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ANNUAL REVIEW
INDONESIAN HIGHER AGRICULTURAL EDUCATION
1973

February 4-8, 1974, Yogyakarta

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KONSORSIUM ILMU-ILMU PERTANIAN/DIREKTORAT PENDIDIKAN TINGGI
DEPARTEMEN PENDIDIKAN & KEBUDAYAAN

1974

I. PROPOSALS FOR PROGRAM ADDITIONS AND CHANGES

P R E A M B L E

The Annual Review Plennary Session on Wednesday, February 7, 1974, and the Executive Session on Thursday, February 8, 1974, adopted the issues brought up by the Working Groups on Instruction, Research and Public Service, University Administration and General Services.

E x c e p t :

a. where recommendations for amendments are specifically adopted, the meeting recommends the general plan and specific details contained in this document be endorsed for 1974 - 1975 and the years thereafter; 2nd

b. where specific recommendations are made for amendment, the meeting endorses Document X as the continuing workplan for this project.

Yogyakarta, February 8, 1974

Chairman,

(Koesnadi Hardjasoemantri)

Secretary,

(Achjani Atmakusuma)

PROPOSALS FOR PROGRAM
ADDITIONS AND CHANGES

1974/75 - 1975/76

Having heard the deliberations on the programs and topics concerned primarily during the respective sessions on Instruction, Research and Public Service, University Administration and General Services, and resulting in the proposals for program changes and additions for 1974/75 and 1975/76, the Annual Review Meeting strongly endorses the following issues:

C O N T E N T S :

I. PROPOSALS FOR PROGRAM ADDITIONS AND CHANGES

II. DISCUSSION ISSUES

III. DOCUMENT X. WORK PLAN FOR 1974/1975

IV. AN OVERVIEW OF PROJECT TARGETS AND ACTIONS 1973/74

V. THE I.P.B. ANNUAL REVIEW REPORT FOR 1973

VI. THE AGROCOMPLEX ANNUAL REVIEW REPORT FOR 1973

VII. MUCIA INPUTS AT THE INSTITUTE PERTANIAN BOGOR 1973-74

VIII. MUCIA INPUTS AT AGROCOMPLEX, UNIVERSITY OF GAJAH MADA

IX. G.O.I. AND MUCIA INPUT AT THE AGRICULTURAL FACULTIES IN INDONESIA.

INSTRUCTION

Overseas training.

1.1. There has been considerable improvement in the English Training program at IPB and more recently at UGM. This improvement will increase considerably the number of Participants eligible for training abroad. It is desirable that support for this training be continued in these two institutions and strengthen in the non-pembinas.

Fiscal implications:

GOI, universities concerned, and MUCIA.

Approvals required:

Universities, the Konsortium of Agricultural Sciences, GOI, and MUCIA.

Program responsibility:

Universities and the Konsortium.

1.2. The number of participants for 1974/1975 is greater than those in Document X.

It is recommended that the increase over Document X be requested because of the inability previously to meet the objective in faculty improvement.

The numbers requested for degree participants are:

	1974/75	1975/76
I P B	15	15
G M U	16	20
Non-pembina	8	10
Total	39	45

However, at each Annual Review an assessment will be made of urgent

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training needs and appropriate adjustments will be made to accomodate to changing requirements. Therefore, for example, as more non-pembina personnel become eligible it is anticipated that the number of trainees from the non-pembina will increase while, as the Project progresses, the number from pembinas may decrease except when solid programmatic justification is advanced.

Fiscal implications:

MUCIA and USAID.

Approvals required:

Universities, GOI (Directorate of Higher Education), the Konsortium, MUCIA and USAID.

Program responsibility:

Universities, Konsortium, MUCIA and AID.

1.3. It is recommended that non-degree programs be continued as they are proceeding excellently.

Fiscal implications:

MUCIA and USAID (as indicated in Document X).

Approvals required:

Universities, Konsortium, Directorate of HE(GOI), MUCIA and USAID.

Program responsibility:

Universities, Konsortium, and MUCIA.

KONSC

1.4. Third country training programs provide a useful opportunity, but the country programs should be selected to meet the needs of the participant. There can be cost savings for thesis research in graduate programs.

Fiscal implications:

MUCIA and USAID.

Approvals required:

Universities, GOI - Directorate of Higher Education, Konsortium, MUCIA and USAID.

Program responsibility:

Universities, Konsortium, and MUCIA.

1.5. As an aid to successful training programs, it is recommended that the Konsortium have a contiuing evaluation on achiement and performance of returning participants.

Fiscal implications:

GOI, Konsortium budget.

Approvals required:

None.

Program responsibility:

The Konsortium of Agricultural Sciences.

Curriculum Development.

1.6. On the four year undergraduate programs, there has been significant progress at both IPB and UGM for which commendation is due. It is recommended that support be continued, and an additional allocation to IPB of $30.000.- to support the four year pilot undergraduate program be continued for 1974/1975.

Fiscal implications:

MUCIA is requested to allocate an additional $30.000 over the dollar budget indicated in Document X, and the Government of Indonesia will supply Rp.70 million for 1974/75 and Rp.84 million for 1975/76.

Approvals required:

GOI, MUCIA and USAID.

Program responsibility:

Institute of Agriculture Bogor.

1.7. The package courses in the non-pembinas requires the development of core courses for the Agricultural Sciences. To aid this the Konsortium should develop a plan for the years to come.

Fiscal implications:

a. MUCIA and USAID for additional dollar support over Document X of $30.000 in 1974/75 and $55.000 in 1975/76.

b. GOI : Rp.3 million for the operational costs in 1973/74 and Rp.22 million for 1974/75.

Approvals required:

Konsortium, MUCIA and USAID.

Program responsibility:

IPB, UGM and Konsortium.

1.8. Continuing Short Term Advisers.

The present needs of the Indonesian universities in terms of the collaborative use of MUCIA advisers strongly suggests the use of "continuing short term" advisers rather than a procession of new, different, ever-changing group of advisers from MUCIA universities. Moreover, in many instances the appropriate and judicious use of continuing short term advisers reduces the requirements for the resident "long termer".

The further implementation of the "continuing short term" adviser acknowledges the concept calling for repeated tours of duty of varying periods of time depending upon changing developments and institutional needs of a MUCIA staff member over a period of five to ten years.

In essence, such an adviser becomes a "long termer".
Therefore, it is recommended that the concept of the "continuing short term" adviser be vigorously implemented in 1974/75. The use for this type of adviser in working within the goals and objectives of the Project is to be initiated immediately. The man months allocated to this activity should be approximately 51 as indicated in the revised version of Document M.
It should be noted that the need for "permanent" Program Coordinators and for selected long term Education Advisers for certain stages of institutional building is recognized. For example, the renewed emphasis to be placed upon the "continuing short term" adviser does not prejudice the current request for a second long term Education Adviser at UGM.

Short termers.

It is recommended that there be no specific division of time for short termers between UGM and IPB or among non-pembinas.
The division decided upon, if any, should be based on the particular job for which a short termer was selected and the way in which he can be the most useful.
Short termers may be used at one or several institutions. They may not be exclusively for just one institution but should be placed where their services are in greatest need.
Endorsement is given to the newly announced procedure by which increased rupiah funds are provided for counterparts of short termers. An amount of Rp.3.000.000.- will be available to IPB and UGM at the rate of Rp.300.000.- per short termer.
For non-pembinas the amount is Rp.1.800.000. With the return of short termers to their universities they have the opportunity of securing, studying and analyzing journals, research publications, etc. Information about these should be transmitted by them to their counterparts in Indonesia. We recommend that nominal financial aid of say $200 per year be provided each short termer, to provide fotocopies, reprints and other relevant information on a continuing basis to his counterpart(s).

Fiscal implications:

MUCIA, USAID and GOI counterpart funds; MUCIA: 51 man/months; GOI: Rp.7.8 million.

Approvals required:

Universities/Konsortium/MUCIA/USAID/GOI.

Program responsibility:

Universities/Konsortium/MUCIA.

1.9. Commodities.

A major problem in the supplying of commodities is lack of information and information of knowing where an article is when once it has been ordered. An improved system of communication, identification and information should be developed so that work plans can be related to commodity movements. In addition the entire system of commodity procurement should be analysed with the aim of more speedy and dependable operation.

Fiscal implications:

Mostly none, but when needed, the Directorate of Higher Education will make the provision.

Approvals required:

Universities, Konsortium, DOHE, MUCIA.

Program responsibility:

Universities, Konsortium, MUCIA.

1.10. In the development of Indonesian agri-business, it may be necessary to make major investments in related industrial plants. Before widespread investments are made, consideration should be given to the construction of pilot operations or demosntrations. More specifically, we recommend that major commodity investments be made in "Food Processing" pilot plants at IPB and UGM which will aid in agricultural development.

Fiscal implications:

MUCIA, USAID and GOI.

Approvals required:

MUCIA, USAID and GOI.

Program responsibility:

Universities, Konsortium, MUCIA and the Directorate of Higher Education.

RESEARCH AND PUBLIC SERVICE.

2.1. Protocol and budget for supporting thesis research in Indonesia by Indonesian candidates.

The members of the 1974 Joint Annual Review strongly reaffirm the actions of the 1973 and previous Annual Reviews and urge the immediate adoption of a protocol and budget for supporting thesis research in Indonesia by Indonesian candidates for the Ph.D. degree enrolled in MUCIA universities. The 1974 Annual Review notes the fact that this action has not been accomplished to this date. As this Project of institution building progresses, the relevance of this particular facet of a participant's experience becomes most important in terms of overall faculty career development plans, of the strengthening of the research component of the Indonesian universities, and of the overall contributions of faculties to Indonesian agricultural and regional development.

The urgency of the adoption of a suitable protocol is underscored by the current situation in which one participant has returned without adequate arrangements and the impending situation in which three or four participants will be returning in the coming year.

This Annual Review recommends that the Konsortium and MUCIA adopt the following protocol regarding the programs of Indonesians studying for the Ph.D. in American universities.

Whereas it is desirable that Indonesian faculty studying for the Ph.D. in America, do their thesis research and dissertation in Indonesia whenever possible.

Whereas MUCIA and its member universities stand ready to provide adequate supervision for such research in Indonesia and to cooperate in making provision for the final examination on the thesis in Indonesia or in the United States; Therefore, it shall be the policy of the Project that all candidates, when appropriate

will design their programs of study for advanced degrees to include dissertation research in Indonesia.

In order to provide adequate fiscal support for this effort, MUCIA/Indonesia should request additional Rupiah support in the funds in trust now available to MUCIA and should pay honoraria to returning participants at a level agreed to by MUCIA and the Konsortium as sufficient to permit the participant to devote full-time to his research. MUCIA should also provide research support to the participant within agreed limits appropriate to the nature of his research. The Indonesian university hosting the returning participant should provide office space, access to laboratory equipment and laboratories, and should provide a faculty sponsor to give close and continuing supervision to this work.

It is understood that the program may include a return trip to the United States for a period not to exceed six months with air fare and per diem allowance from dollar funds. This provision would be used when and if it becomes necessary for proper completion of the thesis and administration of the final oral examination.

To give further impetus to the adoption of this program the Annual Review offers the following suggestions for implementation:

1. The participant's program should be spelled out before he(she) departs for the U.S., or one to two year prior to returning to Indonesia for those participants already sturying in the U.S.
2. Approvals should be obtained from:
   a. The American University.
   b. The Indonesian University.
   c. The Konsortium of Agricultural Sciences.
   d. The MUCIA.
3. Written statements needed:
   a. Project statement from the participant approved by the major professor.
   b. Approval from the Graduate School of the American University.

c. Statement from the Indonesian University guaranteeing that the participant will be engaged in full-time research.

4. Supervision.

a. A member of the participant's Graduate Committee should visit the student at least once during the research program.

b. The appointment of one or more qualified Indonesian staff members as adjunct professors by the American University attended by the participant.

5. The duration of the research program should be determined according to the project proposal. Extensions of the program should follow common rules applying to MUCIA participants.

6. Fiscal consequences (MUCIA):

a. Research of the participant in Indonesia

(1) for research Rp.1.500.000. annually

(2) for travel Rp.200.000. annually

b. Stipend for the participant:
Rp.100.000 per month for the (approved) duration of the research program.

c. Book and thesis allowances according to the current MUCIA regulations.

d. Round trip Indonesia - U.S. for participant (final exam) and graduate committee member (supervision).

Fiscal implications:

MUCIA for 1974/75: funding for 6 candidates.

GOI: Rp.1 million for Konsortium purposes.

Approvals required:

Universities, Konsortium, MUCIA, and GOI.

Program responsibility:

Universities, Konsortium, and MUCIA.

2.2. Visits to non-pembinas to determine requirement of commodities for research projects.

Three non-pembina faculties at Padjadjaran, Airlangga and Brawijaya were visited to determine whether there are research projects which can benefit if commodities are supplied. Udayana University will be visited similarly in the near future.

Projects of staff members are underway at each university, but the quality of planning and implementation vary widely. Commodity lists have been received from all the universities visited. So far the ones for support have not been selected. In the near future as many staff projects as possible will be selected and commodities for for them ordered.

The visits to this limited number of non-pembina universities suggest that there are many that are worthy of support in the form of commodities. The amount of twenty thousand dollars ($20.000) beyond the Document X level should be included in the 1974-75 budget for this purpose at the non-pembinas.

Fiscal implications:

Konsortium, MUCIA and the Directorate of Higher Education for the survey and MUCIA and USAID for the dollar funding for purchase of commodities.

Approvals required:

Directorate of Higher Education and MUCIA.

Program responsibility:

Universities, Konsortium and MUCIA.

2.3. a. Development of linkages and coordination of research between the Universities and the Ministry of Agriculture have been promising, but we still feel that these linkages could be more effective if the University is also involved in the initiation of program planning at least a year and preferably should be involved in developing a long range cooperative program that

will benefit both parties.

b. In line with these activities, the University has to develop and to improve the research competence of its staff members. This also means that the staff or manpower development should be given high priority.

Fiscal implications:

None.

Approvals required:

None.

Program responsibility:

Universities and Konsortium.

2.4. Institutionalizing Research Funds from other Sources.

At present only research funds from the Ministry of Education are controlled by the university's administration. Research support from other institutions (Government and private) is granted directly to individual staff members or departments in the University.

Channeling outside research funds through the administration will consolidate research activities, facilitate programming of research, assure closer coordination between opportunities and graduate education and to give additional control of staff time. Foreign exchange support can be matched with rupiah funds, and the universities will have a more accurate budget estimate.

According to IPB's PERT chart, the institutionalization process should be completed in 1975-76.

Fiscal implications:

None.

Approvals required:

None.

Program responsibility:
Universities and the Konsortium.

2.5. The Annual Review recommends that rupiah support for cooperative research projects between MUCIA short termers and their counter - parts should be considered by the Ministry of Education and Culture after approval by the University. Extra funds for these kinds of research projects must be provided by the Ministry of Education and Culture in addition to the research budget that will be allocated for the University.

Fiscal implications:
GOI and MUCIA.

Approvals required:
GOI and MUCIA.

Program responsibility:
Universities and Konsortium.

2.6. The Annual Review recommends the MUCIA-AID Indonesian Higher Agricultural Education Project provide ample funds for thesis research in the Biotron at the University of Wisconsin. This is an anusual facility present only at one MUCIA University and useful for specific tropical research problems. An Indonesian student might do research more relevant to Indonesian agriculture in such a facility. The need would be justified in the students original program and be included as a specific item in the submitted budget.

Fiscal implications:
MUCIA.

Approvals required:
MUCIA.

Program responsibility:
MUCIA.

2.7. Rupiah and Dollar Support for Dissemination of Research Results through Publications.

The publication of research findings reflects the completion of the investigative program. It represents the contribution to science by the scientist, and a repayment in part for the knowledge he utilized from the literature prepared by preceding scientists. There exists a serious need to publish the findings of agricultural research conducted in Indonesia. At present, adequate rupiah funding is available. The major constraint appears to be a reluctance on the part of the researcher to meet his obligation to publish his findings.

It is suggested that consideration be given for organizing a journal of Indonesian Agricultural Research. This journal will publish literature arising from agricultural scientists and work at universities, institutes and government and private agencies.

Fiscal implications:
Government of Indonesia.

Approvals required:
Government of Indonesia.

Program responsibility:
LIPI or Science Institute of Indonesia.

2.8. An additional $35.000 for research and public service at IPB for 1975/76.

The rate of increase of the IPB's rupiah budget allocated for research is more than expected (1973-74: estimated Rp.35.000.000; allocated Rp.54.500.000 1974-75: estimated Rp.50.000.000; commited

Rp.74.000.000). In 1975-76 the budget will be even larger and coupled with the inclusion of outside research funds (institutionalization) the total research budget at the IPB is expected to be around Rp.200.000.000. The dollar component as found in Document X, on the other hand, is declining from $60.000 (1973-74), $50.000 (1974-75), and $35.000 (1975-76). To support research projects with equipment and supplies the IPB requests an additional $35.000 in 1975-76 for research and public service.

Fiscal implications:

MUCIA, USAID and IPB.

Approvals required:

MUCIA, USAID and IPB.

Program responsibility:

IPB.

2.9. Exploring the Possibility of More Intensive Support in Extension Programs of the Department of Agriculture.

It is felt that the agrocomplex of GMU and the IPB could play a more important role in aiding the Department of Agriculture in extension. Possibilities are such areas as extension education and extension planning and programming.

These possibilities should be explored further. The GMU and the IPB will present a detailed report in 1975.

Fiscal implications:

Government of Indonesia.

Approvals required:

Government of Indonesia.

Program responsibility:

Universities (IPB and GMU).

2.10. Expansion of Activities within the Public Service Sector.

Because of the increase of activities, primarily in the community service aspect, more dollar and rupiah funding is needed for 1974-75 and the years thereafter. Suggested project proposals can be scanned in the appendices hereby included.
(Appendix I: Development of a Fertilizer Quality Assessment Laboratory; and Appendix II: An animal Health Extension Service).

Fiscal implications:
MUCIA and GOI.

Approvals required:
MUCIA and GOI.

Program responsibility:
Gadjah Mada University.

UNIVERSITY ADMINISTRATION AND GENERAL SERVICES.

3.1. Training Courses and Seminars on University Administration in Indonesia.

During the 1973/1974 fiscal year three seminars were conducted on University Administration, as follows:

a. A three-day seminar at GMU on August 20-22, 1973, dealing with two topics (planning and organization). Twelve people from the Agrocomplex attended.

b. A three-day seminar sponsored at IPB on December 14-16, 1973 attended by staff members.

c. A two-week seminar at UGM from January 21 to February 2, 1974, attended by 44 staff members from universities and institutes throughout Java and Kalimantan except ITB Bandung.

d. Two other courses at Ujung Pandang and Padang.

Other courses focusing on the supporting services were:

a. Laboratory technician Training at ITB in June and July 1973 attended by participants from IPB and GMU.

b. Course on Instrumentation and Electronics at GMU. from December 1973 to February 1974 (3 months).

For the coming years it is recommended that members of the consortium continues to participate in seminars, conferences and workshops on University Administration. More focus should be given on more relevant aspects and areas : a) guidance and counseling, b) planning and budgeting, c) curriculum development.

It has already been indicated last year that indigenous formal training programs of relevance for Indonesian University Administration should be established. It is understood that the administration, organization and funding of the programs rest with the Department of Education and Culture through the Centers of Excellence.

Fiscal implications:

Directorate of Higher Education For 1975-76 a budget estimate of Rp.10 million is envisaged.

Approvals required:

Directorate of Higher Education.

Program responsibility:

Universities (Centers of Excellence)

3.2. Training and Courses Abroad or Third Country.

Since 1970 a program has been underway to accomodate trainees from Indonesia in the Wisconsin Summer Seminar on University Administration. This program should continue to be made available for IPB, GMU and non-pembinas. Proposals could be brought up as follows:

a. Participants of the MUCIA program, prior to returning home, are requested to attend the Summer Seminar at Wisconsin. The number that will be admitted would depend on the available quota put aside for this purpose.
b. More candidates are anticipated to go on degree programs or on stream programs for University Administrators.
c. Efforts should be made to implement a program of short term training opportunities for up to 12 senior pembina as well as non-pembina university officials in university administration and research management in the U.S. and nearby countries or third countries.

Fiscal implications:

a. From MUCIA non-degree participant program for current administrators.
b. From MUCIA continuing participant.

Approvals required:

Universities, Konsortium, MUCIA, GOI.

Program responsibility:

Universities, Konsortium, MUCIA.

3.3. Strengthening the Pembina System.

It has been endorsed that more attention be paid to the other Agrocomplex faculties outside IPB and GMU. Efforts should be focused on:

a. Short termers for improvement of research capability and curriculum development.
b. Library improvement with first priority on the acquisition of basic books in the agricultural sciences.
c. Better communication to develop standards and systems within higher agricultural education.
d. Implementation of the photo-copy service to provide non-pembinas with selected reproductions of scientific publications.

Fiscal implications:

a. MUCIA and USAID: 6 man/months.
   GOI: 1.8 million Rph.
b. $30.000 for 20 selected faculties.
c. No fiscal implication.
d. Continuation of Document X support and rupiah funding should be supplied (for 1975/76 an estimate or Rph.500.000 should be requested and placed with the Konsortium.

Approvals required:

MUCIA, USAID and GOI.

Program responsibility:

Universities, Konsortium, MUCIA.

3.4. Strengthening the Konsortium Administration.

The expanding activities of the Konsortium and the growth in Konsortium services to the non-pembinas require additional funding. Particular attention must be given to:

a. Counterpart funds for continuing short term adviser activities at the non-pembinas.

b. Library improvement.

c. Identification of research potentials, both in terms of problem areas and promosing staff members.

Appointment of more consortium officers is also necessary to bring about more efficiency and efficacy.

Fiscal implications:

a. GOI: Rph 1.8 million for 1974/75
Rph 3.0 million for 1975/76

b. and c.: GOI: Rph 7.5 million for 1974/75
Rph 9.2 million for 1975/76
plus Rph 1.0 million for administration of thesis research.

Approvals required:

GOI and Konsortium.

Program responsibility:

Konsortium.

3.5. Sponsoring a Workshop on the Expansion versus Consolidation of Agricultural Faculties for 1974/75.

This workshop is envisaged to be held in October 1974 and position papers from Indonesians as well as from MUCIA are recommended.

Fiscal implications:

GOI: for 1974/75: Rph 4.0 million and for 1975/76: Rph 5.0 million.

Approvals required:

The Directorate of Higher Education (GOI).

Program responsibility:

Konsortium of Agricultural Sciences.

3.6. Studies and Analysis of University Management within the Agrocomplex Faculties.

The next issues to be brought up:

a. Autonomous management within the curricular and financial facets.
b. Reorganization and improvement toward a centralized administration for the functional units and appointments of appropriate officers in order to obtain more efficiency and efficacy.

Fiscal implications:
None.

Approvals required:
University.

Program responsibility:
Universities, Agrocomplex faculties.

3.7. The expansion and development of libraries, data processing centers, language laboratories, visual aid centers, photo-copy services, repair and maintenance shops and publishing centers are important to the continued success of the Project. The Annual Review, except for libraries, recommends levels of funding currently in Document X.

For a more detailed description of needs and activities see the Report of the 1973 Annual Review.

Fiscal implications, approvals required and program responsibility:
See last year's report.

3.8. A Comprehensive Project Evaluation in September 1974.

It is recommended that an evaluation be made of the first five years' operations of this project. This evaluation should be part of a process which will lead to the development of another planning document of importance, or the so-called DOCUMENT Y.

Fiscal implications:

MUCIA, USAID and GOI

Approvals required:

MUCIA, USAID and GOI

Program responsibility:

Universities (IPB and GMU), Konsortium, MUCIA.

II. DISCUSSION ISSUES

MUCIA-AID-INDONESIAN HIGHER AGRICULTURAL EDUCATION PROJECT

DISCUSSION ISSUES

JOINT ANNUAL REVIEW OF PROJECT
Jogyakarta, Indonesia
4-8 February 1974

1. INSTRUCTION:

1.1. Curriculum Development

1.1.1. Status of four-year program and overall university-wide curriculum reform at UGM? At IPB?

1.1.2. Status of curricular reform at non-Pembina universities and nature of articulation of present three-year programs of non-Pembinas with newly-developed four-year pembina curricula.

1.1.3. Status of development of graduate (Ph.D.) program at UGM. By 1980?

1.1.4. Rupiah support for equipment and local staff training for four-year undergraduate program.

1.2. Staff Development: Upgrading Courses for Faculty in Indonesia

1.2.1. Rupiah support for travel and per diem of attendees at upgrading courses.

1.2.2. Rupiah support of faculty to prepare materials for packaged courses.

1.3. Staff Development: Participant Training Overseas

1.3.1. Status of English language training programs; Rupiah support for English training program.

1.3.2. Number of participants for 1974-75. What is optimum number for IPB, UGM and non-Pembinas? (Document X prescribes 23 degree and 11 non-degree participants)

1.3.3. What is the disposition of quotas or allocations that are not filled in a particular fiscal year? In the past, for example, unfilled quotas for degree training at UGM have been picked up by candidates from IPB. Is there such a thing as a "carry-over" from one year to the succeeding year? Or is an assessment of need made each year and agreed upon at the time of the Annual Review?

1.3.4. Is selection of participants based on critical areas needed from graduate programs? Are enough being sent, for example, to prepare for the Ph.D. program at IPB by 1976?

1.3.5. Status of non-degree training program

1.3.6. Status of third country training program

1.3.7. What is the follow-up program on returned participants?

1.4. MUCIA Advisers: Long-Termers

1.4.1. Should the advisory role of long-termer be directly move toward content advising on teaching, research and graduate programs in discipline areas? How can this be accomplished?

1.4.2. What is the optimum number of long-termers at IPB and UGM?

1.4.2.1. IPB wants biochemist who can assist in developing graduate program

1.4.2.2. With the opportunity for increased cooperation in research with the Ministry of Agriculture there is also the need for an adviser in research administration (including the development of relations among pembinas-non-pembinas-Ministry in research). Could the biochemist do this? Or should an adviser more logically be associated with the Konsortium?

1.4.2.3. At UGM should there be more long-termers in place of short-termers? (See comments on short-termers)

1.4.2.4. Should the project be planning and budgeting for more long-termers at IPB? UGM? Konsortium? If so, in what numbers and to serve what priority programmatic needs?

1.4.3. Housing for advisory staff

1.4.3.1. Status of housing for second long-termer at IPB? For additional long-termers (Konsorsium)? For second guesthouse?

1.4.3.2. Planning and timing of construction of housing for third long-termer at UGM, if approved. For construction of a guesthouse?

1.5. MUCIA Adivsers: Short-Termers

1.5.1. What is the optimum number of short-termers for IPB and UGM?

1.5.2. What are the advantages of returning advisers versus new ones to cover new fields?

1.5.3. Should next year's schedule of short-termers be expanded to include programmed advisers plus 60 percent of the base number in returnees?

1.5.4. Does the project carry-over one or two short-termers at IPB in the fields of Veterinary Pharmacology and Virology in 1974-75?

1.5.5. What is the appropriate allocation of an adviser's time among institutions: entire time at one place (plus two weeks at non-pembinas)? Six weeks at IPB and UGM (plus two at non-Pembinas)?

1.5.6. What is the rupiah support for stipends for (a) counterparts to work with short-termers; and (b) non-pembina staff to come to IPB and UGM to work with short-termers?

1.5.7. Are short-termers maintaining links with counterparts?

1.5.8. Should the project provide a sum of, for example, $200 per year to MUCIA short-termers at their home institution for follow-up purposes with counterparts and Indonesian university faculty members?

1.5.9. Should the project provide short-termers with more preparation time in the United States and more post-tour time?

1.5.10. Are short-termers better utilized at UGM after more returned participant counterparts are present with which to work?

1.5.11. MUCIA advisers feel that they contributed most to research and public service yet the Indonesians rate advisers lowest on their help in these two areas.

1.6. Commodities

1.6.1. System of selection, ordering, shipping, receiving and utilization

1.6.2. Are there special problems in moving shipments from port to institutions?

1.6.3. Should thought be given to appropriately equipping selected basic teaching laboratories?

1.6.3.1. Could laboratories designed to teach basic science courses be made available for instruction to students from various faculties (not confined to students of one faculty)?

1.6.3.2. How much of the needed equipment can be purchased locally?

1.6.4. Is now the appropriate time to make substantial commodity "investments" in selected areas, such as pilot plants for the food science and technology programs at IPB and UGM (preliminary reports of Drs. Tobias and Lund and "Project Proposals Supporting IPB Development Program", March 1973)?

1.6.5. The assignment of additional MUCIA short-term and long-term advisers will necessitiate additional transportation at IPB and UGM. Should vehicles be procured on the basis of one per two (and fraction thereof) long-termers and one per three short-termers serving concurrently?

2. RESEARCH AND PUBLIC SERVICE:

2.1. Development of protocol and identification of budget for support of thesis research in Indonesia by Indonesian candidates for the Ph.D. degree enrolled in MUCIA universities.

2.2. Status of requisitioning of $20,000 of research equipment at the non-pembina universities in 1973/74

2.3. Development of linkages and coordination of research between the universities and the Ministry of Agriculture to include cooperation with the national agricultural research institutes and the regional or provincial agricultural research and public service programs.

2.4. Status of planning on the "institutionalization" of research into the universities' overall planning, programming and budgeting systems.

2.5. Rupiah support for cooperative research projects between MUCIA short-termers and their counterparts

2.6. Budgetary provision for use of the Biotron (University of Wisconsin) for the research by MUCIA participants on their dissertations in the United States on problems relating to soybeans and other crops ($2,000 per growth chamber per year)

2.7. Status of research program at UGM due to lack of experiment station, research director and organization, sufficient utilities, etc. and reported shortage of staff, budget, library and laboratory facilities.

2.8. Rupiah support for the dissemination of research results through publications.

3. UNIVERSITY GENERAL SERVICE:

3.1. Status of library acquisitions for the non-pembinas ($30,000 for 10 institutions)

3.2. Rupiah support for the production of teaching materials

3.3. Rupiah support for repair shops

3.4. Rupiah support of audio-visual aids center and photo copying services

3.5. Status of utilities at UGM to support on-going research programs

4. UNIVERSITY ADMINISTRATION:

4.1. Participation in training courses in university administration during the year

4.2. Developing Role of the Konsorsium

4.2.1. Status of relationship (coordination and cooperation) of pembinas and non-pembinas

4.2.2. Fostering of links to Ministries and to regional development planning agencies including use of non-pembina research capabilities

4.2.3. Policy determination in terms of increase in direct MUCIA assistance to non-pembinas

4.3. Support to the Konsorsium

4.3.1. Rupiah support to Konsorsium

4.3.2. Establishment of Deputy Konsortium Officer

4.4. Strengthening of the administration of the Agro-Complex, UGM, to parallel that of all-University structure, UGM, and of IPB.

5. PROJECT MANAGEMENT:

5.1. Level of U.S. funding for 1974-75

5.2. Five-year external evaluation in 1974-75

5.3. Development of a five-year planning horizon, including the updating and revision of Document X

5.4. Local cost financing moved from USAID/Jakarta to GOI

5.5. Dollar support for US graduate students prior to their departure for Indonesia

5.6. Special supplementary program in forestry education and research

5.7. Restoration of $5,000 contingency budget in MUCIA/Madison for supplies and equipment that does not have be processed in the regular commodity chain

5.8. Increased funding for communications of all kinds

5.9. Incorporation into this project the programming and funding of selected research fellowships which will complement and supplement specific, on-going, in-country activities, such as the A/D/C/ program

5.10. Disposition of proposal for Indonesian deputy project coordinators in MUCIA offices

SOB:mn
24 Jan. 74

III. DOCUMENT X WORK PLAN FOR 1974/1975

MUCIA-AID-INDONESIAN HIGHER AGRICULTURAL EDUCATION PROJECT

DOCUMENT X WORK PLAN FOR 1974/75

JOINT ANNUAL REVIEW OF PROJECT
Jogyakarta, Indonesia
4-8 February 1974

This document presents the Project Work Plan for 1973/74, with budget summaries, as stated in Document X. Dollar and Rupiah budget forecasts in Document X for 1974/75 and 1975/76 are also presented.

This document, then, is intended as a reference point for planning, programming and budget estimates for 1974/75 and 1975/76. Recommendations made at the time of the Annual Review will set the guidelines for the 1974/75 program of the Project.

There are two section in this document:

Section I: Program Summaries

a) Instruction--Undergraduate and Graduate

b) Research and Public Service

c) University General Service

d) University Administration

Section II: Budget Summaries

a) Rupiah Budget Summary

b) Commodity Dollar Input

c) Dollar Budget Summary

SECTION I. PROGRAM SUMMARIES

I. INSTRUCTIONAL PROGRAMS

A. Undergraduate Program.

1. To develop within Indonesian Universities the capability to train efficiently a large number of student to the B.Sc. or Bacc. degree level. (In 1974, potential output of B.Sc. degrees in all institutions: 300 per year.)

a. IPB: To conduct a 4-year pilot project for the B.Sc. program: 1973/74 and 1974/75

(1) Complete pilot program and make recommendations for B.Sc. program in Indonesia.

(2) Introduce courses to selected non-Pembina universities.

1974/75
(1) Evaluate 2nd year curriculum.
(2) Initiate 3rd year courses.
(3) Prepare texts, reference materials, lab manuals for 4th year course.
(4) Prepare list of visual aids, lab equipment and supplies needed for 4th year course.
(5) Trial of 2nd year courses at selected non-pembinas.
(6) Build or renovate labs and classroom for 4th year courses.

1975/76
(1) Initiate 4th year courses.
(2) Evaluate 3rd and 4th year curriculum; consider general adoption.
(3) Trial of 3rd year courses at selected non-pembinas.

Table 1. STAFF DEVELOPMENT, IPB, 1973/74 - 1975/76

	1973/74	1974/75	1975/76
Staff Additions:			
(Cumulative)			
1. Indonesian Staff	33	38	43
2. Technical Staff	4	5	5
3. Short-Term US	3	2	2
Staff Training:			
(Cumulative)			
1. Degree Training - US			
a. Pembina	8	8	8
b. Non-Pembina	10	10	10
2. Non-Degree training - US			
3. Upgrading Teaching Staff in Indonesia:			
a. Pembina	6	6	-
b. Non-Pembina	12	12	12

Table 2. BUDGET ESTIMATES FOR B.Sc. PROGRAM DEVELOPMENT, IPB, 1973/74-1975/76

Activity	Rupiah Budget			Dollar Budget		
	1973/74	1974/75	1975/76	1973/74	1974/75	1975/76
	(Millions of rupiahs)			(Thousands of dollars)		
Staff Costs:						
Professional	9.1	10.6	13.1			
Technical	0.9	1.2	1.2			
Training Costs:						
Staff	4.2	4.2	3.3			
Commodity Costs:						
Teaching Aids	0.5	0.5	-	5.0	5.0	-
Laboratory Equipment	2.0	2.0	-	20.0	20.0	-
Book Development	2.0	2.0	-	5.0	5.0	-
Installation	0.2	0.2	-	-	-	-
Facilities	45.0	45.0	45.0	-	-	-
Total:	63.9	65.7	62.6	30.0	30.0	0
Budget Assigned to Non-Pembina Institutions						
Commodity	-	-	-	75.0	25.0	-
Travel	1.0	1.0	1.0	-	-	-
Facilities (courses)	30.0	50.0	100.0	-	-	-
Total:	31.0	51.0	101.0	75.0	25.0	0

b. UGM: To improve the quality of undergraduate instruction and adapt the teaching program to the needs and requirements of Baccalaureate students:

1971-76: Review and reorganization of 3 to 4 basic courses each year in the Agricultural Sciences.
1972-76: Staff development in areas of philosophy of teaching, teaching methods and teaching aids through seminars, workshops and short-term expert assistance.
1973-76: Introduce improved courses into selected non-Pembina faculties.
1972-76: Development of student orientation and counselling programs.

1974/75
(1) Evaluate the development of the Baccalaureate program.
(2) Initiate new course in selected 3rd year program.
(3) Build or repair facilities and install equipment for 3rd year courses.
(4) Prepare list of needs for development of 4th year courses.
(5) Build or repair facilities; order and install equipment for 4th year courses.
(6) Trial of 2nd year courses at selected non-pembinas.

1975/76
(1) General adoption of baccalaureate program.
(2) Initiate new courses in 4th year.
(3) Complete construction and repair of facilities and installation of equipment for 4th year courses.
(4) Trial of 3rd year courses at selected non-Pembinas.

Table 3. STAFF DEVELOPMENT, UGM, 1973/74-1975/76

	1973/74	1974/75	1975/76
Staff Additions			
1. Professional-Indonesian	8	7	6
2. Technical-Indonesian	4	4	4
3. Short-Term Experts-US	-	-	-
Staff Training			
1. Degree-US	3	3	1
2. Non-degree-US	2	2	2
3. Upgrading-Indonesian	6	6	6

Table 4. BUDGET ESTIMATES FOR B.Sc. PROGRAM DEVELOPMENT, UGM, 1973/74-1975/76

Activity	Rupiah Budget			Dollar Budget		
	1973/74	1974/75	1975/76	1973/74	1974/75	1975/76
	(Millions of rupiahs)			(Thousands of dollars)		
Staff Costs:						
Professional	6.7	5.5	6.0			
Technical	0.9	1.2	1.2			
Training Costs:						
Staff	0.85	0.9	0.9			
Commodities:						
Teaching Aids & equipment	6.6	4.8	4.0	25.0	25.0	15.0
Books, Lab Manuals	3.0	3.5	4.0			
Facilities:	30.0	30.0	30.0			
Total:	48.05	45.9	46.1	25.0	25.0	15.0
Budget Assigned to Non-Pembina Institutions						
Travel	3.4	3.6	-			
Total:	3.4	3.6	-			

B. Graduate Degree Development.

1. To develop within the system of Higher Agricultural Education in Indonesia the capability to provide advanced training for Indonesian students, preparing them for leadership roles in Agricultural Education, Research and Public Service.

   a. IPB:

      (1) Upgrading of the Ir. program and development of new regulations:

      1974/75

      (a) Evaluate reorganization and upgrading of curriculum.
      (b) Establish Ir. program meeting international standards for the M.Sc. degree.

      (2) Development of Doctorate program:

      1974/75

      (a) Continued development of research program for Doctorate and further develop of basic science courses and courses for minor study area.

(b) Send 10 selected Indonesian Doctorate students to US for specific course work.
(c) Develop major courses in area of study.

1975/76
(a) Establish complete in-course Doctorate program in Indonesia in selected (5 major) areas.
(b) Completion of graduate research and teaching facilities.

Table 5. STAFF IN DOCTORATE PROGRAM, IPB, 1973/74-1975/76

Year	Training in U.S.A.	Training in Indonesia		
	Ph.D.	Indonesian Doctorate	Transition Doctorate	In-course Doctorate
1973/74	25	-	20	-
1974/75	25	-	20	-
1975/76	20	-	-	30

Table 6. STAFF DEVELOPMENT, IPB, 1973/74-1975/76

	1973/74	1974/75	1975/76
A. Staff Additions (cumulative):			
1. Professional	15	20	30
2. Short-Term US	7	10	8
B. Training Program (cumulative):			
1. Degree Program - US	20	20	15
2. Non-degree US	2	2	1
3. Indonesian Doctorate:			
a. In Indonesia	8	20	20
b. In US	-	-	-
4. Short-Term Upgrading	-	-	-
Total:	52	72	84

Table 7. BUDGET ESTIMATE FOR GRADUATE PROGRAMS, IPB, 1973/74-1975/76

Activity	Rupiah Budget			Dollar Budget		
	1973/74	1974/75	1975/76	1973/74	1974/75	1975/76
	(Millions of rupiahs)			(Thousands of dollars)		
Staff Costs:						
Professional	6.4	8.2	11.8			
Technical	0.4	0.4	0.4			
Training Costs:						
Indonesian degree	4.0	10.0	10.0			
Indonesian non-degree	8.4	8.4	8.4			
Commodity Costs:						
Laboratory	8.0	8.0	10.0	25.0	20.0	15.0
Library	1.0	1.0	1.0	2.0	2.0	2.0
Transport & Installation	0.2	0.2	0.2			
Operational & Admin. Costs:	11.5	11.5	12.0			
Facilities:	25.0	25.0	25.0			
Total:	64.9	72.7	78.8	27.0	22.0	17.0

b. UGM:

(1) Upgrading of the Ir. (Sardjana) program.

1973/74 and 1974/75

(a) 1973-75: Undertake reorganization and upgrading of curriculum.

(b) 1974-76: Establish Ir. program to meet international standards of the M.Sc. degree.

(c) 1971-76: Continue training staff in US and third countries.

(d) 1971-76: Improve quality of graduate instruction and teaching method through seminars and workshop.

(2) Expansion of the Indonesian Doctor program:

(a) 1972-74: Continue initiation of seminars in such areas as applied statistics, data processing, research methodology etc.

(b) 1971-75: Encourage senior staff to undertake upgrading program.

(c) 1974-75: Organization of Graduate Division.

(d) 1971-76: Develop non-degree or special training opportunities in US or third countries to upgrade Doctor candidates (20 to 25 candidates for 6 to 12 months).

(3) Training at other Indonesian Universities:

(a) 1972-76: Basic Science Courses.

(b) 1973-76: Continue participants in transitional doctorate program at IPB.

(c) 1974-76: Start full doctorate study at IPB in selected areas.

Table 8. STAFF DEVELOPMENT, UGM, 1973/74-1975/76

Staff Additions:	1973/74	1974/75	1975/76
A. Professional	6	10	12
B. Technical	4	6	8

Table 9. BUDGET ESTIMATE FOR GRADUATE PROGRAM, UGM, 1973/74-1975/76

	Rupiah Budget			Dollar Budget		
	1973/74	1974/75	1975/76	1973/74	1974/75	1975/76
	(Millions of rupiahs)			(Thousands of dollars)		
A. Staff Costs:						
1. Professional	3.0	4.0	5.0			
2. Technical	1.5	2.0	2.5			
B. Training Programs:						
1. Indonesian non-degree	6.6	6.9	7.2			
2. Indonesian doctorate	10.0	12.0	12.0			
3. Indonesian in-course doctorate	-	-	2.0			
C. Commodities:						
1. Adv. Laboratories	6.0	8.0	10.0			
2. Library						
3. Upgrading courses	0.4	0.6	0.8	2.5	2.5	2.5
D. Operating Costs:						
F. Facilities (Building)	10.0	10.0	10.0			
Total:	37.5	43.5	49.5	2.5	2.5	2.5

Table 10. MUCIA OVERSEAS PARTICIPANT TRAINING, INDONESIA, 1973/74-1975/76

	1973/74:	1974/75:		1975/76:	
		"X"	Revised	"X"	Revised
1. UGM:					
Old	28	30		33	
New degree	11	10		10	
Returning	9	7		5	
New non-degree	5	6		6	
2. IPB:					
Old	26	29		20	
New degree	10	5		5	
Returning	7	14		10	
New non-degree	6	5		4	
3. Non-Pembina:					
Old	16	17		17	
New degree	8	8		8	
Returning	7	8		8	
New non-degree	-	-		-	

Table 11. MUCIA OVERSEAS STAFF, INDONESIA, 1973/74-1975/76

	1973/74	1974/75			1975/76	
		"X"	1st Rev.	2nd Rev.	"X"	Revised
1. Long-Term Staff	4.4	4.4	6.4 1/		4.4	
2. Short-Term Staff	12	13	15 2/		11	

1/ 1973 Annual Review recommended this number; May 73 ProAg provided one additional person subject to availability of funds.

2/ 1973 Annual Review recommended six additonal man-months at non-pembinas.

II. RESEARCH AND PUBLIC SERVICE PROGRAMS

A. To develop within the Indonesian Higher Agricultural Education system the capability for conducting effective programs of research and public service in support of Post-Graduate teaching activities and in coordination with national goals.

IPB: 1973/74 through 1975/76

a. Continue expanding research activities and concentrate efforts in the development of the experimental farm, demonstration areas and training programs for extension staff.

b. Continue developing the base of research and training needed to support post-graduate activities and public service activities.

UGM: 1973/74 through 1975/76

a. To promote research as an integral part of the graduate student and staff development programs of the university and to utilize scarce agricultural scientists to solve problems affecting the agricultural sector of the country.

b. To utilize University staff resources to study effective ways and means of carrying out extension (educational) and development (operational) programs of the government.

c. To develop as a part of the Agro-Complex improved facilities for conducting field and laboratory research.

Table 12. STAFF DEVELOPMENT: ADDITIONS AND TRAINING, IPB AND UGM, 1973/74-1975/76

	IPB			UGM		
	1973/74	1974/75	1975/76	1973/74	1974/75	1975/76
Staff Additions:						
Professional	SEE GRADUATE TRAINING					
Technical						
Staff Training:						
Degree US	-	-	-	7	7	7
Non-degree	-	-	-	2	2	2
Extension training	40	40	40	-	-	-
In-service training	-	-	-	20	20	25

Table 13. RESEARCH AND PUBLIC SERVICE, BUDGET ESTIMATES (RUPIAH AND DOLLAR), IPB, 1973/74-1975/76

	Rupiah Budget			Dollar Budget		
	1973/74	1974/75	1975/76	1973/74	1974/75	1975/76
	(Millions of rupiahs)			(Thousands of dollars)		
Lab. & Field Equipment for production and utilization projects:						
Cereal Crops	6.0	8.0	10.0	5.0	-	-
Protein Production	6.0	10.0	12.0	10.0	5.0	5.0
Commercial Crops	4.0	6.0	8.0	10.0	10.0	5.0
Natural Resource Div.	6.0	8.0	10.0	10.0	5.0	5.0
Experiment Field Development:						
Agronomy	6.0	6.0	8.0	10.0	-	-
Animal Science	4.0	4.0	5.0	-	-	-
Commercial Crops	4.0	6.0	8.0	10.0	10.0	-
Forest Crops	10.0	10.0	10.0	-	10.0	10.0
Public Service:						
Visual Aids	-	3.0	3.0	-	-	-
Field Equipment	3.0	-	-	-	-	-
Printing Communication	2.0	3.0	4.0	5.0	10.0	10.0
Total:	51.0	64.0	78.0	60.0	50.0	35.0

Table 14. RESEARCH AND PUBLIC SERVICE, BUDGET ESTIMATES (RUPIAH AND DOLLAR), UGM, 1973/74-1975/76

	Rupiah Budget			Dollar Budget		
	1973/74	1974/75	1975/76	1973/74	1974/75	1975/76
	(Millions of rupiahs)			(Thousands of dollars)		
Cooperative Research with MUCIA	6.0	6.5	6.5	20.0	20.0	20.0
Nat. and Human Resource Development:						
1. Staff Costs	2.32	3.17	3.67	-	-	-
2. Commodities	1.20	1.30	1.80	15.0	10.0	5.0
3. Operations	2.65	2.65	2.65	-	-	-
Development of Exp.Station:						
1. Staff Costs	1.5	2.0	2.5			
2. Commodities	-	20.0	20.0	40.0	35.0	15.0
3. Operations	10.0	15.0	20.0	-	-	-
4. Other facilities	20.0	10.0	-	-	-	-
Public Service:						
1. Visual Aids	0.5	0.5	0.5	-	-	-
2. Demonstration Equip.	1.0	1.5	-	6.5	-	-
3. Publications	-	1.5	2.0	-	-	-
Total:	45.17	64.12	59.62	81.5	65.0	40.0

III. UNIVERSITY GENERAL SERVICES

A. To strengthen general service units:

IPB: 1973/74 (a) Improve printing facilities.
by 1975 (a) Complete upgrading of general services.

UGM: 1973/74 (a) Initiate Central Storeroom and repair service.
(b) Initiate a data processing unit.
1974/75 (a) Develop in cooperation with general university, a printing or reproduction unit for layout and printing work.
by 1975 (a) Complete upgrading for general services.

Table 15. UNIVERSITY GENERAL SERVICES, BUDGET ESTIMATE (RUPIAH AND DOLLAR) IPB, 1973/74-1975/76

	Rupiah Budget			Dollar Budget		
	1973/74	1974/75	1975/76	1973/74	1974/75	1975/76
	(Millions of rupiahs)			(Thousands of dollars)		
Commodity Costs:						
Spare parts & Supplies	10.0	10.0	15.0	5.0	-	-
Repair Equipment	2.0	4.0	-	5.0	-	-
Library Improvement	10.0	10.0	10.0	10.0	5.0	5.0
Adm.Office Equipment	2.0	2.0	2.0	-	-	-
Printing Equipment	5.0	10.0	10.0	20.0	-	-
Transportation & Installation	0.6	0.2	0.2	-	-	-
Facilities:	10.0	10.2	-	-	-	-
Total:	39.6	46.4	37.2	40.0	5.0	5.0

Table 16. UNIVERSITY GENERAL SERVICES, BUDGET ESTIMATE (RUPIAH AND DOLLAR), UGM, 1973/74-1975/76

	Rupiah Budget			Dollar Budget		
	1973/74	1974/75	1975/76	1973/74	1974/75	1975/76
	(Millions of rupiahs)			(Thousands of dollars)		
Library Improvement:						
Staff	1.00	1.10	1.20	-	-	-
Training	1.00	1.10	1.30	-	-	-
Commodities	2.40	3.60	4.80	16.9	12.6	10.3
Operation	0.40	0.45	.50	-	-	-
Facilities	20.00	-	-	-	-	-
Audio-Visual Unit:						
Staff	0.35	0.36	0.38	-	-	-
Training	0.50	0.50	0.50	-	-	-
Operation	0.54	0.65	0.65	-	-	-
Commodities	-	-	-	2.2	1.2	0.7
Photocopy Service:						
Staff	0.25	0.30	0.35	-	-	-
Commodities	0.20	0.35	0.40	0.25	0.25	0.25
Operation	0.17	0.19	0.21	-	-	-
Language Center:						
Staff	0.32	0.34	0.37	-	-	-
Operation	0.20	0.25	0.30	-	-	-
Commodities	-	-	-	0.3	0.3	0
Storeroom Repair-Service:						
Staff Costs	0.35	0.40	0.45	-	-	-
Commodities	0.60	0.60	0.60	3.0	5.0	4.0
Operation	0.22	0.24	0.26	-	-	-
Facilities	-	-	-	-	-	-
Data Processing Unit:						
Staff Costs	0.25	0.30	0.35	-	-	-
Training	0.25	0.35	0.50	-	-	-
Operation	0.65	0.80	0.90	-	-	-
Commodities	-	-	-	1.5	0.65	0.2
Total:	29.65	11.88	14.02	24.15	20.00	15.45

IV. UNIVERSITY ADMINISTRATION

a. To assist in the development of an ongoing program of training potential leaders in University Administration.

1. Degree or certificate programs in University Administration:

	IPB:	UGM:
1973/74	1	4
1974/75	1	5
1975/76	1	4 (between 1972-78)

2. Indonesia - U.S. Participants to take Summer Course:

	IPB:	UGM:
1973/74	5	2
1974/75	5	2
Between 1971-1975	23	5

3. In-Service Training:

1973/74	10	4
1974/75	10	4
Between 1971-1975	50	26

4. Short Course for all Agro-Complex Faculties in University Administration:

	IPB:	UGM:
1973/74	50 (Jakarta)	25 (Jakarta)
1974/75	-	-
Between 1971-1975	150 trained from both Institutions.	

Table 17. STAFF DEVELOPMENT, ADDITIONS AND TRAINING, IPB AND UGM, 1973/74-1975/76.

	IPB			UGM		
	1973/1974	1974/75	1975/76	1973/74	1974/75	1975/76
A. Staff Additions: (Cumulative)						
1. Professional	3	4	4	2	3	3
2. Technical	6	6	6	2	4	4
3. Short-Term - US	2	1	1	-	-	-
B. Staff Training: (Cumulative)						
1. Degree Programs - US	2	2	2	1	1	1
2. Non-degree - US	2	1	1	1	2	2
3. Part.Spec.Trg.Adm.	5	5	6	6	7	6
4. In-Service Trg.	10	10	10	4	4	4
5. Short Course	50	-	50	25	-	25

b. To study and make recommendations regarding University Organization:

1. IPB:

1973/74 (a) Complete study and recommendations regarding possible changes in Administration divisions.
(b) Complete study and recommendations regarding tenure of major Administration position.

2. UGM:

1973/74 Analysis and recommendations for reorganization of Adm. structure within Agro-Complex to bring about more efficiency of operations.

1974/75 Analysis and recommendations for initiation of course credit system and revision of grading system for students.

1975/76 Analysis and recommendations relating to 4-year program for all Faculties in Agro-Complex.

Table 18. UNIVERSITY ADMINISTRATION, BUDGE ESTIMATES (RUPIAH AND DOLLAR), IPB, 1973/74-1975/76

	Rupiah Budget			Dollar Budget		
	1973/74	1974/75	1975/76	1973/74	1974/75	1975/76
	(Millions of rupiahs)			(Thousands of dollars)		
Staff Costs:						
Professional	1.2	2.0	2.0	-	-	-
Technical	1.5	1.5	1.5	-	-	-
Training Costs:						
Short Courses	5.0	5.0	5.0	-	-	-
Total:	7.7	8.50	8.5	0.0	0.0	0.0

Table 19. UNIVERSITY ADMINISTRATION, BUDGET ESTIMATES (RUPIAH AND DOLLAR), UGM, 1973/74-1975/76

	Rupiah Budget			Dollar Budget		
	1973/74	1974/75	1975/76	1973/74	1974/75	1975/76
	(Millions of rupiahs)			(Thousands of dollars)		
Staff Costs:						
Professional	0.50	1.0	2.00	-	-	-
Technical	0.75	1.75	3.00	-	-	-
Training Costs:						
Short Courses	2.20	-	2.50	-	-	-
Total:	3.45	2.75	7.50	0.0	0.0	0.0

SECTION II. BUDGET SUMMARIES

Table 20. RUPIAH BUDGET SUMMARY FOR PROJECT OPERATIONS, INDONESIA, 1973/74-1975/76

	1973/74	1974/75	1975/76
	(Millions of rupiahs)		
IPB:			
Staff	19.5	23.9	30.0
Training	21.6	27.6	26.7
Commodities	94.5	114.1	126.4
Operational	11.5	11.5	12.0
Facilities	80.0	80.0	70.0
Total:	227.1	257.1	265.1
GMU:			
Staff	18.7	23.4	29.0
Training	24.8	25.4	26.0
Commodities	21.9	29.3	39.9
Operational	20.8	28.2	34.0
Facilities	80.0	50.0	40.0
Total:	166.2	156.3	168.9
Non-Pembina:			
Staff	-	-	-
Training	-	-	-
Commodities	50.0	80.0	100.0
Operational	-	-	-
Total:	50.0	80.0	100.0
Konsortium:			
Staff	1.3	1.3	1.3
Travel	.7	.7	.7
Commodities	1.3	1.3	1.3
Total:	3.3	3.3	3.3
Overal Totals:	524.8	487.2	514.5
	(446.6)	(496.7)	(537.3)

Table 21. DOLLAR COMMODITY INPUTS, INDONESIA, 1973/74-1975/76

	1973/74		1974/75			1975/76	
	"X"	Revised	"X"	1st Rev.	2nd.Rev.	"X"	Revised
1.IPB	$157,000	$187,000 1/	$107,000	$137,000		$57,000	
2.UGM	133,150	133,150 2/	112,500	112,500 4/		72,750	
3.Non-Pembina	75,000	125,000	25,000	75,000		-	
4.Konsortium	-	-	-	-		-	
Total:	$365,150	$445,150	$244,500	$324,500		$129,750	

1/ In 73/74 ProAg, an additional $30,000 toward B.Sc. program beyond Document "X".

2/ In 73/74 ProAg, an additional $30,000 toward libraries; additional $20,000 toward research equipment--both beyond Document "X".

3/ Recommended at 1973 Annual Review.

4/ Recommended at 1973 Annual Review.

Table 22. DOLLAR BUDGET SUMMARY, INDONESIA, 1973/74-1975/76

	1973/74	1974/75	1975/76
	(Thousands of dollars)		
Overseas operations:			
Regular Staff	242.5	242.5	242.5
Short-Term Staff	122.3	132.4	112.3
Participants:	817.5	814.5	844.0
Commodities:	365.2	244.5	129.75
Home Office and Support:			
Home Office	93.4	93.4	93.4
Overhead	130.3	133.3	127.3
Management	19.7	20.2	19.3
Total:	1,790.9	1,680.8	1,568.55

IV. AN OVERVIEW OF PROJECT TARGETS AND ACTIONS 1973/74

MUCIA-AID-INDONESIAN HIGHER AGRICULTURAL EDUCATION PROJECT

AN OVERVIEW OF PROJECT TARGETS AND ACTIONS IN 1973/74

JOINT ANNUAL REVIEW OF PROJECT
Jogyakarta, Indonesia
4-8 February 1974

INTRODUCTION

The purpose and objectives of the Project remain essentially the same since its operational initiation in 1970, namely, to develop a system of institutions for Higher Agricultural Education at national and provincial levels responsive to the needs of Indonesia for highly-trained manpower, research and public service in the food and fiber sector, and capable of further independent growth to continually meet these needs.

The Indonesian Department of Education and Culture (DPK) has designated the Institut Pertanian at Bogor (IPB) and the Agro-Complex of University of Gadjah Mada at Jogyakarta (UGM) as pembina or "feeder" institutions, and has given these two institutions the responsibility for assisting 22 other universities, with 37 agriculture and agriculturally-related faculties, in the development of an improved system of higher agricultural education. The universities coordinate their efforts through the Indonesian Consortium of Agricultural Sciences (Konsortium) which was officially established for this purpose.

The Midwest Universities Consortium for International Activities (MUCIA), representing the Universities of Indiana, Illinois, Michigan State, Minnesota and Wisconsin, provide the U. S. input into the program. With the financial support of the Agency for International Development (AID) through an International Development Agreement (IDA), MUCIA works with the Department of Education and Culture, the Konsortium, the Rektors of the Indonesian Universities, and the deans and staff members of the Agricultural Faculties. MUCIA staff members serve in Indonesia as advisers on institution building, educational administration and on technical aspects of agriculture.

The overview was prepared by the MUCIA/Jakarta Office on the basis of reports from the Konsortium, the universities, and the MUCIA Program Coordinators. A more detailed presentation and analysis of the project is provided in the reports of these enticies.

The report is intended to provide a quick overview of major project objectives (what the project set out to do), actions in the current year (what was accomplished) together with a brief summary of the constraints and an interpretation of the status of various aspects of the project.

The report is necessarily selective. Moreover, it is eclectic in that the objectives cited have been chosen from the Project Agreement (ProAg) between the two Governments placed in a matrix of major categories followed by the Konsortium in its analysis in preparation of the Annual Review.

The material is organized into the following divisions:

I. Instruction
II. Research and Public Service
III. University General Service
IV. University Administration
V. Project Management

I. INSTRUCTION

1.1. Objective: Improve the quality of undergraduate curricula and instruction with particular emphasis on the development of a pilot four-year curriculum.

1.1.1. Target: IPB

1.1.1.1. Develop courses, teaching materials and laboratory equipment for third and fourth years of the four-year program.

1.1.1.2. Develop package courses in accordance with Konsortium committee findings.

: UGM

1.1.1.3. Continue upgrading of basic undergraduate courses.

1.1.1.4. Install four-year program in another faculty.

1.1.1.5. Continued package course development.

1.2. Actions.

At IPB, substantial progress has been made in the development of the pilot four-year program in terms of revisions and modification, new development, and integration of courses and course sequences. The second-year courses were taught in the current year and are being evaluated. The development of the third-year syllabus, texts, supplementary teaching materials, and laboratory manuals is virtually completed. Multiple sequences for the last two years and elective studies for the final year have been designated. Accomplishments also include the specifications and arrangements of sequences of study to be taken by all students, examination schedules and procedures, a student guidebook, and budget procedures.

In recognition of the special needs for the development of the four-year program, additional commodity support of up to $30,000 for laboratory equipment for the final two years of the new IPB program has been provided for this year, bringing the total allocation to $60,000 for undergraduate course improvement. Of the monies available for direct purchase, allocations have been made to the following departments: biochemistry, 10.0 percent; fish production, 9.6; agricultural engineering, 9.2; physiology and pharmacology, 9.0; animal production, 8.9; soil science, 8.9; zoology, 8.9; microbiology, 8.6; social economics, 8.1; forest management, 7.9; home economics, 7.7; and central administration, 3.2.

Students registrations in the new curriculum have been as follows:

Academic Year	1st Year	2nd Year	3rd Year
1972	198	-	
1973	243	143	
1974 (Est)	365	150	100

Other improvements and changes in the undergraduate instruction included the appointment of head of the Bureau of Preparative Study and Bureau of Professional Study, the establishment of a Student Counseling System (with assistance of the Faculty of Psychology, University of Indonesia, the shift in the grading from 10 scale numerical system to five scale letter system, and the centralization of student record files.

At UGM, considerable faculty discussion and action on curricular reform has taken place this present year, not only in the Agro-Complex but across the entire University. The installation of the four-year program plus a course credit system has received renewed emphasis from Rektor Soekadji. Among the four of 18 faculties serving as "pilot projects" for the University is the Faculty of Agriculture of the Agro-Complex (other are the faculties of Science and Mathematics, Economics, and Geography). The reorganization and teaching of the second-year of the four-year program in the Faculty of Agriculture has been completed. Sequences for the succeeding years have been planned. The four-year program will likely consist of 145 to 150 course credits. It is anticipated that the graduates of the four-year program would enter the III-A category of the government civil service salary scale which was formerly the entry level of graduate of five-year or six-year programs. Other faculties of the Agro-Complex are in the process of intensive review and reorganization.

Each of the six faculties undertook a revision of at least one basic undergraduate course and undergirded the instructional plan with commodity orders for library references and teaching and laboratory equipment. Orders totalling $26,500 out of a commodity budget allocation of $30,000 has been placed to support undergraduate instruction. Courses revised were: basic genetics, animal physiology, wood technology, food analysis, farmshop, and statistics.

Two package courses for non-pembina universities have been completed and commodity orders to support three replications of each course for use at the following institutions have been placed: (a) Animal Physiology--Andalas,

Brawijaya, and Syah Kuala; (b) Agronomy--Hasanuddin, Pajajaran, and Udayana. A commitee of the Konsortium, involving non-pembina faculty members, has been established to review the program and set new goals on additional courses to be developed, time tables and budgets. Two additional courses have been planned and are awaiting final approval of syllabus and placement of orders.

1.3. Constraints

The general adoption of the four-year curriculum awaits evaluation and policy decision, at the university and DPK levels, including the decision on the title and status of the degree granted the graduates. The greater variety of specialized courses planned for the last two years of the curriculum, when students will follow several optional sequences, possess a problem in securing the teaching materials and laboratory equipment needed for achieving the planned upgrading of these courses.

1.4. Interpretation

Excellent development of the pilot project has been achieved at IPB with evidence that the development has set a frame of reference for comprehensive improvement of undergraduate instruction. The difficulty of adopting the four-year program after successful pilot development should not be underemphasized. The pilot program at IPB requires more intensive teaching and, therefore, greater input of faculty time in relation to student numbers; a more highly-developed system of admissions, course scheduling, examinations, advising and records; and, as a basis for high quality teaching, more instructional materials and better equipped laboratories. However, by the same analysis, the adoption of the new curriculum will also be a process of broad-scale upgrading of undergraduate instruction.

The evolution of four-year program has important implications for the interfacing or articulation between the pembina and non-pembina institutions. IPB's adoption of the four-year program, for example, will mean that the students wishing to pursue the Ir. degree after acquiring the Sardjana Muda will have to rely more heavily upon UGM and the six non-pembina institutions offering the Ir. degree (Pajajaran, Brawijaya, Udayana, Hasanuddin, Andalas and Sumatra Utara) then they have in the past. Are these latter institutions prepared to accept the additional student load that is being shifted upon them?

2.1. Objective: Establish advanced graduate programs with research components offering degrees at the international standard.

2.1.1. Target: IPB--

2.1.1.1. Continue the development of courses for in-country master and Ph.D. degree.

2.1.1.2. [illegible] faculty rules and procedures toward the development of a graduate school.

2.1.1.3. Continue the development of graduate research and instructional laboratories.

2.1.1.4. Involve returning Ph.D. participants in the program for developing graduate instruction.

2.1.1.5. Bring one or two participants back for thesis research for U. S. Ph.D.'s to focus research on Indonesian problems and enhance the educational value, the training value, and the academic value of this program.

UGM--

2.1.1.6. Continue the upgrading of graduate laboratory equipment.

2.1.1.7. Increase the number of candidates for the Indonesian doctoral degree.

2.1.1.8. Involve returning participants in the development of graduate and instruction.

2.1.1.9. Bring one or two participants back for thesis research in Indonesia leading to the Ph.D. degree from a MUCIA University.

2.2. Actions

At IPB, planning continues toward the proposed founding of a Graduate School in 1976, with development of centralized administration and transition from current differences in requirements and rules in the several faculties to university-wide standards and rules. Approximately 20 graduate courses have been identified as "basic" and particularly useful for research preparation in the agricultural sciences. One MUCIA training participant returned to Indonesia and initiated an in-country research program on a U.S. doctorate degree. MUCIA Program Coordinators have served as promotors for the Indonesian doctorate degrees and on doctoral programs. Dr. Bird served as a promotor for one doctorate degree candidate this year. Dr. Benjamin is currently promotor of three doctor candidates / for Indonesian degrees. An allocation of $2,000 for books and reference materials and $25,000 for commodities related to graduate laboratory development have been made.

At UGM, six participants with Master of Science degrees returned with special training to strengthen the graduate program area. A graduate upgrading course in Food Science and Technology was presented principally for faculty members from the non-pembina institutions; two MUCIA short-termers made major contributions to the course. MUCIA long- and short-term advisers were involved in developing the research programs for candidates for the Indonesian doctorate degree. Commodity orders totalling $4,200 have been placed against an allocation of $10,000 for 1973/74.

/ and Dr Clodius for one candidate

2.3. Constraints

Immediate resolution is required of the nature and extent of financial support for MUCIA participants and graduate students from American universities doing thesis research in Indonesia. Research facilities, such as laboratories; extended library resources, particularly in terms of professional literature; and supporting publications and printing services are required both IPB and UGM if the faculties are to move progressively toward the goal of sponsoring doctorate programs in selected areas prior to 1980. An experiment station, or agricultural research center, of adequate size must be established in an appropriate location near the campus of UGM if that institution is to support a developing doctorate program.

2.4. Interpretation

Every indication is that IPB will have a full-fledged Graduate School in operation during the target year of 1976. In order to assure the establishment of high quality programs at both institutions, IPB and UGM, careful attention must be given to the integration of "upgraded" faculty into strategic instructional and student advisory roles in the advanced degree programs and to the acquisition and installation of needed research equipment and scientific instrumentation in the graduate research and teaching laboratories. Because of the lead-time involved, optimum phasing is likely to continue to be a problem.

It is desirable that Indonesian faculty members pursuing advanced degree programs in U.S. do their thesis research and dissertation in Indonesia, where be possible. Indications are that IPB may have four or five and UGM one or two MUCIA participants prepared to undertake in-country thesis research in 1974/75. Therefore, every effort should be made to implement the recommendation of the 1973 Annual Review calling for adequate financial support for in-country research and requesting that MUCIA/Indonesia employ trust funds available to MUCIA for stipends to returning participants at levels agreed upon by MUCIA and the Konsortium to permit participant to devote full-time to their research and completion of the dissertation. This also includes the understanding that the Indonesian universities, will provide access to laboratory equipment, facilities and office space and will provide a faculty sponsor for close continuing supervision during research undertaking.

3.1. Objective: Strengthen non-pembina educational programs through a phased upgrading under the leadership of the Konsortium.

3.1.1. Target

3.1.1.1. Develop a new plan, schedule and budget for the package course program.

3.1.1.2. Increase the flow of non-pembina faculty for training abroad to intensive English language training.

3.1.1.3. Involve MUCIA short-ter experts up to six additional man-months of service at selected non-pembina faculties.

3.1.1.4. Initiate library and laboratory equipment development with commodity support by MUCIA.

3.1.1.5. Improve long range planning for in-country staff development.

3.2. Actions

Undoubtedly, the "most action" and the greatest change in direction in the program this year has been in the performance and the objectives that were aimed at strengthening the non-pembina educational efforts. The upgrading courses, the package course program and "seeding" and "drafting" continued, but in terms of MUCIA's support of participant training abroad, the use of short-term advisers at non-pembina institutions; and the procurement of library resources and laboratory equipment for non-pembinas, there was new and greatly expanded activity.

Regarding upgrading courses for faculty in Indonesia, IPB was responsible for teaching two courses which reached a total of 45 students; UGM taught a course in food technology and agricultural engineering which had an attendance of approximately 40 faculties primarily from the non-pembina institutions. UGM has sponsored two postgraduate upgrading courses--one in agricultural extension and the second in agricultural economics--in which 31 students have been enrolled. IPB and two non-pembina universities (Udayana and Brawijaya) conducted workshops in animal diseases, poultry management and agronomy respectively. The package courses in Animal Physiology and Agronomy are being replicated in a total of six non-pembina institutions that are scheduled to receive syllabi, teaching materials, laboratory equipment and texts in 1973/74.

In "seeding", the planned instruction for newly-identified students from non-pembina faculties who will provide the pool for future faculty appointments in non-pembina universities, and in the "drafting" process, the planned graduate instruction of already identified faculty members on non-pembina faculties, UGM has continued to enter approximately 50 students per year and IPB has approximately 250 students in these programs in residence.

The number of faculty from non-pembina institutions who are training abroad increased from two in 1972/73 to six in 1973/74. For the first time in the history the Project, MUCIA short-term advisers visited and consulted with non-pembina faculties. Ten advisers visited thirteen non-pembinas during the course of their stay in Indonesia.

A "core" library acquisition list has been compiled by the Konsortium and ten non-pembina universities will acquire this listing of books value at $3,000 per institution. Research and laboratory equipment totalling $20,000 is in process of being procured for four or five non-pembina universities.

3.3. Constraints

The upgrading course program is effective but limited in its impact in terms of funds available for instruction and support of students. Additional funds are needed to cover increased participants' costs, particularly for travel and living expenses. Living costs have reduced operational funds and, consequently, the number of participants in this type of training has been reduced. MUCIA has made some direct inputs on instruction through short-term advisers, but this contribution will continue to be limited, in part, by the difficulty of scheduling the presence of advisers with particularly needed competencies with the timing of the courses.

The development of package courses requires ideally extensive inputs of faculty time for planning, writing, and material development; extensive interaction with target universities; involvement of counterpart faculty in preparation of the courses and in preparing for instruction; and decision on space, schedule, laboratory equipment, and so forth, preparatory to installation of any given course.

The size of the seeding and drafting program is limited by available teaching resources and space at IPB and UGM and funding for students. The optimum procedure of identifying, admitting, and placing students and for establishing them as faculty members at the non-pembina universities is also a problem.

The lead-time required to select appropriate counterparts, establish schedules, and arrange transportation is a constraint in the implement of MUCIA short-term advisers' program at non-pembina institutions. This is particularly true if the universities are not in session.

Adequate funding of counterparts from the pembina institutions, when appropriate, to accompany the advisers and of counterparts at the pembina institution during the period of stay of the advisers is also a consideration.

Moreover, further interaction between the faculty of the non-pembina institution and the MUCIA short-term advisers could, and should, be encouraged. For example, selected non-pembina faculty members might be invited to come to UGM and IPB during the MUCIA short-term adviser's tour-of-duty and the non-pembina faculty member serve as a full, participating counterpart in the adviser's program. Funding for such activities is currently a constraint.

The Konsortium had initially contemplated a dollar commodity program for the non-pembinas in 1974/75. The initiation of the program in the current year confronted the Konsortium with a constraint in terms of lead-time to evaluate adequately institutional needs and to identify leadership for the undertaking, not in 1974/75, but in 1973/74.

3.4. Interpretation

The Konsortium, under the direction of the Department of Education and Culture, conducted an evaluation of non-pembina faculties in carrying out a broad intention to reorganize the university system in ways designed to build a nation-wide distribution of strength in the agricultural faculties. As indicated in the resume of actions above, increased interaction between the pembina and the non-pembina universities is underway. Non-pembina institutions had been active participants in workshops and conferences. Moreover, the standing committee of the Konsortium involve non-pembina faculty members.

The Project program of upgrading courses is proceeding according to plan as a major and continuing means of faculty development. The program conducted by IPB and UGM is extensively reinforced by A/D/C, AAUCS and Ford Foundation short courses. The "package course" program is critical to upgrading efforts for curricula and instruction at the non-pembina universities. The success of this program can do much to assure a strong uniform basic undergraduate curriculum in all agricultural faculties. Explicit rupiahs support is needed to release faculty to prepare materials, course outlines, lecture notes, and commodity lists. Moreover, it would be helpful if faculty members from the non-pembina universities receiving the course are involved in actual course preparation.

The concept of drafting and seeding is important to the long-range development of the agricultural faculties, with special emphasis upon multiplying the impact of faculty receiving advanced overseas training through graduate instruction in Indonesia. Continuing attention needs to be given the planning base for programs, that is, the selection of individuals from present faculty rosters, and the identification of prospective faculty members with support of their instruction, and the provision for their appropriate placement on non-pembina faculties.

With an apparent ground swell of new interest in English training among agricultural faculties, the number of prospective nominees for overseas training from the non-pembina institutions will increase in terms of degree, non-degree and third country training. Attention will have to be directed to priorities in terms of disciplines, functional requirements and institutional priorities.

There is a paucity of library resources and teaching and research laboratory equipment among the non-pembina institutions. The beginning of MUCIA dollar commodity activity in this area during the current year barely scratches the surface need. Consideration must be given to priorities among the institutions with particular concern for those institutions that may have to take up the slack in a three-year advanced training toward the Ir. degree if, for example, IPB drops this phase of its instructional activity.

In summary, the system envisioned in project planning involves using overseas training to expand the pool of highly trained teachers and research at Indonesian universities, while using programs of upgrading courses, package course programs, and drafting and seeding, to multiply rapidly the number of Indonesian faculty with high quality, contemporary preparations in their fields. The system is soundly conceived. It is in being and operating effectively within the limits of the constraints noted. Continued attention should be given to the development of the various aspects of the program that will alleviate the constraints.

4.1. Objective: Develop staff upgrading programs to support continued development of improved curricula, teaching methods, research programs and public services.

4.1.1. Target

4.1.1.1. Send 29 degree candidates and 11 non-degree participants overseas, maintain approximately 70 candidates overseas during the year, return 23. (These goals, set for 1973/74 in Document X may be adjusted to accomodate more non-degree participants and fewer degree candidates because of the English language constraints.)

4.1.1.2. Increase emphasis on English language training, making full use of the GOI Language Centers (Balai Bahasa).

4.1.1.3. Continue staff upgrading courses at IPB and UGM with emphasis: (a) onpackaging sequences of courses for full upgrading of faculty in a particular discipline; and (b) better control of the selection and distribution of students in accordance with specific faculty upgrading plans.

4.1.1.4. Initiate special short-term opportunities for up to 12 senior non-pembina university officials and university administration and research management in nearby countries.

4.2. Actions

Table 1. Participants Involved in the Advanced Training at MUCIA and other Universities, Indonesian Agro-Konsortium, 1 Apr 73-31 Jan 74.

Institutions:	New Degree:		Non-Degree:		Continuing:		Returning:		3rd Country:	
	"X"	Actual	"X"	Actual	"X"	Actual	"X"	Actual	"X"	Actual
IPB	10	16	6	6	26	34	7	12	1	1
UGM	11	6	5	5	28	17	9	8	0	0
Non-Pembina	8	[illegible]	0	3	16	9	7	1	0	0
Total:	29	26	11	14	70	60	23	21	1	1

As of 31 January 1974, 60 participants were in the U.S.A., five of whom were on non-degree programs. Of the 21 returning participants in the 10-months period from 1 April 73 to 31 Jan 74, nine had completed their advanced degrees or were Ph.D. degree candidates working on their dissertations. It is expected that approximately 19 degree candidates will complete their programs during the period 1 April 1974-31 March 1975.

An agreement by the Agro-Complex, UGM and MUCIA with the British Council English Training Center (SELTU) brought about a change in which the three parties agreed to collaborate and cooperate in a joint Training Center in providing a much-needed, adequately-supported, sequential training effort in the English language for prospective MUCIA Project participants.

4.3. Constraints

English language proficiency continues to be the major constraint to the placement of new degree candidates. In general, up to this point, candidates have been placed promptly and effectively after achieving the requisite language proficiency.

Some non-pembina faculties have difficulty in releasing a faculty member for intensive language study without rupiah support to replace his salary when he is away from his teaching responsibilities. In 1974/75, at least12 nominees should be sought from the non-pembina "madya" universities.

The in-country expenses occured in preparation for the departure of the MUCIA trainee nominees is a constraint. Support should be earmarked specifically for language testing in Jakarta (travel and per diem); for pre-departure preparation (travel, per diem and cost for medical examination) for up to 40 candidates to Medan, Jakarta or Surabaya, as appropriate; and for travel and per diem to Jakarta from where MUCIA participants depart for their off-shore training.

4.4. Interpretation

Since inception, the program has been reasonably "on target" at IPB, but has lagged at UGM and the non-pembina universities. IPB now has a backlog of at least nine nominees fully qualified under the TOEFL test and eligible for MUCIA scholarships. UGM has one faculty member scheduled to begin his training at a MUCIA institution in September 1974; one at a third country institution (AIT, Bangkok) in August 1974. Four UGM faculty members are "in process" of placement in MUCIA institutions; one further is eligible. When the results of the 5 January 74 TOEFL test are known, UGM, undoubtedly will have an additional number of potential candidates. Increased interest in MUCIA scholarships has been shown by the non-pembina institutions in recent months. Syah Kuala has one nominee "in process" for placement; Pajajaran has four eligible nominees.

Several steps have been taken this year to meet the English language problem: (a) the implementation of the protocol and and procedures for "qualification by exception" for the "near misses" (approaching 500) on the TOEFL examination; (b) the development by the Konsortium of a "candidates' list" from the non-pembina universities, with the cooperation of the deans and rektors and with inputs from the teachers of the upgrading courses and from MUCIA staff visiting the non-pembina universities; (c) the inauguration of a consolidated, intensive English language training program at UGM with the support of University, MUCIA and the British Council; (d) a broad-scale screening on the ALIGU test by USAID/Training for candidates preparatory to further programming for intensive English language study; and (e) the additional input of materials for English language study at IPB and UGM.

Difficulties in meeting the Project target for degree candidates study abroad will be appreciably alleviated in 1974/75. A backlog of candidates is being draw up at IPB and UGM. Moreover, increased use of non-degree programs, study in third countries, and programs combining study abroad with indigeneous degree programs at IPB not only will serve to maintain momentum of the participant training program, but will introduce an element of competition for MUCIA scholarships among prospective candidates which has not existed heretofore.

Objective: To utilize long-term and short-term faculty from MUCIA Universities for work on the Project with emphasis on providing the kind and range of competence sought by the Indonesian universities and most relevant to Project goals.

0.0.1. Target

0.0.1.1. Long-Term MUCIA Faculty: to employ four and two-third MUCIA faculty with following assignments: Project Administrator (1/3 time Madison Office; 1/3 time Indonesia); Deputy Administrator and Resident Director, MUCIA/Jakarta; two Program Coordinators, MUCIA/IPB and MUCIA/UGM; and Education Adviser, MUCIA/UGM.

0.0.1.2. Short-Term Advisers: to provide up to 42 man-months of short-term expertise, involving approximately 12 persons mutually agreed upon by the Rektors and MUCIA as supporting the objective of the Project.

0.0.1.3. Brief Short-Term Advisers: Since the initiation of the Project, a number of MUCIA scholars otherwise visiting Asia have been brought to Indonesia for tours of from one to three weeks at no or little dollar cost, and with either no minimal local support cost. The typical contributions

sought of these "targets of opportunity" are: special seminars for faculty, consultation on curricular or research problems; and continuing contacts for inputs of materials and advice.

0.0.1.4. Executive Visitors: To bring members of the MUCIA Board and Advisory Committee and major administrators from the MUCIA universities to Indonesia for orientation to the Project and for evaluation of the Project. Visitors brought for the Annual Review receive support for travel and per diem. Other executive visitors come without cost to the Project.

0.0.2. Actions

0.0.2.1. Long-Term MUCIA Staff

The full staffing complement was achieved:

Project Director: Dr. Robert L. Clodius (1 July 1971)

Deputy Administrators and Resident Director:

Dr. Donald K. Smith (16 Feb 72-8 Mar 73)
Prof. Robert Taylor (6 Feb 73-23 Jul 73)
Dr. Sherwood O. Berg (10 Jul 73-)

Program Coordinator, MUCIA/IPB:

Dr. Daniel M. Benjamin (1 Sep 73-)
replaced Dr. Herbert R. Bird (25 Sep 71 - 13 Sep 73)

Program Coordinator, MUCIA/UGM:

Dr. Adlowe L. Larson (7 Jul 73-)
replaced Dr. Kirkpatrick Lawton (10 Jan 70-31 Jul 73)

Education Adviser, MUCIA/UGM:

Dr. Joseph A. Jackobs (3 Oct 73-)
replaced Dr. Thomas H. King (16 Jun 71-14 Mar 73)

All long-term staff have responsibility for facilitating achievement of Project goals and objectives and administering the MUCIA operations which support those goals and objectives.

Major functions by MUCIA offices are:

<u>MUCIA/Indonesia</u>

1. Engaging in instructional, research and public service program planning, including consulting on university administration, curriculum development, research and extension program development.

2. Participating with the universities and the Konsortium in continuous planning to achieve Project goals; Konsortium and university workshop, seminars and planning meetings; Konsortium travel and contact with non-pembina universities; and third country visitation relevant to participant training program.

3. Determining of inputs on Project evaluation and long-range planning.

4. Facilitating participant identification, processing and placement.

5. Assisting in preparation of orders, placement of orders, receiving, inventorying and accounting of commodities.

6. Managing of MUCIA/Indonesia offices and Rupiah budgets.

7. Serving as Promotors for Indonesian doctoral candidates.

8. Providing logistic and professional support, MUCIA graduate students and interns.

9. Maintaining liaison with USAID/Indonesia; Directorate of Higher Education; MUCIA Madison; other donors.

10. Orienting and furnishing logistic support of new MUCIA staff.

MUCIA/Madison

1. Program planning.
2. Recruiting long-term, short-term and brief short-term advisers.
3. Maintaining liaison with MUCIA Board and Advisory Committee.
4. Fiscal management, dollar budget, budget reports, and budget needs.
5. Placement of qualified participants, orientation, and supportive supervision.
6. Placement of commodity orders.
7. Logistic support to MUCIA/Indonesia offices.
8. Orientation of new MUCIA Staff; logistic support.

0.0.2.2. Short-Term Advisers

See Table 2 for listing of short-term advisers by name, discipline or field of interest, institutional affiliation, term of visit, and assignment in Indonesia. Also see universities, Konsortium and Coordinators' reports.

Table 2. MUCIA SHORT-TERM ADVISERS, INDONESIA, 1973/74

Name:	Field of Specialization	University	Visit Duration	Assignments:
Bill A. Stout	Agricultural Engineering	Michigan	3 months	IPB
William J. Hooker	Plant Virology	Michigan	2½ months	UGM
Larry D. Satter	Ruminology	Wisconsin	1½ months	IPB
Ralph N. Costilow	Microbiologist	Michigan	3 months	UGM, UNPAD, UNUD
Jerry B. Stevens	Clinical Biochemistry	Minnesota	3 months	IPB, UNAIR
Kenneth E. Egertson	Livestock Economics	Minnesota	3 months	UGM, UNHAS, UNSUD, UNDIP
Daryl B. Lund	Food Science	Wisconsin	3 months	IPB, UNSRI, UNUD
Peter G. Murphy	Plant Ecology	Michigan	3½ months	UGM, UNPAD, UNMUL
Merle L. Esmay	Agricultural Engineering	Michigan	3 3/4 months	IPB/UGM, UNLAM, UNUD, UNPAD, UNSRI, UNAND, ITB
Joseph Tobias	Food Science	Illinois	3 months	UGM, UNBRA, UNDIP
Arthur B. Chapman	Animal Husbandry	Wisconsin	3 months	IPB, UNSRI, UNUD, UNPAD
Otto Suchsland	Forest Product	Michigan	3 months	UGM, UNMUL, UNLAM
John W. Pendleton	Agronomy	Wisconsin	2 months	IPB, UNHAS, UNUD
Carl Baumann	Biochem	"	3 "	IPB, UGM.

Table 3. BRIEF SHORT TERM ADVISERS AND EXECUTIVE VISITORS, MUCIA/INDONESIA, 1973/74

Name:	Field of specialization	University	Visit Duration (Target of opportunity)	Assignments:
Brief Short Term Advisers:				
Dale C. Dahl	Agr. & Applied Economics	Minnesota	20-25 Oct 73	UGM; MUCIA/USAID/ Jakarta.
Gertrude Esteros	Home Economics & Housing	Minnesota	19 Nov-6Dec 73	MUCIA/USAID/Jakarta IPB, ITB, UGM, UNHAS, UNUD
Philip M. Raup	Agr. & Applied Economics	Minnesota	10-27 Dec 73	MUCIA/Jakarta, UGM, ITB, IPB, UNPAD, UNUD
Executive Visitors:				
Sidney M. Stafford	MUCIA/Treasurer	Illinois		Conferred on MUCIA fiscal operations.
George H. Axinn	MUCIA/Executive Director	Michigan	26-28 Aug 73	Interim MUCIA project review.
			1-12 Feb 74	Project Annual Review

Table 3 cont'd

Name:	Field of specialization	University	Visit Duration (Target of opportunity)	Assignments:
Glenn S. Pound	Dean & Dir.College of Agricultural & Life Science	Wisconsin	27 Jan-8 Feb 74	Project Annual Review
Lynne Merritt	Vice President	Indiana	3 Feb-9 Feb 74	Project Annual Review

Categorial summary of outputs (general):

1. Presentation of special lectures; seminars; and distribution of printed materials.
2. Consultation on course development; curricula; syllabi; and manual development.
3. Collaboration on the preparation of research projects.
4. Collaboration on preparation of commodity orders to support courses, laboratory improvement and research projects.
5. Direct input of library materials; teaching and research equipment.
6. As relevant, consultation on administrative structure and procedures; relations with other institutions.
7. Establishing continuing communication and exchange of materials.

0.0.2.3. Brief Short-Term Advisers:

See Table 3

Categories of input and product:
Faculty seminars; lecture notes and materials consultation on research problems; consultation on curriculum; written reports; continuing correspondence and exchange of materials.

0.0.2.4. Executive Visitors:

See Table 3

0.0.3. Constraints

The MUCIA long-term staff is small in relation to the large-scale Project objectives. A major consideration is the assignment of a second long-term MUCIA adviser at IPB during the operational year 1974/75 to accelerate the development of the in-country Ph.D. program. UGM has also expressed interest in a second education adviser as it seeks further guidance in undergraduate curricular planning and research planning associated with advanced degree work. The major commitment of time essential to continuing Project maintenance limits the time of present MUCIA long-term staff available for professional contributions relevant to the disciplinary or administrative expertise of the individuals.

Although significant progress has been made in the last two years, the time relationships between requests for specific types of short-term MUCIA experts, identification of possible candidates,

screening and evaluation of candidates by the Indonesian universities, recruitment, and pre-departure communication between the adviser and his counterparts remains a persistent problem.

During 1974/75 it is planned that 12 short-term advisers will be brought into work with IPB and UGM and that additional advisers will be assigned to work with the non-pembina universities. Experience indicate that, in some instances, counterparts are too busy with teaching and other obligations to devote as much time as desirable during the period the MUCIA adviser is present on course upgrading projects, research projects, development of commodity orders, redesigning of courses and curricula, and so forth. If stipends could be provided for the counterpart function and counterpart professor freed from some of their regular duties, better use might be made of the advisers. Possibly a stipend equivalent to full-time faculty member's income could be made available for each short-term adviser and the stipend provided by the university divided among those identified as counterparts for the particular adviser. This will be a particular need at the non-pembina universities which will be hosting a number of short-term advisers this coming year.

Regarding brief short-term advisers (targets of opportunity), on occasion, the expression of interest in a visitation is too close to the proposed time of the visit to permit optimal advance planning. This constraint is being alleviated by better communication of Project goals and standards within the MUCIA universities.

Regarding executive visitors, the restraints are minimal other than timely scheduling of the visitors to permit developing an effective program for local orientation and consultation.

0.0.4. Interpretation

Despite the persistent concern about the relative merit of short-term and long-term staff, the Project innovation represented in the use of short-term advisers is achieving its purposes. The tangible products achieved by the advisers, the interest of the Indonesian faculties in continuing the program; and the urgent interest of the non-pembina universities in participating in the Program speak to this. The use of short-term advisers: (a) substantially broadens the base of recruitment from the MUCIA universities; (b) makes available a significant number of high quality faculty who would not be available for long-term assignment; and (c) distributes contact between MUCIA universities and Indonesian universities accross a broad spectrum of disciplines and sub-disciplines, thus promoting balanced development of the institutions involved. Most advisers maintain contact with counterparts following return to the U.S.A., providing a constantly expanding base for inputs of material and advice. Most express interest in, and availability for, a return visit to Indonesia as

appropriate. The first instance of a "returnee" among the MUCIA short-term advisers occured this year. More returnees are expected in 1974/75.

The requirements of Indonesian requests for short-term advisers are now projected in summary form into 1975/76, so the constraint of lead-time on identification, appraisal of candidates, recruitment, and pre-departure planning should be alleviated.

Since the universities also seek an increase in the number of long-term MUCIA staff assigned in Indonesia, continuing evaluation should be made of the merit of trade-offs between long-term and short-term staff.

The use of "target of opportunity" in this program is a low cost augmentation of the short-term advisers program. The Project has established criteria for screening and approving requests for visitations and established the interest of the Indonesian universities and the availability of counterparts prior to an invitation to visit. The process of developing broad professional relationships between the MUCIA universities and the Indonesian universities is accelerated by carefully selected, brief, short-term adviser-visitors.

The executive visitors for the Annual Review perform effectively the function of evaluation and consultation with Project staff and USAID/Jakarta. All visitors enhance the number of persons at the MUCIA universities with firsthand knowledge of the Project and Indonesia.

II. RESEARCH AND PUBLIC SERVICE

5.1. Objective: Develop research and public service programs aimed at solving Indonesia's agricultural problems.

5.1.1. Target: IPB--

5.1.1.1. Expand research funding to Rp.54,000,000.

5.1.1.2. Activate the new Foundation supporting the Bureau of Public Services.

5.1.1.3. Expand the dissemination programs.

5.1.1.4. Establish institutional linkages with other Ministries to support research planning and implementation related to national development goals.

UGM--

5.1.1.5. Development and experimental farm plan.

5.1.1.6. Improve the reporting system on the research projects.

5.1.1.7. Emphasize cooperative research projects with MUCIA short-term advisers.

5.1.1.8. Increase research support.

5.1.1.9. Expand both individual and group projects to the extent that funding permits.

5.1.1.10. Broaden dissemination activity.

5.2. Actions

Research and public service activity has been expanding steadily and markedly in all of the agricultural science faculties. The general problem and the expanding opportunities were discussed at the workshop on "The Role of the Faculties of Agricultural Sciences in Regional Development" held at Bogor, 12-15 November 1973.

At IPB, that institution continues to exceed targets in rupiah allocations for research. For example, Rp.47,900,000 were allocated in 1972/73 against the target of Rp.30 million. During this past year, approximately 40 research projects were in operation with about 10 of those having MUCIA commodity support. An expansion is based, on an increase in rural development projects and in group research activities. In the field of extension, the Bureau of Public Service was reorganized; its operations was placed on firmer funding with the establishment of the Foundation; and its programming expanded. Cooperative development work with selected kabupaten continues as does the relationship with Bappenas on certain work projects. Of particular significance has been the forging of new institution linkages with other ministries, of GOI, particularly the Ministry of Agriculture. Rektor Satari has been appointed the head of the Central Research Institutes of the Ministry of Agriculture and Dr. Fred Rumawas has been appointed the leader of the National Rice Research Program (NRRP).

At UGM, over 90 research projects have been in force during the year. The Ministry of Education has sponsored about one-third of the research projects with support totalling just under 10 million rupiah (Table 4). Another one-third was sponsored by other ministries (Agriculture, Public Works) or other public agencies (Atomic Energy Agency, Southeast Asian Regional Center for Graduate Study and Research in Agriculture). The remaining projects have been funded by the individual faculties. The UGM faculty has participated in 31 public service projects. One project, developed by the Faculty of Veterinary Medicine, will provide an experimental ambulatory veterinary service to the Federal District of Jogyakarta as well as provide practical clinical experience for veterinary medicine students. Approximately $19,800 of commodity orders in research and public service activities have been placed against a MUCIA allocation of $71,500.

Table 4. RESEARCH PROJECTS, BY FACULTY AND TYPE OF FUNDING, AGRO-COMPLEX, UGM, 1973/74

Faculty	Number of Projects				Funding (MOE Only) (Rp.1,000)
	MOE	FAC.	Other	Total	
Animal Husbandry	5	2	-	7	1,400.0
Agriculture	8	2	21	31	2,195.0
Agriculrural Technology	4	8	7	19	1,068.0
Biology	7	7	1	15	1,840.0
Forestry	5	-	2	7	1,579.9
Veterinary Medicine	4	7	2	13	1,755.7
Total:	33	26	33	92	9,838.6

5.3. Constraints

The availability of well-prepared research faculty and the availability of recurring funding are a constraint to research and public service development. For example, efforts in research activity have been hampered by lack of training, particularly in the logic of scientific inquiry, research methodology, and experimental design. There is a need to establish special training in research methodology; this will require additional funding. Long-range planning for major research programs is handicapped by the fact that relations between the universities and ministries funding research tend to be directly with the faculty rather than on the basis of institution-to-institution planning.

While the faculties of agricultural sciences have adopted a strong public service goal, the role of the universities in relation to the organized extension and outreach programs of the Ministry of Agriculture and other governmental agencies is not clearly defined.

5.4. Interpretation

At IPB, the newly-established research director has facilitated the planning review, budget management and output of research. At UGM, the All-University Research Board seeks to provide similar management, including improved methods of the submission of proposals, the establishment of criteria for approval, the application of priorities, the achievement of timely reporting, and the dissemination of results. Continued attention is required to bring about a stronger relationship between the graduate education effort and research.

It would be highly desirable that selected participants of the upgrading course programs, based on outstanding academic achievement,

have the opportunity to apply their newly-acquired knowledge and skill in some form of appropriate follow-up research. This arrangement would assure continued contact between the faculty members of non-pembina universities and the senior lecturers at the pembina faculties. Continued attention also needs to be given to the relationship of well-designed national and regional research program in agriculture to the research purposes and capabilities of the agricultural faculties and to the linkages between university-based research and agricultural extension.

The outreach involvements of the universities are increasing. Therefore, attention needs to be given to the planning base for this expansion, especially as it involves new or expanded relations with ministries and public agencies at the national and provincial levels.

III. UNIVERSITY GENERAL SERVICES

6.1. Objective: Strengthen university administrative structure and practices to make the most effective and efficient use of staff and other resources in achieving the goals of the university.

6.2. Actions

The director of the IPB library has been engaged in a program to "centralize" the cataloging of all books acquired by the Institute. This is particularly helpful in avoiding duplicate orders and keeping to a minimum the replication of books, periodicals and texts. MUCIA has allocated a sum of $24,000 for further library acquisition and development during this year. The equipment for the data processing center is being received and installed. The central repairshop is functioning.

At UGM, the Agricultural Technology faculty facilities, have been identified as the central library location for recent acquisition of books and professional journals for the Agro-Complex. A staff member has been taking library training in Jakarta since 1971 and this person is expected to assume the librarian duties upon return to UGM shortly. The language laboratory books, materials and equipment have been placed on indefinite loan to the English Language Center in furtherance of the intensive English instruction. The University press is functioning. A technical repair and maintenance unit is being planned by the University and should be in operation in 1974. Planning on the Data Processing Unit has progressed to the point where a commodity order of $5,086 has been placed with MUCIA. Visual aids and other equipment as it is being acquired is being distributed on a decentralized basis to the six Agro-Complex faculties.

6.3. Constraints

Increasing laboratory materials in general, the training of library personnel, and the installation of duplicating equipment must be given priority if the libraries at IPB and UGM are to to serve the research and teaching needs of these faculties as well as those of the non-pembina universities. In addition to rupiah support, it is contemplated that additional dollar support will be required with particular reference to the non-pembina universities.

There is a need to increase the production and distribution of teaching materials, research results, abstracts, texts, and laboratory manuals perhaps by such means as providing financial incentives to encourage writing and publishing.

6.4. Interpretation

Encouragement should be given for the further development of basic centralized university services, such as repair and maintenance shops, audio-visual centers, data processing centers and printing and duplication departments to assure that teaching materials are available at the time required and are appropriately prepared, and that research equipment and instruments are operative. A particular effort should be made to establish a major program of maintenance of equipment and instruments and the disposition of inoperative and obsolete equipment.

IV. UNIVERSITY ADMINISTRATION:

6.1. Objective: Strengthen university structure and practices to make the most effective and efficient use of staff and other resources in achieving the goals of the university.

6.1.1. Target

6.1.1.1. Further develop in-country training in university administration.

6.1.1.2. Hold a second workshop on university administration and organization at UGM.

6.1.1.3. Expand the number of participants receiving overseas training in university administration.

6.1.1.4. Develop specific proposals to establish a career line for university administrative staff at the technical level.

6.1.1.5. Clarify the relationship of central universities services to the Agro-Complex services at UGM.

6.2. Actions

At IPB, a two-day workshop on Academic Administration for deans and department heads was held in December 1973 in cooperation with UNESCO higher education assistance group. Two participants took part in the University Administration Seminar held at the University of Wisconsin during the summer of 1973. One faculty member, Ir. Suhadi Hardjo, attended a two months' short course on Academic Administration at the Asian Institute of Technology (AIT), Bangkok, during the latter part of 1973. One faculty member is completing course work for the Ph.D. in Educational Administration at the University of Minnesota and is expected back this coming year to conduct his in-country research on higher education administration problems in Indonesia.

At UGM, a three-day workshop on academic organization and planning, involving all faculties of the University was held in August 1973. A two-week workshop on higher education administration, in cooperation with UNESCO education advisory group and the Directorate of Higher Education was scheduled for 21 January - 2 February 1974. One faculty member attended the University Administration seminar held at the University of Wisconsin in mid-1973. With the selection of a new Rektor of the University of Gadjah Mada, the entire administration and management of the university is under review and possible reorganization.

6.3. Constraints

A good career line for permanent administrative personnel at the middle management levels does not exist as yet, and this is a barrier to recruiting and training personnel for long-term university administrative careers.

6.4. Interpretation

There is a need for further indigenous training programs of relevance for administrators in Indonesia institutions of higher learning. One purpose of the training is to provide disciplinary-oriented staff members an opportunity to become familiar with the administrative and management principles which underlie university governance. The courses could also serve as pre-training for the candidates for university administration courses abroad.

The reorganization planned at IPB has proceeded very much on schedule. Development at UGM are more complicated since the organization of the Agro-Complex and the provision of central services falls within the context of organizational and administrative steps taken for the University as a whole.

7.1. Objective: Strengthen the capacity of the MUCIA Universities in institution building in developing countries, in tropical agriculture, and acknowledge of Indonesia.

7.1.1. Targets.

7.1.1.1. Utilize the 211d grant to increase the capabilities of MUCIA universities for overseas institution building.

7.1.1.2. Hold conferences in the United States to focus attention of returned advisers and potential future advisers on the specific problems of each discipline in Indonesian universities.

7.1.1.3. Returned to Indonesia one short-term adviser for a second short term.

7.1.1.4. Began preparations for a major review of the project in 1974/75 organizing a team of America's outstanding expert in overseas institution building not connected with this project and providing them with orientation materials so that in 1974/75 a partial project assessment of the highest order can be accomplished in preparation for outlining an anticipated second-five year program.

7.2. Actions:

On recommendation of the Project Administrator, the Board of Directors of MUCIA made 211d grants to Program Coordinators, Kirkpatrick Lawton and Herbert Bird. The purpose of the grants was to allow each professional to capture in a useful way for on campus programs his overseas experience. In the case of Dr. Lawton, the grant enabled him to visit centers of expertise relating to Southeast Asia in the Philippines, Taiwan, Japan and Hawaii prior to assuming an administrative role in the Office of the Dean of International Studies and Programs at Michigan State University. Dr. Bird will be revising his course syllabus to include experiences and data from Indonesia and also planning research with graduate students that will be relevant to problems in poultry nutrition in Indonesia.

MUCIA and the Indonesian universities are coordinating efforts under a 211d grant to the University of Illinois in the latter's world-wide responsibility for soybean technology research, and Illinois staff members serve in both long-term and short-term assignments for the Project.

The Project Administrator visited each of the campuses of the five MUCIA institutions and held conferences with returned and prospective Project advisors and with professionals having special interests in Southeast Asia studies. Each university was encouraged to give program emphasis to Southeast Asian studies in a way that would add strength to MUCIA outreach.

The University of Wisconsin has created a Center for Southeast Asian Studies and named Professor R.L. Clodius as Director. Wisconsin has also been designated as the university among the Big 10 and Chicago to offer Bahasa Indonesia on a continuing basis.

In July 1973, the University of Wisconsin offered again a 10-week course in Intensive Indonesian and was host for a week long seminar on one aspect of Indonesian development. The Indonesian Committee of the Southeast Asian Regional Council of the U.S. Association for Asian Studies has proposed an annual Summer Institute in Indonesian Studies to be sponsored jointly by the Association for Asian Studies and the University of Wisconsin. At this time, plans are going forward to hold such an institute in the summer of 1974.

In connection with this Institute a three-day conference on Agricultural and Rural Development in Indonesia is being planned. Invitations will go to returned short- and long-term advisors as well as Project participants.

At Indiana University, discussions are underway to give form to Indiana's long involvement in Southeast Asia, primarily Thailand but also including Indonesia and Burma. Illinois continues its support for courses and activities in Southeast Asia in anthropology, geography and education.

In 1973 one short-term advisor returned for a four-month period. In 1974/75, it is expected that additional short-term advisors will be invited to return.

Discussions have been held among MUCIA officers, Advisory Committee members, Project staff, and Konsortium staff relating to an external review and assessment of the project. Specific suggestions will be presented at the Annual Review.

7.3. Constraints:

The 211d grant to undergird the Indonesian project ($42,000 for 5 years) is too small for significant institution building in MUCIA universities.

Federal agencies generally are short of funds for programming in the international education area. These include the Department of State and the Department of Health, Education and Welfare. State legislatures are reluctant to fund internationally-oriented programs when state programs are becoming increasingly expensive. Funds from other extramural donors are also increasingly limited.

7.4. Interpretation:

Returned advisors represent an impressive resevoir of knowledge and observation about varying aspects of Indonesian agriculture. This will continue to grow and develop and become a major national resource of interest to both the governments of Indonesia and the United States.

The concentration of human resources in MUCIA institutions is recognized by the community of Americans professing scholarly interest in Indonesian studies.

The return of a specific short-term adviser has developed slowly because of the wide range of expertise sought by the Indonesian universities which caused their requests to reach toward new types of expertise. However, in every instance where an individual short-term adviser is asked to return the present indication is that the request will be fulfilled with enthusiasm on the part of the adviser.

In the longer range, the idea of enduring linkages between MUCIA and Indonesian universities will have matured when Indonesian Professors are invited as visiting lecturers or research scholars to the MUCIA universities. This could be expected when: (a) the heavy emphasis on sending participants for degree training has diminished; and (b) the graduate programs and related research programs of the Indonesian universities are well established.

V. PROJECT MANAGEMENT

1. Comprehensive Project Evaluation.

As the Project approaches the mid-point of a ten-year development plan, an evaluation of progress should be undertaken. The evaluation should bring into focus any need for changes in institutional development strategies and the mix of inputs from indigenous and international sources.

2. Management of Commodities.

Most shipments now received from the United States are promptly cleared from the docks by the Ministry of Education and Culture, delivered to the DPK godown, and in orderly fashion are transhipped to the recipient universities. This is due, in large part, to the development of a new set of clearance procedures among MUCIA, USAID/Jakarta, DPK and the Secretariate Cabinet, including the preparation of a special clearance form (PP19). However, unfortunately, clearance is not automatic and a number of shipments, particularly at mid-year, were held up. Most of the difficulties were traced to improperly prepared shipment documentation which precluded clearance by the Customs Office. Continued checking by the MUCIA/Jakarta Office is necessary to reduce delay in handling of shipments.

Additional follow-up is required in term of appropriate inventorying, and reporting on maintenance and use of commodities received by and placed in custody of the universities.

The procedures for the submission of commodity orders has been standardised and is understood by the universities and MUCIA. However, the delay of the submission of the commodity orders until the last quarter of the Indonesian fiscal year is causing concern to the MUCIA purchasing

agent and does unduly complicate fiscal operations toward the close of operating fiscal year. For example, as of 31 January 1973, IPB had placed no commodity orders against an allocation of $187,000; UGM had placed commodity orders amounting to $58,000 against an allocation of $133,150; and the Konsortium had placed commodities orders for approximately $50,000 of an allocation of over $125,000.

The universities and MUCIA are now reconciled to a time delay of from nine months to one year from initiating an order to final receipt of individual items at the recipient university. Orders are being developed with a better sense of anticipating defined, future needs.

3. Further Development of the Konsortium.

The Konsortium provides the basis for intergrated, nation-wide planning in the development of higher agricultural education and the role of higher education in national and regional agricultural development. The function of the Konsortium have expanded beyond those specifically designated in the directive establishing the Konsortium. A new directive establishing the responsibilities and authority of the Konsortium would be useful. The Konsortium office carries an increasingly heavy load of work with limited staff. The Konsortium staff needs to be expanded to support the enlarged role and operations of the Konsortium, particularly as interactions with the non-pembina universities increase.

4. Coordination with Other Donor Agencies.

It is increasingly clear that the broad institution building purposes of the MUCIA-AID-Indonesian Project are significantly reinforced by the program of other donor agencies working the agricultural universities. MUCIA has sought in recent years to strengthen liaison and cooperative planning among the various agencies working with the agriculture and agriculturally-related faculties. The Konsortium, acting on the behalf of the Indonesia's higher agricultural education interests, has assumed major responsibilities for program planning and coordination, especially as this has involved planning and scheduling the placement of participants for overseas training and the planning and scheduling of workshops and upgrading courses.

Program and interactions have occurred with:

4.1. Agricultural Development Council (A/D/C)

4.1.1. The development of a cooperative fellowship program in the Rural Social Sciences under which MUCIA participants receive a supplemental award from A/D/C which will permit the participant to bring his wife and up to two children to the U.S. while the participant pursues his advanced training.

4.1.2. Sponsorship of upgrading courses: Postgraduate, "Agricultural Extension", 9 months, UGM, 15 students, 1973.
Postgraduate, "Agricultural Economics", 10 months, UGM, 16 students, 1973.
Postgraduate, "Research Methodology in the Rural Social Sciences", 10 months, IPB, 20 students, 1973/74.
Workshop, "Production and Marketing of Livestock", 6 weeks, UNDANA, Timor, 25 students, March-April 1974.

4.1.3. IPB currently has five participants, UGM has one, and the non-pembinas have four abroad on A/D/C fellowships.

4.1.4. MUCIA notes the helpful participation of Professor Alan Strout in the Konsortium workshop on "The Role of Agricultural Universities in Regional Development", November 1973.

4.2. Australian Asian Universities Cooperation Scheme (AAUCS):

4.2.1. Upgrading courses conducted in 1973/74
Workshop, "Large Animal Diseases", IPB, 16 students, 1973
Workshop, "Plant Breeding", UNBRA, 16 students, 1973.
Workshop, "Poultry Production", UNUD, 12 students, 1974.

4.2.2. The development of research project in non-pembina universities as a followup to the upgrading courses is most encouraging.

.2.3. AAUCS currently awards 10 scholarships annually for study in Australia; there are now 10 participants in Australia, including 4 from IPB and 6 from the non-pembinas.

4.2.4. MUCIA has noted particularly the effective work of Professor Forster, Professor N. M. Tulloch, and Mr. H. W. Rider as they have worked among the agricultural faculties of the eastern half of Indonesia.

4.3. Rockefeller Foundation

4.3.1. The development of an agricultural experimental station, or an agricultural research center, at the University of Gadjah Mada, is of major programmatic interest to both Rockefeller and MUCIA.

4.3.2. Currently, four faculty members from UGM, four in the social sciences and one in agriculture, are studying abroad on Rockefeller fellowships.

4.3.3. MUCIA has been informed of the developments of the Rockefeller team at UGM as the Foundation extends its program to include agriculture, the social sciences and medicine. MUCIA/UGM is appreciative of the useful and consistent liaison with Dr. Al Nyberg, Social Sciences, and Dr. Allen Tillman, Agricultural Sciences, in planning among the UGM, Rockefeller and MUCIA groups.

4.4. Ford Foundation

4.4.1. Currently there are 12 participants from non-pembina universities studying abroad on Ford fellowships.

4.4.2. MUCIA has noted the Foundation's program, particularly in regional planning, with four non-pembina universities: Andalas, Padang; Syah Kuala, Banda Aceh; Hasanuddin, Ujung Pandang; and Lambung Mangkurat, Banjarmasin.

4.4.3. MUCIA joined with the Ford Foundation in the development of the Data Processing Center at IPB, with Ford support for building construction.

4.5. UNESCO Education Planning Group

4.5.1. The UNESCO group has held workshops on academic administration in institutions of higher learning at IPB and UGM during the period December 1973-January 1974.

4.5.2. Liaison have been maintained in terms of workshops, conferences and discussions on administration and management in institutions of higher learning.

4.6. World Bank

4.6.1. Conferences were held and information on MUCIA activities were supplied to members of the IDA-IBRD Education Sector Mission Team during the Team's visit in Indonesia, November-December 1973.

4.6.2. Frequent conversations have taken place with members of the World Bank resident group on overall developmental plans for agriculture and education and the country of Indonesia.

4.7. Biotrops

4.7.1. In 1973, Biotrops conducted an upgrading course in "Weed Control". 15 students from the Konsortium universities were in attendance.

4.7.2. During the course of the year, MUCIA advisers, particularly in the fields of agronomy, soils, forestry and ecological, have made extensive use of Biotrops resources.

4.8. IRRI-AID-Indonesian Project

4.8.1. Initiation of the project with a team of five experts working broadly in the area of rice and multiple cropping research and development has opened further opportunities for cooperation between the Central Agricultural Research Institutes of the Ministry of Agriculture and the Indonesian agricultural universities. Effective liaison and joint planning has been assured, in part, with the appointment of Dr. Fred Rumawas, Director, Research and Public Service, IPB, as Director of the National Rice Research Program.

4.8.2. The project supported 28 Indonesians abroad on study fellowships in 1973/74. Eight of these were degree candidates and 20 were in a non-degree status.

V. THE I.P.B. ANNUAL REVIEW REPORT FOR 1973

THE I.P.B. ANNUAL REVIEW REPORT FOR 1973

GRADUATE STUDY AT IPB

a. Master Degree Program

Based on experience accumulated through the six year Sarjana program which was started in 1968, a Master Degree Program was planned to start in 1976. The draft of this plan is supplied in Appendix I. With regard to supporting the development of various research institutions of agricultural nature, this plan could be implemented one year earlier. The material input would then be research personnel having a sarjana degree of general nature in the field of agriculture, fisheries, animal husbandry, veterinary medicine, forestry, or biology.

To support this program, a research institute has to be willing to allow its staff to study on at least half-time basis. Furthermore, an allocation of research funds has to be projected in the institute's budget such that the participant can do his research towards writing a thesis in his own institution, pertinent to its general research program.

Two years after implementation of the Master's Program, it will be merged with the transitional Ph.D. Program to form an integrated graduate school.

b. Ph. D. Program

Procedures to pursue a transitional Ph. D. program at IPB is given in Appendix II. Currently eight students are enrolled in this program, while in 1973 one doctor's degree was awarded.

With regard to organization of the program, the Promotion Board is to be established and the Science groups eligible to award a doctor's degree are to be defined. With regard to these Science groups, the groupings already mentioned in the plans of the tentative Master's Program of Appendix I, could be considered.

The Promotion Board will in 1978 become integrated with the Graduate Council of the Master's Program.

c. Program for Continuing Education

In Appendix III is submitted a program for continuing education. This program is based on IPB's experience with the short courses program of two months duration at each turn of the year. While originally intended only for faculty of the various agricultural faculties over the whole of Indonesia, in the new plan research and extension workers will also be considered.

The short courses program could then be divided into several subprograms. One subprogram will still be intended for improving research competence, which will also be utilized to search for prospective candidates of the Master's and Doctor's Program. The other subprogram will be self-contained and of very applied nature.

d. Facilities to back up the Program

Computation Center: The building for the computation center is already finished. However, some stagnation arises in the installation of the AC system which is already present in the vicinity of the building. The AC system was acquired as a gift under a Ford Foundation grant.

Major equipments supplied by the MUCIA are two card punches which are already installed temporarily in a room at the main building. These equipments are already utilized frequently. Due to lack of space the card verifier has not been installed yet.

Some difficulties arose with the Br 9810 programmable calculator system. The shipment containing this system was received in opened condition at the IPB. The calculator had to be repaired in Bandung. However, it could not be tested or operated because some vital parts in the form of magnetic memories of about $1500 value are missing.

Unless special delivery of these missing parts could be ascertained, the programmable calculator will stay idle.

Centralized Chemistry Lab: Equipment is being ordered.

Agricultural Physics/Biochemistry Lab: Commodity Order being prepared.

•. Manpower to back-up the Program

Appendix IV is a summary of the present manpower distribution in 22 departments of IPB. Of these departments we can distinguish:

i) departments which will frequently be called upon by the government to assist various development programs,

ii) departments which also serve as a service department both for undergraduate and graduate instruction,

iii) departments that primarily serve its own field of interest.

For departments of the first type it would not be superfluous to have a total Ph. D. staff of 15 each at the end of this decade These departments are: Agronomy, Soils, Ag. Economics and Sociology, Vet. Publ. Health, Fisheries Biology, Silviculture, Animal Production, and Forest Management. For this group a total of 120 Ph. D.'s would then be needed.

The second group of departments are : Zoology, Botany, Crop Protection, Animal Nutrition, and Statistics and Computation, with a projected need of 50 Ph. D.'s. The third group of departments require at least 5 Ph. D's to obtain a critical mass for self-perpetuance. Therefore 9 x 5 = 45 Ph. D.'s are needed for this group.

A total projected need o 215 Ph. D.'s will then be needed for 1980 At this present moment we have 56 Ph. D.'s at the IPB and 37 Ph.D. candidates in training, totalling about 93 in 1978. From this number, about 20% will at least be drafted by the government for decision making positions, while another 5 % might have to be replaced because of retirement.

Therefore we have to start a fully integrated graduate school in 1978 with 70 Ph.D.s which also will be given the tasks of running undergraduate schools and educational administration. Suppose that these tasks will take 50% of their time. Then, only 35 Ph. D's are available for graduate teaching. If we want to have seven fields of interest running in 1978 at the graduate level, with about ten Ph. D.'s in the group, then we need to prepare an additional 35 Ph.D.'s for 1978.

About five could be produced by the IPB's transitional Ph. D. program. Therefore, an allocation of 30 Ph.D. Study grants should be made available in 1974 and 1975 to fill these needs through out-country programs.

D. Science Group

1. The IPB along with the Promotion Board decide which Science Group can offer the doctorate program. Number of qualified staff and availability of the research facility are the primary considerations.
2. The Science Group within IPB which offers a doctorate program shall be identified by the Rector in an official document.
3. In each Science Group, a "full member" of FMTP shall be elected chairman. The chairman shall be responsible for submitting the doctoral program from his Science Group.

E. Bureau of Doctorate Program (BDP)

1. BDP shall fulfill all administrative functions for the doctorate program.
2. BDP is under the Directorate of Graduate Studies.

IV. Procedures and Implementation

1. Every IPB alumrus has the right to participate in the doctorate program if he satisfies the requirements established by the Promotion Board.
2. An alumnus from an institution other than IPB may be considered as a student in the IPB doctorate program.
3. Acceptance of a student for the doctorate program shall be given by the Promotion Board.
4. All course work required by a student in the doctorate program shall be specified by the Advisory Committee along with the chairman of the related Science Group and shall include those subject areas specified in the general guideliner by the Promotion Board.
5. Every student must complete all course work established in his doctorate program and must pass an examination for each course with excellent marks.
6. Every doctorate program student must show proficiency in English or another foreign language approved by the Promotion Board.
7. After the doctorate program student has succesfully completed the requirements of Section IV. 5 and 6, he must take a comprehensive examination in his Science Group.

8. If the student is not successful in passing his comprehensive examination, he has one more opportunity within certain time limits to take the examination.

9. After passing the comprehensive examination, the student is called "promovendus".

10. To earn the doctorate degree the promovendus must write a dissertation on his research.

11. The promovendus must defend his dissertation in a final examination by the Advisory Committee with the Promotion board in attendance.

12. A member of the Promotion Board may be asked by the Advisory Committe to participate in the examinations of the dissertation.

13. The judicium about the promovendus must be recommended by the Advisory Committe and formalized by the Promotion Board.

14. The judicium as stated in section IV. 13 is either "cum laude", "satisfactory" or "unsatisfactory".

15. If the result of the judicium is unsatisfactory, the promovendus has one more opportunity within a certain time limits to retake the examination.

16. The name of the Science Group shall be stated in the doctor's diploma.

V. Honorary Doctoral Degrees

Regulations governing the honorary doctoral degree award shall be stated in a separate document.

VI. Amendments to this Regulation

Everything concerning the function and membership of the bodies responsible for implementing the Ph.D. program will be arranged and confirmed by the IPB.

DRAFT, OPEN FOR REVISION

TENTATIVE PLANS FOR
THE GRADUATE SCHOOL OF THE INSTITUT PERTANIAN BOGOR

The Graduate School of the Institut Pertanian Bogor (IPB) will be administered by a dean who works in close association with the Vice Rector in Charge of Academic Affairs. The dean of the Graduate School, together with two assistant deans, will be appointed by the Rector, after consultation with the IPB faculty Senate.

Eight representatives are elected by degree granting departments to assist the dean of the Graduate School in all matters of policy. The dean of the Graduate School, the two assistant deans and the departmental representatives constitute the Graduate School Council. The departmental representatives serve for a term of two years. At the start of the Graduate School in 1976, only four representatives are elected resulting in 50% renewals in the years following 1977.

Graduate instruction at the IPB is organized to provide advanced Study at the Master's level in the fields of Crop Science, Soil Science, Economics and Management Sciences, Social Sciences, Applied Statistics, Animal Science, Applied Biology and Food Science. This program will in 1979 merge with the traditional Doctoral Program into a unified Graduate School offering degrees at the Master's and Doctoral level.

To back up the Graduate School, the following facilities : 1. a computation center, 2. a centralized ohemistry lab. 3. a plant physiology lab. 4. green houses, 5. field stations for plant science, animal science and fresh water biology, 6. an experimental

forest, 7. a centralized microbiology lab, 8. an experimental zoology lab, 9. an experimental food processing plant, 10. a research library, have to be in functional condition.

Fields of Graduate Instruction

a. Crop Science

Instruction leading to the Master of Science in the fields of plant breeding; crop production, ecology, and adaptation, seed technology.

Faculty : Sjamsoe'oed Sadjad, Setijati Harjadi, Abdul Bari, Jajah Koswara, Fred Rumawas, Hari Suseno.

b. Soil Science

Instruction leading to the Master of Science in the fields of Soil fertility, Soil Genesis, Soil Conservation, Forest Soils.

Faculty : Oetit Koswara, A.M. Satari, Sitanala Arsjad, G. Soepardi, Kwik Gwat Iem-Tjiook.

c. Economics and Management Sciences

Instruction leading to the Master of Science in Marketing, Agricultural Economic Development, Econometrics, Forest Management, Fisheries Management, Farm Management.

Faculty : I B. Teken, S. Baharsjah, R. Adiratma, F. Soedjanadi, A.T. Birowo, Herman Haeruman, Barizi, Rahardjo S.Suparto.

d. Sociology

Instruction leading to the Master of Science in Rural Sociology.

Faculty : Sayogyo, P. Sayogyo, Djondronegoro, Margono Slamet.

e. Applied Statistics

Instruction leading to the Master of Science in Applied Statistics, concentrating in problems related to the design and analysis of experiments, and the techniques of design and analysis for surveys.

Faculty : Barizi, A.H. Nasoetion, D. Herudjito.

f. Animal Science

Instruction leading to the Master of Science in Animal Science, concentrating in animal breeding, animal diseases (pathology, parasitology, veterinary microbiology, virology), animal nutrition (metabolism of carbohydrates, proteins, lipids and minerals; the physiology and microbiology of digestion).

Faculty : Harimurti Martojo, D.T.H. Sihombing, Edi Gurnadi, Djokowoerjo, Soewondo D. Soebagio, Anggorodi, Juju Wahju, Dawan Sugandi, Iwan T. Budiarso, Soehardjo, A. Muchlis.

g. Applied Biology

Instruction leading to the Master of Science in Applied Biology with options in Mycology, Microbiology, Limnology, Marine Biology, Fisheries Biology, Forest Ecology, Economic Entomology, Veterinary Entomology, Phytopathology, Pharmacology.

Faculty : Soetarmi Tjitrosomo, B.H. Limas, Soemardi Sastrakoesoemah, Koesman, M. Sidjabat, Ichsan Effendi, Ch. Muluk, Ishemat Soorianegara, Soemartono Sosromarsono, Gunarwan Suratmo, Rudy Tarumingkeng, S.H. Sigit, Jusup Sutakaria, Roesmilah Soeseno, A. Hidir, A. Toerngadi, A. Atmakusumah.

f. Food Science

Instruction leading to the Master of Science in Foods with options in Food Technology and Food Processing and Preservation.

Faculty : F.G. Winarno, Soehadi Hardjo, Dardjo Somaatmadja.

Course Load

A full-time graduate load is considered to be nine to 12 credits per semester. Half-time loads are permissible for students working elsewhere or having a teaching appointment at the IPB.

A total of 30 semester credits are required for graduation of which six are accounted for the presentation of a research thesis. Of the 24 credits of course work 16 must be in the major field.

Admission of Students

Graduate School admission may be to full, provisional or unclassified status. Applications for admission must be accompanied by official transcripts from all universities previously attended.

For admission to full graduate standing a student must have an insinyur degree from the Institut Pertanian Bogor with a g.p.a of

not less than 2.5 on a 4.0 basis or a Sarjana of the five-year program with a grade point average of not less than 6.5 in his last two years on a 10.0 basis.

Sarjana's from other institutions with similar requirements could be admitted on a provisional basis.

Grades

A minimum grade of "C" must be made on all formal course work to obtain graduate credit. An average of "B" equivalent to a g.p.a. of 3.0 must be obtained on all course work taken as part of the student's graduate program. Failure to maintain a "B" average will place the student on probation. Any Student whose academic record fails to meet the "B" average requirement for two consecutive terms will not be permitted to stay in graduate school.

Thesis

A candidate must prepare a thesis representing an original investigation. The subject of the thesis must be approved by the chairman of the field of instruction in which the major work is done and by the Student's advisory committee.

APPLIED STATISTICS

Instruction leading to the degree of Master of Applied Statistics, concentrating in problems related to the design and analysis of experiments, and the techniques of design and analysis for surveys.

Faculty : Barizi, A.H. Nasoetion, D. Herudjito

Sample core curricula :

I. Continuation of the 4-year program leading to the M.S. degree in Applied Statistics (started in 1976)

1st semester

Statistical theory	3 - 0
Statistical Methods	3 - 0
Applied Regression Analysis	3 - 2
Elective (minor)	3 - 0
	13 credits

2nd semester

Basic theory of least squares and Variance Components	3 - 2
Linear Models	3 - 0
Experimental Designs	3 - 0
Elective (minor)	3 - 0
	13 credits

3rd semester

Elective (Statistics) *	3 - 0
Elective (minor)	3 - 0
Thesis	credits arranged

4th semester

Seminar	1 - 0
Thesis	credits arranged

*) - Multivariate Analysis
- System Analysis
- Variance Components
- Sampling Techniques

II. Program leading to the M.S. degree in Applied Statistics for those who have had the sarjana degree in agricultural sciences, biology (started in 1975).

1st semester

Modern Mathematics	3 - 0
Linear Algebra	3 - 0
Statistical Methods I	3 - 0
Calculus I	3 - 0
	12 credits

2nd semester

Research Methodology	3 - 0
Introduction to Probability	3 - 0
Statistical Methods II	3 - 0
Calculus II	3 - 0
	12 credits

3rd semester

Statistical Inference	3 - 0
Applied Regression Analysis	3 - 2
Experimental Designs	3 - 0
Sampling Techniques	3 - 0
	13 credits

4th semester

Seminar	1 - 0
Thesis	credits arranged

SOIL SCIENCE

Instruction leading to the Master of Science in the fields of Soil Fertility, Soil Genesis and Classification, and Soil and Water Conservation.

Faculty : C. Koswara, A.M. Satari, S. Arsjad, G. Soepardi, Z. Hamzah, M. Weiss, S. Matondang.

Sample core curricula.

I. Program leading to the M.S. degree in Soil Science

1st semester

Soil Chemistry	3 - 0
Soil Physics	3 - 2
Elective (statistics I)	3 - 0
	13 credits

2nd semester

Soil Fertility I	3 - 2
Soil Genesis and Classification	3 - 0
Elective (statistics II)	3 - 0
Elective (minor)	3 - 0
	13 credits

3rd semester

Soil Fertility II	3 - 2
Soil and Water Conservation	3 - 0
Elective (minor)	3 - 0
Thesis	credits arranged

4th semester

Seminar	1 - 0
Thesis	credits arranged

Ph.D. PROGRAM AT IPB .

I. Background

It is IPB's philosophy that:

1. Every institute of higher learning should have a recognized scientific image, not only in educational quality but also by its contribution to scientific development. To that end, conditions and environment should be developed and fostered at those institutions which meet these criteria.

2. The advancement of scientific knowledge is particularly dependent on institutes of higher learning and well trained staff members. To provide weel-trained scientists the institutes of higher education must provide post graduate programs particularly geared to research activities.

3. With the current specialization of research activities and rate of advancement of knowledge, postgraduate students now need additional formal classroom training not only in their area of specialization but also in related scientific areas.

4. The former Ph.D. program was very ineffective, and, today, to develope scientific knowledge, many well trained scientists holding the Ph.D. degree are required.

Based on the above four statements and with good intentions and to aid in the development of knowledge and increase efficiency, IPB, herewith establish a special program for fulfilling these purposes. This program will be conducted by changing or addition of some regulations as acted forth in the document of the Minister of Higher Education (Surat Keputusan Menteri PTIP No. 91, 30 Juli, 1962 - with appendix). The document is called "Pedoman Sementara Mengenai Pemberian Gelar Doctor (Dr. atau Ph.D.)".(Temporary Guideline for Conferring the Doctor's Degree). This is a regulation for implementation of the "Higher Education Law" No. 22, 1961, paragraph 10, subparagraph 2 on the pursuance of a doctorate.

II. General Criteria

IPB has adopted the following general criteria:

1. The doctoral degree is the highest academic degree which can be awarded by IPB.
2. The doctoral degree can be earned by persons who have completed their educational program by writing a dissertation in accordance with IPB regulations.
3. To earn the doctoral degree, a candidate must meet the following two requirements:
   a. Complete all required course work with excellent rating and pass his comprehensive examination.
   b. Conduct a research program, report the results in a dissertation and defend the dissertation.
4. The course work to earn the doctoral degree will include lectures and other scientific assignments which are considered necessary for the candidate.

III. Program Organization

The bodies responsible for implementing the Ph.D. program at IPB consists of the following:

A. Promotion Board
B. Advisory Committee
C. Faculty Members Teaching in the Ph.D. Program
D. Science Group
E. Bureau of Doctorate Program, Directorate of Graduate Studies

A. Promotion Board

1. The Promotion Board is the highest authority in decision making regarding the Ph.D. program.
2. Members of the Promotion Board shall be appointed from those faculty members involved in the Ph.D. program and who are considered a "full member" as defined in Section III. Cp.4.

3. The Rector of IPB is the ex-officio chairman of the Promotion Board.
4. The Promotion Board has the following authority:
   a. To approve every regulation dealing with promotion either at the institute level or in the Science Group.
   b. To state all exceptions to regulation in III.A.4.a.
   c. To make recommendations to the Rector regarding the appointment and discharge of faculty members involved in the doctorate program.
   d. To approve the memberahip of the Advisory Committee for the Ph.D. student.
   e. To approve the application of a potential candidate.
   f. To approve the course program and dissertation of the Ph.D. student.
   g. To approve the judicium of the examination as recommended by the Advisory Committee.
   h. To formally confirm and award the doctorate degree.
5. The term of each members of the Promotion Board shall be four years.
6. When a member of the Promotion Board is incapacitated due to death, illness, severance of relation with the IPB or other reasons, the Rector may appoint a replacement.
7. The size and composition of the Promotion Board will be specified in another regulation.

B. <u>Advisory Committee</u>

1. Each student in the Ph.D. program shall be guided by an Advisory Committee of not less than three nor more than five members.
2. The composition of the Advisory Committee shall be recommended by the Science Group. Every member must be a "full" faculty member as defined in section III.C.para 4.
3. The Chairman of the Advisory Committee shall be from the Science Group.

4. In the event there are no "full" faculty members in the Science Group who could act as chairman, the Promotion Board can make exceptions to section III.B.para 3.
5. The Advisory Committee shall be consulted by the student regarding course program, research project and writing of the dissertation.
6. The Advisory Committee shall monitor the progress of the student and ultimately recommend to the Promotion Board the awarding of the Ph.D. degree.
7. After the Ph.D. degree has been awarded, the Advisory Committee shall be dissolved.
8. In the event a member of the Advisory Committee cannot fulfill his obligations, a new member may be substituted with approval by the Promotion Board.
9. If a member of the Advisory Committee takes a temporary leave of absence, a new member may not be substituted.

C. Faculty Members Teaching in the Ph.D. Program (FMTP)

1. FMTP consists of all staff members qualified to teach at the Ph.D. educational level.
2. All FMTP shall be appointed by the Rector as recommended by the Promotion Board.
3. Membership of FMTP consists of :
   a. Full member
   b. Junior member
4. A full member is a full-time or part-time IPB staff member whom the Promotion Board believes has the ability and scientific eminence to guide the student in the research project and in writing a dissertation. Every full member shall be of such stature that he could serve as chairman of the Advisory Committee.
5. A junior member is a full-time or part-time IPB staff member whom the Promotion Board believes has the ability and capacity in his field to assist in the doctorate program.
6. The term of the FMTP ends when the member resigns, or dies or when the Promotion Board feels the member no longer fulfills his function.

APPENDIX III

SHORT COURSES AND VOCATIONAL TRAINING IN AGRICULTURAL SCIENCES 1975-1980

I. BACKGROUND

The development of human resources in the past in Indonesia has produced manpower with relatively low skill and knowledge in many fields. Agricultural development also needs manpower with special training and education. Therefore, the basic policy of human resource development is to supply an adequate number of workers with skill and knowledge suited to the job requirements. The implication for the near future should be establishment at IPB of educational facilities to develop individuals with a general background into subject matter speciality in the field of Agriculture and related fields.

Short-courses in agricultural sciences held in the past by Institut Pertanian Bogor has provided the basis for the development towards an improved and more specialized retraining program and vocational training.

II. OBJECTIVE AND NATURE OF THE PROGRAM

The objective of specialized short-courses is to provide a special field of education for educators and other workers with a general fields of knowledge. With this specialization of knowledge, it is expected that the participants become more efficient manpower in their respective fields. For both the senior high school (SPMA), STM Pembangunan, veterinary senior high school(SNAKMA), Sekolah Peternakan Menengah Atas, as well as university staff, this kind of retraining could be supplemented by some courses related to the field of education.

Short courses will be offered each year in Bogor. For senior high school teachers, the program could take place during the first semester which will last from March until June (16 weeks). During the second semester, the program could be offered to university staff. It will last from September to December.

The nature of short-course is in the form of formal lectures, laboratory exercises, discussions, seminars, and field work. Those participants who completed the program succesfully will receive a certificate.

The objective of vocational training is to offer additional knowledge in agriculture to officials in the Department of Agriculture or other goverment agencies, such as the agricultural extension workers, regional development planners. The program is also open to those who work in the agricultural business sector. Training will be held each year in Bogor during the months of June and July. The nature of training is in the form of discussions and fieldwork. Those participants who completed the training succesfully will receive a certificate.

III. PARTICIPANTS AND QUALIFICATIONS

A. SPECIALIZED SHORT COURSES

Three groups of participants could be distinguished :
(1) senior high school teachers
(2) university staff
(3) officials of the Ministry of Agriculture and other government institutions.

The admission fee, cost of living in Bogor, and the cost of transportation to Bogor and back to the original places has to be paid by their own institution. The admission fee is Rp 50.000,- per person.

1. Senior High School Teachers.

The total number of participants in one semester is 20 - 25 persons. Each participant is required to take one package of courses as assigned by his institution. In addition, he must take courses in education and method of teaching. He is exempted from this additional requirement if he has a certificate from a teacher's college.

Qualifications for the candidates :

a. Must hold a Sarjana Muda degree or Sarjana degree in natural sciences or social economics from a state university or other universities recognized by the government.

b. Full time teacher of the agricultural senior high school (SPMA, SKMA, SNAKMA, STM Pembangunan, etc) with a minimum of 2 years experience in teaching.

c. Willing to return to his institution after completion of the program.

d. In good health.

2. University Staff

The number of participants in one semester which can be accepted is 20 - 25 persons. Each participant is required to take one package of courses according to his field of interest. In addition, he must take courses in educational measurement of teaching. By following this rule, it is expected that the participant can better teach his students after graduating from this course.

Qualifications for the candidates :

a. Must hold a Sarjana degree in agricultural sciences, biology, or social economics from a state university or other universities recognized by the government.

b. Full time staff of a university and must have a minimum of 2 years experience in teaching after graduation.

c. Willing to return to his university after completion.

d. In good health.

3. Officials of the Department of Agriculture and other government institutions.

The number of participants in one semester which can be accepted is 20 - 25 persons. Each participant is required to take a package of courses according to his field of interest or as assigned by his institution.

Qualifications for the candidates :

a. Must hold a Sarjana degree in agricultural sciences, biology, or social economics from a state university or other universities recognized by the government.

b. Full time staff of a research institution or other government institutions and must have a minimum of 2 years experience after graduation.

c. Willing to return to his institutions after completion

d. In good health

B. VOCATIONAL TRAINING

Each year, 40 to 50 participants will accept. Each participant is required to take a package of courses according to the field of interest. The cost of training, cost of living during they stay in Bogor, and the cost of travel to and from Bogor must be paid by the participant themselves or by the sponsoring institution. The admission fee is Rp. 25.000,- per person.

Qualifications for the candidates :

a. Must hold at least a senior high school certificate

b. In good health

GRADUATE STUDY DI FAPERTA I.P.B.

Suatu pemikiran untuk menyongsong Graduate School IPB 1976-76

oleh

I.B. Teken

Hal-hal yang ditulis di bawah ini merupakan pemikiran dari penulis pribadi. Walaupun gagasan ini telah pernah dilontarkan dalam Rapat Senat Faperta, namun setelah rapat itu belum lagi diadakan pendekatan dengan Ketua-ketua Departemen di lingkungan Faperta untuk lebih mengkongkritkan gagasan di atas.

Pemikiran penulis tentang Graduate Study di Faperta IPB adalah s.b.b.:

1. Graduate Study dibagi dalam dua tahap, yaitu course work dan research & thesis.

2. Course work terdiri dari 24 credit hours, yang terdiri dari 8 graduate courses (rata-rata) dan dilakukan dalam 2 semester (± 1 tahun) Research & thesis dihitung 12 credit hours, yang dilakukan dalam 2 semester (rata-rata).

3. Dari rata-rata 8 graduate courses yang diambil dalam course work itu, 4 atau 5 courses merupakan compulsory courses yang harus diambil, dan 3 atau 4 courses merupakan elective courses yang dapat dipilih. Dengan lain kata, Program Magister ini merupakan program dengan mataajaran inti.

4. Bidang-bidang yang pada tahun 1976 ini barangkali sudah dapat mulai menyediakan Program Magister adalah :
   (a) Agronomi
   (b) Tanah
   (c) Statistika dan Komputasi
   (d) Botani
   (e) Sosial Ekonomi (Ekonomi Pertanian)
   (f) Hama dan Penyakit tumbuhan

5. Tiap-tiap bidang keahlian itu wajib menyediakan 4 atau 5 mataajaran inti dan sejumlah mataajaran elective.
   Sebagai misal untuk bidang Ekonomi Pertanian, 4 atau 5 mataajaran inti yang harus diambil oleh mahasiswa Program Magister, barangkali dapat disusun s.b.b. :
   (1) Metoda Penelitian
   (2) Teori Ekonomi Mikro (advanced)
   (3) Teori Ekonomi Makro (advanced)
   (4) Metoda Kwantitatif dalam penelitian ekonomi pertanian
   (5) Demografi

Mataajaran electives :
(6) Ilmu Usahatani dan Ekonomi Produksi
(7) Politik Pertanian
(8) Koperasi
(9) Tataniaga
(10) Perdagangan internasinal
(11) Pembangunan pertanian
(12) Ekonomi Pembangunan

6. Dosen-dosen pembina dan pananggungjawab graduate study ini terdiri dari 2 golongan s.b.b.:

(a) Full graduate faculty, yang terdiri dari dosen-dosen berpangkat Gurubesar, Lektor Kepala, Lektor dan Dosen yang pangkatnya lebih rendah yang ditetapkan oleh Direktur Pendidikan Sarjana IPB karena bergelar Dr/Ph.D. atau dipandang punya wibawa ilmiah tinggi.

(b) Associate graduate faculty, yang terdiri dari dosen-dosen berpangkat Lektor Madya, Lektor Muda dan dosen yang pangkatnya lebih rendah yang ditetapkan oleh Direktur Pendidikan Sarjana IPB karena bergelar M.Sc atau dipandang punya wibawa ilmiah cukup.

7. Hanya dosen yang termasuk full graduate faculty yang dapat bertindak sebagai ketua advisory committee untuk membimbing mahasiswa Program Magister. Dosen yang termasuk associate graduate faculty dapat menjadi anggauta advisory committee.

8. Development dari graduate courses dan pemberian kuliah-kuliahnya ditugaskan kepada anggauta full graduate faculty yang dibantu oleh anggauta associate graduate faculty.

9. Development dari graduate courses ini seyogyanya dimulai tahun 1974 dan dicoba menerapkannya di kelas pada tahun 1975, sehingga pada tahun 1976 nanti penerapannya secara formil pada Graduate School itu telah cukup mantap.

RESEARCH AND PUBLIC SERVICE-IPB

Current status and projections

The funds allocated for research and public service projects for 1973-1974 was Rp 54,500,000.-(target Rp 35,000,000) and Rp 7,500,000.- for experimental farm development. The commodity order was $ 65,000.- including handling and freight charges. Orders were sent in March 1973, and some of the equipment and supplies have been received, while some shipments are either underway or held up in the harbor. We expect complications with the International Harvester station wagon, because of the new regulations concerining the import of motor vehicles. Otherwise we expect to receive most of the equipment and supplies. Delays can be traced to mistakes in ordering, delayed bidding, delayed shipping, and problems of clearing.

Research and public service projects are presently financed on a contract basis. This method insures continuity and reporting. One quarterly report and one annual report are required before the entire budget is given to the project leader. Until January 1974, 88% of the project leaders have submitted their progress reports.

Preparations to institutionalize research grants from other institutions (government and private) are in progress. Most of the projects (appoximately 80%) are already channeled through the IPB administration. Total 1975-1976 outside support is estimated to range between Rp 100,000,000.- and Rp 125,000,000.-

Public service projects are jointly carried out with 5 Kabupatens (Districts) in West Java. They will be reviewed in 1974-1975 for the possibility of improvement, or termination. The Documentation and Communication unit, which was established in 1973-1974 did not receive proper attention from staff members. This project will be continued in 1974-1975 with the same budget allocation (Rp 1,500,000), and will be discontinued in 1975-1976, if no extension material is sent by research workers for publication.

The rupiah budget requested for 1974-1975 is Rp 74,000,000.- (Document X estimate = Rp 50,000,000). This allocation will support staff and graduate student research, cooperative programs of the Bureau of Public Service, Documentation and Communication, SAE rupiah support and the Electronic repair shop. The Rp 11,000,000.- for experimental farm development is not included.

A more direct and intensive participation in agricultural extension will be explored by the Bureau of Public Service. This program, if found to be viable, will be started in 1975-1976.

A total of Rp 7,500,000.- was allocated for experimental farm development in 1973-1974. This money was used for road repair, rehabilitation of workshops, building a new garage and repair shop, and the purchase of supplies and equipment. An additional Rp 30,000,000.- was received from the sale of experimental farm products and used for maintenance, developing new

land for research, and the purchase of equipment for the farms. The budget of 1974-1975 is estimated to be Rp 11,000,000.- from the development funds and Rp 26,000,000.- from the sale of farm produce.

The two tractors have proved to be invaluable. The purchase of climatological station equipment will be continued in 1974-1975 and again in 1975-1976. Other dollar purchases will be tractor implements, spare-parts and specialized equipment needed for the operation of the farm.

Targets

Funds for research and public service will again be incresed in 1974-1975.

Further improvement in Research and Public Service administration. This includes efforts to produce more extension bulletins and stream-lining commodity order procedures.

Institutionalizing research projects coming from other institutions.

Exploring the possibilities of active extension support to the Department of Agriculture.

Further improvement of experimental farm facilities.

Financial consequences

The actual increase of IPB research funding is higher than that anticipated. At present it is more than 50% above the projections made in 1969. Coupled with the inclusion of outside funds which is estimated to be between Rp 100,000,000.- and

Rp 125,000,000.- in 1975-1976, the dollar component for the purchase of equipment and supplies needs to be revised. The IPB request an additional $ 35,000 for commodity purchases for research and public service in 1975-1976, which means a total budget of $ 70,000.-

VI. THE AGROCOMPLEX ANNUAL REVIEW REPORT FOR 1973

THE AGROCOMPLEX ANNUAL REVIEW REPORT FOR 1973

THE AGROCOMPLEX ANNUAL REVIEW REPORT FOR 1973

Introduction

This report was prepared by accomodating, a) report from the six faculties of the agricultural group of Gajah Mada University , b) report of the agrocomplex faculties for the annual report of the university, and c) the annual address of the rector on December 19, 1973.

The materials are as usual organized in the following three divisions:

I. Instruction

II. Research and Public Service

III. Administration, Organization and General Services

It is understandable that there will be only minor differences between the 1972 and the 1973 report, since a time elapse of a year could not bring about major changes primarily when dealing with education.

Though not that significant a progress could be envisaged in the language training or English courses for the candidates for the MUCIA participant program, due to the fact that the teachers sponsored by the British Council, the volunteers and others are now focusing on full time attendance and giving ample opportunity to the course participants to sit for pseudo-test that will enable the candidates to be more prepared when facing the actual examinations. The result of the 1973 method of teaching could be reflected on the number of participants accepted for that year. Hopefully this fact would enable the agrocomplex to plan the participant program more on the basis of academic quality rather than English proficiency.

January 1974

I. Instruction

A. The 4-year program.

As for Gajah Mada the aspect of a 4-year program or curriculum would not become a program of overnight discussion and planning, since 18 faculties are involved, and a progress has been attained on some three or four faculties, which are functioning as the so called pilot projects of the university, i.e. the faculty of agriculture, the faculty of science and mathematics (the chemistry division), the faculty of economics, and finally the faculty of geography. An actual setback took place, when rumors were spread that the new minister of education and culture (the late minister Soemantri) hesitated to adopt the 4-year program and would like to study more carefully about this undergraduate system, and no targets were being set prior to getting significant results from the main pilot projects funded by the ministry, namely IPB and ITB.

Gajah Mada responded by holding thourough discussions about this 4-year program plus the course credit system on May 1 and 2, 1973, attended by all deans and representatives of the faculties. The final outcome of this two-days meeting could be set down as follows:

1) Adoption of the 4-year program should be accompanied by an evaluation of the overall system of higher education in the country.
2) The goals of the first degree program or 4-year program should be geared toward the following targets:
    a) a professional education incorporating scientific aptitude and adequate skill for the respective professions;
    b) an aptitude to enable the graduate to continue for a more advanced education or a post-graduate program.

Additional issues were clarified, a.o.:

The first degree program could mean a terminal program for those students, who are not having the capability to continue for further more advanced education. For those who are capable to get further training a provision has been made to determine this program as a transfer program.

3) The length of study for the first degree program for the respective faculties at GMU has not been considered concomittantly the same for those 18 faculties, based on the actual reasoning that for certain faculties a 4-year program could not be adopted, e.g. the faculty of medicine.
4) Graduates from the 4 year program should get a sarjana title, but the right terminology would become a real issue for further meetings.
5) It has been anticipated that the graduates of this 4-year program would come into the III-A category of the government civil service salary scale, which is formerly meant for the graduates of the 5-year or 6-year program.
6) Within the framework of implementing this program a one track system should be envisaged, which could thenobe stipulated as a 4-year program and a postgraduate program of 2 years. Meanwhile a transitional period is set forth.

It has been heretofore mentioned that within the agrocomplex the faculty of agriculture has already started to experiment on this 4-year program since 1972, based on the logics that the existing 3-year baccalaureate program used to mean an overloading to the students. This 3-year program was originally a unique invention of the educators for higher education of that period (1950-1960), since such a system did not occur in the Dutch period. The main target pf the 3-year system was to replenish the need of academics in the government civil service circuit due to the scarcity of university trained people during the colonial period. This 3-year system has up to now been backed up by a legislation promulgated in 1950.

When initiating this 4-year program the faculty of agriculture had outlined the following transitional measures:

a) the first year students of 1971 were automatically promoted to the second year of 1972,
b) the second year students of 1971 who failed the exams of that current year were transfered to the third year, and those who passed were placed in the fourth year,
c) the third year students of 1971, who did not pass the exams were put in the fourth year, and those who passed were promoted to the fifth year,
d) the fourth year students of 1971, who failed stayed in the fifth year, and those who passed got the sixth year placement, and finally the 1971 fifth year students were transfered to the sixth year.

The entire organization of this new 4-year program for agriculture could be set down as follows:

a) a preparatory level constituting of 75 credits and is divided into:

a.1. the first level or year: 36 course credits, 13 subject matters, 2 semesters;

a.2. the second level or year: 39 course credits, 14 subject matters, 2 semesters.

b) the baccalaureate level (70-75 course credits) embracing the,

b.1. the third level or year: 37-40 course credits, 7-9 subject matters, 2 semesters,

b.2. the fourth level or year: 32-35 course credits, 7-9 subject matters, 2 semesters.

c) The sarjana level (31-40 course credits) consisting of

c.1. the fifth year: 24-30 course credits, 12-14 subject matters and 2 semesters,

c.2. the sixth level: 7-10 course credits, 3 subject matters plus a thesis.

The above set up seems to differ a little with the IPB concept, since the 4-year program is envisaged to produce sarjanas or Ir-s, while the faculty of agriculture of GMU is still endorsing the baccalaureate program.

This issue of installing the 4-year program plus a course credit system has once again become an acute topic on november last year, and it has been the policy of rector Sukadji to start to adopt the credit system by early 1974 for all the 18 faculties. There is no doubt that a modification is going to take place from the old to the new system, but carefull communication and information should be extended to the students in order not to face some debacles. The implementation of the course credit system will vary from one faculty to the other, but at least 4 faculties are going to introduce this system completely by 1974. Next to this course credit system a pooling of significant overlapping disciplines should be set forth, e.g. microbiology and biochemistry, but this effort will need several adjustments within the academic staffing. Carefull conditioning of the staff-members is deemed necessary when real good departments are going to be established.

Systematic elaboration of the 4-year program could then be set down as follows:

I. Goal- to improve the quality of the 4-year program and adopt the teaching program to needs and requirements of the students.

1. Target- to evaluate and continue improving the 4-year program of the faculty of agriculture on the first hand and the other 5 faculties on the other hand.
   a. curriculum review at the other faculties of the agrocomplex is still underway and for this purpose regular meetings of the deans and secretaries of the agrocomplex have been arranged.
   b. preliminary agreement has been obtained among the agrocomplex faculties, namely the total course credit requirement for the 4-year program would become at least 150 course credits.
   c. It is still impossible for the veterinary science to adopt the 4-year program unless a preveterinary course of 2 years could be developed.

2. Target- improvement of basic agricultural science courses.
   a. six basic agricultural courses are getting special attention and improvement due to advice and service rendered by the short-term advisors, namely for:
      - agricultural engineering and mechanization
      - food science
      - silviculture
      - microbiology
      - ecology
      - livestock economics
   b. commodity orders for equipment have been placed with MUCIA and for this purpose see Table 4 and 5.

3. Target- improvement of teaching ability, methodology and interest.
   a. by the end of 1973 fiscal year a workshop is going to be held on educational measurements and methodology.
   b. teaching aids have already been supplied by MUCIA for the 6 faculties and frequently used by the advisors and their counterparts.

4. Target- staff upgrading in their respective fields.
   a. for 1973 the agrocomplex obtained 11 slots for degree candidates and 5 for non-degree programs; in comparison with the situation in 1972 this 1973/74 picture looms better (see Table 1 and 2).

B. The Sarjana program and the postgraduate program.

Goals: - to upgrade the quality of the sarjana degree (ir and Drs); to expand the Indonesian doctorate program (Dr - program); and provide initial base for a Graduate School.

1. Target- upgrading of the sarjana degree.
   a. improvement and revision of the sarjana curriculum have been conducted primarily for the faculty of agriculture and requirement Of 31-40 course credits for this program has been put forward.
   b. returning staff-members obtaining advanced degrees are now engaged in their regular responsibilities and hopefully they would improve the teaching methodology and the curriculum.
   c. upgrading program have been arranged funded by the development budget and other donors in the following fields, fram machineries and mechanization, food science, agricultural extension and cooperative and agricultural economics.
   d. purchase of equipment for upgrading programmes has been executed for agricultural mechanization and food sciences.
   e. field facilities are still in the old status, and a development budget is going to be allocated for land acquisition for 1974 (plus-minus 15 hectares = 37,5 acres).
2. Target- expansion of the Indonesian Doctorate Program.
   a. senior staff members envisaging a doctorate program are sent to the US to get additional training and to collaborate with their future promoters or copromoters, and design their research abroad as well as at home.
   b. meager rupiah funding has been instigated, but none for the agricultural complex to date; it is hoped that for 1974 at least one candidate could be sponsored by the university.
   c. MUCIA-short-term advisors for 1973, who were engaged in this thesis development are a.o. Dr. Costillow and probably also Dr. Tobias.

For this 1973/74 period GMU has been obtaining 2 types of expertise assistance, namely

a. full-time expertice for GMU (3 months)
b. sharing with IPB or casual visits

It has been agreed upon that the experts visiting IPB or GMU would spend

some time in the non-pembina faculties for comparative study and eventual implementation of library improvement and research proposals initiation. (See further Table 3 on short-term Advisors)

II. Research and Public Service.

Goals: a. to promote research as an integral part of the doctorate student education (or sarjana program) and staff development programs;

b. to utilize scarce agricultural scientist to solve problems in the agricultural sector;

c. to improve the agrocomplex facilities for better field and laboratory research;

d. to improve library facilities (acquisitions of current journals and reference books, printing unit, photo-copy unit, micro-film reader etc.);

e. to develop linkages with other departments or ministries carrying on agricultural research;

f. to utilize university staff resources to carry out extension/education and community development programs.

Target - I. Organization.

a. To develop and expand coordination and administrative unit.

Since 1972 a Research Board (Dewan Penelitian) has been established consisting of 36 members divided into:

18 members of the executive and legislative board

18 members for different task forces and ad hoc committees.

It has been envisaged that this board is too excessive and more efficiency could be obtained by establishing a committee of 8 people constituting a chairman, vice chairman and secretary, and 5 representatives from the 5 groupings of sciences : medical sciences, agricultural sciences, social sciences, science and technology, and humanities.

When required ad hoc committees would be appointed. This idea would be implemented by 1974.

b. Establishment of priority objectives for research and public service.

The executive board of the University Research Board stipulates the priority objectives, and 2 main targets could be set down.

- to promote research objectives that will enhance the opportunity to aim at th sis development for doctor candidates, primarily in non-economic projects or in basic sciences.
- expand research projects that could be synchronized with the National Development Programs such as in food and clothing or in applied science.

c. Organize Experiment Station.

Since within the development budget for 1974/75 a funding of Rp. 90 million has been stipulated for purchasing about 15 hectares of land, commodity support from the MUCIA side could be initiated by 1973.

d. Cooperative Research Projects.

1) With other ministries or departments:
33 research projects could be identified as cooperative projects primarily with the ministry of agriculture, ministry of public works and the Atomic Energy Commission (BATAN)

2) With MUCIA (in concordance with the number of short-term Advisors)
- see further Table 6 -

Target - II. Program development.

In this respect 3 types of projects would be set down

1. Research projects funded by the Ministry of Education and Culture.
2. Research projects funded by the Faculties (reserve funds).
3. Research projects allocated by several other Ministries

1. **Research projects sponsored by the Ministry of Education and Culture.**

a. **Animal husbandry:**

1. Experiments on meadows for sheep ..... Rp. 350.000.-
2. The influence of the position of the sun and the duration on drying of cowhides with regard to the strength and elasticity after tanning ..... Rp. 180.000.-
3. Possibilities of prescribing artificial milk for calves ..... Rp. 250.000.-
4. The economic aspect of castration of swines prior to weaning ..... Rp. 220.000.-
5. An evaluation of the poultry mass guidance project (an attitudinal research on the poultry breeders) ..... Rp. 400.000.-

b. **Agriculture:**

6. Upland rice variety development (an on going project) ..... Rp. 260.000.-
7. Research on a paddy variety (gogo rancah) ..... Rp. 260.000.-
8. "Cravel" culture for Vanilla planifolia to diminish rotten stem disease ..... Rp. 275.000.-
9. A survey on pathogenic insect in Central Java ..... Rp. 250.000.-
10. A study on virus disease of groundnuts ..... Rp. 350.000.-
11. The effectiveness of fungicide residues to determine the time interval for spraying ..... Rp. 200.000.-
12. Erosion prevention by better and appropriate vegetation ..... Rp. 250.000.-
13. Some aspects of the physiology of blue algae with regard to the economics of soil nitrogen ..... Rp. 350.000.-

c. Agricultural technology:

14. Design and development of manually operated irrigation pumps. ..... Rp. 291.000.-
15. Classification and evaluation of banana varieties ..... Rp. 275.000.-
16. Prior treatments to simplify peeling proses of soybeans ..... Rp. 252.000.-
17. Measurements of acidity of rice to forecast the duration of storage ..... Rp. 250.000.-

d. Biology:

18. The distribution of seagrass in Southern Shore Area of Yogyakarta ..... Rp. 350.000.-
19. Sex determination in eels (Monopterus albus) and amino acid essay of their proteins ..... Rp. 150.000.-
20. Research on edible frogs (Rana sp)..... Rp. 300.000.-
21. Some aspects on the biology of nodular bacteria and the nodulae of wild leguminosae ..... Rp. 200.000.-
22. Irradiation of paddy and its evaluation to increase food production ..... Rp. 295.000.-
23. Research on pollen transferred by bees (Apis indica) ..... Rp. 250.000.-
24. A study of ecology of "Rawapening" (a lake) ..... Rp. 295.000.-

Forestry:

25. Research on pruning of teak-trees to increase lumber production and to upgrade the quality ..... Rp. 334.000.-
26. Hot and cold dipping of several types of woods and bamboos by using several kinds of chemical substances ..... Rp. 341.000.-
27. Variability of watercontent in fresh woods of several species from the tropical forest ..... Rp. 349.950.-

28. Experiment on prevention of parasite infection or predatoric insects affecting shellack bugs with special reference to the culture technique .....Rp. 375.000.-
29. Photogrammetric identification of dominant or codominant species of trees in tropical forest primarily for consessions ..... Rp. 180.000.-

f. Veterinary medicine:

30. A survey on bovine mastitis in dairy cattle at Boyolali and surroundings ..... Rp. 450.000.-
31. Research on the histology of the boundaries of small intestines and other parts in poultry ..... Rp. 150.000.-
32. Physiologic data of domestic animals in Indonesia (temperature etc.) ..... Rp. 655.660.-
33. Autopsy findings of baby pigs in Yogyakarta ..... Rp. 500.000.-

2. Research projects funded by the Fakulties.

In this regard 8 projects could be lined up for the faculty of agricultural technology, 7 projects for veterinary science, 2 projects for agriculture, 2 projects for animal husbandry and 7 projects for biology. (See Appendix I).

3. It has already been mentioned under the cooperative research projects that 33 projects are being allocated (See further Appendix II)

Within the field Public Service the next expert could be shown:

a. Agriculture:

1. Community development project at Cangkringan, Mangun Girirejo in cooperation with other faculties.
2. A survey of pests and diseases affecting fruits and food in Central Java (in cooperation with Central Java Agricultural Extension Service)
3. Pest control of coconuts in Central Java and Nusa Tenggara Timur (Eastern Islands).
4. Seed production (gogo paddy) for the Agriculture Extension Service.

5. Champignon culture distribution for Yogyakarta.

b. Agricultural Technology.

6. An evaluation of draft resistance of soil.
7. An evaluation of paddy-field development at Barambai (South Kalimantan).
8. A survey on "paddy gogo" in Central Jawa.
9. Conducting a course in farm machineries.
10. Offering an upgrading course in farm mechanization for L.P.P. (the Institute of In-service Training for Estate enterprises).
11. Coaching of students prior to participation of study-service activities in village irrigation.
12. Arranging a course in extension for Central Jawa.
13. A community development project at Kulon Progo Regency.

c. Biology

14. A brochure has been issued dealing with "Fruit seasons and their approriate handlings"
15. A brochure about:
    " How to rear anguilla".
16. Participation in the Cangkringan project.
17. Arranging regular courses about orchids.
18. Community service participation at Kulon Progo.

d. Veterinary medicine.

19. Extension education about prevention of poultry diseases at Sleman, Bantul, Gunung Kidul and Kulon Progo regencies.
20. Issueing a brochure
    "Parasitic diseases of Poultry"
21. Collaboration with Gembiroloka Zoo
22. Extending laboratory diagnoses for cattle owners at Yogyakarta (free charge).

23. Poultry mass guidance participation (disease sector).

e. Animal husbandry.

24. Extending a course on animal husbandry to the ministry of the interior officials.
25. Consultatory extension on dairy cattle.
26. Poultry mass guidance participation (production sector).

f. Forestry.

27. Data collecting for the Forestry Extension Service Office at Yogyakarta.
28. Silkworm project.
29. Consultatory extension for Gembiroloka Zoo (the gardening aspect).
30. Forest survey at the outer island for the Directorate General of Forestry.
31. Assistance to Bakorsurtanah with regard to landuse and utilization.

Targets III. Development of Facilities.

a. Experimental Station development.

Funding for land purchase would be allocated by 1974 through the second Pelita (Five year Development Plan) budget, and commodity order for field experimentation is going to be initiated during the last quarter of the 1973/74 fiscal year.

b. Laboratory and field equipment.

Commodity orders have been placed.
See Table 4 and 5

c. Public Service.

1) Visual aids: see report of 1972 (combination film-strip-slide projectors, overhead projectors; individual faculties have bought their own A.V. equipment such as movie cameras, 8 mm movie projectors.
2) Demonstration project: postponed (see experiment station).
3) Publications: A Pelita budget has been made available to print research reports for 1972/73 and 1973/74.

III. University Administration, Organisation and General Services.

Time and efforts have been set forth to really arrive at a good administrative unit at Gajah Mada, but a heritage since 1950 of having independent faculty system creates the dilemma of separate entities for education and administration. Within the administrative context a unity has always been the target to be aimed at, but in the educational or curricular hierarchy a unified pattern is hard to reach. Nevertheless since 1970 conditioning after conditioning efforts have been done to get common ideas of how a university should behave. For this purpose two workshops were conducted in 1972 (August 28-30) and in 1973 (August 20-22) for university administration in general and specific questions petaining to GMU problems.
In 1972 an overall insight was the main target of discussion, namely the respective break-down of functions and items to be included in the university administration aspects. For 1973 more focus was laid down primarily to organization and planning.

The entire organizational structure of GMU to date could be outlined as follows: the rector has 5 vice-rectos (academic affairs, research, public service, student affairs, and financial affairs plus the entire administration) and vice-rectors-assistants (for financial affairs, personnel, general services, planning and the Pelita).
This staffing could then be called the routine executive tool of the rector backed up by 13 divisions of offices, namely:
the office for educational affairs, statistics, purchasing and supplies, personnel, general office, buildings and maintenance, students and alumni, library, financial affairs, printing unit, masterplan and planning, central repairshop and finally public relation.

The line coordination within the educational set up could be delineated as follows: the rector adviced by the vice rectors, 18 faculties represented by the deans and secretaries, embodying the so called Academic Executive Board (RKU), and in highly legislative affairs and policy making a senate of full professors and deans could be called for. Routine operations of the faculties are entirely in the hands of the deans and secretaries, but when basic decisions such as curriculum revisions are going to be imbued the senate should be invited.

Next to this set up 5 other units could be mentioned:

1) the University Hospital
2) the Bureau of Public Administration
3) the Bureau of Public Service
4) the Institute of Population Studies
5) the Institute of Rural and Regional Studies.

Within the structure the agrocomplex is a part of the entire organization and has the benefit to be united consensusly since 1969, but administratively it has still been exposed to the common pattern of routine operations. Based on the system of complexes five groupings could be lined up, the medical complex, the science and technology complex, the social sciences complex, the agricultural complex, and the humanities; this setting would then be in conformity with the existing consortium system in the Higher Education Policy.

With regard to the MUCIA-GMU context of cooperation goals have been set up to improve the entire organizational as well as the managerial know-how of the staff members of the agrocomplex faculties. Special participants have been nominated to attend the Summer Course in Wisconsin and up to now 5 persons have benefitted from this training. In addition 2 participants prior to returning home attended similar courses in 1971 or 1972?

The goals set up in Document X are:

I. To assist in the development and training of potential leaders.
II. To study and modify university administration.
III. To strengthen general service units for the agrocomplex.

Reviewing the targets structured for the respective goals the following issues could be set down:

I. Development and Training of Potential Leaders.

Target 1. Certificate programs in University Administration.

a. One participant (drs. Soenarto) attented the Summer course at Wisconsin. A total of live have been sent to date.

b. Actually another participant from the University staff was appointed (Drs. Soertman M.Sc.), but failled to go because of several reasons.

Note: This idea of sending a man from the Central administration was based on a request of the rector by that time, but prior consideration of the routine task to be faced by that man was neglected and replacement was impossible.

Target 2. - Participant programs or Degree programs in administration.

a. No candidates have ever been sent up to this period to the University Administration course for on stream participants in the US.

The actual reason behind this lack of interest is due to the fact that the category within the salary scale does not benefit a university administrator, neither a registrar nor a bursar for instance.

b. Thus it is fully recommended that within the entire regulation of government service people additional clauses should be set forth, when a real target of improvement of university management becomes a necessity.

Target 3. - In-service training in Indonesia.

a. An election of new deans and secretaries took place on November 10, 1973 and has the following composition:

Faculty	Dean	Secretary
1. Agriculture	Ir. Samino	Ir. Soemartono
2. Animal husbandry	Drh. Harmadji	Drh. Soekoharto
3. Agricultural technology	Ir. M. Adnan M.Sc.	Ir. Roesdi
4. Forestry	Ir. Imam Abdurrachman	Ir. Soedardjo
5. Biology	Prof. Ir. Moeso	Ir. Wibisono M.Sc.
6. Vet. Med.	Drh. Wardiarto	Drh. Djoko Pranowo

Target 4. Seminars and Workshops.

a. On August 20-22, 1973 a workshop was held at the Bureau of Public Administration of GMU and topics on organization and planning were offered.

b. Recently on January 21 to February 2, 1974 a Workshop on University Administration was held in Yogyakarta and participants from all universities and institutes from Jawa and Kalimantan were invited.
This workshop was a joint project of the Directorate of Higher Education and UNESCO.

II. To study and modify University Administration.

Targets are set down to bring about more efficiency and efficacy in the entire management of the university. Enrollment and registration have been centralized since 1972 and common scheduling of classes has been reached this year (1974) or a university calendar has now been able to be issued.

Within the field of instruction the course credit system and the new grading system have been implemented in all the 18 faculties after having discussed these topics included that one about the 4-year program in 1973.

III. To strengthen general service units.

The situation for 1973 was about the same as in 1972, and could be mentioned as follows:

a. The agrocomplex library is still accomodated within the library of the Agricultural technology. An order of books and journals has been placed for 1973 with an total amount of $5.320.68.
A development budget has also been allocated for purchase of books and journals. Every faculty gets a funding of about Rp.500.000.-
A staff-member of the faculty of agriculture has been sent to Jakarta for a library training since 1971, and it is hoped that during the first semester of 1974 his education will be completed.
The follow-up of the construction of a new university library has been delayed because everything should go through a committee constituting of university and the local government people.

b. The building for the language laboratory has almost been finished by the end of the first quarter of 1974. A well qualified technicien is needed to maintain the language lab equipment. Twelve booths have been assembled and there is going to be a big procurement of equipment for this lab by the second quarter of 1974.

c. Eventhough a reproducing unit (a 3M unit) has been made available since 1972 the original thought of sending copies of current journals to the non-pembina faculties has been much delayed or postponed, because of lack of rupiah funding. Nevertheless the faculty of agricultural technology has been able to benefit from this unit primarily during the upgrading course held recently.
The university owns a Xerox machine and

several faculties have exploited this equipment for duplicating reference book and journals, and out of this experience a rupiah funding of about one million rupiahs is needed to run this business for about 6 months.

d. The central storeroom and repair unit has been taken care by the university and it is hoped that by 1974 this entire unit will be completed.

e. The status of Data Processing Unit envisaged for the agrocomplex is still progressing and a commodity order of $5,086.40 has been placed with MUCIA. This unit will become a joint effort of the faculty of agriculture and the faculty of animal husbandry thanks to the advice of Dr. Stucker in 1971.

Table 1.

MUCIA/UGM PARTICIPANTS
1973 - 1974

Faculty	Name	Program	University	Period	Field
Agriculture	Ir.Samino	Special	MSU	3/73 - 10/73	Entomology
	Ir.A.Sutarmadi	MS	UW	9/73 - 9/74	Ag.Economics
	Ir. Sri Widodo	MS	UW	9/72 - 9/74	Ag.Economics
	Ir. Kasumbogo Untung	MS	MSU	/74	Entomology
	ir.Subiantoro	MS	MSU	/74	Fisheries
Ag.Technology	Ir.S.Sudarmadji	PhD	MSU	3/70 - /74	Food Science
	Ir.Suheid Noor	MS	-	/74	-
An.Husbundry	Drh.Suharto	MS	Ill.	1/73 - 1/75	Livestock Economic
	Drh. S.Keman	MS	Ill.	6/71 - 6/73	Meat Science
	Drh. Soedomo	MS	UW	8/73 - 8/75	Meat & An.Science
	Drh. Soejono	MS	MSU	9/73 - 9/75	Dairy Management & Nutrition
	Ir.M.Astuti	MS	MSU	12/73 - 12/75	Poultry Genetics & Breeding
	Drh.B.Wikantadi	MS	Ill.	1/74 - 1/76	Dairy Science
Biology	Drs.Hari Hartiko	MS	UW	8/71 - 8/73	Biochemistry
	Ir. Wibisono	MS	Minn.	9/71 - 9/73	Botany
	Drs.Soenarto	Special	UW	8/73 - 9/73	U.Administ. Seminar
	Prof.Ir.Moeso	Special	Fla.Hawaii	10/73(six months)	Orchidology
Forestry	Ir.S.Sastrosoemarto	PhD.	N.Carolina	9/69	Forest Statistics
	Ir.A.Soemitro	PhD.	Minn.	12/70	Forest Economics
	Ir.Oemi Soeseno	Special	Minn.	7/73(six months)	Silviculture & Fores Nursery
	Ir.A.Sultoni	MS	MSU	12/73 - 12/75	Forest Entomology
	Ir.Haryanto	MS	MSU	/74	-
Vet.Med.	Drh.E.Muljono	PhD	Fla	8/69 - 6/74	Animal Physiology
	Dra.Soemijati Keman	MS	Ill.	6/71 - 5/73	Histology/Anatomy
	Drh.Sardjono	PhD	Minn.	9/71	Virology
	Drh. Wardjiman	MS	Minn.	7/72 - 7/74	Internal Medicine
	Drh. Soeharso	MS	MSU	12/72	Bacteriology
	Drh. Warudju MSc	Special	Minn/Ill.	9/73 - 2/74	Vet.Pub.Health
	Drh. Darjono	MS	Minn.	9/74	Vet.Pathology
	Drh.Setiawan Budiharto	MS	MSU	/74	Vet.Pub.Health

Table 2.

BEGINNING PARTICIPANTS FROM MUCIA/UGM in 1973-1974

I. Degree Program

Faculty	Name	Program	University	Period	Field
Agriculture	Ir.Kasumbogo U.	MS	MSU	-/74	Entomology
	Ir.Subiantoro	MS	MSU	-/74	Fisheries
Ag.Technology	Ir. Suheid Noor	MS	-	-/74	-
An.Husbandry	Drh.Soedomo	MS	UW	8/73-8/75	Meat & An.Science
	Drh.Soejono	MS	MSU	9/73-9/75	Dairy Management & Nutrition
	Ir.Maria Astuti	MS	MSU	12/73-12/75	Poultry Genetics and Animal Breeding
	Drh.B.Wikantadi	MS	ILL	1-74-1-75	Dairy Science
Forestry	Ir.A.Sulthoni	MS	MSU	12/73-12/74	Forest Entomology
	Ir. Haryanto	MS	MSU	-/74	Wood preservation
Vet.Medicine	Drh.Daryono	MS	Minn	9/74-	Vet.Pathology
	Drh.S.Budiharta	MS	MSU	-/74-	Vet.Public Health

II. Non-degree Program

Agriculture	Ir.Samino	Special	MSU	3/73-10-73	Entomology
Biology	Drs.Soenarto	Special	UW	8-73-9/73	U.Administration Seminar
	Ir.Moeso	Special	Fla., Hawaii	10/73(six months)	Orchidology
Forestry	Ir.Oemi Soeseno	Special	Minn.	7/73(six months)	Silviculture & Forest Nursery Management.
Vet.Medicine	Drh.Warudju	Special	Minn./Ill	9/73-2/74	Vet.Public Health
Ag.Technology	Ir.Hendro Pawoko	Special) or			
An.Husbandry	Supardjo	)			

Table 3

MUCIA/UGM Short Term Advisors
1973 - 1974

I. For three or four months

Name	University	Area of Specialization	Faculty served	Period	Conterparts
Ralph N.Costilow	MSU.	Microbiology	Agriculture	May 31-Aug.16,73	Ir. Jutono
K.E.Egertson	Minn.	Ag.Economics(Livestock Marketing)	Animal Husbandry Agricultural	Aug.20-Oct.29,73	Drh.Soekoharto Ir.A.Soedarsono
F.G.Murphy	MSU.	Radiation Biology and	Biology Forestry	Sept.5-Dec.16,73	Ir.Moeso, Drs.Su-[illegible], Ir.Sukotjo
J.Tobias	Ill.	Food Chemistry & Pro	Ag.Technology	Sept.[illegible]-Dec.[illegible].73	Dr.[illegible] Ir.Hardiman
M.Esmay +)	MSU	Ag.Mechanization	Ag.Technology	Oct.24-Dec.19,73	Ir.Soemangat
O.Suchsland	MSU	Wood Technology	Forestry	[illegible]	Ir.Yusuf

II. For several days

Name	University	Area of Specialization	Faculty served	Period	Conterparts
J.B.Williams	Minn.	Animal Science	An.Husbandry	May [illegible]-[illegible] 73	Drh. Soekanto
L.Satter	Uw	Human Physiology	An.Husbandry	May 13-16,73	Drh. Soekanto
J.Stevens +)	Minn.	Clinical Pathology	Vet.Medicine	Aug.12-[illegible],73	Drh.Soesanto
Dale Dahl	Minn.	Ag. & Applied Economics	Agriculture	Oct.[illegible]-24,73	Ir.A.Soedarsono
A Chapman +)	Uw	An.Breeding & Genetics	An.Husbandry	Oct.21-27,73	Drh. Martono
D. Lund +)	Uw	Food Science	Ag.Technology	Nov.10-15,73	Ir.[illegible]
G.Esteros	Minn.	Housing Design	Forestry	Nov.25-29,73	Ir.Hardiman
Phil. Raup		Ag.Economics	Agriculture		Ir.Maryanto Ir.A.Soedarsono

+) also served IPB.

WK.

Table 4

COMMODITY ORDERS STARTER AT UGM
in 1973 - 1974

Number	Name	Faculty	Amount
UGM-1-73/74	Cooperative research - Dairy & Beef Cattle Breeding	Vet.Med.	$ 758.35
2	Cooperative research - Forage Production	An.Husbandry	1.904.40
3	Audio-visual Support (=UGM-20-72/73	Dr.K.Lawton for Agro Complex Fac.	2.116.73
4	Course Improvement in Basic Genetics	Biology	4.405.00
5	Upgrading Course in Food Microbiology and Ag. Mechanization	Ag.Technology	4.207.03
6	Cooperative Research in Fisheries	Biology	5.660.57
7	Course Improvement - Undergraduate Program (Animal Physiology)	Vet.med.	5.640.46
8	Univ.Public Service - Vet.Ambulatory Service Unit	Vet.Med.	11.063,35
9	Univ.Administration - Library Improvement Journals	Agro-Complex	2.000.35
10	Supplement to CO UGM-8-72/73 foe Research Project on Pruning of Teak	Forestry	400.00
11	Undergraduate Instruction - Wood Technology	Forestry	5.548.35
12	Univ.Administration - Library Improvement	Agro-Complex	1.391.22
13	Undergraduate Instruction - Food Analysis	Ag.Tech - Dept. of Food Sci.	2.912.77
14	Undergraduate Instruction - Farmshop	Ag.Tech.- Ag. Engineering	2.891.02
15	Undergraduate Instruction - Course Statistics	An.Husbandry	5.086.40
16	Univ. Administration - Library Improvement	Agro-Complex	1.919.11

Table 5.

UNDERGRADUATE UPGRADING COURSES

A. Given in 1973/74:

UGM 4-1973/74	Course Improvement in Basic Genetics	Fac.of Biology	$ 4.405
7	Course Improvement in Animal Physiology	Vet.Medicine	$ 3.640
11	Undergraduate Instruction - Wood Technology	Forestry	$ 5.548
13	Undergraduate Instruction - Food Analysis	Ag. Tech.	$ 2.912
14	Undergraduate Instruction - Farmshop	Ag. Tech.	$ 2.891
15	Undergraduate Instruction - Course Statistics	An.Husbandry	$ 5.086

B. Proposed — Undergraduate Instruction - Crop Management II — Agriculture (Dean Samino)

GRADUATE UPGRADING COURSE

Agricultural Economic Management — Agriculture

PLANNED UPGRADING COURSES

1974-1975

The list of courses to be upgraded in 1974-75 has not been submitted to MUCIA by the Agro-Complex.

Tabel 6

RESEARCH PROJECT PROPOSALS IN 1973-74
Will be considered in 1973-74 and 1974-75

Title	Faculty	G.U leader	Short Term Adviser	Rp.Budget	$ Budget
1. Mineral dynamics & growth rate of Pinus merkusii	Forestry	Ir.Soekotjo	Dr.P.G.Murphy	1.747.300	1.400
2. A flat-bed mechanical dryer	Ag. Tech.	Ir.Soemangat	Dr.M.L.Esmay	no budget	given
3. Clinical Pathology research project on local cattle to support animal protein production	Vet.Med.	Drh.Soesanto	Dr.J.B.Stevens	1.100.000	11.500
4. Study to treatment to simplify hull removal from soybeans under Indonesian conditions	Ag. Tech.	Ir. Zuheid Noor	Dr.T.I.Hedrick	256.300	1.553
5. Nutritionally fortified sherbet frozen deserts	Ag. Tech.	Dean Adnan	Dr.J.Tobias	no budget	given
6. Manufacture of coconut sugar	Ag. Tech.	Dean Adnan	Dr.J. Tobias	no budget	given
7. Objective measurement of tea quality	Ag. Tech.	Ir.Hardiman	Dr.J.Tobias	no budget	given

Table 7

DEVELOPMENT PROPOSALS

Not provided for in budget

	Dollar requested
1. Central research laboratory Short termer - Dr. R.N. Costilow	$ 40.000
2. Field laboratory of the animal farm in the faculty of Animal Husbandry Request from Ir. Soekanto	4.000
3. Equipment needed for the laboratory of animal breeding Request for animal husbandry by Dr. A. Chapman	2.400

APPENDIX I.

Research Projects funded by the Individual Faculties.

a. **Agricultural technology:**

1. Paddy drying machine for Indonesia and its operation.
2. Legumes for soil conservation in Rubber Plantations.
3. Diesel motors efficiency measurement by testing their horse power.
4. The influence of the thickness of the outer layers of maize when using hot air for drying.
5. The influence of storage of palm fruits after natural drying with regard to free fatty acid content of their oil.
6. The influence of sodium additives in cocoa powder which affect the quality.
7. The influence of the sugar content within skim coconut milk with regard to storage.
8. The influence of the paddy "malai"+) to storage.

b. Veterinary medicine.

9. The mortality cause of goats at Turi.
10. The mortality cause of dairy cattle in Salatiga.
11. Microbiologic investigation of well water at Traji (Kedu).
12. The effect of several concentration of varied chemicals compounds to the larvae of nematodes and cercariae of liver.
13. The influence of "Brotowali" (Timospora tuberculata beumee) infuse to urine excretion of the guinea pig.
14. Physiologic data of dairy cattle in Surakarta.
15. The application of Tetramizole HCl for dogs and cows.

c. Animal husbandry.

16. The methods of cowhides preservation in Yogyakarta and the influence to the quality.
17. The influence of oil treatment on consumption eggs with regard to the quality.

d. Biology

18. The influence of the time of fertilizing to the growth of seedlings and the yield.
19. The ovum development in groundnuts (Arachis hypogea).
20. A comparative study of blood pictures in 3 species of pisces: Cyprinus carpio, Punctius jovanicus, Oitischilus hasselti).
21. An investigation on the Azolla sp. and Anabaena.
22. The distribution of "impin" (fish) in several places on the Southern Shore of Java.
23. The influence of crude oil on the anatomy of seed embryos.
24. The influence of crude oil on the growth of the seed embryo.

e. Agriculture.

25. Some aspects of tempe fermentation.
26. Study on Actinomycetes.

+) plumage?

APPENDIX II

Research Projects funded by other Ministries and Agencies.

a. **Agricultural technology.**

1. Introduction and development of tidal paddy-fields in South and Central Kalimantan. (sponsored by the Ministry of Public Works- MOPW).
2. An experiment on tilling on dry soil. (sponsored by the Ministry of Agriculture - MOA)
3. An investigation on the adoption of Gama 61 and 87 rice variety among gogo-paddy growers. (MOA)
4. Testing of paddy table thresher provided by IRRI (MOA)
5. The inluence of fat content in coconut cream on demulsification and homogenisation (SEARCA).
6. Trials on vegetable drying (MOA).
7. An evaluation on the destruction of shorts or sprouts by chemicals. (Pagilaran).

b. **Agriculture.**

8. Research on upland rice (a continues project dealing with selection, fertilizing and growing techniques). MOA.
9. A research on the response of upland rice (gogo-rice) on surface NPK. -MOA-
10. Survey on top varieties on paddy and method of fertilizing in Central Java (MOA).
11. Mutation breeding on maiz (BATAN - Atomic Energy Commission)
12. Test Farm P4S. MOPW.
13. A study on the possibility of growing food crops in North Sulawesi. MOA.
14. A survey on seed production at Bali, Nusa Tenggara Barat, South Sulawesi, and North Sulawesi (MOA).
15. A survey on gogi-paddy and gogo-rancah-paddy in Central Jawa. (MOA)
16. The problem of BUUD in Yoryakarta. MOA.
17. An evaluation of the development of farmer's activities at Kulon Progo. (Agriculture Extension of Yogyakarta)
18. The process of capital formation. (MOA).
19. An evaluation of an agroeconomic survey of Bengawan Solo (MOA).
20. An evaluation of "Tani Makmur" (= prosperous farmer) project at Klaten. MOA.
21. The application of modern technology for second crops. MOA.
22. Semidetail pedology (mapping) of Rawa Wanarejo and other lakes surrounding Segara Anakan. MOPW.
23. Mapping of Tinjau Merdalam at Barambai and Tamban Luar P4S, South and South-West Kalimantan. MOPW.
24. Survey and mapping of Pulau Petak, Sub P4S, South Kalimantan. MOPW.
25. Pedologic approach of alluvial deposits of Bonorowo plane. MOA.
26. Efforts to emprove and extend the "Taungya" system. MOA.
27. Evaluation of soil fertility in Indonesia. (IPB).
28. The influence of rainfall on upland rice production. (Directorate of Higher Education).

c. **Veterinary Medicine.**

29. A survey on Aphthae epizooticae on domestic animals in Central Jawa and East Jawa (MOA).
30. The growth of bacterie after irradiation (BATAN-Atomic Energy Commission).

APPENDIX II. CONT'

d. Biology.

31. A competition between upland rice and weed. (BATAN- Atomic Energy Commission).

e. Forestry.

32. The effect of logging on the survival and growth of valuable seedlings. (MOA)

33. Quality improvement of forestry officials and professionals.(MOA)

VII. MUCIA INPUTS AT THE INSTITUTE PERTANIAN BOGOR 1973/74

MUCIA-AID-INDONESIAN HIGHER AGRICULTURAL EDUCATION PROJECT

MUCIA INPUTS AT THE INSTITUTE PERTANIAN BOGOR, 1973-74

Dr. Daniel M. Benjamin
MUCIA/IPB Program Coordinator

JOINT ANNUAL REVIEW OF PROJECT
Jogyakarta, Indonesia
4-8 February 1974

The long range objectives and goals of the MUCIA-AID-Indonesian Higher Agricultural Education Project were targeted for achievement over a period of several years. The inputs described in Document X were scheduled and budgeted for five years. This report covers the fifth year of the first Pelita.

The major objective of the MUCIA program --institution building at the national and regional levels-- is met by several activities. Among these are:

a) Sending selected outstanding faculty members abroad for graduate studies.

b) Acquiring of commodities in the U.S. for teaching and research.

c) Inviting of Short Term Advisers from MUCIA universities to cooperate with counterpart faculty in teaching and research.

d) Exploiting the expertise of specialists passing through Indonesia.

The program coordinator's mission is to assure that these varied activities proceed in an harmonious manner. His scientific expertise is further exploited in the guidance of research conducted by faculty studying for advanced degrees in Indonesia.

PARTICIPANTS

Analysis of the numbers of faculty participants in the overseas program for universities in the Agricultural Konsorsium (Table 1) suggests that the 1973-74 target was closely approached for the total participants involved.

The total number of new degree participants targeted was 29. Because UGM and the Non-Pembina did not fill their quotas (3 of 11, and 3 of 8 respectively), IPB added 4 to their quota of 10. It is estimated that 9 additional participants will embark on new degree programs between January 1 and March 31, 1974, thus filling the targeted number of 29.

Total non-degree quotas targeted (11) was met by the addition of 2 participants from the Non-Pembinas. One additional non-degree participant left for the U.S. in January bringing the total of 12.

Table 1. Participants Involved in Graduate Training at MUCIA and other Universities, 1973-74.

Status:	New-Degree	Non-Degree	Continuing	Returning	Third Country
1. Target for 1973/74					
a) IPB	10	6	26	7	1
b) UGM	11	5	28	9	0
c) Non-Pembina	8	0	16	7	0
Total:	29	11	70	23	1
2. Target Achievement to Jan.1, 1974					
a) IPB	14	5	35	8 A,B,C	1
b) UGM	3	4	14	6	0
c) Non-Pembina	3	2	7	1	0
Total:	20	11	56	15	1
3. Additional Estimation January 1 to March 31					
a) IPB	1	1	3	2	
b) UGM	3	-	-	3	
c) Non-Pembina	5	-	1	-	
Total:	9	1	4	5	

A = Returned without degree because of poor health: Sugio Hastowo
B = Returned with certificate of study : Daniel Monintja
C = Returned without degree because of personal reason: Mrs. Soetjiati Loebis

Total continuing participants targeted was 70; this quota was not met and 56 were in this mode by January 1, 1974. This appears to be a reflection of the overall number of people in the system. Four additional people have requests pending for their continuation.

Twenty-three people were targeted to return to Indonesia after receiving training in the U.S.. Fifteen actually returned, three of whom did not receive degrees for various reasons. An additional five are expected back by March 31, 1974.

In summary, the overall target will be within ten participants of achievement in the category "continuing", and within 3 participants in those returning:

Category	Target 1973-74	Achievement to Jan 1,1974	Achievement Jan 1 + Mar.31 1974	Achievement 1973-74
New Degrees	29	19	10	29
Non Degrees	11	11	1	12
Continuing	70	56	4	60
Returning	23	15	5	20

The IPB participant target for:

a) new degrees was exceeded 14/10;
b) non degrees is projected to meet its quota 6/6;
c) continuing is over 35/26;
d) returning is projected to exceed 10/7.

These modifications in IPB program were permitted because of short-falls at the other universities.

One candidate from IPB undertook a non-degree study period in Administration at a third country institution as scheduled.

A list of the IPB participants studying in the U.S. on January 1, 1974, is presented by faculties (Table 2)

In the projection of participants to 1976 by faculties (Table 3), it can be seen that the program at IPB is moving along at satisfactory pace.

One participant returned to Indonesia and initiated in-country research on a Ph.D. program. This study is related to maize production and is under the joint guidance of Director of Research IPB - Dr. Fred Rumawas and Short Term Adviser Dr. John W. Pendleton, who arrived from the University of Wisconsin at the end of December 1973.

Table 2. Summary of Current Participants from IPB 1973-74

Faculty:		Participant:	Program: Non-degree	M.Sc.	Ph.D	University:	Area of Specialization
Veterinary	(8)	Tony Ungerer		x	x	Wisconsin	Vet. Physiology
		Roso Soejoedono		x		Minnesota	Vet. Public Health
		Soetijono Partosoedjono	x			Minnesota	Vet. Par. & Ent.
		Rachmat Nabib		x		Minnesota	Vet. Pathology
		Achmad Ma'ad		x		Minnesota	Vet. Physiology
		Gatut Ashadi	x			Minnesota	Vet. Parasitology
		Hillen Sitompul			x	Illinois	Vet. Sci.
		Norman Azwar		x	x	Illinois	Vet. Biochem.
Agriculture	(13)	H. Hadikoesworo			x	Wisconsin	Ag. Econ.
		Anwar Nur			x	Wisconsin	Food Sci.
		Sukandar Djokosoedarmo		x	x	Wisconsin	Soils
		I. Sunjaya			x	Wisconsin	Agr. Entomology
		Tjahjono Samingan			x	Wisconsin	Plant Ecology
		Otjo Wiroreno		x		Wisconsin	Statistics
		Amris Makmur			x	Wisconsin	Horticulture
		Gunardi		x		Wisconsin	Ag. Communication
		Michael Abdi		x		Michigan State	Botany
		Ratna Siri		x		Michigan State	Food Microbiology
		Edi Guhardja			x	Illinois	Agronomy
		Achmad Surkati		x		Illinois	Horticulture
		Jajah Koswara			x	Wisconsin	Agronomy
Forestry	(7)	R. Tarumingkeng			x	Wisconsin	Forest Entomology
		Soetrisno Hadi			x	Wisconsin	Forest Pathology
		M. Soerjono			x	Purdue	Forest Engineering
		Rahardjo Soeparto		x	x	Washington	Forest Engineering
		Darwis Gani		x	x	Minnesota	Ed. Administration
		Zachrial Coto		x		Minnesota	Forestry
		Sadan Widarmana			x	Minnesota	Forestry
Animal Husbandry		Toha Sutardi			x	Wisconsin	Dairy Sci.
	(3)	Kooswardhono		x		Wisconsin	Agr. Economics
		Samuel Lenggu		x		Wisconsin	Animal Sci.

continued Table 2.

Faculty:	Participant:	Program: Non-degree	M.Sc.	Ph.D.	University:	Area of Specialization:
Fisheries	(4)Hasril H. Jasin		x		Wisconsin	Agr. Economics Mark.
	Sahat Simandjuntak		x		Wisconsin	Res. Div. Agr.
	Muhamad Eidman			x	Texas A & M	Fish. Mgt.
	Rudy Nitibaskara			x	Louisiana	Fish. Mgt.
Agr.Engineering	Fahmi Z. Rachmat		x		Wisconsin	Forest Prod.
	(2)Siswadhi Soepardjo			x	Kentucky	Agr. Eng.

Total: (36)

Table 3. Projection of IPB Participants to 1976, by Faculties, and Actual Participants to January 1, 1974

	Projection 1969-76	Actual Jan 1, 1974	Awaiting Call Forward
Agriculture	18	19	
Vet. Medicine	13	11	
Fisheries	7	5	
Animal Husbandry	7	7	
Forestry	8	9	
Agr. Mech. & Prod. Technology	8	2	
T o t a l:	61	53	

The Program Coordinator IPB has been invited to serve as Promotor for three Doctoral Candidates for Indonesian degrees. As soon as the credentials of the candidates have been assembled appropriate committee action will formalize the program of course work and thesis research.

Constraints: The principle constraint in the participant overseas program remains the failure to acquire profeciency in English. Of the 33 IPB candidates taking the TOEFL test at IPB in FY 1973-74, 19 achieved scores of 500 or over. It was encouraging to note that in the October 1973 examination all 10 IPB candidates received 500+ passing grades. The existence of an excess in the pool of 500+ participants permits a selection among faculties rather than accepting all who passed. Certainly, the high degree of success in the October TOEFL reflects the excellence of the English instructional program at IPB.

SHORT-TERM ADVISERS

Short-Term Advisers and visiting scientists continued to contribute significantly to the program of institutional building. Their varied activities included presentation of lecture series and seminars, participation in upgrading courses, counceling faculty in on-going research programs, evaluating faculty needs in research and teaching facilities, curriculum revision, and selection of commodities (Table 4).

Of particular note during this fiscal year was the visitation of several Short Term Advisers to Non-Pembina universities. This innovation was reflected in the enthusiastic reception according each visitor and the sincere recommendation that additional advisers be scheduled for future visits.

Another innovation was the practice of having the IPB faculty counterpart accompany his short term adviser. This promoted a spirit of detente and active cooperation between IPB and the Non-Pembina.

Twelve Short Term Advisers were scheduled to visit Indonesia for period of 2 to 6 months. This target was met. Advisers in Virology and in Pharmacology were forced to delay their visits. It is projected that one vacancy will be filled at IPB by a Biochemist during the fourth quarter of the fiscal year. The second vacancy may be filled by an Insect Pathologist.

Several visiting scientists working in countries adjacent to Indonesia or passing through Jakarta and Jogyakarta spent a few days at IPB (Table 5). Generally, the visitors, in the company of the program coordinator or a counterpart, restricted their efforts to a simple theme, for example:

a) Dr. Esteros investigated the role of Universities in training people to assist in the alleviation of the housing needs.

b) Dr. Raup was concerned with land use planning and water management.

Detailed reports of the Short Term Advisers highlight their recommendations relative to institution building, course upgrading, and identification of outstanding faculty members who will benefit from undertaking graduate study in the U.S.. Copies of the reports are available and have been distributed to the Agricultural Konsorsium.

Casual visitors have submitted brief memoranda summerizing their findings. That these reports may reflect a superficial impression is accepted. If there has been sufficient attentions paid to arranging the itinerary, often a clear concept may result.

Constraints: A major constraint in the Short Term Adviser program is their scheduling to coincide with up-grading courses. As in the past the visitor may be available only at a particular time, and it purely coindidential if synchrony occurs. There remains often serious gap between the objectives and mission in the mind of the visitor and those of his counterpart. Perhaps earlier communication between the visitor, the counterpart and faculty, in concert with MUCIA/Indonesian and Madison would alleviate the problem.

The casual visitor has a limited period available and must use his time efficiently. Consequently, introduction to the administrators may be inadvertently omitted. This is not an intentional violation of protocol. A more unusual problem arises in that some casual visitors are not aware that more is learned by observing and listening than by talking! Thirdly, because Friday afternoon are reserved as a Moslem Holiday, and also many activities do not operate on Saturdays, casual visitors should be scheduled if possible to avoid these days.

COMMODITIES

Commodity orders for line time categories are placed in the fourth quarter of the fiscal year when they are submitted by the Faculties and approved by the Rector of IPB. This is the desire of IPB which estimates needs for the next year. This practice results in commodities arriving often two or three years after they have being ordered. At this writing no commodity orders for FY 1973-74 have been received; the budget is attached.

Commodity orders for FY 1970-71, 1971-72 and 1972-73 have been arriving during FY 1973-74, and some of these are yet incomplete. Orders written against the FY 1972-73 budget are summarized in Table 5. A detailed compilation of orders placed and received on bills of lading in 1973-74 is available in the Directorate of Administration, IPB.

Constraints: A major constraintin the acquisition of commodities is the delay in initiation commodity requests. It has been the practice to withhold placing commodity orders until the fourth quarter of the fiscal year. Then each faculty submits their request, and these are forwarded for processing. The result, of course, is a frantic scramble to place orders with the purchasing agents prior to the deadline of March 31st. Alleviation of this constraint is possible if Faculties would arrange their commodity requests early in the FY.

An equally serious constraint exists in the practice of combining many kinds of items in the same shipment. For example it has been common to receive vans of commodities that include a variety of chemicals, books, paper products, and delicate electronic and analytical equipment. If, as often is the case, a bottle or two chemical breaks, its contents seeps through the van and seriously damaged the contents. The resolution of this constraint lies in shipping fragile chemical separately. Perhaps a chemist's advice should be sought to prevent the possibility of catastrophic combinations should breakage occur.

Most shipment arrive damaged! This may result from inadequate packaging by the supplier, inadequate repackaging after validation of the order at an intermediate point, careless preparation of the overseas van, and by shipper and delivery neglect. If we can solve this constraint, a substantial loss to theft and damage will be removed.

Table 4. Activities of Short Term Advisers, IPB, FY 1973-74

Name	Institution	Professional Specialty	Fac.Assignment Dates of visit	Visit duration	Counterpart	Non-Pembina	UGM * visit S.T.A. UGM**	USAID/MUCIA Report available
1. B.A. Stout	Michigan St.	Agr. Eng.	Agr.Engineering 1/6-4/7,1973	3 months	Dean Achmadi G. Sitompul	-	*	No. 22
2. L.D. Satter	Wisconsin	An. Husb.	An. Husbandry 4/1-5/15, 1973	1½ months	Aminuddin	-	*	No. 27
3. J.B. Stevens	Minnesota	Clin.Chem.	Vet. Med. 6/15-9/15, 1973	3 months	Dr. Djoko S.	-	*	
4. H.L. Esmay	Michigan St.	Ag. Prod. Process Eng.	Agr. Eng. 9/1-11/24,1973	1 3/4 mo.	Moedjiarto Pahpahan Moeljarno Eriyatno	Lamb.Mangk. Udayana Padjadjaran Sriwidjaya ITB/Bandung Andalas	*	
5. Daryl Lund	Wisconsin	Food Techn.	Agr.Eng. 9/1-12/7,1973	3¼ months	Dr.Winarno Dewipadma Ferdiaz Ketaren	Udayana Sriwijaya Pembangunan	*	
6. A.B.Chapman	Wisconsin	An. Genetics	An.Husbandry 9/22-12/23,1973	3 months	Dr.Hari-murti	Sjah Kuala Padjadjaran Udayana	*	
7. J. Pendleton	Wisconsin	Agronomy	Agriculture 12/31-2/28,1974	2 months	Dr. Fred R. Jajah Koswara			
8. J. W. Hooker	Michigan St.	Plant Vir.	Agriculture 5/4-5/9, 1973	5 days	Soegiarso	-	**	

continued Table 4.

Name	Institution	Professional Specialty	Fac.Assignment Dates of visit	Visit duration	Counterpart	Non-Pembina	UGM * visit S.T.A. UGM**	USAID/NUCIA Report available
9. R. Costilow	Michigan St.	Microbiology	Agriculture 7/8-7/15,1973	7 days	Ratna Siri	-	**	
10. J. Tobias	Illinois	Food Techn.	Agr.Eng. 10/15-10/8,1973	4 days	Dr. Fred R. Soewarno Tj.	-	**	
11. P. Murphy	Michigan St.	Botany-Ec.	Forestry 11/7-11/11,1973	4 days	Dean Ishemat	-	**	
12. K. Egertson	Minnesota	Agr. Econ.	Agriculture 11/15, 1973	1 day	Dr. Teken	-	**	

Table 5. Visiting Scientists Confering with Faculty under MUCIA Sponsorship, IPB, FY 1973-74

N a m e	Institution	Specialty	IPB Faculty	Visit Days	Counterpart	Non-Pembina visited	UGM visited
G. Esteros	Minnesota	Home Economics	Agr.& Forestry	1	Dr. Rubini	Udayana ITB	*
P.M. Raup	Minnesota	Agr.Econ.	Agriculture	4	Dr. Teken	Udayana Padjadjaran	*
K.R. Bromfield	USDA-ARS	Plant Path.	Agriculture	5	Dr. Rumawas		*

Table 6. Preparation of Commodity Orders, IPB, FY 1972/73 - 1973/74

Line Item		FY 1972/73 Document X Budgeted	Orders prepared	Orders received	FY 1973/74 Budgeted	Orders received
I. University Adm. and Services:		$	$	$	$	
Spare parts & Suppl.	(2-11)	5,000	6,144	3,448	5,000	
Repair Equipment	(2-10)	5,000	3,847	2,402	5,000	
Library Improvement	(2-1)	15,000	14,475	9,998	10,000	
Office Equipment		2,000				
Printing Equipment	(2-13)	20,000	24,783	5,860	20,000	
II. Undergraduate Course Improvement:						
Teaching Aids	(2-2+2-7)	5,000	4,107		10,000	
Laboratory Equipment	"	20,000	18,802		40,000	
Book Development	"	5,000	2,773		10,000	
		30,000	25,681	17,164		
III. Graduate Upgrading Program:						
Laboratory Equipment	(2-12)	30,000	31,118	3,216	25,000	
Books & References	(2-8)	2,000	2,000	1,665	2,000	
IV. Research & Public Service:						
Lab.& Field Equipment:						
Cereal Crops	(2-9/1)	10,000	4,786	4,509	5,000	
Protein production	(2-9/2)	10,000	2,552	1,640	10,000	
Commercial Crops	(2-9/3)	5,000	3,707	3,633	10,000	
Natural Resources	(2-9/5)	10,000	21	21	10,000	

continued Table 6. Preparation of Commodity Orders, IPB, FY 1972/73 - 1973/74

Line Item		FY 1972/73 Document X Budgeted	Orders prepared	Orders received	FY 1973/74 Budgeted	Orders received
		$	$	$	$	
Exp. Field Development			402	20		
Agronomic	(2-9/4)	10,000	12,111	4,725	10,000	
Animal Science	(2-9/7)	10,000	3,856	472	10,000	
Forest Crops	(2-9/6)	-	4,556	1,518	-	
Public Service						
Visual Aids		-			-	
Field Equipment	(2-9/9)	5,000	15,840	8,977	-	
Printing Communication	(2-9/8)	5,000	11,156	7,244	5,000	
Total:		174,000	167,036	76,512	187,000	

VIII. MUCIA INPUTS AT AGROCOMPLEX, UNIVERSITY OF GAJAH MADA

MUCIA-AID-INDONESIAN HIGHER AGRICULTURAL EDUCATION PROJECT

MUCIA INPUTS AT AGRO-COMPLEX, UNIVERSITY OF GADJAH MADA, 1973/74

Dr. Adlowe L. Larson
MUCIA/UGM, Program Coordinator

JOINT ANNUAL REVIEW OF PROJECT
Jogyakarta, Indonesia
4-8 February 1974

INTRODUCTION:

Two major efforts characterize the MUCIA activities at UGM for 1973-74. The first of these is to bring about an English training situation which would permit and encourage increasing numbers of Agro-Complex faculty members to become MUCIA participants for training abroad. Previously, independent efforts have been made by different groups concerned with providing English training. This was true of MUCIA where concerned efforts were made. There was not, however, a major continuous sequence of training programs available for those who wished them. An agreement by MUCIA and the Agro-Complex through Drs. Busono, with the British Council English Training Center brought about a change in which MUCIA agreed to collaborate or cooperate with the English Training Center (SELTU) in providing this much-needed training.

The second major effort is to bring increased faculty activity in the planning, organizing, and developing of proposals requiring commodities in the areas of undergraduate and graduate upgrading courses and of research. Relatively large numbers of proposals for research, for example, are coming in which will mean that they will need to be evaluated by the Agro-Complex on the basis of priorities determined by the Complex. The result should be that these activities in teaching and research will increasingly meet the needs and priorities of the University of Gadjah Mada as determined by the people constituting the Agro-Complex.

Both of these two major directions are aimed at making the Agro-Complex of the UGM increasingly effective in teaching, research and public service organization. In other words these activities are directed at the development of people and activities within UGM to provide a better educational institution.

Now might we look at MUCIA activities with the Agro-Complex at UGM to see if accomplishments are being attained. Changes in numbers may be of significance but, more important, are the changes in operations which are in process --the activities of groups within and of the whole of the Agro-Complex. The Agro-Complex is a federation of six relatively independent faculties, each operating with a dean and a secretary coordinating activities of concern to all.

Let us observe operations under several headings:

1. Participant training: including that for university credit and non-credit.

2. Short-term advisors working with faculty members.

3. Commodities for projects of undergraduate and graduate and graduate training, upgrading courses and research.

4. Miscellaneous services including library, printing or photo-copying and the like.

Participant Training:

Many UGM faculty members were at the institutions of higher learning in the United States in 1973/74 (Table 1). The University of Gadjah Mada has not been able to use all of the scholarships available for Agro-Complex staff members to study abroad. The principle reason has been that there has been a lack of English competency as measured by the TOEFL test. Practically speaking, all who passed the TOEFL test could study abroad but numbers were not sufficient.

During 1973/74 four people passed the TOEFL test given in June (Table 2). Three of these four are already abroad to start their academic programs for Masters degrees and perhaps more. The fourth has just received approval from a professional school and will depart by September. One other person who had previously passed the TOEFL test expects to leave this year for study abroad. In addition four other staff members passed the TOEFL test given in October. Three of these have been processed and we expect that they will be going abroad soon. When the two who left earlier added, it is possible that ten, if not eleven, will go for academic credit programs abroad during 1973/74.

It should be added that several others from the Agro Complex taking the October TOEFL test were near the 500 mark and may be eligible soon for training abroad. In addition seventeen staff members from the Agro-Complex took the TOEFL test in January. Hopefully the results will bring several others eligible to take training. It is desirable that the number passing the TOEFL (score of 500 or more) will increase markedly so that measures other than English ability alone may be used to select those going abroad for study.

The target for credit training abroad seemed to be far from being reached earlier but it seems now reasonable to expect that it can be attained this year as well as in 1974/75. A major reason as explained above is the cooperation with SELTU which will provide quality training at beginning, intermediate and advanced levels as well as at a maintenance level in preparation for tests. Previous trainees have indicated the quality and hence the usefulness of this training in passing the TOEFL test. In this arrangement, developed jointly by MUCIA, Agro-Complex and SELTU, the Agro-Complex prospective trainees would be able to attend training programs suitable for them and MUCIA would provide the equivalent of a part-time teacher as previously in addition to audio-visual equipment on an indefinite loan basis. As other possible resources become available, additional help might be given.

While the training above for degree purposes is at MUCIA schools in the United States, preliminary arrangements have been made for another staff member to attend the Asian Institute of Technology in the fall with expected improvement in his English competency. This third country training is suitable for the needs of this and presumably other staff members.

Non-credit or special training is also of significance. Thus far five staff members from the Agro-Complex have gone abroad this year as may be seen in the enclosed table on training and trainees. It is expected that one more will also be going so that the total of six will be going abroad in keeping with the target number.

In all of the training activities of UGM Agro-Complex personnel, the Agro-Complex sets priorities and makes selections of those who will go. Its opportunities and responsibilities will increase as more prospective candidates become eligible through the TOEFL test and the ALIGU test.

Short-term Advisors:

In 1973/74 five short-termers each will have spent a full period averaging about three months at UGM and one other approximately two months (Table 3). These are shown in the enclosed table. Their work ranged from livestock marketing, radiation biology, ecology, food science, grain storage, micro-biology to forest products processing. The results of their work seem to us to be very good. In all cases excellent cooperation was received by them from counterparts in the Agro-Complex faculties. Together they carried on many activities in teaching, research and public service and many miscellaneous activities, such as observing markets, seeing forestry operations, observing food processing, and the like. There appear to be, however, even greater gains possible from the use of short-termers as now conducted or an expansion of it. Short-termers might be used as advisors in graduate work done by UGM faculty people in the States who complete their thesis in Indonesia. They may, secondly, be used as promotors for students securing advanced degrees at the University of Gadjah Mada. Beyond this too they may provide continuing service after they have been here, such as providing photo-copies of new articles and new references and keeping in contact by mail on new developments. These are kinds of activities which short-termers have suggested to us; they have a very sincere interest in the work here. Increasing the number of short-termers with increased numbers of repeaters of those who have been here before would bring greater productivity. Detailed recommendations of the short-termers are included in their reports which are available. In most cases they discussed their observations and recommendations with faculty and administrators of the Agro-Complex before their departure for home.

Commodities:

The support which MUCIA provides through commodity orders for equipment, supplies and the like is of help in upgrading courses at the undergraduate and graduate level, and in research as well as with some miscellaneous activities (Table 4). These commodities are then coupled with other inputs from the faculties in the Agro-Complex in carrying on a number of activities.

Undergraduate Upgrading Courses:

Each of the six faculties carried on undergraduate course upgrading each year. During 1973/74 a number undergraduate training courses were given and a number are planned for 1974/75 as shown in Table 5.

Graduate Upgrading Courses:

During 1973/74 the Faculty of Agricultural Technology presented a graduate training upgrading course in food science and handling which was attended principally by faculty members of the non-Pembina schools. During this program, which was recently completed, two MUCIA short-termers made major contributions --one in the area of food sciences and the other in agricultural engineering, particularly related to grain storage. In both cases considerable aid was given in organizing courses, preparing laboratory exercises and writing materials which could be used in pamphlets or as parts of a book. Hopefully, these materials may be in a more permanent book form at a later time and become an added respurce for teaching here. This is a possible gain in addition to the training of non-Pembina staff members.

In 1974/75 the graduate upgrading course will be offered by the Department of Agricultural Economics in the faculty of Agriculture and will be concerned with management. Details of this have not been completed but should be soon.

Research:

MUCIA provides commodity assistance to research proposals generally developed jointly by Agro-Complex staff members and short-termers in the specialty areas common to both. A typical short-termer will spend three or more months working very closely with his counterparts at UGM in related areas of teaching, research and public service. During the activities, such seminars, preparation of materials, and the like, they come jointly to know very well problem areas facing agriculture in Indonesia. The short-termers, with previous research experience, are available to staff members of the Agro-Complex for consultation and aid, including that of preparation of research proposals. It is within this scope that a number of proposals are prepared so that the counterpart will be able to carry out the research planned after the departure of the short-termer.

During 1973/74 UGM will have had five and one-half short-termers, one-half for one who spent half of his time here and the other half at IPB. Of the four and one-half who have been here all have worked to prepare one or more research proposals concerned with agricultural problems. Inasmuch as most of these short-termers have just completed their work here and one has just arrived, action has not been taken on selecting proposals for research support. Very shortly, however, these proposals will be put together and submitted to the Agro-Complex for decisions on which shall be supported from the limited funds available. This will involve the process again of setting priorities and making allocations to fit those priorities. It is expected that all funds available for research will be committed by the end of the fiscal year. Some subjects of these research proposals are listed in Table 6.

1. Make it possible for the returning short-termers to supply photo-copies and other references on a continuing basis for several years after their return at a cost perhaps of no more than three or four hundred dollars per year.

2. Have an increasing number of short-termers which may be repeaters who would aid in continuity of research and teaching work and also aid in graduate advising and who may be in new fields not now covered by the Agro-Complex but yet be needed.

3. Provide more support for equipment of key laboratories, particularly specialized equipment which can be used by several of the faculties.

4. Aid in the servicing and providing for repair parts of laboratory equipment all the way from audio-visual to highly specialized instrumentation.

5. Arrange for book ordering services for individual faculty members.

6. Provide for increased research support to returning participants.

In general there is a developing academic climate in which staff members want to improve themselves to be productive in their work and to be of service, who are willing to make sacrifices to improve their training and experience, and who will work for the development of new arrangements or structure to do effective work.*

* General constraints which were discussed in a similar report last year on page 11 still apply but are not repeated here.

Table 1. NUCIA/UGM TRAINING PARTICIPANTS, UGM, 1973/74

Faculty:	N a m e:	Program:	University:	Period:	Field:	Further Explanation
Agriculture	Ir. Samino	Special	Michigan State	3/73-10/73	Entomology	-
	Ir. A.Sutarmadi	M.Sc.	Wisconsin	9/73- 9/74	Ag. Economics	-
	Ir. Sri Widodo	M.Sc.	Wisconsin	9/72- 9/74	Ag. Economics	-
	Ir. Kasumbogo U.	M.Sc.	Michigan State	/74	Entomology	Programmed
	Ir. Subiantoro	M.Sc.	Michigan State	/74	Fisheries	Programmed
Agr. Tech.	Ir. S.Sudarmadji	Ph.D.	Michigan State	3/70-	Food Science	-
	Ir. Zuheid Noor	M.Sc.		/74		Programmed
An.Husbandry	Ir. Suharto	M.Sc.	Illinois	1/73-1/75	Livestock Econ.	-
	Drh.S.Keman(Mr)	M.Sc.	Illinois	6/71-6/73	Meat Science	Passed
	Drh. Soedomo	M.Sc.	Wisconsin	8/73-8/75	Meat & An.Science	-
	Drh. Soejono	M.Sc.	Michigan State	9/73-9/75	Dairy Management and Nutrition	-
	Ir.M.Astuti	M.Sc.	Michigan State	12/73-12/75	Poultry Genetics and Breeding	-
	Drh.B.Wikantadi	M.Sc.	Illinois	1/74-1/76	Dairy Science	-
Biology	Drs.Hari Hartiko	M.Sc.	Wisconsin	8/71-8/73	Biochemistry	-
	Ir. Wibisono	M.Sc.	Minnesota	9/71-9/73	Botany	Passed
	Drs.Soenarto	Special	Wisconsin	8/73-9/73	Univ.Adminstration Seminar	-
	Ir. Moeso	Special	Fla., Hawaii	10/73-(six months)	Orchidology	-
Forestry	Ir.S.Sastro-soemarto	Ph.D.	N.Carolina	9/69	Forest Statistics	-
	Ir.A.Soemitro	Ph.D.	Minnesota	12/70	Forest Economics	-
	Ir.U.Srihadiono	M.Sc.	Wisconsin & Washington	1/71-7/73	Forest Operation/ Administration	Passed
	Ir.Oemi Soeseno	Special	Minnesota	7/73-(six months)	Silviculture- & Forest Nursery Management	-
	Ir.A. Sulthoni	M.Sc.	Michigan State	12/73-12/75	Forest Entomology-	

Table 1 (continued) MUCIA/UGM TRAINING PARTICIPANTS, UGM, 1973/74.

Faculty:	N a m e:	Program:	University:	Period	Field:	Furhter Explanation:
	Ir. Haryanto	M.Sc.	Michigan State	/74	Wood Preservation	-
Vet. Medicine	Drh.E.Muljono	Ph.D.	Fla.	8/69-6/74	Animal Physiology	-
	Drh.S.Keman(Mrs)	M.Sc.	Illinois	6/71-6/73	Histology/Anatomy	Passed
	Drh.Sardjono	Ph.D.	Minnesota	9/71-	Virology	
	Drh.Wardjiman	M.Sc.	Minnesota	7/72-7/74	Internal Medicine	-
	Drh.Socharso	M.Sc.	Michigan	12/72-	Bacteriology	-
	Drh.Warudju	Special	Minn./Illinois	9/73-2/74	Vet.Public Health	-
	Drh.Darjono	M.Sc.	Minnesota	9/74-	Vet.Pathology	Programmed
	Drh.Budiharto	M.Sc.	Michigan State	/74	Vet.Public Health	Programmed

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Table 2. BEGINNING PARTICIPANTS MUCIA/UGM, 1973/74

I. **Degree Program:**

Faculty:	Name:	Program:	University:	Period:	Field:
Agriculture	Ir. Kasumbogo U.	M.Sc.	Michigan State	-/74	Entomology
	Ir. Subiantoro	M.Sc.	Michigan State	-/74	Fisheries
Ag.Technology	Ir. Zuheid Noor	M.Sc.	-	-/74	
Animal Husbandry	Drh. Soedomo	M.Sc.	Wisconsin	8/73-8/75	Meat & An.Science
	Drh. Soejono	M.Sc.	Michigan State	9/73-9/75	Dairy Management & Nutrition
	Ir. Maria Astuti	M.Sc.	Michigan State	12/73-12/75	Poultry Genetics & Animal Breeding
	Drh. B.Wikantadi	M.Sc.	Illinois	1/74-1/76	Dairy Science
Forestry	Ir. A. Salthoni	M.Sc.	Michigan State	12/73-12/74	Forest Entomology
	Ir. Haryanto	M.Sc.	Michigan State	-/74	Wood Preservation
Vet. Medicine	Drh. Daryono	M.Sc.	Minnesota	9/74-	Vet. Pathology
	Drh.S.Budiharta	M.Sc.	Michigan State	-/74-	Vet.Public Health

II. **Non-degree Program:**

Agriculture	Ir. Samino	Special	Michigan	3/73-10/73	Entomology
Biology	Drs. Soenarto	Special	Wisconsin	8/73-9/73	Univ.Admin.Seminar
	Ir. Moeso	Special	Fla., Hawaii	10/73-(six months)	Orchidology
Forestry	Ir. Oemi Soeseno	Special	Minnesota	7/73-(six months)	Silviculture & Forest Nurs.Management
Vet. Medicine	Drh.Warudju	Special	Minnesota/Ill.	9/73-2/74	Vet.Public Health

Table 3. SHORT TERM ADVISORS, NUCIA/UGM, 1973/74

I. For three or four months:

Name:	University:	Area of Specialization:	Faculty Served:	Period:	Counterpart:
Ralph N. Costilow	Michigan State	Microbiology	Agriculture	May 31-Aug.16,'73	Ir. Jutono
K. E. Egertson	Minnesota	Ag.Economics(Livestock Marketing)	Animal Husbandry Agriculture	Aug.20-Oct.19,'73	Drh.Soekoharto Ir.A.Soedarsono
P.G. Murphy	Michigan State	Radiation Biology	Biology/Forestry	Sep. 5-Dec.16,'73	Ir, Moeso Drs.Soenarto
J. Tobias	Illinois	Food Chemistry & Prod.	Ag. Technology	Sep. 7-Dec. 6,'73	Ir.Soekotjo Ir. Adnan
N. L. Esmay*#	Michigan State	Ag. Mechanization	Ag. Technology	Oct.24-Dec.19,'73	Ir. Hardiman
O. Suchsland	Michigan State	Wood Technology	Forestry	Jan. 1-	Ir. Soemangat Ir. Jusuf

II. For several days:

J.B. Williams	Minnesota	Animal Science	An. Husbandry	May 6-9,1973	Drh.Soekanto
L.D. Satter	Wisconsin	Human Physiology	An. Husbandry	May 13-16,1973	Drh.Soekanto
J.B. Stevens*	Minnesota	Clinical Pathology	Vet. Medicine	Aug.12-22,1973	Drh.Susanto
Dale Dahl	Minnesota	Ag. & Applied Econ.	Agriculture	Oct.21-24,1973	Ir.A.Soedarsono
A. Chapman*	Wisconsin	An.Breeding & Genetics	An. Husbandry	Oct.21-27,1973	Drh. Wartomo
D. Lund	Wisconsin	Food Science	Ag. Technology	Nov.10-15,1973	Ir. Adnan
G. Esteros	Minnesota	Housing Design	Forestry	Nov.25-29,1973	Ir,Harjanto
Philip Raup	Minnesota	Ag. Economics	Agriculture	Dec.19-22,1973	Ir.A.Soedarsono

* Also assigned to IPB.
\# Returning Short-term Adviser

Table 4. COMMODITY ORDERS INITIATED, MUCIA/UGM, 1973/74

Number:	Name:	Faculty:	Amount:
UGM-1-73/74	Cooperative research - Dairy & Beef Cattle Breeding	Vet. Medicine	$ 758.35
2	Cooperative research - Forage Production	Animal Husbandry	1,904.40
3	Audio-visual Support (UGM-20-72/73)	Agro-Complex	2,116.73
4	Undergraduate Instruction - Basic Genetics	Biology	4,405.00
5	Upgrading Course in Food Microbiology and Ag.Mechanization	Ag. Technology	4,207.03
6	Cooperative Research in Fisheries	Biology	5,660,57
7	Undergraduate Program - Animal Physiology	Vet. Medicine	5,640.46
8	Univ.Public Service - Vet.Ambulatory Service Unit	Vet. Medicine	11,063.35
9	Univ. Administration - Library Improvement: Journals	Agro-Complex	2,000.35
10	Supplement to CO UGM-8-72/73 for Research Project on Pruning of Teak	Forestry	400.00
11	Undergraduate Instruction - Wood Technology	Forestry	5,548.35
12	Univ.Administration - Library Improvement	Agro-Complex	1,391.22
13	Undergraduate Instruction - Food Analysis	Ag.Techn.-Dept. of Food Science	2,912.77
14	Undergraduate Instruction - Farmshop	Ag.Techn.-Ag. Engineering	2,891.02
15	Undergraduate Instruction - Course Statistics	Animal Husbandry	5,086.40
16	Univ.Administration - library Improvement	Agro-Complex	1,919.11

Table 5. UNDERGRADUATE UPGRADING COURSES, UGM, 1973/74 and 1974/75

A. Given in 1973/74:

UGM-4-1973/74	Undergraduate Instruction	Basic Genetics	Biology	$4,405.00
7	Undergraduate Instruction	Animal Physiology	Vet.Med.	5,640.46
11	Undergraduate Instruction	- Wood Technology	Forestry	5,548.35
13	Undergraduate Instruction	- Food Analysis	Ag. Techn.	2,912.77
14	Undergraduate Instruction	- Farmshop	Ag. Techn.	2,891.02
15	Undergraduate Instruction	- Statistics	An. Husb.	5,086.40

B. Proposed:

Undergraduate Instruction - Crop Management II
Agriculture (Dean Samino)

GRADUATE UPGRADING COURSE

Agricultural Economic Management — Agriculture

PLANNED UPGRADING COURSES

1974/1975

The list of courses to be upgraded in 1974/75 has not been submitted to MUCIA by the Agro-Complex.

Table 6. RESEARCH PROJECT PROPOSALS, UGM, 1973/74 and 1974/75

Title:	Faculty:	UGM leader:	Short Term Adviser	Rp.Budget:	Dollar Budget
1.Mineral dynamics & growth rate of Pinus merkusii	Forestry	Ir.Soekotjo	Dr.P.G.Murphy	1,747,300	1,400
2.A flat-bed mechanical dryer	Ag.Tech.	Ir.Soemangat	Dr.M.L.Esmay	No budget given	
3.Clinical pathology research project on local cattle to support animal protein production	Vet.Med.	Drh.Soesanto	Dr.J.B.Stevens	1,100,000	11,500
4.Study to treatment to simplify hull removal from soybeans under Indonesians conditions	Ag. Techn.	Ir.Zuheid Noor	Dr.T.I.Hedrick	256,300	1,553.70
5.Nutritionally fortified sherbet frozen deserts	Ag.Techn.	Dean Adnan	Dr. J.Tobias	No budget given	
6.Manufacture of coconut sugar	Ag.Techn.	Dean Adnan	Dr. J.Tobias	No budget given	
7.Objective measurement to tea quality	Ag.Techn.	Ir. Hardiman	Dr. J.Tobias	No budget given	

Table 7. DEVELOPMENT PROPOSALS: Not provided for in budget, UGM, 1973/74

	Dollar requested:
1. Central research laboratory:	$ 40,000
Short termer - Dr.R.N. Costilow	
2. Field laboratory of the animal farm in the faculty of Animal Husbandry:	
Request from Ir. Soekanto	4,000
3. Equipment needed for the laboratory of animal breeding	
Request for animal husbandry by Dr. A. Chapman	2,400
4. Food Science and technology "pilot plant" laboratory:	150,000
Recommended by Dr. J. Tobias	

IX. G.O.I. AND MUCIA INPUT AT THE AGRICULTURAL FACULTIES IN INDONESIA

ANNUAL REVIEW 1973

Yogyakarta, 4 - 8 February 1974.

G.O.I. AND M.U.C.I.A. INPUT AT THE AGRICULTURAL FACULTIES IN INDONESIA (excl. I.P.B. and U.G.M.)

A. Atmakusuma

Secretary

Agricultural Sciences Consortium

This brief report has the objective to evaluate program progress 1973/74, which covers only the Agricultural Sciences activities in 1973/74, in realtion with the Mucia and G.O.I. input at the Agricultural Faculties, except I.P.B. and U.G.M.

The goal and objectives of the project programs are described in Doc. X and in the 1972 Annual review reports.

Most of the constraints during the implementation in 1973/74, are almost the same as those described in the 1972 Annual Review.

New activities which are suggested in the last Annual Review report and written in the Pro.Agr. No. 30164 F.Y.73 has been implemented.

New systems has to be developed in some of the project activities for improving the 1974/75 implementation.

I. Instructional program I

Ann. Rev. 1972/Doc. x.-	Pro.Agr.No.30164 FY-73	1973 Implementation	Constraints/Suggestions 74/75
1. **In-country upgrading program** - The funding is insufficient due to the increase of the transportation and living cost. - The increase os participants allowances has reduced the operational funds. - The utilization of experts become insufficient, because the number of participant had to be reduced. - Suggestion: the 1974 rupiah budget has to be increased (1.5.1)	1. idem In-country staff development programs has to be strengthened and additional measures should be taken to facilitate qualification of staff for participat training abroad (II.c). Improve long-range planning for in-country staff development (obj.D.1973/74 Targets).	1. idem Rupiah budget (x 1000) activities — F.4 1973/74 Rp — F.4 1974/75 Rp 1.Institution building — 3.450 — 4.000 2.Ann.Rev. — 3.424 — 4.000 3.Short courses a.U.G.M. — 6.500 — 13.000 b.I.P.B. — 16.800 — 24.000 c.H.U.B. — 7.500 — 10.500 4.Counterpart funds, I.P.B. — 2.500 — 3.000 U.G.M. — 2.500 — 3.000 Total — 44.674 — 61.500	1. idem New programs for 74/75 1.Seeding program in I.P.B. : Rp 25.000.000 2.Grafting program. I.P.B. : Rp 10.500.000 U.G.M. : 10.500.000 3.Counterpart funds Non Pembina Rp 1.800.000 4.Handling cost for "package course" commodities: Non Pembina Rp 3.000.000 Total Rp 49.800.000 Total cost for in country upgrading program 1974/75 : Rp 111.300.000 Constraints: See An.Rev.1972 Suggestions: the 1973 rupiah has to be increased.
2. **Better coordination in several upgrading courses to avoid repetative participation (1.5.2).**	2. Objective E: 1973/74 Targets: (b)better control of the selection and distribution of students in accordance with specific faculty upgrading plans.	2. -	2. - Constraints: See Ann.Rev. 1973.

Instructional program 2.

Ann.Rev. 1972 /Doc. x. Pro.Agr.No.30164 FY-73		1973 Implementation	Constraints/Suggestions 74/75
2.1. Univ.concerned with the course submit the list the consortium (1.5.2.1)	-	2.1. Has not been implemented by several short course committee.	Suggestions: See Ann. Rev. 1973
2.2. Each Univ to perform an upgrading course is expected to ask for a list of lecturers already upgraded, to the consortium (1.5.2.2)	-	2.2. Has not been implemented by several short course committees.	
2.3. The result of upgrading courses must be reported to the D.H.E. and a copy of it to the consortium.	-	2.3. Has not been implemented by several short course committee.	
3. Follow-up research. for each course to provide an opportunity for selected participants to apply their newly acquired knowledge in their respective areas (1.5.4.).	3. -	3.Has been provided to relected participants in non-pembina.	3. New program: For each participant of the short-course, money at the amount of Rp 20.000 per participant,for books,in provided.
4. An Evaluation Team for the upgrading courses (1.5.5.1)		4.The consortium has submitted budget for evaluation. It was used by the D.H.E. for the evaluation of the whole short-courses coordinated by the 5 consortia.	4. Suggestion: Each consortium make its own evaluation using the same evaluation system.
5. Supplemented Foreign Teachers Assistance (1.3.)		5.Not implemented yet.	5. Constraints: It is hard to get American graduates studying for their Ph.D. degree, who are willing to stay in Indonesia for 2 to 3 years.

Instructional program 3

Ann. Rev. 1972 / Doc. x.	Pro.Agr.No.30164 FY-73	1973 Implementation	Constraints/Suggestions 74/75
6. Overseas training program (1.6).	6. , idem	6. Not implemented yet	6. Constrains: See Ann.Rev. 1972 This program has to be continued.
6.1. Toefl Score (1.6.1) Those who have taken the testing 2-3 times but failed to reach the 500 score, but show. evidence of improving during three testing and reach the minimal score. (Toefl 490) and strongly recommended by the Dean and Rector, and approved by the Consortium and Mucia, could still be sent to U.S.A. Upon arrival in the U.S.A. he has to enroll in the English class.	III. U.S.contribution Participant training in the U.S. or third countries will be financed in accordance with the targets indicated in Obj.E., Sect.II.	6.1. Two from I.P.B. and one from G.M.U. with a Toefl 490-500 has been send to U.S.A. The Kons. has suggested one from Syiah Kuala and one from Univ. Pajajaran with a score between 450-500 to be send to the States in 1973-74.	
6.2 Alligu test can be held in any city where there are at least 5 applicants (1.6.2)		6.2. This has been done by A.I.D. in several Universities, 47 people got their Aligu test in their own University (Appendix I).	6.2. This program has to be continued, because more people get the opportunity for testing
6.3. Not all allocation for non Pembina was used. The remaining allocation is available for financing the non degree program of the non-pembina faculty. (1.6.3).	6.3. Initiate short-term training opportunities for up to 12 senior non-pembina Univ. Officials in Univ.-administration and research management in nearly countries	6.3. One from Un.Ud.is now for 7 month in USA and one from Un.Ud.for 6 month in US. One candidates from Univ.Pattimua, has been nominated to go to USA for 6 month. Target achievement to Jan.1974 Now: 3; Non degree: 2; Continuing 7; Returning 1.	6.3- This program has to be continued.

Instructional program 4

Ann.Rev. 1972/Doc. x	Pro.Agr.No.30164 FY -73	1973 Implementation	Constraints/Suggestions 74/75
Doc.x: Number of participant 1973/74 1974/75 Old 16 7 17 Going 8 3+5 8 Returning 7 1 8 Non Degree 0 2 0	(Obj.E. 1973/74 targets) Participant training in the U.S. or third countries (III U.S. contribution)	Additional estimation New degree: 5, one from Aceh (Usman Nasution) with a Toefl of 486 is suggested to be send to the Phillipines. Toefl score result in 1973 (see Anppendis II)	Program for 74/75 Lists of candidates for training abroad in 1974, will be submitted by the deans and rectors at the latest on the 15th February.
6.4. Alligu result under category I + II are to be sent to this language center (1.65)	6.4. Increase the flew of non-pembina faculty for training abroad through intensive English language training (Obj.D, 1973/74, Target)	6.4. The consortia has suggested to the Rector a list of people to be send to the English language lab: U.S.U. : 2 staff members Un.Pad. : 2 " " Un.Srat : 4 " " Un.Mul. : 2 " " Un.Lam. : 2 " " Un.Has : 1 " "	6.4. Constraints: It happends frequently that Dean and Rectors, having policy of their own, suggest nominees other then those recommended by the consortium and A.I.D. Suggestion: Conformation of Dean and Rectors with the recommendation of the Cons./ A.I.D. is there-fore desirable.
7. Short term advisory Service to selected non-Pembina Universities (1.7) It is proposed that the equivalent of two. Short Term Mucia Advisors be assigned to work at selected non-pembina Univ. in 1973/74. This program should be an addition to the 12 Short-Term Advisors planned for I.P.B. and U.G.M. in 1973/1974. It would required either the employment of two	7. Involve Mucia Short-term experts for up to six additional man-months of service at selected non-pembina fac. (Obj.D.1973/74, Targets) - That Mucia inputs to the non-Pembina Univ. be strengthened through assignment of some of the time of short term advisors. to selected non-Pembina (II b). - Obj.D.: 1973/74 Targets Involve Mucia short-term experts for up to six	7. Several short-termer has visited the non-pembina for a period of 3-4 days: - Dr.H.Esmay -Un.Lam and (soil and Un.Has. water ingineering) - Dr.P.Murphy - Un.Has. (Plant Ecology/ Cilviculture) - Dr.A.B.Chapmann (Animal Genetics) Un. Pad and Un.Syiah	Suggestions Develop a system for selecting short-termers, caunterpart and faculties and the implementation of this program. See Appendix III: Format for : Request for short term advisor (compiled from Mucia). This program should be an addition to the 12 short-term advisors planned for I.P.B. and U.G.M.

Ann.Rev. 1972/Doc. x	Pro.Agr.No.30164 FY-73	1973 Implementation	Constraints/Suggestions 74/75
additional Mucia faculty for 3 month. tours, or extending the tours of some of the 12 short terms advisors.	additional man-months. of service at selected non-pembina Fac.	- Dr.J.Tobias - Un.Bra. (Food Processing) Un.Dip. and Un.Has - Dr.D.Lund - Un.Sri (Food Chem) Un.Ud. For this program G.O.I. has allocated Rp 1.8 mill as a counterpart funds for the F.Y. 1974/75.	
8. Package-course Program. The basic plan (Doc.x) for regular commodity inputs estimated $ 75.000 for the non-Pembina program, (Pro. of p.8. III U.S. contribution)	8. Obj.A.1973/74 Targets: Development of package courses in accordance with Kons.Committee findings. Obj.D: 1973/74 Targets: Develop a new plan, schedule and budget for the package course program. Obj.E: 1973/74 Targets:	8. Univ.included in this program for 1972/73: In An.Physiol: Un-Pad Un-Ud. Un-Has In Agronomy : Un-Bra USU Un-And. Total: $ 26.012,61 for 1973/73: An.Phys : Un-Bra Un-And Un-Syiah Agronomy: Un-Ud. Un-Has Un-Pad Total: $ 26.012,61 Some of the commodities for 1972/73 have been arrived.	8.1. This program is suggested to be continued. Contraints: The experience of the past has demontrated that a long lead time is required for the detailed justification, approval, ordering and shipment of project commodities. 8.2. The commodities for non-pembina was combined with those for I.P.B. Suggestion: Develop a new plan, schedule and budget for the package course program 1975/76 and 1976/77

II.Research and Publec Service Program 1.

Inn.Rev. 1972/Doc. x.	Pro.Agr.No.30164 FY-1973	1973 Implementation	Constraints/Suggestions 74/75
1. Increased Emphasis on Research Training (2.3) It was proposed that training in research methods should be stronger emphasized.	-	1. This training is given by I.P.B. during the 2 month short-course for all faculties in Agricultural Sciences.	1. Suggestion This kind of traing should be given till all staffmembers has been trained. (See the number of staffmembers and faculties in Appendix IV and V)
2. Adopting a protocol and budget for supporting thesis research in Indonesia by Indonesian candidates for the PhD. enrolled in Mucia Universities (2.4) Mucia/Indonesia should request additional Rupiah support in the trust funds and should pay stipends to returning participants at a level agreed by Mucia and the Consortium as sufficient to permit the participant to devote full time to this research. Mucia should also provide research support to the participant. Commodity support funds for the project should include reservation of $ 10.000 each year for supplies and equipment. The program can include a return trip to the U.S. for a period not to exceed six weeks. Mucia should seek additional trust fund Rupiah for	2. A Protocol for support of thesis research in Indonesia for participants working toward Mucia University degrees should be adopted (IIe) - An amount of Rp 1.000.000 is estimated to be required for this purpose in 1973/74, based on monthly. stipend of Rp 50.000 plus dependent allowance of Rp 5.000 per month for up to three dependent, and allowances for necessary in country travel and supply purchase (IV D, G.O.I. contribution). IV. G.O.I. contribution D. The Dept. will determine with other responsible G.O.I. agencies the means by which special funds-in-trust may be provided for the purpose of initiating support for in country Ph.D. thesis research by returning participants.	2. G.O.I. has provided funds for this program in 1973/74, from routine budget. An amount of Rp 1.000.000 was allocated.	2. Suggestion: Mucia and A.I.D. should consider future funding for this in country research. A system for selecting participants, project and budget has to be developed.

II. Research and Public Service Program 2

Ann. Rev. 1972/ Doc. x.	Pro.Agr.No.30164 F.Y.-73	1973 Implementation	Constraints/Suggestions 74/75
stipends and reasearch support at the rate of Rp 70.000 per person/ month etc.	An amount of Rp 1.000.000 is estimated to be required for this purpose in 73/74 stipends Rp 50.000 + dependent allowance Rp 5.000		
3. To arrange an Asian and Pacific Countries tour for the provincial universities.	3. -	3. -	3. -
4. Research commodities	4. Research commodities III. U.S.contribution Commodity support estimates include special increments up to $ 20.000 for research equipment at Four Madya Univ. at $ 5.000 each per year.	4. A delegate from Mucia and Konsorsium has visited several Faculties to identify research activities done by the staffs, which needed support in commodities.	4. This program should be continued and improved. A system has to be developed for identifying faculties which needed commodity support.

III. Univ. General Service Program.

Ann. Rev. 1972/ Doc. x.	Pro.Agr.No.30164 FY-73	1973 Implementation	Constraints/Suggestions 74/75
1. **Library** (3.11.) It is was proposed that $ 30.000 be earmarked in 74/75 and there after for support for library acquisitions at each of 10 non-pembina university with $ 3.000 earmarked for each university. Support would be for orders for American books and professional journals, placed through Mucia and placed within the content of the library development program developed by the consorsium. The consortium and Mucia should develop in protocol on initiation, new and management of order.	1. Initiate library and laboratory equipment development with commodity support by Mucia (Obj. D. 1973/74 Targets). Up to $ 30.000 for library acquisition at 10 Madya Univ. at $ 3.000 each per year (III. U.S. contribution) That Mucia inputs to the non Pembina Univ. by strengthened by a modest program of dollar support for library development and laboratory equipment.	1. The Universities included in this program are: Syiah Kuala; Sriwijaya, U.S.U., Un-And Un.Pad., Un-Dip,Un-Bra Un-Lam,Un-Has, Un-Srat, Un-Patti, Un-Ud. Mucia and the Konsorsium have made a list of books in Agricultur and Animal Husb., Compiled from the list submitted by the involved Univ.	1. A system for selecting, approving and ordering of books has to be developed.

IV. University Administration program 1

Ann. Rev. 1972/Doc.x	Pro.Agr.No.30164 FY-73	1973 Implementation	Constraints/Suggestions 74/75
1. Training and courses on Univ. Administration (4.1)	1. -	1. Center of Excellence has run the courses.	1. Suggestion: To prevent duplication, this program will be only done by the Center of Excellence.
2. Workshop on "The Role of the Agricultural Univ. in Regional Development (4.0).	2. -	2. The Kons.sponsored a workshop in I.P.B.on the role of.Agric. Univ.in Regional Development in Nov.1973 involving non-pembina administrations and other government, private and foreign institutions which has relation with the Konsorsium and the development of the Region.	2. A follow-up conference with the Madya Faculty members will be held in March 1974 in Bogor. - The next workshop will be held in Oct.or November 1974. The topic has to be decided by this meeting. Suggested topic: "Expansion versus consolidation in Agricultural Faculties"
3. Degree non degree and certificate programs for University Administration and Curriculum Development either in the United States or Third Country (4.3).	3. -	3. -	3. -
4. Deputy Project Coordinator, Mucia Office (4.7)	4. That Indonesian Deputy project coordination be attached to the Mucia office in Jakarta,I.P.B. and U.G.M. in 1974/75.	4. -	4. -
5.	5. A major review of the project in 74/75 (Obj.G: 1973/74 targets)	5. -	5. The team members has to be decided in this meeting.

IV. University Administration program 2.

Ann. Rev. 1972/Doc. x.	Pro.Agr.No.30164 FY-73	1973 Implementation	Constraints/Suggestions 74/75
6. -	6. IV. G.O.I. contribution. During the G.O.I. F.Y. 73/74 the Dept. will allocate the following amounts for purposes generally related to the improvement of Higher Agric.Educ.from the Development budget. Non-Pembina: Rp 253.850.000 Konsorsium : 5.300.000	6. Consortium budget for 1973 is Rp 5.656.000; U.S. contribution for the consortium Secretary $ 1.270 for books and commodities.	6. Consortium budget for 1974; Rp 7.418.000, Suggestions. U.S. contribution is still needed for strengthening the Secretary to increase Konsorsium Activities.

Appendix I

ALIGU 1973.

Date	Name of Candidates	Univ/Fac	Group class	Expl.
13/4	Ir.Usman Nasution	UNSYIAH	ost.Toefl 457	June Toefl in Medan
	Ir.Rasjid Saridin	"	6	no test
	Drh.Noerjanto	"	-	-
	Drh.Burhanuddin	"	ost.Toefl 400	Weak
	Djoni Basir Achmad	"	III	
	Damrin Lubis	"	IV	
	Chidir Jusuf	"	IV	
	M.Aswad	"	-	too Weak
	Ahmad Damhoeri	"	-	too Weak
	J.A. Napitupulu (Ir)	U.S.A.	I	Ree.June Toefl
	Ir. Baringin Ocoaner P	"	-	too Weak
	Ir. Sutedjo	"	-	ost.Toefl 484 or March
	M.Sirait	"	-	Tested again 14
	N.Meneth Ginting	"	-	from new. Below the minimum
	Ir.Riyanto	UNMUL	IV	
	Ir.Soehartini	"	IV	
	Ir.Rachmad Hernadi	"	IV	
	Ir.Yunus	"	IV	
	R.Tarmudji	UNLAM	IV	
19/4	Ismet Ahmad	UNLAM	III	
	Hakim Halim	"	III	
	Asnawi S.Noer	"	IV	
	Haji Moehansyah	"	III/IV	
	Gusti Sarbini	"	I/II	
	Muchran Rasyid	"	III/IV	
	Masroni Basri	"	IV	
2/5	Liem Jan Soe	UNPAD	I	
2/5	Rasjid Hanafiah	UNSRI	II/III	

Aligu 1973 (continue).

Date	Name of Candidates	Univ/Fac	Group Class	Expl.
9/5	Ir. J.L. Palenwen	UNSRAT	IV	
	Drh. A.F. Wilar	"	III	
	Ir. Alamsyah	"	IV	
	Ir. D.Wantason	"	I/II	Cand.1974
	Drs. D.Dundu	"	IV	
	Ir.Johannes Mandagi	"	III	Cand. 1974
	L.A. Lantang	"	I	
	Drh. J.Subroto	"	I	
	Ir. Abdul Hamang	UNHAS	IV	
10/5	Hanapi	UNPAD	II/III	
	Husen Djajasukanta	"	I	
7/6	Ir. Ukun Sukur M.Sc.	"	I	
	Ir.Sulya Djaka Sutami M.Sc		I	
7/6	Ir.Ridwan Setiamihardja	UNPAD	I	
	Ir. Tjetje S.Hasan M.Sc.	"	II/III	
	Ir. Amir H.Soemintapoera	"	III	
	Ir. Sukanda Kartasamita	"	II/III	
	Ir. Giat Surjatmana	"	I	
	Ir. Huson Martaperdana	"	I	
14/6	Arthur Mangalik	UNLAM	III/IV	
	Bakry Hamid	UNSRI	I	

Appendix II

TOEFL-SCORE RESULT IN 1973

DATE	NAME	UNIV.	FACULTY	SCORE
March '73	Soeher Hardjopranyoto	Syiah Kuala	Anim.Husb.	426
"	Abd.Rasjid Hanafiah	"	"	406
June '73	Husen Djajasoekanta	Pajajaran	Agric.	546
"	Burhaduddin Salin	Syiah Kuala	Anim. Husb.	392
"	Noerjanto	"	"	498
"	Rasjid Saridin	"	"	410
Oct. '73	Gusti Sarbini	Lambungmang-kurat.	Agric.	564
"	Soelja Djajasoekanta	Pajajaran	Agric.	602
"	Husen Mataperdana	"	"	516
"	Giat Suryatman	"	"	494
"	Hasan Tjetje Soekarna	"	"	484
"	Soekanda Kartasasmita	"	"	478
"	Ridwan Setiamihardja	"	"	472
"	Ubun Sastraprawira	"	"	464
"	Hanafi	"	"	456

Appendix III

REQUEST FOR SHORT TERM ADVISOR

University:

Serial Number:

Requesting Faculty or Office:

1. Field of expertise in which Advisor is requested:.
2. Identification of the advisors Counterpart orCounterparts:
3. Profered dates for the Advisor to be in Indonesia:
4. Certification :

Signed:

(For the University)

(Consortium)

(Mucia Coordinator)

Approved:

Attachments :

Distributions : Konsorsium
Mucia/Madison
Mucia/Jakarta
Mucia/I.P.B.
Mucia/U.G.M.

(Project Director)

Justification:

I. Type of assistance which is sought.

II. Qualification of advisor.

III. Proposed program.

IV. Present Situation.

Appendix IV

Faculties of Agricultural Sciences in Public Universities and Institutes

1972

Univ./Inst.	Faculties					
	Agric.	Vet.Med.	An.Husb.	Forestry	Fishery	Agric.Mechan.
1.Syiah Kuala	1	-	1	-	-	-
2.Sumatera Utara	1	-	-	-	-	-
3.Riau	-	-	-	-	1	-
4.Andalas	1	-	1	-	-	-
5.Jambi	1	-	1	-	-	-
6.Sriwijaya	1	-	-	-	-	-
7.Lampung	1	-	-	-	-	-
8.Pedjadjaran	1	-	1	-	-	-
9-Jendral Sudirman	1	-	1	-	-	-
10.Diponegoro	-	-	1	-	-	-
11.Gadjah Mada	1	1	1	1	-	1
12.Airlangga	-	1	-	-	-	-
13.Brawijaya	-	1	-	-	-	-
14.Jember	1	-	-	-	-	-
15.Udayana	1	-	1	-	-	-
16.Mataram	1	-	1	-	-	-
17.Nusa Cendana	-	-	1	-	-	-
18.Tanjung Pura	1	-	-	-	-	-
19.Lambungmangkurat	1	-	-	1	1	-
20.Mulawarman	1	-	-	1	-	-
21.Hasannudin	1	-	1	-	-	-
22.Sam Ratulangi	1	-	1	-	1	-
23.Pattimura	1	-	1	-	-	-
24.Cendrawasih	1	-	-	-	-	-
25.I.P.B.	1	1	1	1	1	1
Total	21	3	15	4	4	2

Appendix V

Number of Teaching Staff 1973

Univ./Inst.	Faculties					
	Agric	Vet.Med.	An.Hust.	Forestry	Fishery	Agric.Mech.
1. Syiah Kuala	16	-	31	-	-	-
2. Sumatra Utara	70	-	-	-	-	-
3. Riau	-	-	-	-	-	-
4. Andalas	55	-	40	-	-	-
5. Jambi	9	-	2	-	-	-
6. Sriwijaya	29	-	-	-	-	-
7. Lampung	2	-	-	-	-	-
8. Padjadjaran	54	-	168	-	-	-
9. Jend.Sudirman	-	-	23	-	-	-
10. Diponegoro	-	-	22	-	-	-
11. Gajah Mada	75	43	26	28	-	30
12. Airlangga	-	9	-	-	-	-
13. Brawijaya	37	-	-	-	-	-
14. Jember	28	-	-	-	-	-
15. Udayana	7	-	27	-	-	-
16. Mataram	-	-	-	-	-	-
17. Nusa Cendana	-	-	12	-	-	-
18. Tanjung Pura	8	-	-	-	-	-
19. Lambungmangkurat	21	-	-	4	3	-
20. Mulawarman	6	-	-	21	-	-
21. Hasanuddin	61	-	24	-	-	-
22. Sam[illegible]ulangi	46	-	7	-	2	-
23. Pattimura	15	-	-	-	-	-
24. Cendrawasih	3	-	-	-	-	-
25. IPB	165	68	40	37	34	58
Total	729	120	439	90	39	88 Total 1505

REKAPITULASI KEADAAN STAF PENGAJAR TETAP IPB
awal tahun 1974
per Departemen

Nama Departemen	Banyak Staf	Sarjana /Drh	Sarjana+ M.S./M.A	Sarjana+ Ph.D.	Sarjana+ Dr.	Ass.Ahli	Lek.Muda	Lek.Madya	Lektor	L Kepala	GuruBesar	Calon LN H.S.	Calon LN Ph.D	Latihan	Calon Dr.IPB
Agronomi (AGR)	31	23	4	3	1	13	6	5	1	6	-	4	3	1	-
Botani (BOT)	17	11	3	3	-	9	-	1	1	6	-	2	4	-	-
Hama & Penyakit Tumbuhan (IHP)	13	8	3	1	1	5	-	1	2	4	1	1	2	-	-
Ilmu Tanah (TNH)	17	12	1	4	-	10	1	1	1	3	1	-	1	-	-
Sosial Ekonomi Pertanian (SEP)	41	28	7	3	3	19	4	6	5	6	1	-	7	-	-
Ilmu Pengetahuan Alam (IPA)	12	10	2	-	-	9	-	2	-	1	-	-	1	-	-
Ilmu Kesejahteraan Keluarga (IKK)	12	10	2	-	-	10	-	1	-	1	-	1	-	-	-
Statistika dan Komputasi (STK)	8	5	1	2	-	6	1	-	-	-	1	-	2	-	-
FAPERTA	151	107	23	16	5	81	12	17	10	27	4	8	20	1	-
Biokimia (BIK)	8	7	-	-	1	4	-	2	1	1	-	-	2	-	-
Fisiologi dan Farmakologi (FIF)	18	13	2	2	1	8	5	1	-	1	3	1	2	-	-
Fisiopatologi Reproduksi Hewan (FPR)	6	3	3	-	-	2	-	1	-	3	-	-	2	-	-
Klinik Veteriner (KLV)	9	8	-	-	1	2	-	4	1	1	1	-	-	2	-
Penyakit Hewan & Kes.Mas.Vet.(PKV)	33	21	8	4	-	10	6	3	5	8	1	3	2	2	-
Zoologi (ZOO)	13	9	2	2	-	2	2	-	2	6	1	-	-	-	-
F.K.H.	87	61	15	8	3	28	13	11	9	20	6	4	8	4	-
Biologi Perairan (BIP)	14	7	4	2	1	7	2	2	2	-	1	-	1	-	-
Tataproduksi Perikanan (TPP)	26	21	5	-	-	18	1	5	1	1	-	4	1	-	-
FAPERIKAN	40	28	9	2	1	25	3	7	3	1	1	4	2	-	-
Ilmu Makanan Ternak (IMT)	15	8	4	-	3	6	1	4	-	2	2	-	1	-	-
Ilmu Produksi Ternak (IPT)	28	20	3	4	1	8	2	12	3	3	-	1	-	-	-
FAPET	43	28	7	4	4	14	3	16	3	5	2	1	1	-	-

bersambung halaman sebelah

Nama Departemen	Banyak Staf	Sarjana/ Drh	Sarjana + M.S./M.A.	Sarjana + Ph.D.	Sarjana + Dr.I.P.	Ass.Ahli	Lek.Muda	Lek.Madya	Lektor	Lek.Kepala	Guru Besar	Calon LN		Latihan	Calon Dr IPB
												M.S.	Ph.D.		
Hasil Hutan (HAH)	16	11	3	2	-	8	1	2	3	2	-	1	4	-	-
Manajemen Hutan (MAH)	17	8	5	4	-	6	2	-	6	3	-	-	1	-	-
FAHUTAN	33	19	8	6	-	14	3	2	9	5	-	1	5	-	-
Mekanisasi Pertanian (MEP)	19	15	3	1	-	12	2	2	1	2	-	-	-	-	-
Teknologi Hasil Pertanian (THP)	25	19	5	1	-	12	5	5	3	-	-	1	-	-	-
FATEMETA	44	34	8	2	-	24	7	7	4	2	-	1	-	-	-
I. P. B.	398	277	70	38	13	186	41	60	38	60	13	19	37	5	-

Bogor, 28 Januari 1974.

Biro Rektor IPB.

REKAPITULASI KEADAAN STAF PENGAJAR TETAP

awal tahun 1973 dan 1974
per fakultas

Fakultas	Tahun	Banyak Staf	Sarjana/ Drh.	Sarjana + M.S./M.A.	Sarjana + Ph.D.	Sarjana + Dr.
Faperta	1973	141	100	25	11	5
	1974	151	107	23	16	5
F.K.H.	1973	77	53	14	8	2
	1974	87	61	15	8	3
Faperikan	1973	38	27	8	2	1
	1974	40	28	9	2	1
Fapet	1973	41	26	9	3	3
	1974	43	28	7	4	4
Fahutan	1973	26	15	8	3	-
	1974	33	19	8	6	-
Fatemeta	1973	37	30	6	1	-
	1974	44	34	8	2	-
IPB	1973	360	251	70	28	11
	1974	398	277	70	38	13

Fakultas	Tahun	Banyak Staf	Asisten Ahli	Lektor Muda	Lektor Madya	Lektor	Lektor Kepala	Guru Besar
Faperta	1973	141	72	13	17	20	11	4
	1974	151	81	12	17	10	27	4
F.K.H.	1973	77	24	18	6	14	13	2
	1974	87	28	13	11	9	20	6
Faperikan	1973	38	27	5	3	2	-	1
	1974	40	25	3	7	3	1	1
Fapet	1973	41	13	13	8	5	1	1
	1974	43	14	3	16	3	5	2
Fahutan	1973	26	6	5	1	10	4	-
	1974	33	14	3	2	9	5	-
Fatemeta	1973	37	19	7	6	4	1	-
	1974	44	24	7	7	4	2	-
IPB	1973	360	160	66	41	55	30	8
	1974	398	186	41	60	38	60	13

Bogor, 28 Januari 1974.
Biro Rektor IPB

KEADAAN MAHASISWA TINGKAT SARJANA IPB
Tahun Ajaran 1973

FAKULTAS	JURUSAN	Tingkat Sarjana I			Tingkat Sarjana II		
		Jumlah mahasiswa awal th 1973	Lulus dalam th 1973	Sisa	Jumlah mahasiswa awal th 1973	Lulus dalam th 1973	Sisa
Pertanian	Pertanian	1	-	1	15	1	14
	Teperta	36	16	20	34	32	2
	Seperta	16	4	12	10	6	1
	Peralihan	6	2	4	-	-	-
	Produksi Pertanian	18	1	17	21	6	15
	Pembangunan Pertanian	4	1	3	2	1	1
	Kesejahtraan Keluarga Pertanian	3	1	2	4	3	1
	Biologi Pertanian	-	-	-	-	-	-
	Hama dan Penyakit Tumbuhan	3	1	2	2	1	1
	Ilmu Tanah	5	-	5	4	-	4
	Statistika B	3	-	3	1	1	-
	Statistika A	1	-	1	1	-	1
	Ekonomi Pertanian	1	-	1	-	-	-
F.K.H.	-----	36	24	12	24	21	3
Perikanan	Laut	12	12	-	78	30	48
	Darat	4	4	-	17	5	12
Peternakan	-----	42	21	21	94	36	58
Kehutan	Manajemen Hutan	24	8	16	83	38	45
	Hasil Hutan	11	6	5	63	20	43
Fatemeta	Teknologi Hasil Pertanian	32	13	19	18	5	13
	Mekanisasi Pertanian	65	26	39	53	14	19
IPB		323	140	183	504	220	284

Bogor, 2 Februari 1974.
Biro Rektor IPB.