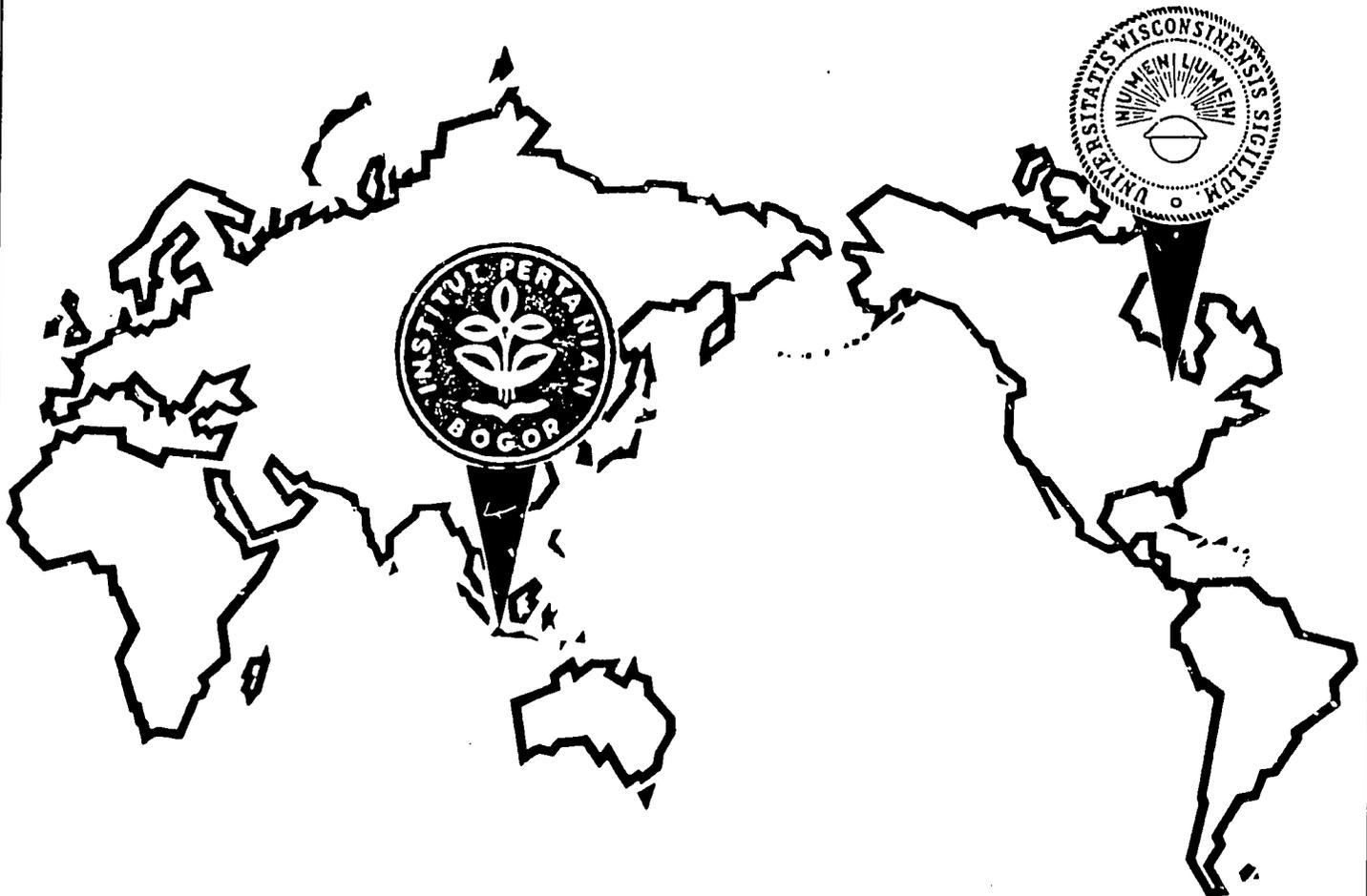


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Institut Pertanian Bogor * University of Wisconsin

GRADUATE EDUCATION PROJECT



Aid Project 497-0290

REPORT NO. 4

BRAY

RESEARCH ADMINISTRATION

RESEARCH CENTERS

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IPB/UW Graduate Education Project
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RESEARCH CENTERS

PP. No. 5 (provides for) up to five Research Centers (in) the Research Institute. These Centers will be interdisciplinary research units and will be headed by a scientist appointed by the Director of the Research Institute. The organizational structure of the Centers has been set forth in PP. No. 5. The programs of these Centers will be focused upon the high priority research programs identified by the Research Planning Committee.

Suggested diagrams for the executive responsibility and program responsibility for the centers proposed by Dr. J.T. Murdock and Dr. Tonny Ungerer (see appendix I) are appropriate and desirable.

1. A mechanism for establishing the Research Centers, the progress being made by center programs and the termination of these programs is needed. It is proposed that a Research Center Planning and Evaluation Committee be appointed by the Rector. The recommendation is that this committee include the Vice Rector of Academic Affairs as chairman of the committee, the Director of Research, the Director of the Research Institute, the Director of Public Services and three scientists recommended by the Director of the Research Institute.

PP. 5 provides for five Research Centers at IPB. All existing and additional centers will need to be reviewed and be developed in the future for IPB. New high priority areas needing interdisciplinary research (not included in allotted five centers) should be brought to the attention of those government officials who can make the decision to increase the number of IPB Research Centers in the future. If this is not possible it may be necessary to consider placing some of the current center programs under special programs within departments or in the category of Unit Pelaksana Teknis.

2. How will these centers be developed?

It is proposed that the Director of the Research Institute appoint an ad hoc planning committee for the proposed center. The membership will be comprised of scientists from the faculties which are likely

to contribute research expertise to the centers.

The ad hoc planning committee will propose the structure for the center. This structure will set forth the divisions and sections to be included in the center and a description of the anticipated research activities for each of these subunits. This committee report will be submitted to the Director of the Research Institute and Director of Research for analysis and recommendation to Vice Rector I for approval.

3. How will the scientists be selected and appointed to the Research Center?

After the research center plan is approved by the Vice Rector, the Director of the Research Institute with the concurrence of the Vice Rector will appoint the head of the research center.

The Head of the Research Institute and the Director of the Research Center will develop a list of qualified scientists who might be selected for the division and section leaders. They will then contact the Faculty Deans and appropriate department chairmen and discuss the availability for their appointment to the Research Center. In order to avoid an indefinite time commitment for the scientist, which would undoubtedly be of concern to the faculties and departments, it is proposed that the appointments be for two years with the possibility of additional one or two-year appointments, if approved by the faculty and department. With the approval of the Dean of the Faculty, the scientists will be appointed by the Director of the Research Institute.

4. How will the Research program be planned?

It will be the responsibility of the Head of the Research Center to develop the research program, but this should be done with the assistance of the division and section leaders. This program will serve as a guide for the development of specific projects. Specific research projects will be planned by the individual scientists in the research centers. Again, the desirability in having the planning of the research projects by individual scientists cannot be overemphasized. They can be guided into specific program areas, but scientists thrive by generating new ideas and research to develop new knowledge and should be encouraged to do so. Some research planning in terms of identifying priority areas for research and some structuring such as suggested in

PP. 5 from the top down (administratively) can be justified but meaningful research projects and programs are usually strongest if built from the bottom up.

5. How will fiscal, personnel and other administrative activities be handled?

It is recommended that essentially all of the administrative activities be centralized in the Research Institute. The procedures for handling these activities will be determined by the Institute. This should greatly enhance the efficiency of administration in terms of uniformity of procedure, such as the hiring of personnel, fiscal management, etc.

6. How will unsolicited proposal Contracts be assigned to the Research Centers?

The IPB Research Center Planning and Evaluation Committee (Proposed under No. 1 above-establishing Research Centers) will review these and determine which is the most appropriate center to handle such a contract.

7. How will the Research Center Program be Monitored?

As suggested (in No. 1 above-establishing Research Centers) the Research Center Planning and Evaluation Committee will review annually the programs of each Research Center. Furthermore, all contracts for the centers will require approval by the Research Institute. The progress of the research projects within the centers will require interim and final reports in the same manner as projects not in the center programs.

8. How will the Center programs be Communicated and Coordinated?

It is recommended that each Director of the Centers give a seminar twice annually to all interested staff members in IPB. The seminars will provide summaries of the recent activities of the Centers and future plans. The seminars will also provide an opportunity for reactions and suggestions from members of the staff of IPB.

Further, it is recommended that the Director of the Research Institute periodically call a meeting of the Directors of the Centers to discuss administrative procedures, joint problems and coordination of the center programs as appropriate. We suggest that these meetings be held at least once a month until such time as it is determined that less frequent meetings will suffice.

9. Where will the Research Centers be located?

It is recommended that scientists in the Research Centers remain in the facilities of their Faculty except for a core group which will be comprised of scientists hired by the Center, the Head of the Center and the division heads. However, it will be essential to the success of the research centers for the Head of the Center to hold research seminars, conferences and regular meetings with scientists in the center. Facilities designed especially for Center programs would tend to perpetuate programs and make it more difficult to terminate them. Additionally, the scientists in the centers can gain much by the continuing contact with colleagues in their departments. Also in the event that a center is terminated, the scientists can become immediately involved in the research priorities of their faculty and department.

Appendix I

DIAGRAM OF EXECUTIVE RESPONSIBILITY

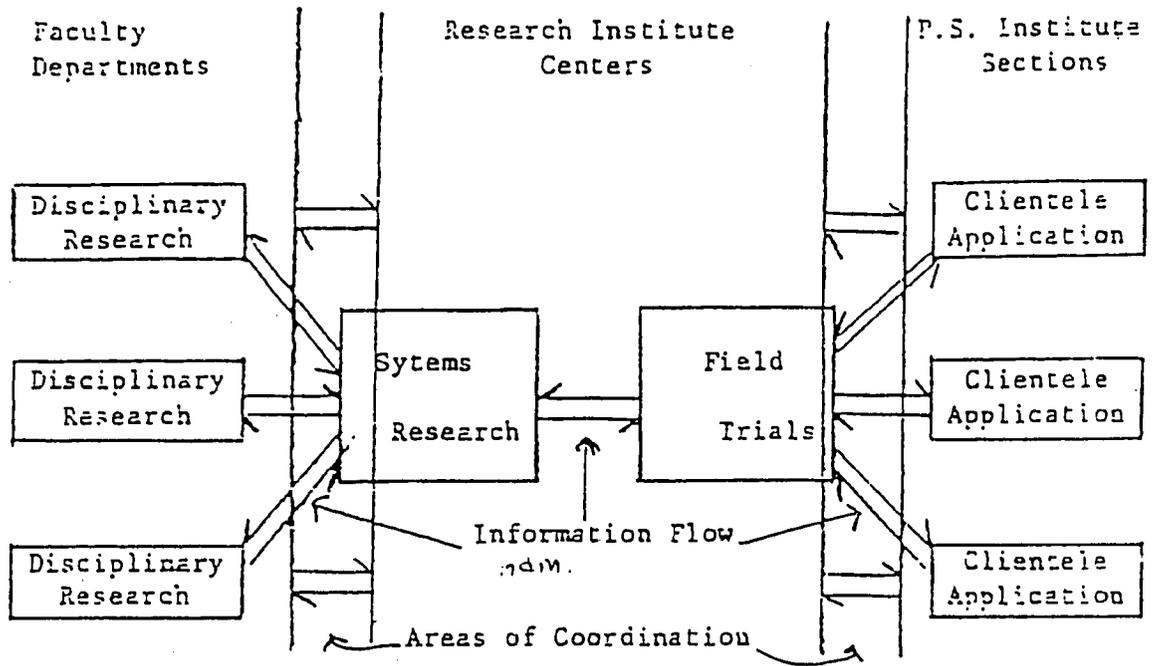
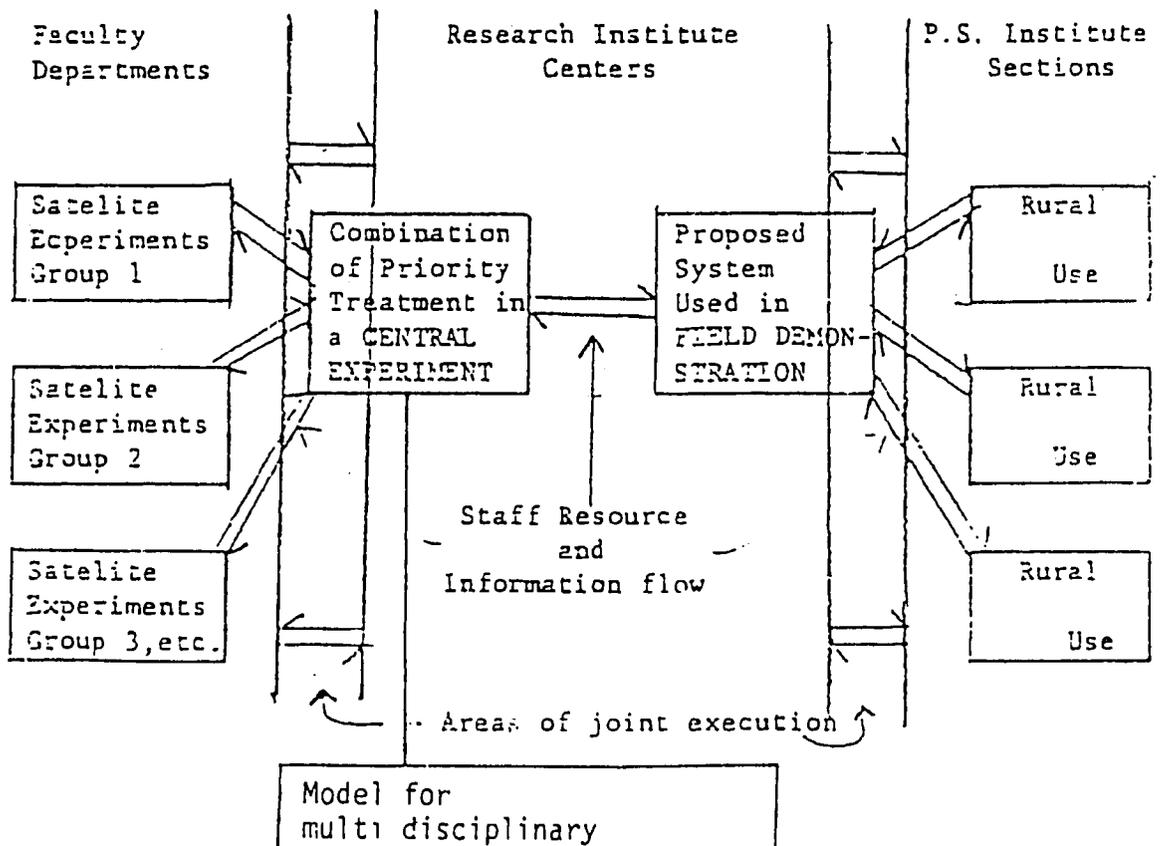


DIAGRAM OF PROGRAM RESPONSIBILITY

(Following Kussows Proposed Model)



RESEARCH ADMINISTRATION

I. Organizational Structure of the Research Function of IPB

In consideration of the administrative structure for research activities, reference is made to the organizational line staff diagram in PP 5.

The line staff diagram places the Deans of the Faculties with their office of research under Associate Deans at the same level as the Director of the Research Institute, both of which can relate independently to the Vice Rector in Charge of Academic Programs. Currently the line staff diagram does not provide for an office of Director of Research in the Vice Rector's office or the responsibility for administering all of IPB research in the Research Institute. A mechanism is needed to provide centralized control of the IPB research program.

The following line staff diagram provides a mechanism for the planning, coordinating and evaluating of the research at the IPB.

The diagram establishes an office for centralizing research with a Director of Research who will be directly responsible to the Vice Rector. The diagram indicates that all matters relating to research in the Faculties and the Research Centers will be channeled through the Director of the Research Institute and finally to the Director of Research for IPB.

The Research Institute's function will be primarily oriented toward management and operation. The following is a list of the most important functions.

- (1) Review and evaluation of all research project proposals
- (2) Budgeting (annual budget, matching funds, etc.)
- (3) Allocation of facilities, space, and land on experimental farms.
- (4) Centralization of administration (Research Centers)
- (5) Coordination of the programs in Research Centers
- (6) Inventory of all IPB research projects
- (7) Research publication (approval, editing and funding)

The Research Director will act in behalf of Vice Rector I and will be responsible for:

- (1) The final approval of all IPB research projects
- (2) Research planning and the establishment of research priorities
- (3) Review and establishment of Research Centers
- (4) Establish external research linkages (CRISA, other universities, etc.)

A second concern is that the PP. 5 line staff diagram includes the Experimental Farms under the Unit Installation, which is probably appropriate in terms of maintenance requirements for the Experiment Stations, but it seems inappropriate from the standpoint of program consideration.

The Experimental Farms are an integral and very important part of the total research program and thus the management of them must be in accord with the research missions of the Research Institute and Facilities. The Experimental Farms management must appreciate and thus strive to meet the needs of researchers involved in either individual or multi-disciplinary research projects. Thus it seems quite inappropriate to have the management of the Farms other than under the control of the Research Institute.

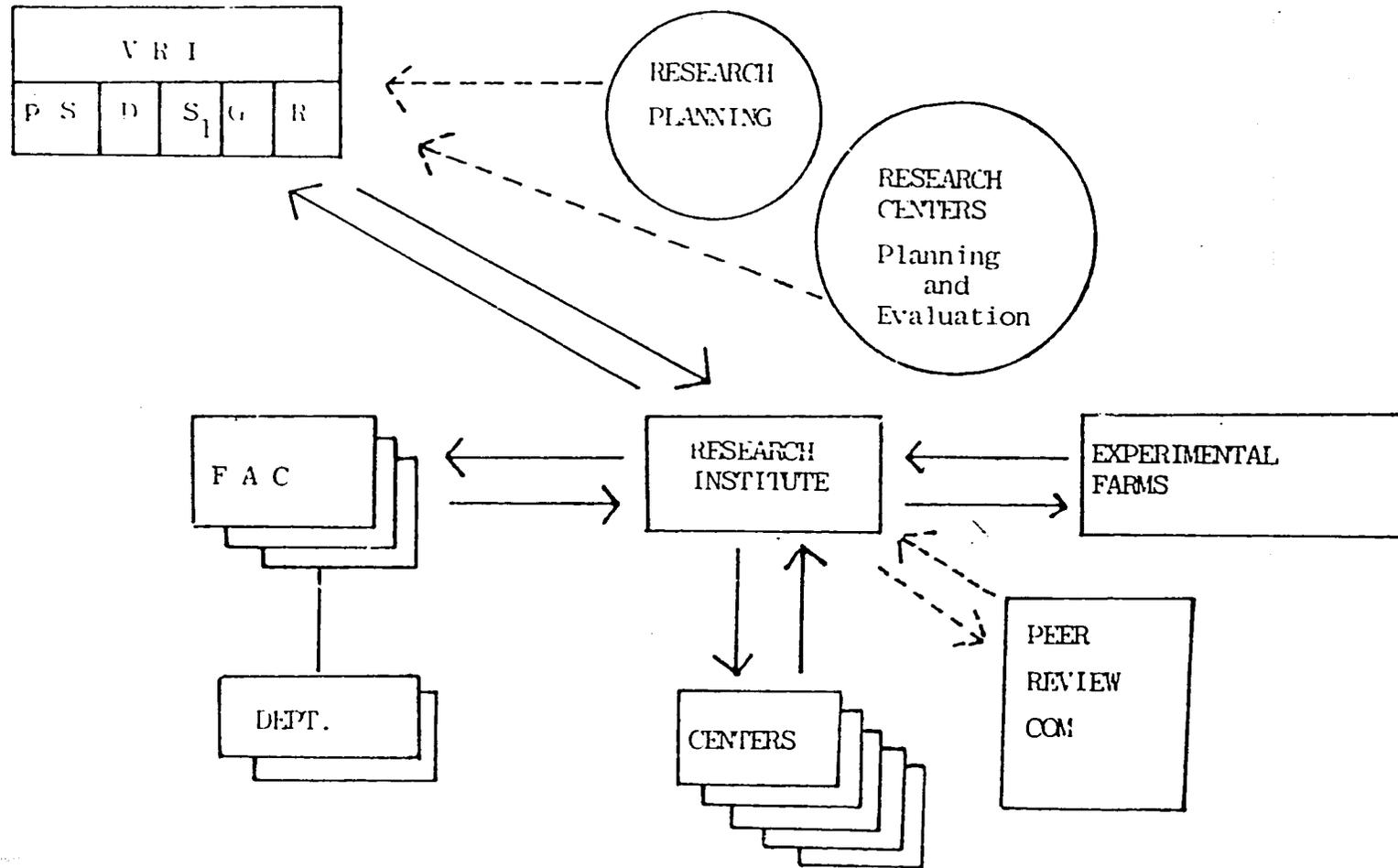
In order to accommodate this need and to follow the line staff diagram of PP. 5, it is strongly recommended that the Director of the Experimental Stations have a joint appointment in the Unit Installation and the Research Institute.

The management of the operation of the Farms will be under the direction of the Deputy Director of the Research Institute.

II. General Policy Consideration

The goal of IBP is to centralize the administration of Research. The following policies are submitted for consideration in order to achieve this goal.

- (1) All research project proposals from researchers in the faculties and research centers (including those supported by the ministries, University, foundations, etc.) must be submitted to the Research Institute for review prior to submission to the Director of Research for final approval.



Suggested line staff diagram for planning, implementing, coordinating and evaluating research

(2) All research contracts negotiated with outside agencies must be submitted for preliminary approval to the Research Institute and Director of Research before it is formalized with the contracting agency.

The rationale for this recommendation is to:

(a) Allow the Research Institute and the Director of Research to determine if the proposed research falls within the research priorities of IPB.

(b) Allow the Research Institute and the Director of Research to either approve or disapprove matching funds prior to further consideration by the sponsoring agency. Only those projects that fall within the priorities established by IPB will receive matching funds.

(c) Allow the Director of the Research Institute to determine if adequate expertise is available for conducting the research and if such scientific personnel has adequate time to commit to the project and to determine if adequate facilities, land and equipment are available for conducting the research.

(3) All funds for outside agency research will be administrated through the Research Institute in the same manner as those derived from the ministry of Education.

The Director of Research will encourage the transmittal of all outside agency contracts through the office of the Research Institute by the following mechanisms.

(a) The Research Institute will not provide facilities or land unless the research project carries an official project number assigned by the Research Institute.

(b) No research credit for staff members will be generated from contracts not approved by the Director of Research.

(c) Only the publications and results obtained from approved outside agency contracts will be considered for promotions.

(4) It is strongly recommended that an overhead charge policy be continued and that overhead be assessed against the total program budget of outside agency contracts. Further it is recommended that the overhead generated should be divided among the Research Institute, the Faculty and the Departments which generated the overhead, with the highest percentage allotted to the Department.

(5) Interim and final reports for all research projects will be placed on file with the Research Institute. The principle investigators with outside agency contracts will be responsible for submitting final reports to the sponsoring agencies. Scientists failing to provide interim or final reports on research projects will be given lower priority for the funding of project proposals.

(6) Until such time as sufficient second level or support staff is trained, consideration should be given to allowing top administration to serve only in administrative capacities rather than in all three functions: research, teaching and public service.

III. Strategies for Planning, Coordination and Implementation of

Research Planning for I.P.B.

IPB must orient its program toward the needs and development of the Indonesian Society. Research therefore is an integral part of that program and thus must be planned for developing new knowledge relative to the high priority needs of Indonesia. Good planning can shorten the time interval for implementing research results and make the most efficient use of research resources. The planning structure should not be so formalized that it will interfere with the concept that research ideas should be generated by the individual research scientists rather than at the administration levels.

Most scientists have the desire and initiative to develop new research ideas and proposals, thus the planning process should allow for this independent thinking.

The Director of Research is responsible for identifying broad priority programs, (no more than five for any given time period). Under these broad program areas it will be the responsibility of the faculties to identify sub-programs of these priority areas for emphasis in those departments. Finally the individual researchers will design projects they believe will contribute in part to the overall objectives of IPB.

The suggested mechanism for developing priorities by the Director of Research for I.P.B. is as follows:

(1) An IPB Research Planning Committee will be established for the purpose of (a) identifying annually, broad high priority research program areas for the purpose of providing direction to the research program for IPB and (b) to provide advice to the Director of the Research and the Research Institute in the research budget request to the Vice Rector I.

The membership to the committee will include the Director of Research, the Director and Deputy Director of the Research Institute and the Associate Deans for Research from each faculty. The Director of Research will serve as chairman.

(2) The Head of Departments in each faculty will annually provide the respective Associate Dean of Research a list of research priorities for the department.

The process for determining these priorities will be the prerogative of the Head of the Department, but it is envisioned that his staff will be involved in the process. It is recognized that in addition to the broad priority program areas identified by IPB, that there will be some high priority projects focusing upon specific needs that may not fit under these broad program areas. Departmental priority projects falling in this category, if well justified, will be given consideration for funding by the Research Institute and Director of Research.

(3) Project Planning by Individuals

The identification of a research problem is only the first step in planning a research project. The project proposal offers justification for the research, evidence of the scientists knowledge of the pertinent research related to the problem, the objectives of the project and most importantly how the research is conducted. Finally the proposal should include a listing of the required resources to accomplish the research. The development of the project proposal requires the scientist to think through the procedure he will use in accomplishing the research and place his plan in writing. Careful planning of research projects cannot be overemphasized.

Coordination of Research Activities

The Director of Research is charged with the responsibility for coordinating the IPB research program between IPB and other universities, government agencies, industry and research agencies outside of Indonesia.

Some research activities needing coordination are:

(1) Joint research between CRIA and IPB

Linkages with CRIA have been productive and cooperative research is increasing. It is suggested that the Director of Research at IPB and the Head of the Agency for Agricultural Research in the Ministry of Agriculture strongly encourage cooperation among their research personnel.

It is urged that the two Directors establish quarterly meetings to discuss mutual programs and concerns. They may also wish to develop a formalized mechanism for furthering cooperative efforts.

The rationale behind these suggestions is that the University's major goal in its research program is the training of graduate students. The Ministry does not have this capacity, but continues to need trained scientists to do research on problems important to Agriculture in Indonesia. Thus, it is in the mutual interests of each (IPB and the Ministry) to develop research projects to meet the needs of graduate students and at the same time provide new knowledge in the support of the societal needs of Indonesia.

(2) Cooperative research with other universities in Indonesia should be encouraged with the goal of upgrading the research programs. The Director of Research should appoint a study committee for this purpose.

The Director of the Research Institute is responsible for coordinating research within IPB and suggestions have been made under organizational, general policy and planning sections of this report.

A mechanism developed by Dr. Kussow, Associate Director of International Agricultural Programs, University of Wisconsin-Madison, entitled "A Research Model for Accelerating Development of Traditional Agricultural Systems" should be useful in providing research results for use by public service personnel and for teaching students. (see Appendix II) This "Model" requires that the Director of the Research Institute develop a method for providing research results to those responsible for teaching and extension such as:

- (1) making publications available to public service personnel and to teachers, and
- (2) assisting extension personnel in developing information for meetings, possibly radio programs and other media.

It is also suggested that the Director of the Research Institute and the Director of Public Service meet for the purpose of exploring how to communicate more effectively research results to the clientele needing the information.

IV. Research Management

Research management is especially important in determining the quality of the research output. Included under management are project evaluation, the procedures for handling grants or contracts, monitoring research progress, the development of information systems to provide management information and methods for disseminating the results derived from research.

1. Procedures for evaluating project proposals

a. It is recommended that the departments develop a system for reviewing research proposals and that all projects be reviewed prior to submission to the Research Institute and the Director of Research. The signature of approval by the department head should be evidence that the project has had a thorough review within the department.

b. Peer review and classification committee

Currently a committee composed of three members who also serve on the Directorate of Research and Public Service Evaluation Committee (a branch of the Directorate General of Higher Education, which is a part of the Ministry of Education and Culture) and two other scientists appointed by the Director of the Research Institute evaluate and classify research proposals submitted for funding from Ministry of Education funds. This Committee of five members appears to adequately represent the faculties. However it is understood that if the Committee does not believe it is adequately qualified to make a peer review it can ask for ad hoc appointments to the Committee from the Director of the Research Institute. It shall be this committee's responsibility to recommend approval, disapproval or appropriate revisions of project to the Director of the Research Institute.

If the peer review committee recommends approval of more projects then can be funded, the Research Institute will determine which projects should be funded and forwarded to the Director of Research for final approval.

This committee is also adequately knowledgeable about the classification system provided by the Ministry and qualified to classify all IPB project proposals.

2. Management of grants or contracts

All grants or contracts must be transmitted through the Research Institute to the Director of Research for final approval. (See recommendation under General Policy section of this report). Currently, memorandums of agreement are developed for each contract or grant. The Secretary of the Research Institute carefully scrutinizes the budgets and the agreements. It is concluded that the present system is adequate.

3. Project Monitoring

Projects supported by the Ministry are limited to one year. Many projects cannot be completed in one year and as interdisciplinary projects become more common, projects will need more than one year of support. However, the length of duration for a project is unrelated to the need for monitoring the research progress.

It is recommended that an interim progress report be provided by all research project leaders upon request from the Director of the Research Institute (including contract projects from outside agencies). This is for the purpose of determining if the progress is sufficient to make it possible to complete the research within the time frame of the project.

If an investigator fails to meet the deadlines established for the progress reports, it is suggested that all research funds for all projects under the leadership of the investigator be withheld until the report is received.

It is also recommended that a final report be provided to the Research Institute in order for the Director to be assured that the research has been completed and also for the purpose of providing information which may be used to include in the annual research report for IPB. Final report will also be useful for providing information for Public Service and Instructional use.

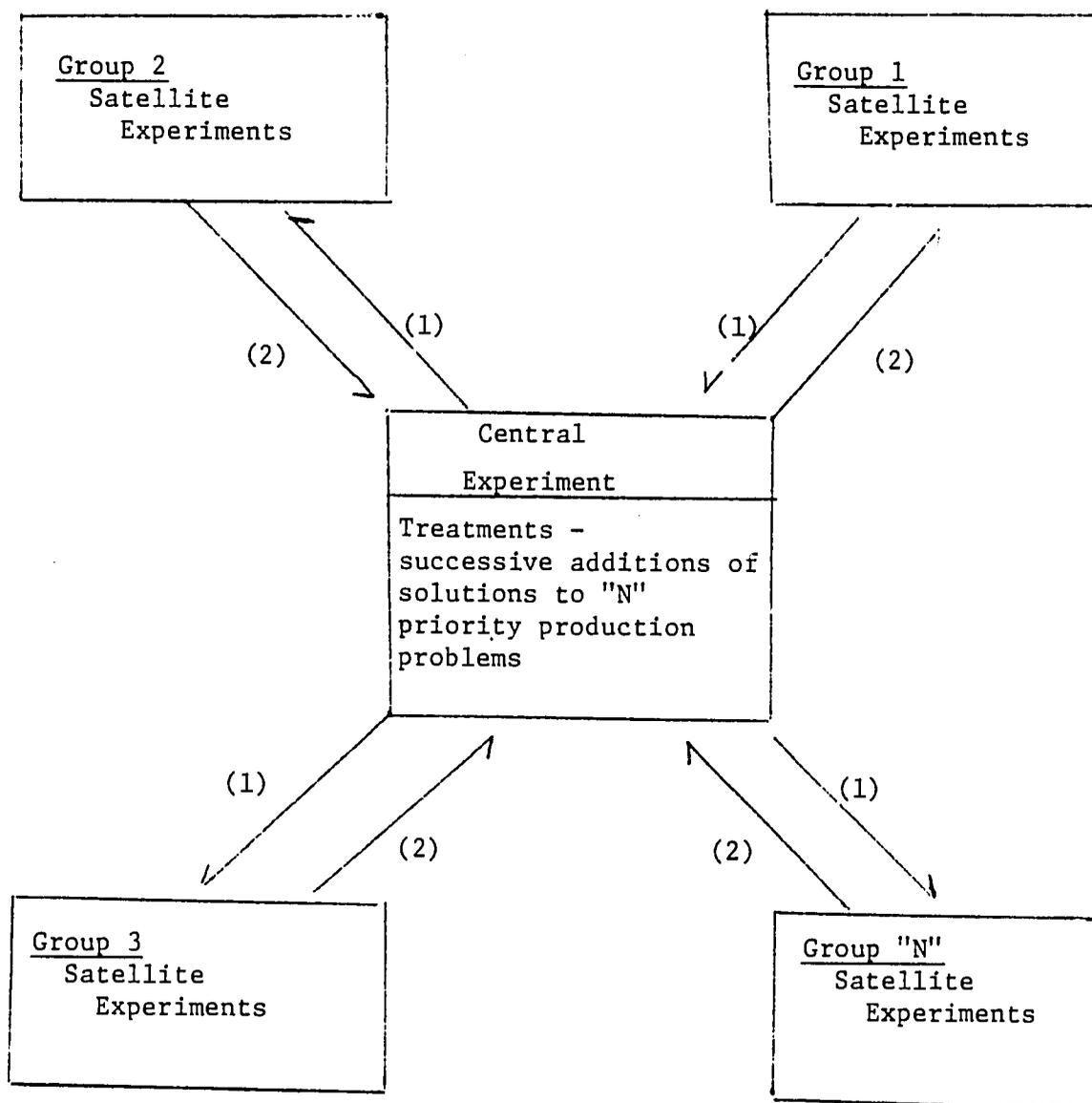
4. Project Inventory Systems

Project lists are now developed by hand, as are summaries related to the research funding by commodity program areas, etc. As the research

develops at IPB it will become necessary to classify all of the research into categories that will be useful in research management; therefore it is not too early to consider the development of a system for classifying research and for summarizing the resources involved in the categories identified in the system.

It is our recommendation that the Director of the Research Institute begin to give thought to such a classification scheme. The College of Agricultural and Life Sciences at the University of Wisconsin-Madison in its Research Division has such a system in place. It is recommended that the Director of the Research Institute become familiar with the Wisconsin system when he comes to Wisconsin and determine the feasibility of establishing a similar system in the Institute. Further it is recommended that consideration be given to including it as a subunit within the proposal for centrally computerizing data for other activities within the University.

Appendix II



Linkage 1 = Common, intermediate-level, treatment in all field trials.

Linkage 2 = Feedback and testing of new technology in simulated production systems.

Figure 1. A research model for accelerating development of traditional agricultural systems.