to enter into farming, to enter some aspect of agro-business, to serve in some branch of the Department of Agriculture, to stay in their own occupation), they tend to remain at their university posts. Further, as the provincial universities expand and grow and stabilize their operations, they will become cultural centers in their own right, and in time should attract individuals from elsewhere, including Java itself, to seek appointments and careers.

The role of women. Women in Indonesia play a very important part in the economic support of a village household. Indeed, it is crucial to its continuance as a unit. A woman may work with her husband (and a couple of employees who are paid Rupiah 250 a day each) to make soybean curd for sale in nearby markets or help him in the fields. Very often she works as an agricultural laborer, especially at planting and harvesting seasons. At the latter, her pay is in the form of 20 per cent of the rice she harvests. But also very often she runs and is in charge of her own enterprise whether it be selling garden produce at the roadside, baking pastries and crackers, manufacturing tempeh (a soybean product) or raising chickens. The woman may engage in tailoring, in weaving sarongs and cummerbands, in basketry or mat-making, but most of all she is the operator of a small shop, (if general, with a small but varied inventory; if specialized, perhaps only in women's apparel and cheap cosmetics), or a food stall. In most cases these women are not merely assisting their husbands in the operation of a small business or industry. They themselves are in charge, from acquiring raw material or an inventory of goods, manufacturing, to wholesale or retail selling. And they keep the books.

In West Sumatra and a large part of Riau the Minangkabau societies are both matriarchal and matrilineal. The woman rules the family and makes the major decisions. Land and goods are transferred through females rather

than males. Women arrange marriages and men offer dowries that then become the woman's possession. Women may "cast off" men without restitution if and when they desire. Yet, as great as is the power of women in this and other Western Indonesian cultures, their position in the larger emerging Indonesian society requires further definition and support. The section of this analysis entitled, "Women in Development" suggests several specific ways this project intends to take account of the woman's role.

Uninformed Rural Population. Farmers and villagers generally have been left behind and are continuing traditional practices for lack of better methods of doing things. Results of applied research, conducted locally, and implemented either directly with local people or through various government and private agencies are urgently needed to improve the social and economic status of the rural population and provide opportunities for a better livelihood.

Moreover, the rural population of Sumatra and West Kalimantan speaks a great number of languages, most of which are variants of Bahasa Melayu. Many have never been written. Although one of these variants became Bahasa Indonesia and is the common language now being taught in schools, it is still little understood or read by the large majority of rural people who have not had the opportunity to attend primary school. The purest form of Malaysian outside of Malaysia is said to be spoken in Riau and the people there consider the Bahasa Indonesia of Jakarta substandard. Local language is steeped in local culture and traditional life styles. To accept change, people must also accept ideas brought to them by people who speak differently and urge adoption of little understood ideas, discipline, and life styles. These factors offer tremendous challenge to universities and other governmental and private change agents. Therefore, development of both verbal and non-verbal materials for use with change agents and the rural population itself to communicate new knowledge and methods has priority in project activities. Centers to produce such materials will be formed at each University that does not presently have one. Staff will be trained in communications arts.

### Beneficiaries

This project will benefit the large numbers of people in Western Indonesia who are engaged directly or indirectly in agriculture. Specifically it will improve the teaching, research and public service programs of ten universities in the agriculture, rural development and basic science fields, enabling them to produce more and better rural leaders. It is entirely consistent with current government social and educational goals. It is designed to strengthen and implement many of the higher education policies in the Western region, and responds to requests for assistance made to the USAID by the Directorate General of Higher Education (DGHE).

Universities are expected to have a very close relationship with local governments, provincial planning offices and other development agencies to produce progress in their provinces. It is assumed in Indonesia that the

development of the province is closely correlated with, if not dependent upon, the level of development of the university, particularly in relation to programs focused on rural development and agrosocieties. There are twenty-seven universities and thirteen institutes in the public domain. Eight of these universities and two teacher training institutes form the Association of Western Universities. The Rectors of these institutions, together with DGHE representatives, constitute the Project Policy Steering Committee. Twenty-seven per cent (12,549) of the BKS/Barat institutions' total 1980 student population of 45,740 were enrolled in project-related faculties. Thirty-two per cent of the 3573 staff members were assigned to project-related fields. Thus within the public higher education system, this project will impact directly on 25 per cent of the institutions, and on 32 per cent of the faculty and 25 per cent of the student body of these institutions who plan careers in the agricultural sciences and rural development fields.

Direct beneficiaries. The project will directly benefit 889 university staff members. Of this number, 216 will study for MS (158) and PhD (58) degrees; 48 will serve on networking task forces; 380 will take refresher courses in Indonesia; 45 will participate in short non-degree study in the United States; and 200 will study English in special courses.

Indirect beneficiaries. Indirectly benefitting will be 600 additional university staff who will be recipients of technical assistance from U.S. and Indonesian advisors; 6000 farmers; 60 professional community development and extension workers and 12,500 university/IKIP project-related students.

Ultimate beneficiaries. The rural population will benefit from improved research and public services programs, both those implemented directly by universities and those resulting from activities of better qualified university graduates who will form the backbone of program planning and implementation of rural development activities by other agencies. Local, provincial, and national institutions which must recruit skilled manpower to plan and implement their programs will benefit, and thus will benefit the entire population which utilizes these services. Private enterprises will benefit from access to a more highly skilled technical labor force and entrepreneurial capabilities, thus benefitting ultimately both the consumers of new products and the labor force which will find growing employment opportunities.

Economic level of beneficiaries. The rural dweller comprises 80 per cent of Western Indonesia's population. It was estimated by the World Bank in 1976 that 86 per cent of these people were living below the poverty threshold of \$190 per capita and that 13 per cent could be classified as destitute. In terms of employment, income generation, consumption and other generally accepted measures of economic activity, the agricultural sector occupies a position of major importance. Agricultural production continues to follow largely traditional practices and productivity is low.

According to a GOI study, in the period 1973-75, Sumatra had 21 per cent of Indonesia's rural subdistricts (kecamatan) but had, as a share of the

total in each category for Indonesia,

- 19.0 per cent of the very poor
- 15.3 per cent of the poor
- 27.0 per cent of the near poor

Kalimantan had 9.8 per cent of Indonesia's rural subdistricts (kecamatan) and had, as a share of the total in each category for Indonesia,

- 4.0 per cent of the very poor
- 6.8 per cent of the poor
- 12.6 per cent of the near poor

In terms of employment, income generation, consumption, and other generally accepted measures of economic activity, the agricultural sector occupies a position of major importance in Sumatra. Although there are areas in Sumatra such as Aceh and Palembang where the GOI is experimenting with sophisticated mechanization in clearing swampland and planting high yield varieties of rice, general agriculture production continues to follow largely traditional practices and productivity is low.

The matter of incentives to professors. Because all university professors are public servants, they are paid on the regular civil service schedule plus a few automatic family and professional allowances. A full lecturer (grade 4 on a 6 grade scale) with five full years at his rank and grade may earn \$82.88 per month salary plus \$137.12 in allowances, or a total of \$220 (\$2,640 per year).

Only a few professors at higher levels may increase their economic standard by being furnished a house and car - the same as other public officials of equivalent high grade and rank. Other ways in which university personnel may earn extra money according to rank and position include representing their university at official meetings, taking part in research projects, offering service as a consultant to other public and private agencies and serving the provincial government on special assignment.

A recent World Bank study on agricultural manpower in Indonesia found that although hard data on remuneration in the private sector for comparable levels of study and experience is difficult to obtain, it appears that private sector remuneration is 30 to 50 per cent higher than that of the university professor with all of his automatic and supplemental allowances.

The question then becomes, "what additional incentives does a university professor have that keeps him from changing his career?"

There are certain things available to a university professor which are attractive to persons who also enjoy intellectual pursuits and government service. There is a degree of job security in government service not matched by the private sector, for one thing. For another, promotion is to be expected every two years as opposed to much less frequent (on average)

promotions in the private sector. (For that matter, the norm for promotions elsewhere in government service is once every four years). Very important is the fact that the mandatory retirement age for academics has been extended to 65 instead of the usual 55. There is, of course, more than a modicum of social prestige and personal gratification that accompanies the appointment as university faculty member. Added to all of this is the very subjective but nonetheless quite important sense of satisfaction enjoyed by all good teachers who have a hand in assisting students to acquire knowledge and successfully master new skills.

It should be noted that this project supports GOI decisions to further upgrade the university teaching profession by requiring all instructional staff to teach 18 credit hours each week by 1985; strengthening academic counseling activities with students; offering increased opportunities for advanced academic degree study in the U.S. or at leading Indonesian institutions; offering staff short (four weeks) refresher courses and workshops as in-service training; increasing practical English language classes for staff to assist them in library research; and strengthening and increasing research and public service opportunities.

The matter of linkages to beneficiaries. Considerable existing agricultural potential still must be developed in the Western region if such resources are to accrue benefits to the region's poor. Better ways must be found to bridge social, cultural and economic gaps so that the poor may participate more effectively in solutions to problems related to food production, marketing, pricing, and credit availability, health, nutrition, off-season employment, skills acquisition, and education. The region will need leaders who are able to deal with these factors. These leaders must also be concerned with the plight of the rural poor so that progress achieved results in greater equity. Research findings, introduction of new technologies and development of social services must fit the readiness of the participants to understand and absorb. Nearly always attitudes must be changed and internalized before people at varying strata learn to work effectively together. Not only must the rural poor be helped to accept new relationships, but also the research workers, extension agents, agriculture and rural teachers must be trained better to understand beliefs and values held by the rural poor. The project preparation team survey shows for example, that only forty per cent of university agriculture students come from rural or farming backgrounds.

Service to small farmers by universities is illustrated by the Kuliah Kerja Nyata (KKN) public-service program which will be greatly strengthened by this project (see the sixth Output). In this program students supervised by their professors live and work up to three months each year in a village. The villages receive direct benefits of improved living conditions and new knowledge through the assistance that students and their professors can provide. Of equal importance is that students and professors learn about actual village conditions so they will be better able to understand village problems. This may be increasingly planned and accomplished as the project matures, through such activities as involving villagers and rural dwellers in needs-identification and planning ways to meet those needs; assigning a student a transmigrant farm family as a "social laboratory"; producing

pamphlets and materials (some without words) prepared by students and university staff for use with community change agents and target groups; and affording students opportunities for direct participation in local meetings, seminars, workshops, and classes, and in the activities and programs of cooperatives. Development of these types of activities will be stressed early on in the project, or increased as the project unfolds, specialists are trained and the public service and research institutes grow in stature and skills development.

The Indonesian university system is charged with acquisition and dissemination of knowledge (instruction), research and direct service to the community (which is mostly rural and poor). Indonesian policy for higher education obligates each university to establish an Institute for Community Service and an Institute for Research. The principal officer of each Institute has the rank of Dean and is a member of the University Senate. A basic aim of both Institutes is to establish close university/community relationships focusing on social and technical development needs and the university's role in identifying and responding to such needs.

University courses of study require each student to devote time to community service activities, working with and through the national and provincial agencies for agriculture, health, family planning, cooperatives, non-formal education activities and so forth. Research activities at the undergraduate level stress applied research and cooperation with "other" ministry research programs at the graduate school level. Such linkages to the rural dwellers are largely indirect.

One vehicle for direct-linkage activities now being considered at IKIP Padang and Sriwijaya University, Palembang, is having students assigned to at least one family as their "social laboratory" for applying and then evaluating the set of rural development ideas and concepts learned in their various university classes. Lampung University, Tanjungkarang, focuses on the problems of transmigrants. Working with extension agents and community development agencies, all agriculture and rural development-related departments of the Western Universities offer or plan to offer seminars and workshops for farmers and other rural dwellers and, as appropriate, the urban poor. Faculty will guide student involvement.

Other linkages of value to project beneficiaries. The USAID Sumatra Agricultural Research project assists the development, construction, staffing and research capability of four existing and five new research stations for the Department of Agriculture. Each is located near one of the Sumatran Universities and is assigned responsibility for in-depth research peculiar to provincial development.

An important feature of the Agricultural Research project is its endorsement by and linkage with the provincial universities. Agriculture faculty members sit on the advisory board; research station facilities are made available to university students; faculty members utilize the facilities to conduct research trials; universities supply the new agricultural Sarjana graduates to staff the stations. Cooperation among CRIA (the Central Research Institute

for Agriculture), its Sumatran research stations and the universities is excellent. Example: a Department of Agriculture research post focusing on tidal swamp agriculture located near Palembang is basically staffed with UNSRI faculty and their students. This particular operation is expected to be turned over to the university in 1981.

The statement on "the essential role of universities in the development and spread of technology to impact on the rural poor" (see below) further clarifies university - rural society linkages.

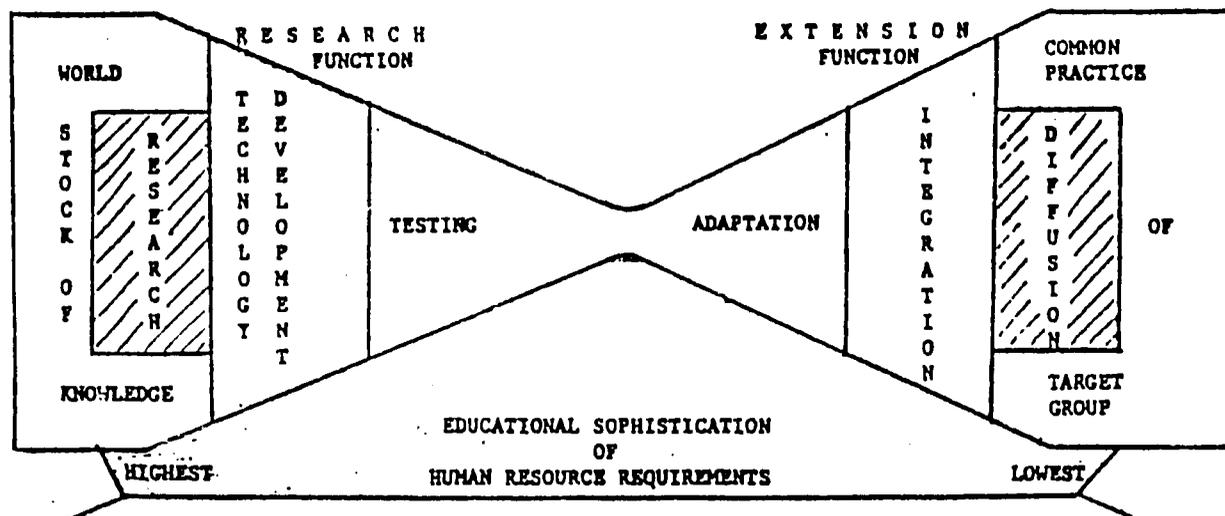
Benefits and spread effect. By contributing to the intellectual and economic growth of a region, universities contribute in subtle ways by helping to create a climate conducive to retaining many of the brighter and more able young people and potential local leaders who might otherwise be lost to the region by migrating to Java for their education and subsequently remaining to enter an already crowded labor market there.

Through this project the universities are to conduct, and help other agencies to generate, research which will provide improved technologies for the small farmer. Research workers, agricultural and other rural teachers and extension workers will be trained so that the experimental facilities, schools and extension division are more effectively staffed and utilized. Leadership training will focus on the plight of the poor so that progress achieved may result in greater equity.

Project organization and activities developed largely by agricultural, rural development and educational faculties will serve as models that the Association (BKS/Barat) may use to assist other faculties to improve their community out-reach programs and concerns for the economic and social well-being of rural people. In the same manner, specific products of research, curriculum development and public service may be utilized by other public and private universities for similar purposes.

Essential role of universities in development and spread of technology to impact on the rural poor. An indigenous capacity for the development and transfer of pertinent technology is essential for rural development. Such technology must respond to or reflect problems of target audiences at various production levels. Technology transfer depends heavily on indigenous research capacity, a lack of which places serious constraints on the ability to adapt knowledge generated elsewhere to local conditions. Likewise essential is an intermediary organizational and administrative framework which closely ties research to producer needs and motivations. Pre- or semi-literate poor persons cannot be expected to change centuries-old patterns and beliefs and embrace new technologies and practices by themselves or in isolation. Some means must exist to foster, interpret and support behavioral change at various levels of interrelated competence and complexity, connecting needs with knowledge. Indigenous university competence - as the U.S. experience with the Land-Grant Colleges has shown - is essential to this framework and the transfer of technology to the target "poor". The following schematic is one way to think about this process of development and transfer of technology.

PROCESS OF TECHNOLOGICAL INNOVATION AND APPROXIMATE LEVEL  
OF CORRESPONDING GENERAL HUMAN RESOURCE TRAINING REQUIREMENTS



In the above figure, research should be thought of as systematic and organized activity carried out for the specific purpose of adding to the stock of knowledge; that is, identifying and analyzing, applying and evaluating pertinent aspects of it. Technology development is the process by means of which items from the stock of knowledge are selected and synthesized into products or processes instrumental in satisfying human wants and needs. Testing the new technology under a variety of conditions is the next integral function. Adaptation is an extension operation, and is a further sequential process by which a technology proved for one range of conditions is modified appropriately to fit other conditions, frequently under field trials or testing. Integration fits a new technology into current practices. It often utilizes a variety of other services and inputs and requires an expertise in the technology as well as knowledge and understanding of local cultural/ecological conditions. Diffusion delivers information, practices, even equipment and certain commodities, and instructs in their use, while common practices may be regarded as the final adoption of the technology into general usage.

When focusing on solving or improving certain human problems or needs, the research activity searches out tentative development technologies from the store of knowledge, tests them, eliminates alternatives, evaluates the results, and produces a refined product or promising practice. Extension activities then adapt, integrate and diffuse this resultant technology through increasing applications to the target audience until it becomes part and parcel of everyday practice. These activities are interdependent, each piece related to every other piece and communication among the components flowing

in both directions. Thus, the need for technological innovation may be identified and initiated at any point within the cycle.

This schematic underscores the basic relationships between the roles of the university, barely literate users and intermediary organizations in the effective application of technological innovation. When such relationships are viewed as a functional whole, the essential and very basic role the university might play becomes clearer.

In Indonesia, the statutory responsibility for the management of agricultural research is under the Department of Agriculture. It is the university system, however, that has the resources, the structure, and increasingly, the imagination to encompass the various elements of the technology development and transfer process and to facilitate a closer integration between the Departments of Agriculture and Education to direct the force of this process to solving problems of the poor. Indonesia has charted its course but still has some way to go before it will be able to enlist all its universities successfully in this cooperative and important work. It is clearly a task of high priority.

Follow-on. This project is the third in a series of similar AID projects designed to improve the teaching, research and public service of universities in a particular geographic area. The first two are the Agriculture Education for Development (497-0260) pilot project which focused on universities in Central and Western Java and greatly strengthened the Agricultural Konsortium; and second, the Eastern Islands Agricultural Education (497-0293), project, which deals with six universities and two IKIPs on the islands of Kalimantan, Sulawesi, Maluku and Irian Jaya through the Association of Eastern Island Universities (BKS/Timur).

The Department of Education and Culture and the Indonesian central planning agency (BAPPENAS) have already expressed their approval of results obtained in these ongoing projects and may request AID assistance in formulating and implementing a similar program for the Nusa Tenggara (Southeastern) universities and some institutions in Bali and Java. If this request should lead to a project, AID would be the only assistance agency to work directly with all public university faculties concerned with the agricultural sciences and rural development.

Moreover, there is reason to believe that the GOI will ask the assistance of some donor agency to build on the achievements of the Eastern Islands and Western Universities projects. After all, these are institution - building projects, and are only 5 year projects with limited purposes. As other needs become apparent - as the current projects wind down - something will have to be done about them. It appears highly likely that if the United States does not choose to assist in this follow-on, assistance will be sought elsewhere and will be forthcoming.

Project emphasis on the role of women in development. An understanding of the role women play in the different cultures of Indonesia is crucial to the success of Indonesian development planning since Indonesian development

depends heavily on programs in family planning, literacy, and nutrition. Without the full involvement and support of rural women - who as wives and mothers have major control over the family group and the way it eats, works, and thinks - these programs will have limited effect. Development planning, however, especially at the higher levels of government, is a male business.

According to data collected by the University of Kentucky project preparation team, women constitute from 8 to 43 per cent of total student enrollment. The data do not show sex balance for the academic staff, but women are generally at the lower ranks. In the region there are few female deans of faculties and only one female vice-rector. The percentage of women at the teacher-training colleges is significantly higher than at the universities; however, educational administration at all levels is predominantly a male profession.

Men and women university faculty in many ways have equal opportunities in terms of salary and rank. Opportunities for advanced study by women either within Indonesian or abroad are hampered by family responsibilities. The extended family does help somewhat in meeting child care and home responsibilities while the mother is away.

BKS/Barat universities, since they are intimately involved in the research and planning processes for development projects in their provinces, must accept responsibility for designing and implementing projects that fully recognize and seek to understand the role of women. Specifically, under this project the following are foreseen.

- Special emphasis will be placed on extending graduate education opportunities for women faculty in agriculture, nutrition, food processing and home economics.
- Women will also be encouraged to study in the fields of political science, economics, marketing and administration to be better prepared for community, regional and national leadership roles.
- A greater than proportionate number of women on a given faculty, i.e., 20-25 per cent, will be sought for advanced study opportunities within country and abroad.
- Universities will expand their cooperative activities with BAPPEDA, Agricultural Extension and the Department of Education in an effort to more fully involve women in non-formal and informal educational activities.
- Professional women will be encouraged to join professional organizations and participate fully in networking activities.
- Research will be initiated to understand more clearly the role of women in development within the Western Region. Findings from such topics as the following are expected to provide valuable information to planners.
  - \* Cultural resources to which women have access that give them influence.

\* "Felt needs" of rural women: do they want improvement in cottage industries, in trade, in factory work, in agricultural methods?

\* Evaluation of the Indonesian family planning program with respect to cultural practices and economic well-being.

\* Socio-economic status of women in Sumatra and West Kalimantan.

\* Data, by sex, on land ownership for different kinds of land.

\* Specialized rural activities of women in the Western Region.

\* Number and kind of women in specific credit institutions and the actual availability of credit to women.

\* Number of women in specific cooperatives and women's leadership role in cooperatives.

\* Effects on village women of men's rural-urban migration.

\* Evaluation of networks of communication among women.

\* Evaluation of current nutrition education programs including costs, effectiveness, and coverage as a basis for continually refining and upgrading the programs.

\* Extent to which conditions under which women live and work have a bearing on the availability of food and nutritional levels of their families and communities.

In the development and execution of such research women will be involved as planners, investigators and evaluators. Men can work effectively as part of the team, but if only men define the problems, design the research, select the methodology and conduct the evaluation, the women's viewpoint could be lost. Evidence that this could happen exists in the fact that most agricultural planning has been done by males, and women's potential for local food production (and hence in improving nutritional status) has not been fully recognized.

### Technical Analysis

English Language Preparation. It is clear that although each of the Indonesian universities in this project has a program in the teaching of English as a foreign language, analysis of the situation reveals that the quality of the programs and the resources devoted to them vary widely. Most suffer from a shortage of teaching software (although all have the basic Sony-equipped language laboratories). All lack native English-speakers with whom the participants can interact on a regular basis. Organizationally, there is also the problem of freeing potential participants from their normal academic responsibilities for sufficient uninterrupted periods of time to undergo intensive language training.

To address the problem of raising English language competency among faculty to a level that would permit use of library materials and admission and successful study abroad, the project proposes to mount a four-pronged attack: 1) strengthened English language training on each campus; 2) intensive English language courses for prospective participants taught in Indonesia; 3) subject-matter-intensive courses; and 4) intensive English language courses upon arrival in the United States.

Potential participants as well as faculty who simply wish to upgrade their English capacity but do not expect to go on for further studies will undertake their initial English studies on their home campuses. Here courses will meet throughout the academic year on an extensive basis, five to ten hours per week. The objective will be to raise TOEFL scores to approximately 350. This project will strengthen English teaching programs at each of the universities through the provision of necessary technical assistance and software (language tapes, texts, books, reference materials). Short-term technical assistance will also be provided by specialists who teach English as a foreign language on the University of Kentucky campus. Long-term technical assistance will be provided by American "Volunteers" (18 person years) who will be assigned to work directly with Indonesian staff at selected universities. These volunteers will work in a "hands on" environment and will provide the essential opportunity for hearing the language spoken by a native speaker. It is expected that conversation-practice sessions will also provide the opportunity for in-depth discussions of what to expect in U.S. universities, cultural differences and general living conditions, and will provide a pre-departure acculturation period. In addition, 14 person years of professional associates are to be located on selected campuses. Although not specifically responsible for English training, their regular interaction with Indonesian faculty and students will also enhance English capability. Participants in this phase will be tested to select those who have made sufficient progress to qualify for Phase 2.

The planned second phase will involve bringing all of the potential participants who have successfully completed Phase I to a central location (one or two of the participating universities). An intensive English program of 2-3 months duration (250-300 class and laboratory hours) will be conducted. Some of the Volunteers will be assigned to this program, and long-term University of Kentucky advisors will give occasional technical lectures to accustom the participants to different accents and American

classroom lectures<sup>1</sup>. Responsibility for the program will reside in the hands of the selected university's English teaching program. Participants in this phase of the program will be essentially assured of being sent abroad for training if they can bring their TOEFL scores up to an acceptable range. The Graduate School of the University of Kentucky has agreed to grant provisional admission to any Indonesian faculty member who can score a minimum of 475 on the TOEFL (and meets academic criteria for admission)<sup>2</sup>.

In order to strengthen English capacity, familiarize participants with U.S. teaching and testing methods, and to correct any deficiencies in their academic preparation for graduate education, intensive one to two-month courses will be offered to the participants in the interval between completion of intensive English in Indonesia and departure to the U.S. These courses, to be taught by short-term consultants, will be offered in subjects which are required for most graduate specializations, that is, mathematics, statistics, and the basic sciences. In some cases it may be possible to award graduate credit for these courses.

The fourth phase consists of sending those participants who qualify under the above criteria to the University of Kentucky to enter the intensive summer English program<sup>3</sup>. The University of Kentucky Graduate School will admit to full graduate standing those students who raise their TOEFL scores by at least 35 points at the completion of the summer program. Other U.S. universities may require a minimum 550 score; this requirement differs widely among institutions, with a few not having any specific TOEFL requirement. Placements will be worked out in accordance with needs of the participants and willingness of various institutions to admit them to graduate study.

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1 During the University of Kentucky/USAID project in N.E. Thailand, wives of Kentucky team members also taught in the English language programs (using AUA materials), and informal "conversational open houses" were held on a one-night-a-week, rotating basis in team members' homes. The success rate in preparing Thai participants for entry into graduate school and their eventual completion rates were both quite high. A similar approach might prove feasible in Sumatra.

2 Upon recommendation of the students' academic department, the University of Kentucky Graduate School will provisionally admit foreign students who score 475 to 549 on the TOEFL examination. Such students must enroll in an intensive English course taught at the University and increase their score by 35 points in order to be fully admitted. Students who fail to attain this level of proficiency may continue in provisional status while further studying English, if so approved by the student's academic department and the associate Dean of the Graduate School. Applicants who attain a 550 TOEFL score prior to attending the University are fully admitted.

3 Although it is anticipated that some participants will be placed at other universities for their academic programs, it is expected that all participants will initially be sent to Kentucky for the intensive language instruction.

To address the problem of weak reading knowledge in English, technical assistance and materials for developing skills in reading and comprehending technical materials will be provided. This assistance will be targeted at strengthening reading competency among both faculty members and students. University of Kentucky Volunteers may be used to some extent in these activities, but the major focus will be upon assisting existing teachers to strengthen this aspect of their program.

Training. This area will receive first priority and major emphasis in the project since effective upgrading of professional staff is a necessary condition for effective utilization of other project inputs. Training will be accomplished in a variety of ways, including:

- in-country short courses, seminars, workshops, and symposia conducted by Indonesian professionals and/or foreign specialists.
- informal "hands on" training accomplished by contract specialists working closely as counterparts with professional staffs at their universities in the solution of problems in the areas of teaching, research, and public service.
- in-country formal and non-degree refresher courses in areas such as statistics, research methodology, biochemistry and technical agricultural fields as needs dictate.
- in-country formal degree programs at the MS and PhD level.
- non-degree special training programs in the United States in such areas as laboratory organization and management, university administration, experiment farm organization and management, library administration, public service (extension) program development and management and other areas as needed.
- formal degree training programs at U.S. universities at the MS and PhD level.

The scope and purpose of the above training is considered to be much broader than simply upgrading of staff technical competence in disciplinary areas. It must also address the problem of strengthening the institutional systems for teaching (including administration, curriculum development; teaching/learning methods; course structure and evaluation; and similar areas); research (including problem identification and prioritization; research design and methodology; research administration, including inter-disciplinary and inter-agency research collaboration); and public service (with requirements similar to those for research).

To be effective, the training thrust of this project must be adequately supported by technical assistance through the contract team and the BKS/Barat. It must also be supported by large amounts of commodities (mostly to laboratories, to be supplied by the GOI) and construction of laboratories, experimental farm facilities and libraries - again by the GOI and Provincial Governments.

Technical Assistance. Foreign and Indonesian expertise will be utilized in a number of areas including, but not limited to, the following:

- assistance in the development of a "networking" system which integrates research, teaching, and public service activities of the various cooperating universities and eventually results in more efficient and effective utilization of resources through exchange of materials, sharing of professors, exchange of ideas and joint program development. These networks may be established both along disciplinary lines (e.g., soils, animal sciences, agricultural economics) and functional lines (e.g., research and public service organization and administration; teaching methodology; curricula design), or along commodity lines (rice, cattle, rubber).
- assistance in the preparation of course outlines, teaching materials, evaluation procedures.
- assistance in organizing and implementing research projects and programs.
- teaching, in collaboration with Indonesian professors, selected short courses in specialized areas (e.g., statistics, biochemistry, agricultural disciplines research methodology; English language skills) as determined by individual university and network needs.
- assistance in the organization, management and equipping of laboratories.
- assistance in the organization, development and management of university experiment farms.
- assistance in the establishment of identification and selection procedures for participant training (including priority areas).
- assistance in library organization, administration and operation.
- assistance in the implementation of the semester-based academic credit system.
- assistance in the organization and administration of academic records.
- assistance in identifying commodity needs and placing orders for off-shore procurement.
- assistance in university management and operations.
- assistance to both staff and students to improve English language skills pre-requisite to utilization of most library collections, textbooks and technical/professional publications.

Commodity Assistance. Both training and technical assistance components of the project will require commodity support. Since the GOI plans to provide major inputs in this area from non-project funds (in support of the

project), U.S. commodity expenditures directly by the project will be relatively modest. Emphasis will be placed upon procuring textbooks, journals and reference materials, specialized equipment for auto-tutorial instruction in both English and Indonesian, audio-visual equipment, teaching materials (and duplicating equipment to produce such materials), laboratory equipment and supplies, and university experimental farm equipment and supplies.

Commodity procurement will be the responsibility of the Project Office in consultation with USAID/Jakarta and AID/SER/COM. Within three months of the first meeting of the Project Steering Committee, the Project Office will submit to AID a complete listing of the equipment to be procured during the first year of the project, broken down by project site. On the basis of this list the Project Office will, with the assistance of AID, assign procurement responsibility for different portions of the equipment list.

It is envisioned that the GOI will use the American Overseas Book Company to handle the procurement of textbooks, journals and periodicals and that a procurement service agent (PSA) will be contracted to take responsibility for the purchase of the audio-visual and duplicating equipment as well as the laboratory supplies and farm machinery. The contractor is expected to have only a small role in the actual purchasing of commodities.

Selection of a PSA will be on the basis of informal solicitation of offers, since the fee anticipated for these services will not exceed \$100,000. SER/COM's listing of interested PSA's will be used in the selection process and consideration will be given to employment of qualified minority, women and small business PSA Firms, to the maximum extent possible. The GOI will appoint a PSA within three months of the first meeting of the project steering committee. This will be month 6 of the implementation plan. The GOI should obtain approval of its choice of a PSA from AID prior to making any appointment.

In order to ensure that all commodities will be delivered to the project sites in a timely and efficient manner, the PSA will be responsible for consolidating and shipping all commodities, with the exception of those few items which are to be purchased by the contractor. The PSA will submit to AID, within 30 days of being appointed, a procurement schedule which will also outline the mechanics of delivery of the commodities from the United States to the various project sites. No procurements will be initiated until this schedule is approved by AID. American Overseas Book Company will, insofar as is possible, coordinate with the designated PSA to ensure that the commodities it will purchase can be consolidated and shipped in accordance with the procurement schedules.

For that portion of goods which are to be purchased by the PSA, said agent will insure that procurements are accomplished in accordance with AID regulations (Handbook 11, Chapter 3); AID's marking requirements are met; and commodities comply with AID source origin requirements or that a waiver is obtained from AID.

This procurement plan should allow all first year commodities to be ordered by month 10 of the implementation schedule as called for in the Project Paper. The Project Paper also shows commodity orders being placed

during months 16, 25, 34 and 42. These procurements can be handled in a similar manner.

At least four months prior to the date given for ordering the commodities, the Project Officer will submit to AID a complete list of equipment to be purchased for each project site. The Project Office together with AID will then divide the responsibility for procurement of these items among the contractor, the PSA and American Overseas Books.

The GOI is free to solicit offers from other PSA's for any new order, given that AID must approve any appointment in advance. The designated PSA will submit a procurement schedule to AID within 30 days of being appointed.

### Administrative Analysis

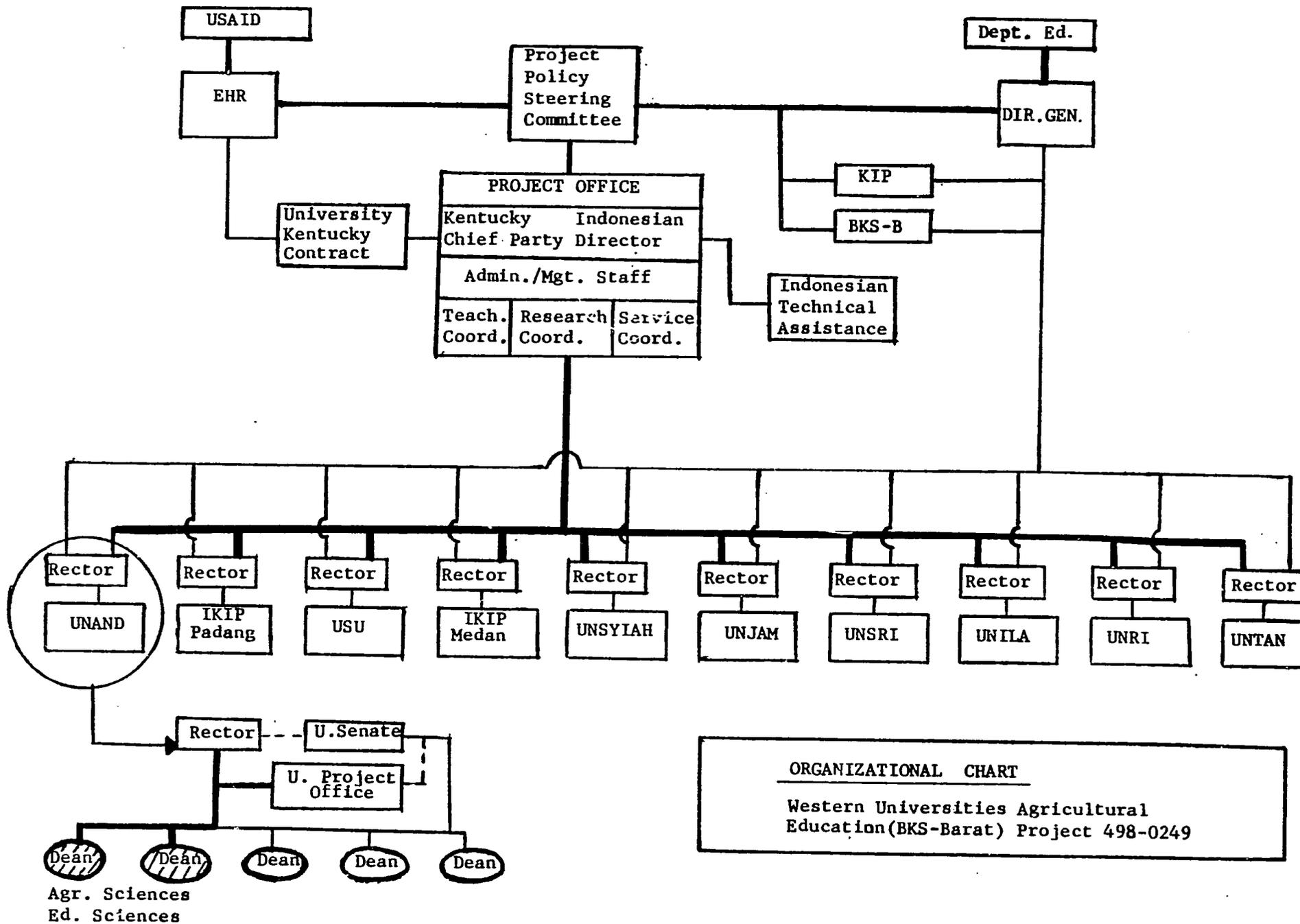
Central Office. The Western Universities Agricultura, Education (BKS/Barat) Project will be administered by a project central office established in Palembang, Sumatra for the project by the Director-General of Higher Education. The Project Office staff will receive broad policy guidance from a Project Policy Steering Committee (PPSC).

Project Structure and Staffing. The Project Office staff will consist of a full time Indonesian Director and one Associate Director, plus the contract team Chief-of-Party and both long and short-term contract specialists who will be phased in as the project develops. Indonesian short-term specialists will be provided by the Directorate General of Higher Education (DGHE) and BKS/Barat universities as appropriate. The contract Chief-of-Party will serve as a counterpart to the Indonesian Project Director. The long-term specialists will serve as counterparts to the individual university staffs as will be determined by the Project Office and the PPSC. The office will be supported by a staff of up to three bilingual secretaries, four drivers and a maintenance staff. The office will utilize short-term American and Indonesian technical specialists as required for project implementation.

The Project Office will be directly linked to the Western Indonesian Universities through the Rectors' offices. A project field office 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.

Project Policy Steering Committee (PPSC). The PPSC will be composed of the Director General of Higher Education or his designee, the Executive Secretary of the Agricultural Consortium (KIP), the USAID project manager, the Chairman and/or Vice Chairman of BKS/Barat, the Project Director, and the Contract Chief-of-Party. The Director General or his designee will chair the PPSC, which will meet at least twice annually.

The PPSC will establish the overall policy framework within which the Project Director and Chief-of-Party are to carry out implementation activities of the project. PPSC responsibilities will also include annual evaluation 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. The members of PPSC will also provide liaison with their respective organizations to assure that project activities are consistent with GOI and AID policy guidelines and do not duplicate activities of other projects and programs.



Project Office and Staff. The implementation of this project will be the responsibility of the Project Director. He will supervise the Indonesian staff of the office, and, together with the Chief-of-Party, will be responsible for preparation of annual plans of work, for maintaining liaison with the university Rectors and for project implementation.

The Project Director must work closely with the university Rectors. If the project is to be successful, it is essential that the Project Director be an individual with substantial experience as an academic administrator who has a good working knowledge of both American and Indonesian higher education and is knowledgeable with respect to Indonesian agriculture and agricultural sciences program activities in universities. Clear understanding of the Directorate General's policy goals for public higher education is required. The Project Director will be appointed by the Director General of Higher Education upon the concurrence of the USAID Project Manager.

The Chief-of-Party of the contract team will function as a counterpart to the Project Director and will be responsible for supervising all Contractor Personnel. This position should be filled by a senior faculty member from the contracting institution who has had prior administrative and professional experience in project implementation of an institution-building nature in a developing country. The Chief-of-Party will be appointed by the University of Kentucky upon concurrence of the USAID Project Manager and the Director General of Higher Education.

The Indonesian Vice-Directors and Contractor team members should be senior faculty members who have had significant university research and teaching experience. They will have responsibility for managing the networks<sup>1/</sup> approved by the Project Policy Steering Committee within their technical expertise, and designing/evaluating short courses and non-degree traineeships. Occasionally, they may also be called upon to teach courses.

As the project matures, and as participants return from advanced training programs, "critical masses" will begin to emerge in the disciplinary areas (e.g. soils, animal science, agricultural economics, library management, pedagogy) but these inevitably will develop at different rates among disciplines and among institutions. As the areas and institutions are identified which are capable of effectively utilizing the services of long-term contract specialists, they will be employed. It is anticipated that most such specialists will be assigned to locations at Sumatran institutions beginning in years three and four of this five-year project phase.

When the second phase of the project is implemented, several institutions should be in a position effectively to utilize on-site, long-term contract specialists. Meanwhile, contract team specialists will also include two categories of junior staff: professional associates and volunteers who qualify as practitioners for the job to be done. The

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<sup>1/</sup> See "Proposed Scheme for Operation of Network System" found on page 18 of this paper.

professional associates will be outstanding MS graduates or PhD candidates in the agricultural sciences, social sciences and administration/management areas. The professional associates will be assigned to specific Sumatran Universities for periods of one to two years, where they will undertake such activities as team teaching, participation in network activities, training of junior faculty and laboratory technicians and participation in university research and public service projects. They will work closely in a "hands on" environment with Indonesian colleagues under the direct supervision of the rector or his designate. The US chief-of-party will have overall responsibility for coordinating their general program activities.

The volunteers will serve primarily as teachers of English to potential participants and university staff. Volunteers will have training or experience as teachers of English as a foreign language.

Universities and University Project Offices. The Rectors of the BKS/Barat universities will have responsibility for project activities on their campuses and for the involvement of their staff in project activities. Each Rector will have responsibility for selection and nomination of participants for academic training from his/her institution, selection of staff for participation in network activities and maintaining liaison with the central project office in Palembang. In carrying out these activities, each Rector will appoint a member of his staff to assist him in carrying out project activities. This person will report to the Rector or Vice-Rector I, and will be responsible for day-to-day management of project activities on the campus.

Each university will provide sufficient project funds and facilities to support the project activities including a field vehicle which will be made available for use by central office project staff and short-term specialists whenever they are on-campus. In addition, vehicles for occasional personal use and appropriate furnished housing and utilities will be provided for all long-term specialists, associates and volunteers assigned to that university.

Location of Project Central Office. The central office of the project may be temporarily located in Jakarta upon project initiation. Permanent headquarters will be in Palembang with housing and offices to be supplied by Sriwijaya University with the assistance of the Provincial Government. Supplemental funds for office furniture, equipment, appliances and operating expenses and salary supplements for the Project Director and Associate Director will be supplied by Project loan funds.

Participant Selection. Initial participant selection (nominations) for all training will be made by each university from among those candidates who meet the requirements for the particular type and purpose of training to be undertaken. Complete folders for these participants (including, as appropriate, academic transcripts; TOEFL scores or other appropriate English language scores; requested level and field of training; recommendations for preferred training site) will be forwarded to the central project office. A participant selection committee composed of a representative of the office of the Director General of Higher Education, the BKS/Barat, the KIP,

AID, the Project Director) and the contract team, will meet to approve final selection of participants and alternates as appropriate. This committee will assure that candidates qualify for the level and nature of training proposed, and that the training proposed is consistent with project purposes and objectives. Participants thus selected will begin preparation, if required, through refresher training, intensive English language training, and other measures as appropriate.

Every effort will be made by the contractor's home office to place each participant in a program of study appropriate to his/her interest, purposes, and qualifications.

AID regulations as prescribed in Handbook 10 for participant training in the USA and third countries will prevail. Procedures for in-country training will follow Directorate General of Higher Education Guidelines.

Other Financial Data

Training. Funds for training will provide for 178 person years of long-term training in the United States, including 106 person years for MS training and 72 person years for doctoral programs. Approximately 11 person years (135 months) of non-degree U.S. training will also be provided. In-country training for 145 individuals will be funded, including 263 person years for MS degrees and 140 person years for PhD degrees.

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	<u>AID</u>	<u>GOI</u>
	(\$000)	
1. U.S. Long-term, 178 person years (U.S. \$12,300; GOI \$2,400 per year)	2,532	493
2. U.S. non-degree, 135 person months (U.S. \$2,225; GOI \$200 per month)	357	33
3. Indonesia In-country, 403 person years (GOI \$7,900 per year)		3,792
4. Travel costs for U.S. training (U.S. \$2,600/Round Trip)	348	-
5. Campus Backstopping Costs	515	-
Total	3,752	4,318

(All costs include 8.2% inflation compounded annually)

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The training program will be handled by the AID contractor with backup support from the USAID participant training staff. Three hundred dollars are included for each participant per year, for insurance. The home campus backstopping costs for the training element are included here also (loan funds).

Technical Assistance. Grant and loan funds and GOI counterpart will provide for 19.5 years of long-term expert advisors from the University of Kentucky, 14 years of professional associates, 18 person years of Volunteers and 41 person months of short-term consultant services. Grant funds will pay for the contractor's home support for this element of the project.

	<u>AID</u> (\$000)	<u>GOI</u>
1. <u>Long-term Consultants: 19.5 person years</u> (Chief-of-Party, agronomy, plant protection, animal sciences, social sciences and/or university administration and planning)	1,647	351
2. <u>Professional Associates: 14 person years</u> (Public services, animal science, fisheries, plant protection, basic sciences, agricultural engineering, social sciences and/or university administration and planning)	322	84
3. <u>Volunteers (to teach English): 18 person years</u>	241	108
4. <u>Short-term Professionals: 41 person months</u> (Various agricultural and education disciplines plus other areas; for example: administration and planning, statistics, library science, English, basic sciences, research design)	295	-
5. <u>Campus Backstopping Costs</u>	175	-
6. Inflation (\$633) and Overhead (\$602)	1,132	103
Total	3,812	646

Commodities. Several kinds of equipment will be purchased for demonstration farms, laboratories, and project offices, including additional vehicles (all project vehicles are being provided by the GOI).

	<u>U.S.</u> (\$000)	<u>GOI</u>
1. Library books	240	30
2. Laboratory Equipment and Supplies	100	260
3. Audio-visual Equipment	55	50
4. Farm Equipment	90	100
5. Vehicles (2)	-	25
6. Reproduction Equipment	90	90
7. Miscellaneous	40	19
8. Inflation	45	51
Total	660	625

Other Costs. These funds are to provide for a variety of institution-strengthening activities in support of networking, preparation of candidates for U.S. training, and upgrading of English-language programs on the BKS/B campuses, distribution of educational materials, setting up and maintaining campus offices, and costs for travel.

	<u>U.S.</u>	<u>GOI</u>
	(\$000)	
1. Central Project Office	149	365
2. University Project Offices (10)	340	779
3. Training Courses (17)	85	169
4. Network Meetings (96)	144	648
5. Intensive English (200)	22	108
6. Special Teachers (60 months)	55	-
7. Travel	282	163
8. Educational Materials Distribution	34	57
9. Inflation	188	420
	<hr/>	<hr/>
Total	1,299	2,709

The Matter of Recurring Costs. The AID Handbook states that "... it is particularly important to examine the impact of the recurrent costs of the project after AID's disbursements for the project are scheduled to end."

The bulk of project costs (participant training and technical assistance) are non-recurring costs, per se. However, there are costs associated with these two elements, plus others, that may well continue beyond the project's life, and in that sense may be considered recurrent.

The example that may be best in this connection is the salary cost for an instructor to substitute for an Indonesian faculty member chosen to undertake long-term training. The project will select 216 persons over the five years of project life for graduate training. One hundred fifty eight will obtain MS degrees; 58 will study for the doctorate. Because MS candidates will be enrolled for a minimum of two years and PhD candidates a minimum of 3½ years, their replacements must be more than temporary substitutes.

If these individuals were not to be employed beyond the duration of the project, then their recurrent cost impact would not be a matter for discussion here. Yet, there is every reason to believe that they will be

recruited and retained permanently. Let us consider two reasons for this. For one, the GOI expects that enrollments will grow at about 5 per cent per annum for the next two decades. In the agricultural sciences such an increase would bring an additional 1400 students into the project universities (not counting the 2 IKIPs) over the next five years. (Actually, the DGHE estimates a slightly higher growth in agriculture, of the order of 7 per cent. See "Coordinative Program Memo," DGHE, Jakarta, May 1978). Assuming a student-faculty ratio of 1:12, an optimistic but reachable target, 117 new faculty will be needed for the additional students. A second reason has to do with the effects of normal attrition, estimated to be about 3 per cent per year.

On the other hand, the numbers of replacement faculty are not large for this project. In 1981, 40 individuals will leave to obtain MS degrees and 16 will depart to study for doctorates. In 1982, a total of 82 new faculty will be needed. In 1983, although 63 persons will enter upon graduate study, 40 will return, reducing new hires to 23. In 1984, the number of departures will exactly equal the number of returnees. After 1985 there will be no new departures under this project. In total, then, 161 replacement faculty will be needed over the life of the project.

Theoretically, no problem exists at all until late 1985 or early 1986, when the final one hundred participants return to their universities. In actual fact, there will be no new salary costs generated by this project, due not only to growth (and attrition) within the universities of this project, but also due to the overall needs across all 27 public universities in Indonesia having agricultural faculties. Put another way, if the Western Universities cannot absorb all faculty associated with this project, the "overflow" (in this case, replacement faculty) will be absorbed elsewhere in Indonesia. For these reasons, it appears that the costs of the retention of replacement faculty beyond the life of the project are not recurrent costs of this project.

A second category of expenses may also be examined to determine if they might generate recurrent costs of any sizable amount. This is the category having to do with networking.

A very large proportion of networking expenses are grant-funded salary and support costs for fourteen years (of the total 19.5 years) of long-term technical assistance, and all of the time of the short-term specialists and professional associates. Additional costs are borne by the GOI, chiefly housing and utilities for U.S. advisors, office space for each campus project office, the central office, and commodities (which will be examined later).

When the project ends, the GOI hopes that the networking will continue, involving frequent communication among faculty and staff of the member institutions of the BKS/B. A very large part of the rationale for designing and executing the network scheme is to initiate a program that will be sustained after the project ends. Therefore, in theory all of the ongoing costs associated with networking must be considered recurrent. However, after the project terminates, all of the technical assistance will end. The housing

and offices provided for U.S. specialists and GOI staff will become part of the total "pool" of facilities on each campus, and will not represent an additional burden. Quite the contrary; given the general growth of higher education in Indonesia (the target is to enrol 5 per cent of the 19-25 age group by 2000), these facilities will quickly be absorbed as campuses expand and enlarge.

In this context, it is of interest to note that the prospect is for increases in development funds flowing to higher education. The following table shows actual 1979-1980 and 1980-1981 development funds for the institutions of the Western Universities project and estimated funds for 1981-1982. Overall, the development budget for the DGHE in 1980-1981 was Rupiah 57,643.9\* (\$92.2 million). This will increase to an estimated Rupiah 86,500.0 (\$138.4 million) in 1981-1982. Also, in recognition of additional expenses associated with this project and other development activities, every BKS/B institution will receive Rupiah 15 million each year of the project, beyond its regular budget. This allocation is in very large part meant to pay for anticipated increases in travel expenses, as the new network system is established and begins to function. The DGHE is committed to a policy of meeting any new costs generated by this project, and feels assured that it will receive the resources needed to meet all obligations in its regular and development budget.

<u>University</u>	<u>Actual 1979-1980</u>	<u>Actual 1980-1981</u>	<u>Estimate 1981-1982</u>
Sumatera Utara	533.1*	827.5	1,058.2
Andalas	793.9	1,097.2	1,535.8
Syiah Kuala	622.7	898.8	1,448.9
Riau	155.9	315.8	663.3
Jambi	187.6	289.6	455.2
Sriwijaya	411.0	690.9	786.9
Lampung	260.1	639.7	1,328.4
Tanjung Pura	255.8	416.6	997.5
IKIP Padang	341.8	626.1	1,484.0
IKIP Medan	302.1	455.3	850.6

A third category of expenses that can be examined for any recurrent cost burden that might be generated is that of purchase of equipment, vehicles, special materials and the like. In this category would be included twelve automobiles, farm machinery, typewriters, mimeographing and other reproduction equipment, laboratory equipment and supplies, and textbooks and journals. The total commodity budget is about \$1.3 million, of which a little less than one-half will be paid for by the GOI.

\* Rupiah figures are millions of Rupiah.

By the end of the project, the vehicles and farm equipment will be well into their fourth year of life, (the plan is to purchase these in the first year of the project). Only a few of the vehicles (perhaps two) will have to be replaced, inasmuch as their use is very much tied to the project and particularly to the activities of the long-term and short-term specialists funded under technical assistance. Presumably all of the farm equipment (\$190,000) would have to be replaced, and in time, the laboratory equipment and supplies (\$360,000), audio-visual equipment (\$105,000) and reproduction equipment (\$180,000). The budget for textbooks and journals (\$270,000) would probably decrease, although for the sake of the analysis we shall use the same amount as budgeted for the project.

In addition to replacement costs, maintenance costs should be taken into account. For this analysis we shall assume that total maintenance for new equipment and purchase of expendable supplies and fuel would be of the order of one-third of the original purchase price. For those items requiring such maintenance, the total cost would be about \$290,000.

Therefore, total expenses for this cost category would be about \$1.4 million, or roughly \$140,000 per institution.

Nevertheless, it is not unreasonable to take the position that many of these expenses, if not all, would in time arise as the higher education system expands. In fact, the GOI has noted certain facilities, equipment, textbooks and other commodities needs of the higher education system, and in 1980-1981 will allocate Rupiah 103.3 billion as a special grant for

- purchase of books and journals (Rupiah 10.5 billion)
- laboratory equipment (Rupiah 82 billion)
- Physical facilities (Rupiah 10.8 billion)

If the Indonesian higher education system were static or contracting, certain costs generated by the project (such as noted under the second and third categories above), continued beyond the life of the project, would constitute a drain on the fiscal resources of the country. But such is not the case; virtually every continuing cost represents an expense an expanding system would have to sustain in any event. Not only this, but the GOI plans increases in its budget for the DGHE sufficient to meet all operating costs.

It is of interest to note that the World Bank's new \$45 million loan (together with GOI funds of \$20 million) to the DGHE contains technical assistance and training elements and substantial amounts (\$16.5 million) for civil works and construction. The Bank estimates the recurrent annual costs generated by its project at about \$3.5 million (in 1980 prices), or 4 per cent of the 1985-1986 DGHE budget. The Staff Appraisal Report (p. 42) of the Bank's loan paper states,

"This estimate is based on the assumption that the recurrent expenditure of the Ministry of Education and Culture will grow at 10% p.a. in real terms as

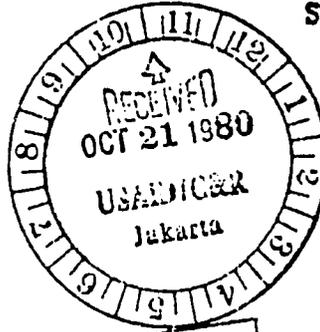
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it did between 1975 and 1979, and DGHE will continue to share about 20% of the total recurrent expenditure of the Ministry. Considering the priority given to higher education development, ... the share of 4% in DGHE's projected recurrent budget in 1985-1986 would not constitute a budgetary constraint to the implementation of the project. Maintenance arrangements for physical facilities constructed under previous Bank Group - assisted projects have proven to be satisfactory."

For similar reasons, it does not appear that the Western Universities project will create a recurrent cost burden on the GOI.

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TAGS:

SUBJECT: WESTERN UNIVERSITIES AGRICULTURAL EDUCATION (497-0299)

REF. JAKARTA 1504E

1. APAC MET OCTOBER 17. SUBJECT PP WAS NOT APPROVED.

2. AA/ASIA EXPRESSED SERIOUS CONCERN THAT PROPOSED AID CONTRIBUTION TO PROJECT HAD BEEN INCREASED FROM DOLS 5 MILLION LEVEL IN APPROVED PID TO DOLS 13 MILLION. ALTHOUGH DOLS 9 MILLION FIGURE HAD BEEN INSERTED IN FY81CP, MISSION DID NOT ADVISE AID/W THAT IT WAS CONSIDERING INCREASE OF THIS MAGNITUDE UNTIL PP HAD BEEN COMPLETED (RETELE), AND PP DID NOT CONTAIN ADEQUATE JUSTIFICATION FOR INCREASE. INFLATION SINCE SUBMISSION OF PID WAS CITED AS ONE CONTRIBUTING FACTOR BUT AID/W NOT PERSUADED THAT SUFFICIENT INDEPENDENT EFFORT WAS MADE BY MISSION TO HOLD COSTS REASONABLY CLOSE TO APPROVED PID LEVEL. IN THIS CONNECTION, WE NOTE STATEMENT PARA TWO, PAGE ONE OF PP GIVES MISLEADING IMPRESSION THAT INCREASE IN GOI CONTRIBUTION TO PROJECT WOULD BE SEVEN TIME GREATER THAN INCREASE IN AID CONTRIBUTION, WHEN COMPARABLE PERCENTAGE INCREASES BETWEEN PID AND PP SUBMISSIONS WOULD BE 160 PERCENT AND 250 PERCENT FOR AID AND GOI, RESPECTIVELY

3. ALTHOUGH SHARP INCREASE IN OVERALL COSTS WAS PRINCIPAL REASON FOR PROJECT DISAPPROVAL, PP WAS CONSIDERED WEAK IN AREAS OF ECONOMIC ANALYSIS (COST-EFFECTIVENESS AS COMPARED TO ALTERNATIVE APPROACHES); FINANCIAL ANALYSIS (ESPECIALLY REQUIREMENT OF RECURRING SUPPORTING COSTS) AND SOCIAL SOUNDNESS ANALYSIS (LINKAGES TO ULTIMATE BENEFICIARIES, INCENTIVES TO PROFESSORS, ETC.). SEE PID APPROVAL CABLE (78 STATE 165015) AND ISSUES PAPER BEING POUCHED. THESE ANALYTICAL CONCERNS WERE FULLY DISCUSSED WITH SCHEMING AND SEELEY, WHO DID ADDITIONAL WORK PRIOR TO APA WHICH SHOULD BE AMPLIFIED AND INCORPORATED IN REVISED PP.

4. IN ADDITION, AA/ASIA HAD IMPRESSION FROM VISIT WITH PROFESSOR SOEKISNO AND DR. TUHARA THAT GOI LOOKS ON SUBJECT PROJECT AT LEAST IN PART TO SUPPORT ESTATE CROP DEVELOPMENT. PALM OIL PLANTATIONS WERE MENTIONED SPECIFICALLY. IF THIS IS TRUE, THIS COMPONENT SHOULD BE PRIME TARGET FOR ELIMINATION FROM PROJECT.

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5. REQUEST MISSION DISCUSS PROJECT WITH GOI WITH A VIEW TO DEVELOPING PROJECT FOR RESUBMISSION AT DOLS. 9 MILLION LEVEL, WITH FULL JUSTIFICATION FOR COST INCREASE FROM APPROVED PID LEVEL AND STRENGTHENED ECONOMIC, FINANCIAL AND SOCIAL SOUNDNESS ANALYSIS AS INDICATED ABOVE AND AT APAC MEETING. CHRISTOPHER

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INITIAL ENVIRONMENTAL EXAMINATION

TITLE XII - SUMATRAN UNIVERSITIES AGRICULTURAL PROGRAMS

Project Location: Indonesia  
Project Title: Title XII - Sumatran Universities  
Agricultural Programs  
Funding: \$5.0 million  
Life of Project: 1980-1984  
IEE Prepared by: USAID/Indonesia

Environmental Action  
Recommended: Negative Determination

Mission Director's  
Concurrence:

  
Date: \_\_\_\_\_  
Thomas C. Niblock

Assistant Administrator's  
Decision:

Approved: \_\_\_\_\_

Disapproved: \_\_\_\_\_

Date: \_\_\_\_\_

## INITIAL ENVIRONMENTAL EXAMINATION

## TITLE XII - SUMATRAN UNIVERSITIES AGRICULTURAL PROGRAMS

I. Examination of Nature, Scope and Magnitude of Environmental ImpactA. Project Description

This project is to strengthen the capability of the Association of Sumatran Universities to play an increasingly effective role in agricultural and rural development. It will provide technical assistance, training of staff members, and essential instructional equipment and materials to the member universities to make their agricultural programs more relevant to development requirements.

B. Identification and Evaluation of Environmental Impacts

Since this project will be to develop the capabilities of several universities, it will have little or no direct impact on the environment; however, it provides an opportunity to demonstrate environmental concepts to teachers who will be influential in shaping agricultural development in Sumatra. An especially important endeavor that is likely to be of concern to these faculties and their graduates is planning the opening of forested regions for agriculture for transmigration settlements. A long-range perspective on natural resource utilization will be important for local decision makers who, through their decisions in the next decade, will determine future land use in Sumatra.

II. Recommendation for Environmental Action

A negative determination is recommended because the project involves training that has no direct environmental impact; however, some exposure to environmental concepts should be included, wherever appropriate, in the training programs.

# Appendix K

## LOGICAL FRAMEWORK

Project Title: Western Universities Agricultural Education

### NARRATIVE SUMMARY

#### Program or Sector Goal:

To improve Indonesia's ability to feed its people and provide a decent livelihood for the rural poor.

#### OBJECTIVELY VERIFIABLE INDICATORS

##### Measures of Goal Achievement:

1. Increased production of rice, fruits, vegetables, legumes, beef, poultry and other farm products.
2. Higher rural standards of living.
3. Increased rural employment.

#### IMPORTANT ASSUMPTIONS

1. University graduates contribute to rural and agricultural development (R+AD).
2. University public service programs facilitate R+AD.
3. University research programs produce knowledge needed for R+AD.
4. GOI continues to support R+AD with appropriate policies, programs and funding and incorporates the educational, research, public service programs of the universities into its programs for R+AD.

#### MEANS OF VERIFICATION

1. BKS Barat statistics.
2. GOI and university studies

#### Project Purpose:

To strengthen the capability of the member institutions of the Association of Western Universities (BKS-Barat) to play increasingly effective roles in Agricultural and Rural Development by:

- 1) Improved staff, teaching and better trained graduates.
- 2) Institutionalized system of university/rural public service.
- 3) Organized and integrated faculty research.

#### Qualifying Evidence at End of Project:

- 1a. Significant number of university staff upgraded through approved study programs.
- 1b. Full implementation of an academic credit system.
- 1c. Increased quality of R+AD graduates.
- 2a. Establishment of Institute for Public Service at each university.
- 2b. Linkages with GOI ministries and offices established.
- 2c. Goals and role of public service programs defined and administrative procedures designed.
- 3a. Institute for research strengthened at each university.
- 3b. Research administrative and dissemination processes established.
- 3c. Linkages with other research agencies developed.

1. Continued growing demand for higher education.
2. Primary and secondary education maintain quality.
3. GOI committed to and provides adequate fund growth for education, research and public service programs.
4. GOI ministries and offices desire linkages with universities.

1. University records and survey of employment.
2. University records and discussions with public service agencies.
3. University records and discussions with research agencies.
4. Joint GOI/USAID evaluation studies (PES and evaluation)

#### Outputs:

1. A better trained professional staff in R+AD and supporting areas.
2. University facilities (classrooms, laboratories, field facilities, libraries, and printing facilities) meet minimum requirements.
3. BKS networks established and functioning.
4. Research undertaken by university staff.
5. Public service activities increasingly meet needs.
6. Curriculum and teaching methods revised and strengthened and improved English training.
7. The administration and organization of the universities better adapted to meet increasing demands such as staffing, program planning, evaluation, accreditation, student services and facility requirements.
8. Credit system fully implemented in all agriculture related faculties of Project universities establishing Sarjana degrees based on 144 minimal to 160 maximal credit hours.

#### Magnitude of Outputs:

1. 58 Ph.D. 45 non-degree programs.  
158 M.S. 440 staff in inservice short courses.
2. 10 cooperating universities will have:
  - basic science and agriculture related laboratories improved to meet minimum requirements.
  - field facilities developed for practical demonstration and teaching.
  - library collections expanded and services improved.
  - university duplication, print, dissemination facilities operational and being used for agriculture/rural development activities.
3. 6 networks established.
4. Annual publication of research results increased to at least 10 per faculty.
5. Annual release of at least 10 leaflets and other publications by each faculty.  
At least 5 short courses to public and civil servants by each faculty.
6. 250 staff members will have taken intensive English
  - Course syllabi in basic sciences revised and standardized
  - 3 course syllabi in agriculture revised and standardized
  - 3 laboratory manuals prepared.
  - Use of libraries by agricultural students increased 100 percent
  - One third of agricultural faculty prepare and distribute course outlines.
  - Reading assignments and tests routinely given.
7. 4 universities develop new campus plans.  
Administrators undertake non-degree training programs.  
Record systems improved and adapted to credit system.
8. 8 universities and 2 IKIPs establish Sarjana degrees based on 140 (minimum) 160 (maximum) credit hours achievable in four years consecutive study.

1. Sufficient qualified candidates for English training and for overseas training.
2. Universities can release sufficient number of staff for training.
3. GOI funds construction and equipment.
4. Staff willing to change syllabi and teaching methods

University and project records.

#### Inputs:

	A I D (US 3000)		GOI
	Grant	Loan	
1. Training	-	3,237	4,318
2. Technical Assistance	1,600	73	646
3. University Backstopping	258	515	-
4. Other Costs	-	1,181	2,709
5. Contingencies	-	660	625
6. Evaluation	-	150	-
7. Contingency	193	291	415
	4,051	6,107	8,713

1. GOI and AID disburse funds in a timely fashion.

Project, University, GOI records.

2. Contractor supplies services of qualified and committed professionals.

3. GOI assigns appropriate level of counterparts to contractor technical assistance personnel.

STATUTORY CHECKLIST

## PROJECT PAPER CHECKLIST FOR: WESTERN UNIVERSITIES AGRICULTURE EDUCATION PROJECT

Listed below are statutory criteria applicable generally to projects with FAA funds and project criteria applicable to individual fund sources Development Assistance (with a subcategory for criteria applicable only to loan); and Economic Support Fund.

A. GENERAL CRITERIA FOR PROJECT

- |    |  |   |
|----|--|---|
| 1. | <u>FY 79 App. Act Unnumbered; FAA SEC. 653(b); Sec. 634A.</u><br>(a) Describe how Committees on appropriations of Senate and House have been or will be notified concerning the Project<br>(b) is assistance within (Operational Year Budget) country or international organization allocation reported to Congress (or not more than \$1 million over that figure?) | (a) Project is in the FY 80 Congressional Presentation<br><br>(b) YES |
| 2. | <u>FAA Sec. 611(a)(1).</u> Prior to obligation in excess of \$100,000, will there be (a) engineering, financial, and other plans necessary to carry out the assistance and (b) reasonably firm estimate of the cost to the U.S. of the assistance?   | YES   |
| 3. | <u>FAA Sec. 611(a)(2).</u> If further legislative action is required within recipient country, what is basis for reasonable expectation that such action will be completed in time to permit orderly accomplishment of purpose of the assistance?  | N/A   |
| 4. | <u>FAA Sec. 611(b); FY 79 App. Sec. 101.</u> If for water or water-related land resource construction, has project met the standards and criteria as per the Principles and Standards for Planning Water and Related Land Resources dated October 25, 1973?  | N/A   |

5. FAA Sec. 611(e). If project is capital assistance (e.g., construction), and all U.S. assistance for it will exceed \$1 million, has Mission Director certified and Regional Assistant Administrator taken into consideration the country's capability effectively to maintain and utilize the project? N/A
6. FAA Sec. 209. Is project susceptible of execution as part of regional or multi-lateral project? If so why is project not so executed? Information and conclusion whether assistance will encourage regional development programs. N/A
7. FAA Sec. 601(a). Information and conclusion whether project will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture and commerce; and (f) strengthen free labor unions. Project should improve technical efficiency of agriculture and strengthen university involvement in community service activities including cooperatives.
8. FAA Sec. 601(b). Information and conclusion on how project will encourage U.S. private trade and investment abroad and encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise.) As an Education activity the project will not particularly affect U.S. private trade and investments. Some training will be in U.S. educational institutions arranged by U.S. Contractor and the technical assistance will come from a U.S. university

9. FAA Sec. 612(b). Sec. 636(h). Describe steps taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services; and foreign currencies owned by the U.S. are utilized to meet the cost of contractual and other services. The GOI is providing equivalent of \$8.8 million toward the project, and will essentially cover the local cost.
10. FAA Sec. 612(d). Does the U.S. own excess foreign currency of the country and, if so, what arrangements have been made for its release? NO
11. FAA Sec. 601(e). Will the project utilize competitive selection procedures for the awarding of contracts, except where applicable procurement rules allow otherwise? YES
12. FY 79 App. Act Sec. 608. If assistance is for the production of any commodity for export, is the commodity likely to be in surplus on world markets at the time the resulting productive capacity becomes operative, and is such assistance likely to cause substantial injury to U.S. producers of the same, similar or competing commodity? N/A

B. FUNDING CRITERIA FOR PROJECT

1. Development Assistance Project Criteria

- a. FAA Sec. 102(b); 111; 113; 281a Extent to which activity will (a) effectively involve the poor in development, by extending access to economy at local level, increasing labor-intensive production and the use of appropriate technology spreading investment out from cities to small towns and rural areas, and insuring wide participation of the poor in the benefits of The primary purpose of this project is to improve agriculture which directly affects the rural poor. In addition, another important element of the project is the development of community services, which again affects the rural poor directly.

development on a sustained basis, using the appropriate U.S. institutions; (b) help develop cooperatives, especially by technical assistance, to assist rural and urban poor to help themselves toward better life, and otherwise encourage demonstratic private and local governmental institutions; (c) support the self-help efforts of developing countries; (d) promote the participation of women in the national economics of developing countries and the improvement of women's status; and (e) utilize and encourage regional cooperation by developing countries?

The project promotes the participation of women in both academic and community affairs.

b. FAA Sec. 103, 103A, 104, 105, 106, 107. Is assistance being made available: (discuss only applicable paragraph which corresponds to source of funds used. If more than one fund source is used for project, discuss relevant paragraph for each fund source.)

FAA Section 103.

(3)(105) for education, public administration, or human resources development; if so, extent to which activity strengthens nonformal education, makes formal education more relevant, especially for rural families and urban poor, or strengthens management capacity of institutions enabling the poor to participate in development.

Project is directly related to strenthening Indonesian agricultural and educational institutions to develop their technical, instructional and mangerial capacity.

(c) FAA Sec. 110(a). Will the recipient country provide at least 25 per cent of the costs of the program, project, or activity with respect to which the assistance is to be furnished (or has the latter cost-sharing requirement been waived for a "relatively least-developed" country?)

YES. The Government of Indonesia will provide \$8.8 million of the \$18.9 million project, or 46 per cent.

- d. FAA Sec. 110(b). Will grant capital assistance be disbursed for project over more than 3 years? If so, has justification satisfactory to Congress been made, and efforts for other financing, or is the recipient country "relatively least developed?" N/A
- e. FAA Sec. 281(b). Describe extent to which program recognizes the particular needs, desires, and capacities of the people of the country; utilizes the country's intellectual resources to encourage institutional development; and supports civil education and training in skills required for effective participation in governmental and political processes essential to self-government. See Social Soundness Analysis of Paper.
- f. FAA Sec. 122(b). Does the activity give reasonable promise of contributing to the development of economic resources, or to the increase of productive capacities and self-sustaining economic growth? YES
2. Development Assistance Project Criteria (Loans only)
- a. FAA Sec. 122(b). Information and conclusion on capacity of the country to repay the loan, including reasonableness of repayment prospects. Indonesia has adequate reserves to cover borrowing and is current on payments. Repayment prospects are good.
- b. FAA Sec. 620(d). If assistance is for any productive enterprise which will compete in the U.S. with U.S. enterprise, is there an agreement by the recipient country to prevent export to the U.S. of more than 20 per cent of the enterprise's annual production during the life of the loan? N/A

3. Project Criteria Solely for Economic Support Fund N/A
- a. FAA Sec. 531(a). Will this assistance support promote economic or political stability? To the extent possible, does it reflect the policy directions of Section 102? N/A
- b. FAA Sec. 533. Will assistance under this chapter be used for military, or para-military activities? N/A

PROJECT AUTHORIZATION

Name of Country: INDONESIA

Name of Project: Western Universities  
Agricultural Education

Number of Project: 497-0297

1. Pursuant to Section 103 of the Foreign Assistance Act of 1961, as amended, I hereby authorize the Western Universities Agricultural Education Project for Indonesia involving planned obligations of not to exceed 6.2 million in loan funds and \$4.1 million in grant funds over a five year period from date of authorization, subject to the availability of funds in accordance with the AID OYB/allotment process, to help in financing foreign exchange and local currency costs for the project.

2. The project consists of strengthening the capabilities of the member institutions of the Association of Western Universities to contribute to agricultural and rural development by assisting in:

- a. improving staff, teaching and producing better graduates;
- b. institutionalizing a system of university rural public service; and
- c. organizing and integrating faculty research.

3. The Project Agreement(s) 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.

4. a. Interest Rate and Terms of Repayment

The Cooperating Country shall repay the Loan to AID in US dollars within forty (40) years from the date of first disbursement of the Loan, including a grace period of not to exceed ten (10) years. The Cooperating Country shall pay to AID in U.S. Dollars interest from the Date of first disbursement of the Loan at the rate of (a) two percent (2%) per annum during the first ten (10) years, and (b) three percent (3%) per annum thereafter, on the outstanding disbursed balance of the Loan and on any due and unpaid interest accrued thereon.

b. Source and Origin of Goods and Services

Goods and services, except for ocean shipping, financed by AID under the project shall have their source and origin in the Cooperating Country or in the United States for grant funds and in countries included in AID Geographic Code 941 for the Loan except as AID may otherwise agree in writing.

Ocean shipping financed by AID under the project shall, except as AID may otherwise agree in writing, be financed by the loan only on flag vessels of the United States and Indonesia, and by the grant only on flag vessels of the United States.

c. Other

1. Prior to any disbursement, or the issuance of any commitment documents under the Project Agreement, the Cooperating Country shall furnish in form and substance satisfactory to AID, assurance that the Directorate General of Higher Education concurs with the implementation plan prepared by the Project Design team and detailed in the Project Paper.

2. Prior to any disbursement, or the issuance of any commitment documents under the Project Agreement to finance training, the Cooperating Country shall furnish, in form and substance satisfactory to AID, a training plan detailing among other things the course description, cost of training, selection criteria, selection procedures and the establishment of a Selection Committee.



Appendix N

REPUBLIC OF INDONESIA  
NATIONAL DEVELOPMENT PLANNING AGENCY  
JAKARTA, INDONESIA

No. 2564/D.I/10/1980

1 October 1980

Mr. Thomas C. Niblock,  
Director  
USAID Mission to Indonesia,  
c/o American Embassy,  
Jakarta.

Dear Mr. Niblock,

Re: Western Universities Agriculture Education

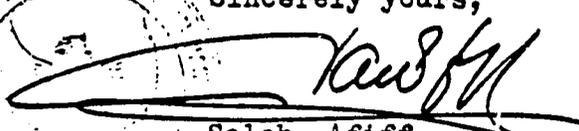
This is a request to the Government of the United States of America for financial assistance of up to US \$ 13,000,000 (thirteen-million US dollars) on the basis of US \$ 9,000,000 (nine million US dollars) in loan funds and US \$ 4,000,000 (four million US dollars) in grant.

The main purpose of the financial assistance is to strengthen the capability of ten Western Region institutions of higher education to play increasingly effective roles in Agricultural and Rural Development by:

1. improved staff, teaching and better trained graduates;
2. institutionalized systems of university/rural public service;
3. organized and integrated faculty research.

Thanking you for your cooperation.

Sincerely yours,



Saleh Afiff  
Deputy Chairman

- cc. : 1. Secretary General,  
Dept. of Education and Culture  
2. Director General of  
International Monetary Affairs,  
Department of Finance.

UNITED STATES INTERNATIONAL DEVELOPMENT COOPERATION AGENCY  
AGENCY FOR INTERNATIONAL DEVELOPMENT  
WASHINGTON, D.C. 20523

PROJECT AUTHORIZATION

INDONESIA

Western Universities  
Agricultural Education  
Project No. 497-0297

1. Pursuant to Section 103 of the Foreign Assistance Act of 1961, as amended, I hereby authorize the Western Universities Agricultural Education Project for Indonesia involving planned obligations of not to exceed \$5.95 million in loan funds and \$3.9 million in grant funds over a five year period from date of authorization, subject to the availability of funds in accordance with the AID OYB/allotment process, to help in financing foreign exchange and local currency costs for the project.
2. The project consists of strengthening the capabilities of the member institutions of the Association of Western Universities to contribute to agricultural and rural development by:
  - a. improving staff, teaching and producing better graduates;
  - b. institutionalizing a system of university rural public service; and
  - c. organizing and integrating faculty research.

In assisting the Government of Indonesia to achieve this purpose, A.I.D. funds will be used for participant training; appropriate equipment, books and research materials; upgrading of English-language instruction; technical assistance, including the development of networks among the institutions; and project operating costs.

3. The Project Agreement(s) 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.

4. a. Interest Rate and Terms of Repayment

The Cooperating Country shall repay the Loan to AID in US dollars within forty (40) years from the date of first disbursement of the Loan, including a grace period of not to exceed ten (10) years. The Cooperating Country shall pay to AID in U.S. Dollars interest from the date of first disbursement of the Loan at the rate of (a) two percent (2%) per annum during the first ten (10) years, and (b) three percent (3%) per annum thereafter, on the outstanding disbursed balance of the Loan and on any due and unpaid interest accrued thereon.

✓

b. Source and Origin of Goods and Services

Goods and services, except for ocean shipping, financed by AID under the project with grant funds shall have their source and origin in Indonesia or in the United States except as AID may otherwise agree in writing. Goods and services except for ocean shipping financed by A.I.D. under the project with loan funds shall have their source and origin in countries included in A.I.D. Geographic Code 941, except as A.I.D. may otherwise agree in writing.

Ocean shipping financed by AID under the project shall, except as AID may otherwise agree in writing, be financed by the loan only on flag vessels of the United States and Indonesia, and with grant funds only on flag vessels of the United States.

Clearances

Date

Initial

G. R. van Raalte, ASIA/PD  
Thomas M. Arndt, ASIA/TR  
William R. Ford, ASIA/ISPA  
Charles Johnson, ASIA/DP  
Herbert E. Morris, GC/ASIA

4-15-81  
4-14-81  
4/15/81  
4/16/81  
4/16/81

R  
TMA  
WRF  
CJ  
HEM

Signature

R Halligan

Robert Halligan  
Acting Assistant Administrator  
Bureau for Asia

16 April 1981

Date

USAID/Indonesia:GC/ASIA:<sup>PC</sup>LChiles:eb:4/14/81 EXT 632-1270