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Report of

Evaluation Team

AID-MUCIA-Indonesian

Higher Agricultural Education Project

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In the judgment of the evaluation team the project is on target in almost all of its basic aspects and substantial progress has been made in the development of academic activities and leadership needed to increase the capability of Indonesian universities to fulfill their responsibilities in teaching, research, and public service. Of greatest significance are the accomplishments in staff development through participant training, improvement in the quality of undergraduate instruction and the development of the six-year curriculum, plans for in-course graduate programs, improvements in university structure and administration, improved general services and library acquisitions, and strengthening of the provincial agricultural universities. While definite progress has been made in research and public service, the necessary linkages with the Ministry of Agriculture and other institutions have not yet been fully realized to provide substantial accomplishments with a definite impact on national agricultural development. The evaluators made nine recommendations including: (1) the AID/MUCIA (Midwestern Universities Consortium in International Affairs) Indonesia Higher Agricultural Education project should be continued or extended for implementation in Phase II; and (2) a gradual shift in emphasis should be made to give higher priorities to applied research and public service to meet the needs of Indonesian agriculture.

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Report of Evaluation Team

AID-MUCIA-Indonesian Higher Agricultural

Education Project

I. Evaluation Guidelines

The objectives of the evaluation as given to the Team were:

To assess the contribution of the Higher Agricultural Education project from its inception in 1969 to the present in terms of the goals which were set forth for the project in the operational plans (Document X and the PROP) developed jointly by MUCIA, AID, and the Government of Indonesia (GOI); and

To develop a set of recommendations concerning the future direction of Agricultural Education in Indonesia and AID's possible continued involvement in it.

In making its evaluation, the Team spent 14 days in Indonesia (December 1-15). Two days were utilized in briefings and orientations from USAID/Jakarta and MUCIA, and in discussions with officials of the Ministry of Education and Culture and the Indonesian Konsortium of Agriculture Sciences. This was followed by two days reviewing the development program at the Institut Pertanian Bogor (IPB) and three days at the Agro-Complex, University of Gadjah Mada, Yogyakarta. One day was spent driving through the agricultural region of Central and East Java from Yogyakarta to Malang, followed by a day to review the development program of a non-pembina institution, Brawijaya University.

The remainder of the time was spent in the preparation of this report, in discussions with representatives of the Ministry of Education and Culture, Ministry of Agriculture, the Rockefeller and Ford Foundations, and in conferences with officials of USAID/Jakarta and MUCIA.

II. Progress of Higher Agricultural Education Project

1. Overall Appraisal of Accomplishments

The Team has assumed its evaluation should be based on the original objectives and goals as they were developed jointly by the GOI, MUCIA and AID. Further, the Team understands the original goals were established with the realization that it would take a minimum of ten years to attain most of them in the "further development of a system of institutions for higher agricultural instruction and research adequate to meet the needs of the Nation." The

success of institutional development projects of this type normally should be measured in decades, not in years. Also, the Team recognizes the fact that Phase I is only partially completed.

In the judgment of the Evaluation Team, the project is on target in almost all of its basic aspects and substantial progress has been made in the development of academic activities and leadership needed to increase the capability of Indonesian universities to fulfill their responsibilities in teaching, research, and public service. Of greatest significance are the accomplishments in staff development through participant training, improvement in the quality of undergraduate instruction and the development of the 4-year curriculum, plans for in-course graduate programs, improvements in university structure and administration, improved general services and library acquisitions, and strengthening of the provincial agricultural universities.

A key element that came through quite clearly is the enthusiasm, philosophy of service, and keen interest and deep concern for agricultural development on the part of the administrative leaders at IPB and UGM. They appear to be genuinely committed to the development of higher quality educational and research institutions and for their role in meeting national goals of increased agricultural production, more equalization of income distribution in the agricultural sector, and creation of work opportunities.

A university will be no better than its library which is a key ingredient of any first-class institution of higher education and research. The location of the library at IPB is not conducive to optimum use by students and staff. The libraries at UGM showed better organization and administration and at both universities the libraries are lacking in scientific journals and periodicals.

While definite progress has been made in research and public service, the necessary linkages with the Ministry of Agriculture and other institutions have not yet been fully realized to provide substantial accomplishments with a definite impact on national agricultural development.

There appears to be substantial agreement that IPB is the highest quality agricultural university in Indonesia. It is recognized that IPB started the M/CIA-AID-GOI project with a stronger staff base as a result of almost ten years of collaboration with the University of Kentucky. Taking this into consideration and realizing that UGM started from a lower base, it is quite possible that the rate of development under the

project has been more rapid at UGM than at IPB. There is a real need at both institutions for more staff with the research methodology and analytical tools to conduct problem-solving research.

The momentum that has been started needs to be maintained and expanded if full returns are to be obtained on the investment that has been made. In addition, some shifts in emphasis will be desirable and are now being developed by the collaborating institutions and the Konsortium of Agricultural Sciences.

Attainment of Goals

Some highlights of accomplishments in the major program areas are presented here:

A. University Administration and Structure

Substantial progress has been made in reorganization that should result in marked improvements in efficiency and effectiveness of administration and hopefully more interaction between the faculties at IPB and UGM.

Directors have been appointed at IPB for the major functions and services which cut across the six faculties. These directors are responsible for (1) undergraduate instruction, (2) graduate studies, (3) research and public service, (4) administration, and (5) libraries.

The Agro-Complex of six faculties of UGM is now administered by a Dean and five coordinators (undergraduate instruction, graduate instruction, research and public service, library, and general services and commodities). This is a very important recent advance at UGM where it appears essential to have less autonomy among the faculties.

Short courses and seminars in university administration have contributed greatly to these progressive developments. Major inputs toward improved administration have been provided by the MUCIA coordinators at both campuses.

Strengthening of the general services, such as repair shops, central store rooms for scientific supplies and materials, and computing center, has taken place. These units are essential in the functioning of the universities.

In reaching the national goals in agricultural development and building of institutions, the program activities of the Ford and Rockefeller Foundations, the Agricultural Development Council, and other international agencies are also key ingredients in the development of human resources. Close coordination of programs and active communications between all of these agencies are essential.

Instructional Programs - Undergraduate

The heart of any university is the undergraduate instructional program. Major attention has correctly been focused on improvement in instruction. A course system and curricula for a four-year degree program are underway on a pilot basis at IPB. This new program is being evaluated in December 1974. Plans are well developed for similar changes at UGM. Eventually the adoption of new curricula will result in a process of upgrading of undergraduate instruction.

Changing to the four-year program is not easy and may require more faculty time in relation to student numbers than was true under the previous system since it will involve scheduling of courses, examinations, and advisory system. If better teaching is to be achieved, better equipped laboratories, more instructional materials, visual aids and the like will be necessary.

One of the problems in teaching that has not been solved is a shortage of textbooks and other instructional materials in the Indonesian language, written by Indonesians.

Some success has been attained with the development of package courses for upgrading of the non-peabina universities. These might well be expanded in the future.

Instructional Programs - Graduate

Through various sources of support for the staff development program at IPB, there are presently 56 PhD's on the staff in the several faculties, but only about one-half of them are full time. There are only a limited number of staff with the doctorate at UGM. It is obvious, therefore, that plans for M.S. and PhD level training have progressed much further at IPB.

The "pipeline" contains a good number of M.S. and PhD candidates abroad who will contribute to the capabilities of both universities to offer graduate level training in the future for leadership in agricultural education, research and extension.

Indications are that IPB will have a Graduate School in operation offering M.S. work during the target year of 1976, and in-course doctorate in 1978. Graduate level courses have been identified and are being developed. Allocations of funds have been made for books and equipment necessary for graduate research. Progress has been made in the development of the research farm at Darmaga.

A tract of land now appears to be available at UGM for a teaching, demonstration, and research farm. Continued upgrading of staff, with larger numbers of PhD's on the staff, with active teaching and research programs, are necessary before an in-course PhD education program can be initiated.

While some graduate students have been involved, two phases of the graduate education component of the MUCIA project may not be on target at the present time. These relate to the plan (1) for Indonesian PhD candidates to return to Indonesia for their thesis research in appropriate fields, and (2) for American graduate students from MUCIA universities to conduct their research in Indonesia. Increased numbers of graduate participants would help focus research on Indonesian agricultural problems and contribute to the development of the graduate education program at IPB.

Another phase apparently that has not been carried out as fully as planned is that of third country training at the M.S. and PhD levels. For example, several qualified graduate students could be sent to the University of the Philippines for what it costs to send one M.S. or PhD candidate to the United States, and the type of training might be more relevant to Indonesian agricultural development. Both the Ford and Rockefeller Foundations are now sending M.S. candidates to the University of the Philippines rather than to the United States.

Research and Public Service

Research and public service activities have been expanding steadily in all of the agricultural science

faculties. IPB has exceeded its targets in rupiah allocations for research and approximately 40 projects were in operation last year. Ten of these received MUCIA commodity support. Rektor Satari has been appointed head of the Central Research Institutes, Ministry of Agriculture, and Dr. Fred Rumawas is the leader of the National Rice Research Program.

At UGM over 90 research projects are reported as in progress during the past year with financial support from the Ministry of Education, Ministries of Agriculture and Public Works, and the Southeast Asian Center for Graduate Study and Research in Agriculture (SEARCA). The extent to which the results of the current research projects will contribute to national agricultural development is yet to be realized.

It is essential for the universities to establish their priorities in research and to develop and maintain formal linkages with the Ministry of Agriculture. The role of the universities in public service may need to be more clearly defined, especially as it applies to extension educational programs to transfer technology to small farmers and the rural community. Courses in extension education and in communications are apparently taught in departments of Socio-Economics. If included in the Agricultural curriculum these courses can be effective in training of personnel for extension activities.

Even though advances have been made in training of Indonesians for leadership roles in the agricultural sciences, the most critical need is still for additional trained manpower. There is a scarcity of highly-qualified researchers in all of the agricultural universities, including IPB and UGM, and the Ministry of Agriculture, as well as a lack of well-trained, experienced extension specialists. Priority must continue to be given, therefore, to the training of people for these positions if national agricultural goals are to be met.

Strengthening of Competence in MUCIA Universities in International Agriculture

A second objective of the AID-MUCIA-GOI project is to strengthen the capacity of the cooperating American universities in tropical agriculture. All universities in the United States have much to learn about tropical agriculture and one can assume that each of the MUCIA universities has gained through its

partnership and working relationships in Indonesia to date. These gains are in the development of international dimensions in subject areas, new courses in tropical agriculture, greater relevancy to graduate study and thesis research, better understanding and appreciation of the developing world and the global problems of food and population.

III. Problems and Constraints

1. Brief evaluation did not reveal any major problems in the operation of the program to date between MUCIA and the Indonesian universities.
2. Program reviews by Institut Pertanian Bogor (IPB) and University of Gadjah Mada (UGM) enumerated several constraints. Attention is focused on certain ones that seem most significant. These include:
 - (1) Terms of office of University administrators do not permit continuity of improvement processes (every two or four years new organizational arrangements are required). This reduces effectiveness of overall performance.
 - (2) Maintenance, operational, and development budgets are below needs; rupiah funds are inadequate for research, including doctoral thesis research.
 - (3) Inadequate staff salary levels contribute to lower quality of performance and to the low numbers of full time teaching and research staff.
 - (4) Library staffs are inadequate and current scientific journals are limited or lacking. This is a serious situation contributing to reduced performance in instruction, research, and public service.
 - (5) Delivery of equipment and supplies is slow and occasionally damages occur in transit.
 - (6) There is a definite need for a clear definition of responsibilities for research and extension between Universities and Ministries.
 - (7) Lead time required to select appropriate counterparts, establish schedules, and arrange transportation is a constraint in the implementation of programs of MUCIA short-term staff at non-pembina institutions, particularly so if the universities are not in session.

- (8) Meeting Toefel test requirements for English language required for participant trainees has created problems in upgrading staff through graduate study at U.S. universities. Sustained efforts and expansion of English preparation programs at the universities are essential to assure an adequate pool of qualified staff members for selection in priority fields or subject matter disciplines.

Other possible constraints include the following:

- (a) Failure of Indonesian universities to give visiting professors (both long- and short-term) and American graduate students courtesy faculty appointments which would facilitate their maximum effectiveness in institutional development.
- (b) Lack of actual involvement in teaching of graduate-level courses by visiting long- and short-term staff.
- (c) A relatively small number of long-term visiting staff in relation to short-term staff.
- (d) Delays in utilization of American graduate students to conduct thesis research in Indonesia and other contributions they could make reduce overall effectiveness of assistance programs.
- (e) Lack of funds for inclusion of wife and family of participant trainees who go abroad on long-term doctorate programs often result in not securing the maximum results desired. (Experience has proved that including wife and family is a good investment in the success of a lengthy graduate study program)
- (f) Insufficient emphasis has been given to the desirability of the MUCIA field staff learning the Indonesian language
- (g) Inadequate laboratories and equipment for good teaching in many departments.

Many of the problems associated with the above constraints will require more time for adequate solution than the first five years (Phase I) of the MUCIA assistance program. Current trends indicate that some if not all of the more critical problems could probably be eliminated or significantly reduced in a second five year period (Phase II) of MUCIA assistance.

Quality and Effectiveness of MUCIA's Role in Attainment of Goals

1. Overall Planning and Management

The operational plan was carefully devised and well-conceived with collaborative inputs from MUCIA, USAID and the host institutions. Quite properly, major emphasis was to be given to the development of human resources for leadership. For the most part this has been carried out in the implementation of the program.

As indicated in the original operational plan, it was meant to be sufficiently flexible so that inputs appropriate at the beginning, in kind and amount, may not be appropriate at a later time. In the judgment of the Evaluation Team, consideration might well be given at this time, as operational plan Phase II (Document Y) is presently being drawn up, to some changes in the administrative set up. It would appear the responsibilities of the Project Administrator (Floating Director) might well be accomplished by the International Programs Office of the University of Wisconsin, or one of the other cooperative MUCIA universities. Considering the numbers of field MUCIA personnel, the administrative structure appears to be larger than necessary.

Consideration also might be given to replacement of the coordinator at IPB with a long-term visiting professor who could become actively involved in teaching and research at the graduate level.

2. Long-Term and Short-Term MUCIA Personnel in Indonesia

There are many advantages and disadvantages that can be advanced for both long- and short-term visiting professors. Both have contributed greatly to this project. It is recognized the effectiveness of any individual, long- or short-term, is dependent upon many factors, but the Team feels the project would have been served better with a larger proportion of longer-term professors. Note the term visiting professor is used advisedly since members of the Team feel that it reflects a truly colleague-to-colleague working relationship better than the term "advisor."

The administrative leaders consulted at UMG stated they would favor more long-term visiting professors and fewer short-term personnel. The Team concurs fully with this and suggests that more rapid attainment of goals at UGM over the next six to ten years would be reached with the utilization of three to five long-term visiting professors in carefully selected priority disciplines. Additional long-term personnel, also could be most effective in the further development of IPB, especially in establishment and functioning of the Graduate School, in development of graduate level courses, and in expansion of adaptive, problem-

solving research. Further, long-term visiting professors could direct the thesis research for both returning Indonesian PhD candidates and American students who do their thesis research in Indonesia.

The Team recognizes fully the need for some short-term visiting professors, especially for return assignments of those who have been most successful previously. It is suggested they stay long enough to get actively involved with counterparts in both teaching and research, or in research and extension. Teaching of graduate level courses would be effective in the staff development program.

Role in Overseas Training

Perhaps the greatest contribution of the MUCIA program to date is in overseas training of capable, young Indonesian scientists. This aspect of the program has been exceptionally well planned and implemented with selection of candidates to strengthen priority areas, at both the two pembina universities and selected non-pembina provincial agricultural universities.

As mentioned above, the program could be improved for selected PhD candidates returning to Indonesia for their research, by utilizing more American graduate students, and by utilization of the resources of third country universities.

There will continue to be a need for non-degree training in some areas and for certain types of program activities. This is particularly true in the transition phase as the Indonesian higher education shifts from overseas training to more reliance on newly-developed indigenous programs.

MUCIA has not given emphasis to the social science disciplines in its training activities, since this area has been supported by the Ford Foundation, Rockefeller Foundation and the Agricultural Development Council. There is need, however, for coordination with the programs of the Foundations and for full communication on all aspects of the MUCIA project.

Many comments were received on the problems of the language examination for participant trainees. The English language programs that have been initiated should be helpful in this regard.

Role in Acquisition of Commodities

There is every indication this phase of the program has been handled effectively and efficiently in supplying critical supplies, equipment, and educational materials. Emphasis also has properly been given to upgrading of the libraries, especially in the purchase

of texts and reference books. More attention might have been given to the acquisition of scientific journals and periodicals.

Contributions to Non-Pembina Universities

Primary efforts to support the development of provincial universities have been through the Konsortium in staff and materials upgrading activities. Package courses apparently have been successful, as have other short courses and training programs, and student work service programs. Some short-term visiting professors have worked directly with some of these universities.

Plans are now being formulated (Operational Plan, Phase II) for expansion of outreach activities for further development of inter-university assistance. Selected non-pembina faculties will be more directly involved in program activities. A broader system will be developed with the establishment of three levels of assistance and responsibility: (1) Level 1, Faculties of IPB and UGM; (2) Level 2, selected faculties on basis of their capability and willingness to accept the responsibility for collaboration with Level 1 Faculties in providing assistance to the remaining universities; (3) Level 3, Faculties will concentrate on development of effective teaching programs to provide 4-year graduates to fill positions in public service, agribusiness, vocational agriculture, and to continue in advanced degree studies at Level 1 and 2 universities.

This shift in emphasis will involve programs which directly support rural development and bring an increased awareness of rural problems to the university communities.

Preliminary plans for World Bank support in the further development of five or six regional agricultural universities in the outer islands, if implemented, would complement very effectively the outreach activities presently being planned by the Higher Agricultural Education project.

IDA Concept

The Institutional Development Agreement was carefully worked out by a high-level group of people from the National Association of State universities and Land-Grant Colleges (NASULGC) and AID/Washington to provide improved operating arrangements between AID and the universities in overseas technical assistance projects. It was to provide grant-type funding rather than the traditional contract arrangement, with increased flexibility for universities to manage the flow of resources in response to project needs.

It appears the following elements of the IDA have been demonstrated in the MUCIA project:

- (a) Comprehensive planning of goals, lines of activity and total resources was accomplished in the beginning by all parties.
- (b) Annual joint reviews and evaluation of results and attainment of goals have been conducted.
- (c) Institutional capacity to induce and sustain changes in Indonesia has been developed.
- (d) Ability to provide qualified personnel for project activities.

The Team is not in a position to judge the extent to which flexibility that was planned in the IDA concept in management of operational details and finances has been successful in eliminating some of the red tape, delays, and frustrations that often have been encountered in traditional contract arrangements in the past. Also, it is recognized that in many cases country AID Missions were not fully informed on the development of the new institutional arrangement.

In brief, available evidence indicates the IDA concept is sound and should be applied in other selected institutional building programs.

V. Recommendations

Based on its observations and information that has been supplied, the Evaluation Team offers the following recommendations for consideration by AID, MUCIA, and GOI in the operation of the Higher Agricultural Education project:

1. The AID-MUCIA-Indonesia Higher Agricultural Education project should be continued or extended for implementation in Phase II.
 - (a) Much progress has been made in the attainment of goals that were established, as summarized in this report and in the annual reviews that have been held, for Phase I which is yet to be completed.
 - (b) Continuing of momentum that has been initiated is essential in order to capitalize on investments made to date.
 - (c) The project was originally designed as a 10-year project and this amount of time, or more, will be required to meet the objectives.

- (d) The need for increased and continuing involvement of the agricultural universities to help achieve national goals requires the implementation of Phase II -- a second five-year period.

A gradual shift in emphasis should be made to give higher priorities to applied research and public service to meet the needs of Indonesian agriculture. (This is included in the preliminary plans for Phase II.)

- (a) Continuing to use current mechanisms of the Agricultural Konsortium and inter-university assistance program to develop the provincial agricultural universities.
- (b) Expanding the application of the outreach program.
- (c) Development of responsibilities in all agricultural universities to assist in getting improved technology into the hands of small farmers.

Increased emphasis might be given by MUCIA to the areas of socio-economics and communications in the Higher Agricultural Education program.

- (a) Support from Ford, Rockefeller, and ADC is recognized, but more inputs from MUCIA would be desirable to increase the rate of progress.
- (b) Additional courses should be developed for agricultural students in extension education, communication arts, and other socio-economic fields.

Indonesian universities should give faculty status to visiting professors through appointments to the faculties for a truly mutual, collaborative effort.

The term "advisor" should be changed to "visiting professor" which indicates more accurately the associated working basis. (This has already been done in the Operational Plan, Phase II.)

The staff development program has been one of the highlights of Phase I and must be continued, but increased emphasis during Phase II might well be given to:

- (a) Plans for a larger number of Indonesian graduate students to return to Indonesia to do their thesis research.

- (b) Use of a third country, such as the Philippines, for graduate studies, fully coordinated with the Rockefeller and Ford Foundations programs.
- (c) Utilization of more advanced American PhD students for their thesis research in Indonesia.
- (d) Use of American graduate students as teaching and research assistants on the staff of the host universities.

Consideration should be given to the assignment of more long-term visiting professors to the program, especially at Gadjah Mada University but some also at IPB.

- (a) These professors would add greatly in the development of philosophies of the Indonesian staff, in further development of the four-year curriculum and graduate studies, and in expansion and implementation of applied research and public service programs.
- (b) To improve the effectiveness of short-term visiting professors, their terms of assignment should be long enough to permit teaching of a course and involvement in research with staff and graduate students. In selection of short-termers, emphasis should be given to return assignments in priority areas for those who have been most successful.
- (c) The concept of "repeating" short-term visiting professors (advisors) as developed under the IDA has, admittedly, not undergone sufficient time for testing. In the ensuing years every effort should be made to develop the use of "long-term, short-termers" and a careful plan of evaluation designed to validate the effectiveness of this concept in terms of (1) attraction of highly qualified MUCIA staff at mid-career, (2) repeated contributions to university development problems in priority areas, and (3) the building of continuing relationships of exchange and communication among Indonesian and MUCIA universities.

Consideration might well be given by MUCIA to a reorganization of its administrative structure for the project.

- (a) The duties and responsibilities of the "Floating Director" and his office staff could be assumed by an International Agricultural Programs Office at one of the MUCIA universities.
- (b) Shifting responsibilities of coordinators to include visiting professor responsibilities in instruction and research.

Funds to include a participant's wife and children (up to a point) on fellowship assignments of more than one year for graduate studies abroad should be provided. This would be in accordance with policies of the Ford and Rockefeller Foundations and ADC.

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