

Institut Pertanian Bogor * University of Wisconsin

GRADUATE EDUCATION PROJECT



Aid Project 497-0290

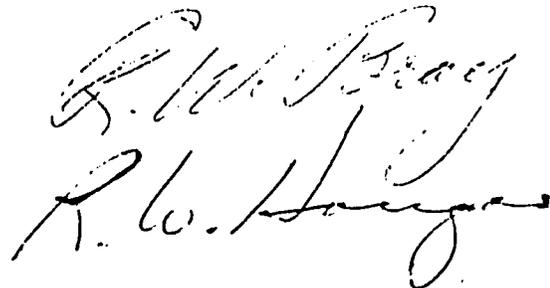
Report No. 10

BRAY & HOUGAS

Foreward

The report on research administration, policy organization planning and implementation and the structure and operational policy for the Research Centers developed in March 1981 was thoroughly discussed and revised. The participants in these discussions were Drs. Bray and Hougas from the College of Agriculture and life Sciences University of Wisconsin and their Counterparts Dr. Tonny Ungerer and Dr. Amris Makmur of the Research Institute. Other included in the discussion were Mochtar Argasasmita supertendent of Experimental Farm, The Research Centers Head, Drs. F.G. Winarno, Ishemat Soerianegara and Soeratno Partoatmodjo and the Richard Lumintang, Secretary of the Research Institute.

Drs. Bray and Hougas have appreciated the very cooperative attitude and the sincere desire of their counterparts to develop a strong and workable research administration for IPB. The hospitality and consideration was generous and treasured.



The image shows two handwritten signatures in cursive. The top signature is "R. W. Bray" and the bottom signature is "R. W. Hougas".

A PROPOSAL FOR RESEARCH ADMINISTRATION
POLICY, ORGANIZATION, PLANNING
AND IMPLEMENTATION

For

Institut Pertanian Bogor

April 8, 1982

RESEARCH ADMINISTRATION

I. Organizational Structure of the Research Function of IPB

The diagram establishes an office for centralizing research with a Director of the Research Institute 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 to the Director of the Research Institute. The Director of the Research Institute will be assisted by two associate directors. The duties of each of the associate directors will be defined by the Director of the Research Institute.

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

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

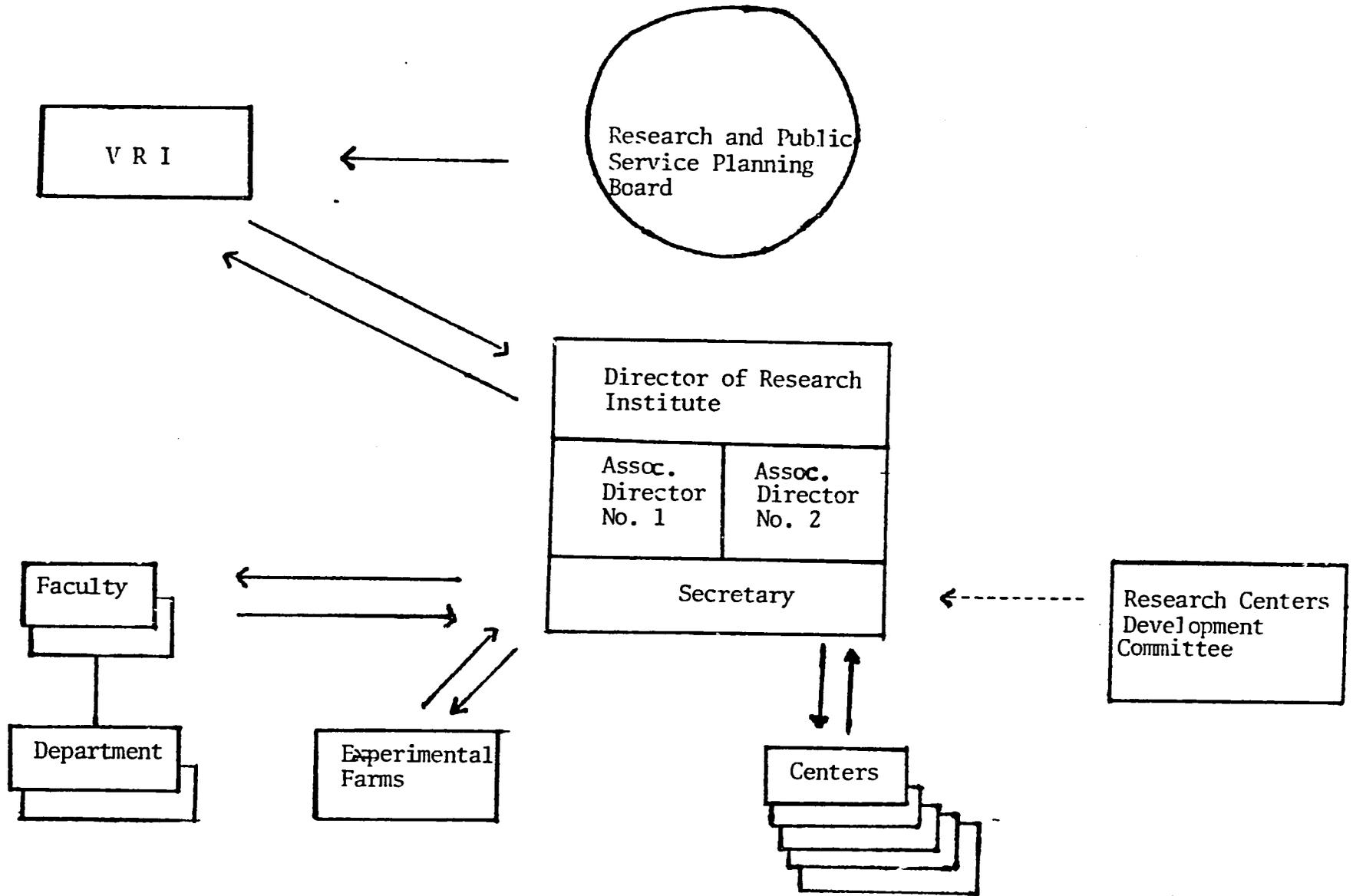
The Research Director will be responsible for :

- (1) The final approval of all IPB research projects
- (2) Research Planning and the establishment 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 Experiments Stations, but it seems quite inappropriate from the stand point of program considerations.

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 Faculties. The Experimental Farm management must appreciate and thus strive to meet the needs of researchers involved in either individual or multidisciplinary 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.



Suggested line staff diagram for planning implementing, coordination and evaluating research.

II. General Policy Consideration

The goal of IPB 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 after approval by the Faculty Dean and/or Head of the Research Center to the Director of Research Institute for final approval. In addition all research contracts negotiated with outside agencies must be submitted for preliminary approval to the Director Research Institute before it are formalized with the contracting agency. Following approval by the negotiating agency the Director of the Research Institute will sign the agreement on behalf of the Rector.

The rationale for this recommendation is to

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

(2) All funds for outside agency research will be administered through the central financial office of IPB in the same manner as those derived from the Ministry of Education.

The Director of the Research Institute will assure the transmittal of all outside Agency Contracts through his office 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.
- (d) faculty members with outside support are expected to report their findings to the appropriate faculty and/or Department through seminars.

(3) An overhead charge policy should be initiated and overhead be assessed against the total program budget of outside agency contracts.

It is suggested that the overhead rate be established on a sliding scale wherein contracts involving relatively small program budgets would be free of overhead; for those contracts with budget exceeding this "small" category a declining scale would be developed, e.g. 12, 10, 8, 6 %. It is suggested that the overhead costs as calculated be included in the total direct cost program budget. It is suggested that overhead funds accruing to the research Institute be used in support of seminars, laboratory equipment, travel on a limited basis, and small research projects for IPB staff members.

It is suggested that the Research Director appoint an Ad Hoc Committee for establishing guidelines for utilizing the funds generated from overhead.

III. Strategies for Planning, Coordination and Implementation of Research

Research Planning for I.P.B.

I.P.B must orient its program toward the needs and development of the Indonesian Society. Scientific manpower must be available to satisfy these needs. Thus the top priority in the research program must support the training of scientists to become qualified to work effectively in research institutions throughout Indonesia. The responsibility in IPB rests with the graduate school, the Research Institute and supporting Faculties and Research Centers. The graduate program must fill the need for trained scientist for both problem oriented and basic research.

The immediate need to do problem oriented research is great and the results will greatly benefit the people of Indonesia. Much of this can be accomplished through the utilization of currently available basic knowledge. However problem oriented research in future years will require mission oriented basic research.

Conducting research is a very important part of the training program for graduate students and should be done on problems of high priority. Research planning is therefore very important. 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 and scientists in training 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 the Research Institute 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 their 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 the Research Institute for IPB is as follows.

- (1) An IPB Research and Public Service Planning Board will be established for the purpose of identifying annually, broad high priority research program areas for the purpose of providing direction to the research program for IPB.

The membership of the Board will include :

- the Director of Research Institute
- the Director of Public Service
- one representative from each faculty to be
 - 1) nominated by the respective Dean and
 - 2) appointed by the Rector.

Additional resource representatives will be invited as appropriate - including 1) One or two alumni or others associated with agriculture, and 2) One Research Center head. These resource representatives will serve in an ex officio capacity.

The Chairman of the Board will be elected by the Board members :

- The Vice Rector I or his designe will serve in an ex-offio status
- The Board will be authorized to invite other resource persons to their meetings, as seems appropriate to provide counsel on specific subject and/or research areas.

- (2) The Head of Departments in each faculty will annually provide the respective Associate Dean a list of research priorities for the department. These priorities will be used by the Research and Public Service Planning Board in establishing the major research priorities for IPB.

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 programs 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.

- (3) Project Planning by Individuals

The identification of a research problems is only the first step in planning a research project; members are encouraged to review their project proposal with fellow scientists within the department through seminars or informal communication. 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 will be 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 can not be over emphasized.

Coordination of Research Activities

The Director of the Research Institute 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. The responsibility is of major importance since it involves the training of young scientists and cooperation in research efforts among these institutions.

All of the cooperating institutions (other universities, ministries of Government and industry) are urgently in need of trained scientists and IPB needs to take the lead role in training them. The other institutions have resources (facilities, land and funds) that can be used for the research necessary for training young scientists. Therefore there is an urgent need for developing a good communication system among the Director's of research of these institutions. These communication can be established best through personal communication between the Directors of Research

For example it is suggested that the Director of Research in the ministry of agriculture and the Director of the Research Institute meet at least quarterly to discuss topics of mutual interest and concern such as new development in their respective research programs and the possible cooperation in future research thrusts. Likewise it is suggested that the Directors of Research for each of the universities meet at least once annually for the purpose of acquainting one another with their respective programs and to discuss the future direction of their training and research.

It is recommended that the Director of Research Institute take leadership in developing these communications for enhancing the total research capacity for IPB.

Communications are also very necessary among the scientists of these institutions. This can take place through publications, thus an effort should be made to publish and distribute publications to counterparts in other institutions. This may require additional publishing facilities in some universities. One of the most effective communications for scientists is through seminars, thus a few seminars on high priority research topics should be planned each year, where scientists from all institutions are invited.

Funds will be required to support the above mentioned communication activities. Therefore it is recommended that the Directorate of Higher Education be urged to consider providing the necessary funds for this very important activity.

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 proposal

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 Director of Research Institute. 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

One of the most important initial steps for developing a research proposal is the preparation of a scientifically sound carefully conceived project outline. This project outline should clearly document the following items : title, background, review of pertinent literature, the specific objectives of the proposed research , a clear detailing of the approaches to be used in pursuing the research objectives, literature cited, cooperating individuals and/or units , proposed duration of the project, field and laboratory space required, funds requested broken down by category as well as other funds available or anticipated to support the research.

Documentation of all of the information listed above is essential to enable peer scientists to critically evaluate a research proposal.

A critical meaningful peer evaluation usually results in the improvement and strengthening of the original project outline and consequently should be viewed by all scientists as a useful constructive process.

Development and implementation of a peer review system require
1) establishment of guidelines for the reviewers and 2) documentations of the procedural steps involved in the review process

Guidelines for the peer panel should include :

- a. an appraisal as to the potential usefulness,(economic or social) of the research.
- b. a critical evaluation of the objectives and the proposed approach (es). Are there other approaches that might be more efficient and/or that may result in greater pay-off.
- c. Would the proposal benefit through cooperation with other staff than those indicated in the proposal ? If this should be the case please identify.
- d. a short written recommendation report should be prepared and submitted to the Director of the Research Institute

Procedural steps in the peer evaluation process :

- a. a small panel, 3-4 members will be appointed to review each proposal. The individuals serving on each panel will be selected for their experience and expertise for the specific project to be reviewed. The chairman of the panel will be selected outside the department from which the proposal originated.
- b. copies of the research project outline will be sent from the office of the Director of Research Institute to the panel members.

- c. The chairman of the panel should arrange a meeting of the panel as soon as possible to discuss the proposal.
- d. It will be the responsibility of the panel chairman to develop the consensus report of the panel within 10 days of receipt of the proposal.
- e. If the panel report raises significant questions concerning the proposal a meeting will be called by the Director of the Research Institute to allow the principal investigator, i.e. the scientist who submitted the proposal, the chairman of the review panel (along with others of the review panel as may seem appropriate and the Director of the Research Institute or his designee to discuss the proposal in view of the panel report.
- f. Following steps "e" above, the principal investigator may be encouraged revise his project outline.
- g. The final decision for approval will be determined by the Director of the Research Institute. The recommendation of the peer panel, how well the project meets the IPB priority area for research and the funds available will be the major factors in the decision.

It is suggested that prior to implementation of the above proposed peer system that the Director of Research Institute arrange for review and discussion of the guidelines and procedural steps with selected scientists from IPB and appropriate administrators.

2. Management of grants or contracts

All grants or contracts must be transmitted to the Director of the Institute for final approval. Currently memorandums of agreement are developed for each contract or grant. The Secretary of the Research Institute does carefully scrutinize the budget 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 can not 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.

Interim progress reports should 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.

A final report should 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 reports will also be useful for providing information for Public Service and Instructional use.

4. Project Inventory Systems

It was recommended that an Inventory system be developed for classifying the research at IPB for its use in research management. A system has been developed and it appears to have all of the ingredients of a good system. It provides a means for summarizing research efforts and funds available by research program area; necessary information for good management.

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 Rector of Institut Pertanian Bogor. 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 and Public Service Planning Committee.

A Research Center Development Committee will be established by the Rector. The committee membership will include representatives from the major departments. The Director of the Research Institute will nominate representatives from the major departments as well as the chairman to the Rector for his consideration in establishing the committee.

The specific function of the Committee will be to :

1. Establish overall policies for Centers
2. Prepare guideline for Center operation on such topics as
 - a. man-power deployment
 - b. reward system for staff achievement
 - c. visiting scientists
3. To advise the Director of the Research Institute on such matters as policy guidelines as noted above, as well as operational relationship with the IPB faculties; relationships with other agencies and with industry as well as other matters of general pertinance of the Centers
4. To develop criteria to be considered in identifying the priorities to be used in selecting program areas for possible new centers. These criteria would include :

- a. Importance of program area in meeting the high priority needs of the nation.
- b. Probability of the proposed program area attracting funds for
 - a) one-time capital needs, i.e. buildings and/or equipment and
 - for b) continuing operation.
- c. Potential availability of attracting qualified scientific manpower for 1) the core staff and for 2) part time staff.

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

After the research center plan is approved by the Rector, the Director of the Research Institute will nominate an individual for the Head of the centers to the Rector for his consideration and appointment.

The Director of Research Institute and the Head 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 chairman and discuss the availability for their appointment to the Research Center. In order to avoid an indefinite time commitment for the scientist, which will undoubtedly be of concern to the faculties and Departments, it is proposed that the appointment 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.

3. 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. The program, thus proposed should then be reviewed by the Research Center Development Committee for its reaction and comments. 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 can not be over emphasized. 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.

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

It is recommended that essentially all of the administrative activities be coordinated 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.

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

The Research Institute will review these and determine which is the most appropriate center to handle such a contract.

6. How will the Research Center Program be Monitored ?

The Research Center Development Committee will review annually the programs of each Research Center for the purpose of determining progress and need for continuation. The progress of the research project within the centers will be required by the Research Institute through, interim, and final reports just as for projects not in the center programs. These reports will be used to measure progress and whether or not duplication in effort exists among the centers.

7. How will the Center program be Communicated and Coordinated?

The Head of each Center should give a seminar once 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.

The Director of the Research Institute should call a meeting of the Head of the Centers periodically 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.

8. Where will the Research Centers be located ?

We emphasize that the research work by part time staff in the Centers be done within the facilities of the Departments unless specialized equipment or facilities are only available in the centers. 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 the his Faculty and Department.

Draft of Man Power Deployment & Reward System

We have reviewed the Man Power Deployment draft developed by the Research Institute and believe that it relates to the significant issues facing the Research Centers as they recruit staff members. However we have a few reactions and suggestions pertaining to specific points in the draft.

1. We support the concept that the core staff should represent no more than 20 % the total staff in each center.
2. With respect to manpower deployment, it is proposed that provision be made to allow appointments to vary in percent time from one case to another as follows :

HEAD of CENTER	up to 80 %
Program Leader	up to 60 %
Section Leader	up to 40 %
Research Associates	up to 30 %
3. The proposed policy of having all core scientists hold departmental appointments is sound and most desirable. However in the event a scientist is sought for the core staff outside the IPB departments, it is recommended that the scientists curriculum vitae be submitted to the appropriate department for evaluation. If the scientists qualifications meet the departments standards for new staff additions, it is suggested that the department indicates its approval to the faculty and the Head of the Research Center and request that he be given a departmental appointment with the understanding that the major portion of his time will be in the Center.
4. We propose that the Research associates or part time scientists in the research center be appointed by the Research Institute after it has been agreed that these individual will participate in the research center programs. We concur that the Rector make the appointment of the individuals identified for the core group i.e. the Center Head, and program and section leaders.

- 5. We emphasize that the research work by part time staff in the Centers be done within the facilities of the Departments unless specialized equipment or facilities are only available in the Centers.
- 6. The reward system as proposed seems to be sound. We strongly recommend that promotions for scientist in the Research Centers be the responsibility of the Departments and Faculties in which they hold their appointments. Acknowledgement of departmental contributions should be made in each center publications.
Therefore all publications, resulting from projects in the Research Centers will be considered by the department at promotion time.

The reward system proposed for technicians, administrative staff et al is appropriate and should encourage individuals to perform to the best of their capabilities and at the same time enhance their education.

Finally, we believe the draft in general is sound and suggest that consideration be given to the points discussed above. In any event we believe it is necessary to agree upon a final policy statement regarding Man Power Deployment and further to make the policy official as soon as possible. This will certainly be in the best interest of all concerned.

Draft for Visiting Scientists in Research Centers

We had an opportunity to react to the draft which spells out, the guideline for visiting scientists in the centers. It seems to be well thought out and complete, thus we recommend that it be accepted as policy for visiting scientist in the Research Centers.