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**JOINT TRIPARTITE EVALUATION  
OF  
INSTITUTE OF POSTGRADUATE STUDIES IN AGRICULTURE PROJECT  
IN BANGLADESH**

**A Project by the Government of Bangladesh  
in Cooperation with  
The Government of Japan and  
The Government of the United States of America**

**September 1, 1993**

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OF  
INSTITUTE OF POSTGRADUATE STUDIES IN AGRICULTURE PROJECT  
IN BANGLADESH**

Report of Evaluation Team  
September 1, 1993

This report presents the independent findings and recommendations of Evaluation Team. It does not necessarily represent the official views of the Government of Bangladesh, the Government of Japan or the Government of the United States of America.

Submitted to Relevant Agencies of:

the GOVERNMENT OF JAPAN,  
the GOVERNMENT OF THE UNITED STATES OF AMERICA, and  
the GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH.

Submitted by Evaluation Team composed of:

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## ACKNOWLEDGEMENTS

During the preparation of this report, the Tripartite Evaluation Team received excellent cooperation, support and assistance from many individuals. The report itself required a structure to accommodate the needs of the respective international donor agencies as well as that of Government of Bangladesh. In this sense this report deviates from the usual evaluation report in structure and concept and content usually required in a bilateral situation.

It is our distinct pleasure to record our grateful appreciation to the following persons who constituted a working group and produced the Working Paper for the team: Dr. M. Sugiura, Team Leader, JICA; Dr. R.E. Witters, Curriculum and Research Advisor USAID/COSU; Mr. T. Fujii, Coordinator, JICA; and Dr. E. Ahsan, Rector, IPSA.

This evaluation could not have been accomplished in the time available without having the Working Paper and file of documents relative to the project. It synthesized for the team the historical record relating to the evaluation of the IPSA project and also provided in detail the progress and constraints faced in the IPSA project. We are grateful to all who participated in preparing report.

We wish to express special appreciation and gratitude to the IPSA administration, Faculty, staff and students who shared their valuable time and thoughts with us. We also appreciate the work of the JICA staff.

We express our thanks to the many officials at the several National Research Institutes, the Bangladesh Agriculture Research Council, University Grants Commission, and the executives within the Ministry of Agriculture, Planning Commission and other GOB offices, officials of USAID, the Embassy of the Government of Japan, and others, with whom we had such pleasant and helpful interactions. They were most gracious and freely shared their insights with us and we thank them.

Further, the team wishes to especially recognize the courtesies extended and the technical guidance given to the team by Dr. Sugiura and Dr. Witters. Without their assistance, preparation of this report would have been very difficult.

## LIST OF ACRONYMS AND ABBREVIATIONS

ADP	Annual Development Plan
BADC	Bangladesh Agricultural Development Corporation
BAI	Bangladesh Agricultural Institute
BARC	Bangladesh Agricultural Research Council
BARI	Bangladesh Agricultural Research Institute
BIRRI	Bangladesh Rice Research Institute
BINA	Bangladesh Institute of Nuclear Agriculture
BAU	Bangladesh Agricultural University
BCAS	Bangladesh College of Agricultural Science
CDSI	Customs Duty and Sales Tax
CERDI	Central Extension and Resource Development Institute
C/P (s)	Counterpart (s)
DAE	Department of Agricultural Extension
DG	Director General (BARI, BIRRI)
DPEC	Departmental Project Evaluation Committee
DU	Dhaka University
ECNEC	Executive Committee of the National Economic Council
ED	Economic Relations Division
GOB	Government of Bangladesh
GOJ	Government of Japan
IPSA	Institute of Postgraduate Studies in Agriculture
IMED	Implementation, Monitoring, and Evaluation Division
JICA	Japan International Cooperation Agency
M/M	Man/Month
MOA	Ministry of Agriculture
MOU	Memorandum of Understanding
MOE	Ministry of Education
NBR	National Board of Revenue
OSU	Oregon State University
PC	Planning Commission
PEC	Project Evaluation Committee
PIL	Project Implementation Letter
PKC	Patuakhali Krishi College
PCP	Project Concept Paper
PP	Project Proforma
R/D	Record of Discussion
TK	Bangladesh Taka
TSI	Tentative Schedule of Implementation
UGC	University Grants Commission
USA	United States of America
USAID	United States Agency for International Development
USD	United States Dollar

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## 2.0 EXECUTIVE SUMMARY

The Institute of Postgraduate Studies in Agriculture (IPSA) was established in 1983 charged to conduct post-graduate training at the masters and doctoral levels as well as research and outreach programs. The first group of students in the masters program was admitted in June 1984. Technical cooperation between the GOB and Japan began in 1985 and the United States joined the project in 1986. Funding from Japan was provided via the Japan International Cooperation Agency and United States funding was provided by the United States Agency for International Development through a contract with Oregon State University. Near the end of Phase I a joint tripartite evaluation was held and on June 14, 1990 JICA agreed to continue their involvement in the project until July 3, 1995 and on November 6, 1991 USAID agreed to continue project support until October 1993. Thus, the present evaluation represents the final project evaluation for USAID involvement and a mid-term or interim evaluation for JICA support.

The Joint Tripartite Evaluation Team was composed of five JICA representatives, three GOB representatives and one USAID/OSU representative. The objectives of the evaluation were to assess the overall performance and impact of the project to date with emphasis on Phase II, to recommend measures to be taken by the contributing governments, and to provide feedback of the evaluation results to assist the project in reaching stated objectives and goals. To achieve these goals, the Evaluation Team conducted interviews with a wide range of individuals and agencies, reviewed a significant number of documents, and discussed issues with relevant persons/agencies.

Generally, the status of project activities is very good relative to donor and GOB inputs and impact. However, the central critical issue relates to the lack of an enacted Ordinance for the IPSA. Without an Ordinance the Institute cannot issue degrees, construct an adequate administration/management unit, or initiate necessary changes for sustainability. Second in importance to the enactment of the Ordinance is the necessity to increase the level of IPSA manpower (27 vacant positions now exist in the faculty). These two topics (Ordinance and manpower) were part of the first Tripartite Evaluation recommendations and are still pending. Other recommendations of the current Evaluation Team relates to continued GOB support for the sustainability of IPSA, the need for USAID to continue involvement in the project with limited but specific inputs, the desirability (in terms of sustainability) of the US and Japanese universities to continue professional linkages with IPSA, and specific programic issues.

The key lessons learned centered around the positive impact on the IPSA program due to the cooperative working relationship among IPSA, the United States/OSU technical assistance personnel and the Japanese experts. The culturally and socially sensitive input from IPSA combined with the technical knowledge of the other two partners resulted in forward progress for the project. The technical expertise of Japan and the US did not overlap and thus the division of labor created a workable climate which benefited IPSA.

### 3. PURPOSES OF THE EVALUATION

The purposes of the evaluation were as follows:

- 1) The Second Tripartite Evaluation is a joint effort to produce an interim evaluation of JICA project activities and a final evaluation with the USAID participation.
- 2) To assess the overall performance and impact of the Project to date.
- 3) To recommend measures to be taken by the three Governments concerning pending issues and major problems encountered.
- 4) To provide feedback for efficient implementation to attain the goals of the Project.

### 4. TEAM COMPOSITION

The evaluation team consisted of representatives from the JICA, USAID and the GOB.

#### 1) The Team Leader and Members from JICA:

- (1) Prof. Dr. Satoshi Wakimoto                      Team Leader, (Institutional Development)  
Tokyo University of Agriculture,  
Department of Agriculture,  
Professor emeritus, Kyushu University.
- (2) Prof. Dr. Kouhei Kobayashi              (Research Program)  
Department of Agricultural Economics, Faculty  
of Agriculture, Kyushu University.
- (3) Mr. Hideki Hirota                      (Academic Program)  
Senior Specialist, the Minister's Secretariat,  
Policy Planning and Coordination Division,  
Ministry of Education, Science and Culture.
- (4) Ms. Youko Ohtake                      (Outreach Program)  
Assistant Director, Department of Planning and  
Program, Foundation for Advanced Studies on  
International Development.
- (5) Mr. Shinji Obuchi                      (Cooperation Policy/Planning)  
Staff, Agricultural Technical Cooperation  
Division, Agricultural Development Cooperation  
Department, Japan International Cooperation  
Agency (JICA).

#### 2) The Member from USAID:

- Prof. Dr. Jean Kearns                      University of Arizona,  
Deputy Executive Director, The Consortium for  
International Development.

#### 3) The Members from The Government of Bangladesh:

- (1) Prof. M.H. Khan                      Member, University Grants Commission.
- (2) Mr. Md. Enayet Hossain              Joint Chief (Planning Wing), Ministry of  
Agriculture.
- (3) Mr. Md. Abdul Mumin              Joint Chief, Crop Wing, Agriculture Division,  
Planning Commission, Ministry of Planning.

## 5.0 EVALUATION METHODOLOGY

The Joint Tripartite Evaluation actually served two purposes. It was the mid-term or interium evaluation of the JICA funded part of the project and it was the final evaluation of the USAID funded part of the project. The key difference in the two purposes was timing but the findings were based on the same conditions and the findings were the same.

In order to ascertain the status of the project, the evaluation team utilized several procedures. The most time consuming and probably the most productive procedure consisted of interviews with individuals and groups who were familiar with the work of IPSA.

The interview listing was as follows:

- The Minister of Agriculture
- The Secretary of the Ministry of Agriculture
- Institute of Postgraduate Studies in Agriculture  
(administration, faculty, staff, students)
- Bangladesh Rice Research Institute
- Bangladesh Agricultural Research Institute
- University Grants Commission
- Bangladesh Agricultural Research Council
- Bangladesh Agricultural University
- Planning Commission
- Economic Relations Divison of the Ministry of Finance
- Japan International Cooperation Agency (resident staff)
- United States Agency for International Development (resident staff)
- Oregon State University Experts (long and short term)
- Japan International Cooperation Agency Experts (long term)

During these interviews the team received information from the interviewees relative to GOB issues specifically concerning IPSA as well as issues related to the internal work of the institution. Some of the interviews were conducted with the entire team while other discussions took place between individuals or with a part of the whole team. Discussions were recorded and the team reviewed the information periodically.

In addition to the interviews, the evaluation team reviewed a significant amount of documents. A sample listing of some of the reviewed documents is as follows:

- IPSA Catalogue, 1992-1993
- IPSA Annual Research Review
- Bangladesh Agricultural Research Information System, IPSA Research Experiments for 1993-94
- Joint Tripartite Evaluation on IPSA Project, 1989
- Record of Discussions Between GOB and JICA, June 14, 1990
- Memorandum of Understanding Between JICA/DHAKA and USAID/DHAKA, June 1990
- Minutes of Discussions, JICA Consutation Survey Team, October 1990
- Minutes of Coordination Committee, July 1992, December 1992
- Curriculum Workshop Recommendations, Prof. Eisgruber, 1992
- Memorandum of Understanding, BARI, BIRRI, BAU, JKUCAT

Information Management Systems Information Sheet  
Plan of Work, Prof. Witters  
Listing of Long and Short Term Experts  
Listing of Participant Trainees in Japan and USA  
Listing of Inventory Procured by USAID or JICA  
Evaluation Report, Prof. Eisgruber  
Listing of Books and Journals Provided by USAID or JICA  
Listing of IPSA Publications

A Logical Framework was prepared and utilized by the evaluation team as an overall "map" of the project. Entries in the logframe were discussed in reference to the information acquired in the interviews and in the document review process.

Tripartite Evaluation Team meetings were held frequently and the amount of time devoted to deliberations was considerable. The basic pattern of work was for the individual members to prepare a draft of a specific part of the report and then bring that draft to the entire team to discuss and review. The draft was then revised by the responsible team member and finalized.

The Tripartite Evaluation Team concluded that within the time constraints of the evaluation period that they were satisfied that every effort was made to accurately ascertain the exact status of IPSA at this point in time.

## 6.0 BACKGROUND OF IPSA PROJECT

### 6.1 Background of IPSA Project

#### (1) Establishment of IPSA

The Government of Bangladesh (GOB) attaches importance to the development of the agricultural sector to increase productivity. As a result, agricultural education, research, and extension organizations have undergone several reforms in order to adapt to advances in science and technology. In line with this agricultural development policy, the GOB recognized the need for highly skilled technical manpower, and decided to establish the Bangladesh College of Agricultural Science (BCAS) in August 1980 to produce B.S. level graduates. To accomplish the objectives as envisioned at that time, the GOB requested the support from the Government of Japan (GOJ) to establish the physical facilities for the BCAS. In response, the GOJ began providing grant assistance through The Japan International Cooperation Agency (JICA) and the BCAS campus was established in March 1983.

The BCAS was basically oriented towards undergraduate training programs with little emphasis on post-graduate studies. A subsequent assessment indicated an increased demand for manpower trained at post-graduate levels which was not being met within the country for various reasons. Thus before the college started functioning, it was transformed into The Institute of Post-Graduate Studies in Agriculture (IPSA) following a decision of the GOB.

#### (2) Cooperation of JICA and USAID

In response to a request from GOB, technical cooperation between the GOJ through JICA and The GOB began in July 1985 in accordance with the Record of Discussion (R/D) mutually agreed upon. The Government of the United States of America through the Agency for International Development (USAID) began participation in the project in April 1986. The first phase of the technical cooperation program with JICA and USAID continued until July 1990. However, before the termination of Phase I, a tripartite evaluation was conducted by the three governments. Based on the recommendations of the Tripartite Evaluation Team, the Government of Bangladesh requested continuation of both JICA and USAID assistance for a further five years. This period of time became Phase II. On June 14, 1990, JICA agreed to continue their assistance until July 3, 1995. On November 6, 1991, USAID agreed to continue support until October 1993. Up to this time, the developmental activities of IPSA are largely funded through technical assistance by JICA and USAID.

Since the initiation of the Project, JICA has been primarily engaged in assistance in the natural science field and in physical facilities development, while USAID has been engaged in assistance of the social science field and

curriculum development with academic administration through dispatching experts, training, procurement of machineries/equipment and a grant assistance program by both agencies.

The Secretary of the MOA bears overall responsibility for the implementation of the Project. The Director/Rector of IPSA, as the Head of the Project, is responsible for the administration and managerial matters of the Project, and the Japanese Team Leader provides necessary recommendations and advice on technical and administrative matters to the Director. The Coordination Committee, headed by the Secretary of MOA, was established to look after overall project implementation and to address the issues relating to the program for smooth operation of the Project.

### (3) Institutional Development of IPSA

Until October, 1988, administrative responsibility for IPSA resided with the Bangladesh Agricultural Research Institute (BARI). Since then, IPSA has been administratively responsible directly to the Ministry of Agriculture (MOA). The Management Committee chaired by the Secretary of MOA was set up as the policy making body for IPSA.

IPSA operated its postgraduate program following the BAU curriculum until 1990. However, with approval of UGC and MOA, IPSA introduced its own course-based curriculum and has been admitting students under its independent masters and doctoral programs since August 1991.

In July 1990, in a meeting of the University Vice-Chancellors a decision was made that IPSA should have an Ordinance with degree granting authority as a fully autonomous institution and be a "Center of Excellence" in the field of agricultural research and postgraduate education. The draft of the IPSA Ordinance, prepared by MOA/IPSA, was endorsed by the GOB Cabinet in May 1993 and is now being processed by the Ministry of Law, before its final approval by Parliament.

### (4) Present Status of IPSA

IPSA is located at Salna, Gazipur, about 10 km northwest of Gazipur District headquarters and about 40 km north of Dhaka. It is in close proximity to the Bangladesh Research Institute (BARI) and Bangladesh Rice Research Institute (BRRI) from where it can draw on assistance for its program activities.

There are nine academic departments offering M.S. and Ph.D. degree programs. The departments are agricultural economics, agricultural extension education, agronomy, crop botany, entomology, genetics & plant breeding, horticulture, plant pathology and soil science. The statistics department is not offering a degree, but offers courses as a supporting department. IPSA is a

research oriented educational institution. Therefore, its academic program is operated based on the research program.

As of August 1, 1993, there were 22 full-time faculty members at IPSA out of 49 approved posts. Complementing this IPSA core faculty are over 50 senior scientists from BARI, BRRI and other research and educational institutions who serve as adjunct faculty. These adjunct faculty teach classes and/or supervise thesis research on a part-time basis. There are also 135 administrative and supporting staff in administration, farm, library, engineering, and other sections.

Since implementation of the course-based curriculum began in August 1991, 186 students have been enrolled in M.S. and 11 students in Ph.D. courses. Out of these, 12 students have completed the M.S. course. The academic year consists of three terms, beginning in August, November and May. Students are admitted at the beginning of each term. As of August 1, 1993, there were 93 students in the M.S. program and 9 students in the Ph.D. program.

A Tripartite Evaluation Team (Bangladesh, Japan and USA) evaluated IPSA's academic, research and developmental activities in 1989. For the development and sustenance of IPSA, the Team recommended the continuation of donor assistance for a further period of five years. GOB decided that the life term of the project should be extended up to June 1995 and that the technical support from JICA and USAID should be continued.

Based on the recommendation of the Tripartite Evaluation Team and following a GOB decision, a Record of Discussion was signed between the Govts. of Bangladesh and Japan emphasizing continuation of the Japanese technical cooperation on IPSA. A separate Note of Exchange was signed on December 26, 1990 between the Govts. of Bangladesh and Japan providing grant assistance for the development of library and physical facilities for IPSA. JICA assistance will remain effective until July 3, 1995 and USAID assistance is to continue until October 1993. Meanwhile the revised Project Proforma which extends the life term of the project up to June 1995 was approved by ECNEC on August 5, 1992.

The Institute of Postgraduate Studies in Agriculture (IPSA) will develop into an autonomous institution of higher learning with degree conferring authority. To implement the project successfully for attaining the objectives an appropriate organizational structure with adequate manpower strength has been suggested.

For successful implementation of IPSA's teaching, research and outreach programs, and to strengthen mutual understanding among the collaborating institutions, a Memorandum of Understanding (MOU) between IPSA and BARI/BRRI was signed. A considerable amount of facilities have been created during Phase I and some more facilities are planned for completion during Phase II.

## 6.2 Goal and Objectives

### (1) Goal of the Project

The goal of IPISA Project, Phase II is "to accelerate agricultural development and to improve the economic well-being of the farmers". ( Record of Discussions signed on June 14, 1990 between GOB and GOJ ).

Similarly, the Mini Project Paper, prepared by USAID/Dhaka in March 1990, described the goal of the Project, as follows, "to improve rural incomes, the quality of life of rural residents, and to enhance agricultural development through training of postgraduates".

### (2) Objectives of the Project

The objectives of the Project are "to strengthen postgraduate level agricultural research and education (leading to M.Sc. and Ph.D.) at IPISA and to make IPISA a sustainable institution, thus to contribute to enhancement of higher agricultural education and agricultural research system in Bangladesh" toward the achievement of the goals. ( Record of Discussions signed on June 14, 1990 between GOB and GOJ ).

The Project will achieve its objectives through conducting the following programs: a. Research program, b. Academic program and c. Outreach program.

The Mini Project Paper also stated that the purpose of the Project was "to establish a sustainable institution which integrates agricultural postgraduate education and problem oriented basic research, improves the quality of agricultural postgraduate education offered in Bangladesh, and which has strong linkages and outreach programs with educational/NARS institutions".

Similarly, the PP of the IPISA Project, approved by the Departmental Project Evaluation Committee in November 4, 1992, stated the objectives of the Project as follows:

- a. to establish and strengthen the IPISA to serve as a "Regional Center of Excellence" for Bangladesh and the neighboring countries providing quality education leading to M.S. and Ph.D. degrees in all of crop science, animal science, fisheries, forestry, and social science;
- b. to conduct research on fundamental aspects of applied agriculture as conducted by various agricultural research organizations;
- c. to complete the activities projected in the original IPISA project (1985-1990);
- d. to strengthen the national agricultural research system (NARS) by providing quality manpower and technical know-how generated by IPISA;
- e. to disseminate innovation through training, workshops, publications, exhibitions, field days etc.

### (3) Sustainability of IPSA

Objectives of the Project are to make IPSA a sustainable institution through technical cooperation programs in several fields of IPSA development. In order to achieve IPSA sustainability, the following should be reconfirmed :

#### i. What is the sustainability of IPSA ?

Briefly, the sustainability of IPSA means that IPSA should become an institution that can continue to fulfill its essential tasks with its own and GOB resources and domestic support without any external assistance.

It can be said that Project objectives have been carried out in order for IPSA to gain sustainability. In other words, IPSA's sustainability will result from the effective implementation of the Project.

#### ii. Criteria of IPSA's sustainability ( see table 1 )

##### a. Autonomy and status of IPSA.

To be a sustainable institution and to attain the goal of the Project, autonomy with full degree granting authority is an essential condition. Fortunately, since the beginning of Phase II, almost all concerned authorities have agreed that IPSA must have the approved Ordinance/ Act.

##### b. GOB Funding

Even though IPSA may become an autonomous degree granting institution, quality activities and performance cannot be expected without regular/ permanent funding from GOB. The PCP approved by ECNEC made a provision of adequate fund for most of the institute's activities from the Revenue budget of the GOB after the termination of the Project in June 1995. This provision is quite reasonable and must be carried out for the consideration of IPSA's sustainability.

##### c. Organization/Administration

In order to be a well functioning organization, the administration and finance wings in IPSA must play an important role in supporting the activities of faculty and related staff. Smooth and active implementation of the programs cannot be anticipated without this support. For strengthening this support, it is essential that authorities/responsibilities be given to concerned departments, divisions and committees and that all activities receive commensurate budget allocations. Computerization for the Information Management System will also help to improve the organization.

##### d. Activities/Manpower

The best quality manpower will achieve the best quality results. Therefore, manpower development/training and recruitment for high quality teachers are preconditions to develop quality outputs from academic, research and outreach programs.

e. Linkages

Mutual communication, collaborative research, and the sharing of resources with related research and educational institutions will make IPSA a more promising institution. IPSA, which is a newly established institution, cannot develop without cooperation and close linkages with associated institutions. Linkages could be education-research or research-research or education-education in nature.

f. Infrastructure

Adequate physical facilities and their proper maintenance to meet the needs of the teaching, research and outreach programs are very important. Almost all essential facilities are constructed and installed at IPSA except for the residential quarters. Maintenance and efficient use of these facilities is one of the important key issue for sustainability of IPSA.

Table 1. Criteria of IPSA's Sustainability

Area of Sustainability	End of Project Status	Quantifiable indicators	Target/Achievement
1. Autonomy and status of IPSA (Institutional development)	<ol style="list-style-type: none"> <li>1. Acceptance by GOB of IPSA as a autonomous degree granting institution.</li> <li>2. IPSA has an important position with GOB/MOA.</li> </ol>	<ol style="list-style-type: none"> <li>1. Enactment of the Ordinance/Act</li> <li>2. Role of IPSA in the "Third &amp; Fourth Five Year Plan".</li> </ol>	<ol style="list-style-type: none"> <li>1. Enactment of the Ordinance/Act.</li> <li>2. "Third &amp; Fourth Five Year Plan" states role of IPSA.</li> </ol>
2. GOB Funding (Institutional development)	<ol style="list-style-type: none"> <li>1. Increasing commitment of GOB to provide funds to IPSA.</li> <li>2. Shift from ADP Budget to Revenue Budget: allocation.</li> </ol>	<ol style="list-style-type: none"> <li>1. Ratio of GOB to donor funds</li> <li>2. Ratio of ADP to Revenue Budget</li> <li>3. Annual budget allocation and its amount.</li> </ol>	<ol style="list-style-type: none"> <li>1. Increase in the ratio of GOB funds.</li> <li>2. Increase in the ratio of Revenue Budget.</li> <li>3. Sufficient budget allocation at each activities.</li> </ol>
3. Organization Administration (Institutional development)	Well functioning administrative, finance wing, and other supporting services in IPSA.	<ol style="list-style-type: none"> <li>1. Filling ratio of teacher and staff sanctioned posts.</li> <li>2. Authority &amp; responsibility of dep. div. and committees</li> <li>3. Computerization of student, personal, inventories and financial records.</li> <li>4. Academic department preparing annual work plan and receiving commensurate budget.</li> <li>5. Utilization rate of library resources.</li> <li>6. Utilization rate of experimental farm.</li> <li>7. Maintenance conditions and number of equipment troubled and remained unused.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fill vacant post with quality manpower.</li> <li>2. Share and demarcating responsibility and clear job discretion.</li> <li>3. Introduction of IMS and improvement of staff capability for operation.</li> <li>4. Preparation of "Five Year Master Plan" and annual distribution of budget.</li> <li>5. Improvement of library management.</li> <li>6. Improvement of farm management.</li> <li>7. Establishment and operation of maintenance body and complete inventory.</li> </ol>
4. Activities a. Academic program b. Research program c. Outreach program	Well functioning and quality academic, research and outreach program.	<ol style="list-style-type: none"> <li>1. Course based curriculum operating               <ol style="list-style-type: none"> <li>a. Student/teacher ratio</li> <li>b. Admission standard and number of enrolled student</li> <li>c. Number of graduate student awarded M.S. &amp; Ph.D.</li> <li>d. Number of positions/employments for student.</li> <li>e. Number of lab. incorporated into curriculum.</li> </ol> </li> <li>2. Research Master Plan prepared and followed               <ol style="list-style-type: none"> <li>a. Publication/teacher ratio.</li> <li>b. Equipment meet the needs for research.</li> <li>c. Periodical research review &amp; journal publication.</li> <li>d. Research programs are implemented as scheduled.</li> </ol> </li> <li>3. Mission Statement and operational program prepared and followed               <ol style="list-style-type: none"> <li>a. Number of seminars, workshops, symposiums and training</li> </ol> </li> </ol>	<ol style="list-style-type: none"> <li>1-a. Quality teachers recruitment</li> <li>1-b. Preparation of quality admission standard and scholarship program.</li> <li>1-c. Regular operation of course work and regular admission of students.</li> <li>1-d. All graduate students are engaged in their respective field.</li> <li>1-e. Incorporation of regular laboratories into courses and preparation of text.</li> <li>2-a. Increase in publication ratio. → reduce teaching load for research. Motivate by Training and guidance</li> <li>2-b. Supply equipment served the purpose.</li> <li>2-c. Hold annual research review and annual publication of journal.</li> <li>2-d. Establishment of research management system.</li> <li>3-a. Clear the Mission Statement, formulate strategic plan and its operation.</li> </ol>
5. Linkage (Institutional development)	Close association with other domestic and international research & educational institution	<ol style="list-style-type: none"> <li>1. Completion of MOU process.</li> <li>2. Number of joint research.</li> </ol>	MOU with BARI, BIRRI, DAE, BAU, DU, Kyushu Univ., OSU and related IARCS (ICRISAT, IIRRI).
6. Infrastructure (Institutional development)	Adequate physical facilities to meet the need of the research, academic and outreach programs	<ol style="list-style-type: none"> <li>1. Available buildings and their area for teachers and students.</li> <li>2. Active student and research laboratories in the each department.</li> <li>3. Construction and occupancy of 210 housing units for faculty and staff.</li> <li>4. Increase in Library collection.</li> <li>5. Capability of computer center for research, instruction and administrative program.</li> </ol>	<ol style="list-style-type: none"> <li>1. Basic infrastructure constructed.</li> <li>2. Student laboratories were constructed and essential equipment are supplied.</li> <li>3. Fulfillment of precondition and start construction work.</li> <li>4. 12,000 books and 300 journals covering field of agriculture.</li> <li>5. Expansion of computer center capability for teacher and student.</li> </ol>

### 6.3 Strategies followed for accomplishment of the objectives (1990-1995)

#### (1) Institutional Development

Whereas Phase I cooperation emphasized physical infrastructure development, Phase II attached importance to manpower and organizational development through full utilization of the facilities and equipment that has been made available during Phase I cooperation.

Activities are as follows;

- a. Fill the vacant posts and strengthen the capability of faculty, administrators, officers and staff through short- and long-term training and providing guidance/recommendation from experts.
- b. Continue with development of the experimental farm, expansion of the library, upgrading of student laboratories, enlargement of the computing center, and the construction of residential quarters and related infrastructures.
- c. Construct new and/or revise existing administrative structures, processes, and strategies to assure efficient and relevant education, research, and outreach programs with proper/efficient budget allocation.
- d. Establish formal linkages with other research and educational institutions to enable and sustain joint research programs, exchange of scientists and faculty, efficient exchange of research results, and feedback on academic program requirements.
- e. Establish a comprehensive scholarship program to attract and retain the most qualified students, in particular, qualified female students.

#### (2) Research Program

- a. Based on the achievement of Phase I, continue the development and expansion of problem oriented basic and applied research in line with the TSI. Research activities have addressed important emerging national issues such as biotechnology, soil-water-plant relationships, integrated pest management, environmental studies, variety improvement and post-harvest physiology.
- b. Establish research management system.
- c. Conduct joint research with other research institutions for the best use of know-how as well as resources.

#### (3) Academic Program

- a. Implement an effective masters degree curriculum developed under Phase II of the Project.
- b. Develop and implement a doctoral program to produce graduates with improved skill and knowledge for research and/or teaching in the government or

private sector.

- c. Implement practical studies by incorporation of laboratory experience into course work based on IPSA's research activities.

(4) Outreach Program

- a. Strengthen the outreach program and define its mission.
- b. Define the mission statement of IPSA and make clear the mandate of IPSA in outreach program.
- c. Accumulate the materials for outreach program.
- d. Develop the Outreach Implementation Plan.

## 7. INPUT SUPPORT ACTIVITIES

### 7.1 Dispatching of Experts

Highly qualified technical personnel with specific specialities have been dispatched to the project. The selection of the personnel was based on IPSA needs and the terms of performance specified in the R/D and/or in the USAID/OSU Contract. The technical field of each expert is in accordance with the R/D, revised TSI and Mini Project Paper for the implementation of the Project.

Basically in terms of length of service, there are two types of experts; one is long-term which means that the expert is stationed in the field for more than a year, and the other is short-term or temporary duty personnel who are dispatched for a few weeks/months to the project to provide assistance relative to a specific subject. However, in all instances, the general terms of reference (TOR) of the experts is to provide technical advise/guidance to IPSA faculty and staff, with the focus of activity being with the identified counterpart personnel (C/P), for the purpose of up-grading the quality of manpower at IPSA to implement program activities and management.

In Phase II (current phase) of the project, 154 Man/Months (M/M) of long-term experts and 44 M/M of short term experts have been provided by JICA and USAID (Tables 2,3 and 4). A list of JICA/USAID experts dispatched to date is provided in Annex 1 and their activities are summarized in Annex 2.

Currently, there are ten established departments at IPSA. Each department is charged with responsibilities for teaching, research, and outreach programs. In order to speed up progress in these programs, the C/P must have continuous motivation together with technical guidance to implement plans/ideas to develop skills through program activities. This is achieved by working with experts in the relevant technical fields. Upgrading the quality of research and improvement of the curriculum for practical based education requires continuous support during this critical formative period.

To assist in the development of this rather extensive program, it would be ideal to assign a sufficient number of long-term experts to each academic department. Actually, during Phase II only four long-term experts have been dispatched. These long term persons were in the fields of agronomy, agricultural economics, farm management and agricultural extension. In addition, the Team Leader and the Coordinator were also long term positions. The long term experts in the fields of agricultural economics and agricultural extension were funded by the USAID part of the project. The other long term positions were funded by JICA. The main reason for the lack of additional long term personnel was due to shortage of available scientists at the cooperating Japanese University. Instead of long-term experts, JICA dispatched a number

Table 2. Long Term Experts in Phase I and Phase II (Japanese F.Y.)

Unit: Man/Months

Field	Phase I	Phase II (from Jul.4 '90~)					Total
	1985~90	1990	1991	1992	1993	Sub Total	
Team Leader	46 (2)	2 (1)	12 (1)	12 (1)	12 (1)	38 (4)	84 (6)
Coordinator	57 (2)	9 (1)	10 (2)	12 (1)	12 (1)	43 (5)	100 (7)
Agronomy	24 (1)	-	7 (1)	12 (1)	5 (1)	24 (3)	48 (4)
Entomology	36 (2)	-	-	-	7 (1)	7 (1)	43 (3)
Horticulture	12 (1)	-	-	-	-	-	12 (1)
Plant Breeding	14 (1)	-	-	-	-	-	14 (1)
Plant Pathology	24 (1)	-	-	-	-	-	24 (1)
Farm management	-	-	-	1 (1)	12 (1)	13 (2)	13 (2)
*Curriculum Development	47 (1)	-	-	-	-	-	47 (1)
*Agricultural Extension	12 (1)	12 (1)	-	-	-	12 (1)	24 (2)
*Agricultural Economics	-	-	-	11 (1)	1 (1)	12 (2)	12 (2)
*Curriculum & Res. Devel.	-	-	-	-	5 (1)	5 (1)	5 (1)
Total	272 (12)	23 (3)	29 (4)	48 (5)	54 (7)	154 (19)	426 (31)

\* Experts from USAID.

( ) Experts per year.

Japanese Fiscal Year is from Apr. to Mar.

Table 3. Dispatch of Long Term Experts in Phase II

Field	1990		1991		1992		1993	
Team Leader								
Coordinator								
Agronomy								
Farm Management								
Entomology								
*Curriculum Development								
*Agricultural Extension								
*Agricultural Economics								
*Curriculum & Res. Devel.								

\* Experts from USAID.

Table 4. The Number of Short Term Experts/Advisors in Phase I and II (Japanese F.Y.)

Field	Phase I	Phase II					Total
	1985~90	1990	1991	1992	1993	Sub total	
Agronomy	4	2	2	2	(3)	6 (3)	10 (3)
Genetics & Plant Breeding	1	1	1	2	(1)	4 (1)	5 (1)
Plant Pathology	5	1	2	2	(2)	5 (2)	10 (2)
Soil Science	7	3	2	3	(2)	8 (2)	15 (2)
Horticulture	5	2	1	1	(2)	4 (2)	9 (2)
Entomology	2	2	1	2	(2)	5 (2)	7 (2)
Crop Botany	1	0	1	0	(0)	1 (0)	2 (0)
Farm Management	0	0	2	0	(0)	2 (0)	2 (0)
Maintenance of Equipment	6	2	1	0	(1)	3 (1)	9 (1)
*Library Development	0	1	0	0	(1)	1 (1)	1 (1)
*Curriculum Development	0	1	0	1	0	2	2
*Computer System Development	0	0	0	1	1	2	2
*Agricultural Extension	0	0	0	0	1	1	1
*Internal Review	2	0	0	0	0	0	2
Total	33	15	13	14	2 (14)	44 (14)	77 (14)

\* Experts from USAID. ( ) planned/scheduled. Japanese Fiscal Year is from Apr. to Mar.

of short-term experts in all departments except for agricultural economics, agricultural extension, statistics and biometry departments. Short-term experts were assigned on a subject matter basis, but continuous motivation and follow up is difficult for these types of positions due to the length of the assignment.

## 7.2 Faculty and Staff Training

In this project both long term (Ph.D. degree training) and short term (eight to eleven months) training was provided.

During the life of the project all faculty members and most of the senior officers have undergone or are in the process of receiving either long or short-term training. Within the long-term training sponsored by the Japanese Ministry of Education, two faculty members obtained their Ph.D. degrees and three are currently involved in doctoral degree programs in Japan. Through the sponsorship of USAID, three faculty members completed Ph.D. degrees and one doctoral program is currently underway in the U.S. At present, the majority of faculty members are Ph.D. holders.

Regarding short-term training for faculty and staff, nine have participated in such training in Japan and two have been trained in the U.S.A. during Phase I. In Phase II eight faculty members completed training in Japan (see Table 5). Most of the training in the Phase II focused mainly on the training of senior staff such as the administration officer, senior scientific assistants, and the electrical engineer for the express purpose of strengthening the support services at IPSA. During Phase II six faculty members completed training in the U.S.A. The focus of that training was to familiarize the faculty members with the operations of a course-based curriculum for smooth implementation of the newly introduced course work at IPSA. In addition, the Rector of IPSA participated in an observation tour to several universities in Japan and this tour was funded by JICA. The IPSA Rector also participated in an observation tour to the US where he visited universities and research institutes. The tour to the US was funded by USAID.

Candidates for training were selected through a process conducted by the selection committee chaired by the IPSA Rector in accordance with the TSI and the Mini Project Paper. The authority to issue the Government Order (GO) for most training rests with the IPSA Rector.

Most of the faculty and staff have successfully completed their training and it is the opinion of the Evaluation Team that they are highly motivated in their respective technical fields. Faculty members indicated that their technical skills were improved considerably by both short and long term training. Nevertheless, there has been some constraints to the application of the knowledge and skills acquired through the training in IPSA due to several reasons. These reasons include the lack of sufficient financial/administrative support, the lack of continuing long-term

Table 5 . The Number of Short-Term Participants Training in Japan and USA. (Japanese F.Y.)

Field	Phase I	Phase II					Total
	1985~90	1990	1991	1992	1993	Sub total	
Agricultural Extension	-	-	-	1	-	1	1
Agronomy/Plant Physiology	1	-	-	1	-	1	2
Corp Botany (Plant Hormone)	-	-	-	1	-	1	1
Entomology	1	-	1	-	-	1	2
Genetics & Plant Breeding	1	1	-	-	(1)	1 (1)	2 (1)
Horticulture	2	-	-	-	(1)	- (1)	2 (1)
Plant Pathology	1	-	-	1	-	1	2
Soil Science	1	-	-	-	(2)	- (2)	1 (2)
Farm Management	1	1	-	-	-	1	2
Maintenance of Equipment	-	-	1	-	-	1	1
Agricultural Machinery	1	-	-	-	-	-	1
Observation Tour to Japan	-	-	1	-	-	1	1
Administrative Management	-	-	1	-	-	1	1
*Observation Tour to USA	-	-	-	1	-	1	1
*Library Development	1	-	-	-	-	-	1
*Maintenance of Equipment	1	-	-	-	-	-	1
*Curriculum Development	-	-	-	2	4	6	6
Total	11	2	4	7	4 (4)	17 (4)	28 (4)

\* Training in the USA. ( ) planned/scheduled. Japanese Fiscal Year is from Apr. to Mar.

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expert involvement/support, the nature of the organization/society, and a lack of adequate manpower as well as other constraints.

Consequently, it is important to improve the monitoring/evaluation system relative to the application of knowledge acquired through training and to share the skills/information learned in the training experience among faculty and staff.

A list of persons who received training to date is provided in Annex 3. Training accomplishments are summarized in Annex 4.

### 7.3 Dispatching of Special Teams

Prior to Phase II, in June 1990, an Implementation Survey Team was dispatched from the GOJ through JICA. The purpose was to exchange views on content and methods of cooperation for Phase II, in accordance with the recommendations of The First Tripartite Evaluation July, 1989). The Record of Discussion (R/D) was signed on June 14, 1990 between the GOJ and GOE for five years of Phase II technical cooperation. Phase II began on July 4, 1990. Also, a Memorandum of Understanding was signed between JICA and USAID on June 14, 1990 regarding Joint Technical Cooperation for Phase II of the project.

In October of 1990, a Consultation Survey Team was dispatched to Bangladesh to develop definitive plans for implementation of Phase II. As a result of discussions among the Survey Team, IPSA faculty/staff, JICA and USAID experts, a Tentative Schedule of Implementation (TSI) was agreed upon and recorded. The Survey Team also discussed pending issues from Phase I as well as issues which had arisen in Phase II. The purpose of these discussions was to expedite immediate solutions for the smooth implementation of the Project.

In December of 1992, a Technical Guidance Team was dispatched to review the progress and achievements of the project. Based on this review, the TSI was revised and various unresolved issues were identified. Necessary action to resolve these issues by the concerned authorities was mutually recognized and the Minutes of Discussions were signed by the Team Leader and the IPSA Rector. The Team also attended a Coordination Committee meeting chaired by the MCA Secretary. At that meeting, the Five-Year Research Master Plan for IPSA, among other issues was discussed and conclusions were reached.

A Team for Equipment Maintenance and Repair was dispatched in April 1991. The Team conducted a survey of the condition of the equipment at IPSA, repaired some equipment and provided suggestions/information relative to the maintenance of equipment at IPSA.

A summary of the dispatched teams is presented in Table 6, and their comments/recommendations are summarized in Appendix 14.5.

Table 6. List of Teams Dispatched as of August 1, 1993

Name of the Team	Duration	Purpose
Implementation Survey	Jul. 5, 1990 - Jul. 15, 1990	Formulating the Project Master Plan and Signing the Record of Discussions (R/D)
Consultation Survey	Oct. 5, 1990 - Oct. 15, 1990	Formulating the Tentative Schedule of Implementation (TSI)
Equipment Maintenance	Apr. 25, 1991 - May. 4, 1991	Providing maintenance guidance and repair of equipment
Technical Guidance	Dec. 13, 1992 - Dec. 24, 1992	Review of Project progress and revision of the TSI

#### 7.4 Procurement of Machinery and Equipment

IPSA emphasizes practical education to provide highly skilled manpower to the nation and strive to be a problem oriented basic research institution for agricultural research and development. In accordance with these objectives, one of the essential prerequisites for the institution is to have the necessary instruments, equipment, machinery, and library facilities for the program. Basic facilities of IPSA including buildings were originally provided by the GOJ for BCAS. Therefore, one of the major steps in Phase I was to make essential facilities and equipment available to meet the requirements of the postgraduate education and research programmes.

In Phase II, major machinery and equipment items were also procured through the technical cooperation and grant assistance programs of GOJ/JICA to cope with various program activities. Equipment already provided has been installed in each of the subject matter laboratories, farm, and function rooms according to teaching, research, and outreach needs and for the maximum utilization by faculty, students, and staff (see Annex 5).

The provision of a number of micro-computers and related equipment by USAID has established and improved the computing capability at IPSA. The Computer Center will expand its function for faculty, staff and students under the "Automation Plan" prepared by USAID. This plan will enable IPSA to improve the management of several information bases such as manpower/personnel, research, inventory, library, student advising, student records, and institutional accounting as well as others.

Equipment provided to IPSA is of high quality for agricultural research and education. Consumable items such as chemicals, glassware and stationary are stored in air-conditioned areas. The main goal relative to the management of the equipment is to simplify the task of inventory control and replenishment.

Machinery and equipment procured or to be procured by JICA or USAID is subjected to a selection process which includes close cooperation between JICA, USAID and the IPSA faculty. During Phase I, the Laboratory Committee played an important role in the selection of laboratory equipment. However during the past three years, the Laboratory Committee was largely non-functional and as a result laboratory equipment selection was made by the experts based on prioritized requests from the IPSA departments, input from the Rector, and budget allocation.

The basic rules for selection and provision of equipment is to (a) eliminate consumable items and low maintenance capacity equipment (select simple mechanisms), (b) promote local procurement, and (c) use for common facilities (maximum use of limited resources). In spite of this selection criteria, the procured equipment was not always the most appropriate due to the non-availability of certain items, the high price of imported goods

in the local market, and consideration of inappropriate use or possessiveness of items on the part of individual staff members/departments.

With the above constraints in view, the technical experts worked to acquire the needed equipment. In consideration of the available maintenance service, all computers and related equipment was procured in the local market. Repair service of tractors, vehicles, gas generator and some laboratory equipment is also available locally. Recently, three electric ovens and some other simple equipment items were manufactured in a local workshop under the supervision of the JICA expert. As much as possible, such local manufacture capability will be utilized for a number of reasons.

In terms of maintenance of equipment, the potential of the local market should be explored. This factor is important as a sufficient number of equipment items have already been provided to IPSA. Maintenance of this equipment is important. The supply of spare parts will be an important consideration of commodity procurement in the future.

## 7.5 Physical Infrastructure and Campus Development

### (1) Construction of Facilities

The basic structures such as the administration building, faculty building, student laboratories, classrooms, student dormitories, cafeteria, and a medical center were constructed under the GOJ grant assistance program in March 1983. Since they were originally designed for use in undergraduate education programs, additional construction, remodeling of laboratories, and conversion of some classrooms into faculty laboratories became necessary to upgrade and design the facilities for postgraduate education and research activities. Remodeled facilities and those constructed during Phase I are shown in Table 7.

In addition to the facilities developed in Phase I, the library building, student laboratories for agricultural extension education, crop botany, horticulture, and plant pathology departments, and the field laboratory were constructed in March 1982 by the GOJ second grant assistance program. The purpose of the GOJ program was to further strengthen research, education and outreach capabilities of IPSA. The farm office building, soil processing yard and five vinyl pipe houses were also constructed. A greenhouse, built in Phase I, was remodeled into a well ventilated net house isolated from insect vectors. These facilities are designed to meet researcher's requirements for various types of field experiments to some degree.

IPSA has also made efforts to improve facilities by utilizing its own budget. A roofed concrete yard was constructed for the processing of sample crops. In addition, garages, a cattle barn, seed beds, canal, reservoir, and an in-campus fence were also

constructed. The workshop building was expanded to a second floor for the engineering section. Remodeling of the meeting room into a air-conditioned student computer laboratory was also completed.

#### 7.5 Land Development for Field Experiments

IPSA owns about 80 ha of land for its campus. In Phase I, 16 ha of experimental farm was developed for the faculty and student research activities. A modern irrigation system, complete with a pump station, a water storage pond, drainage system and farm road has also been installed. Other basic infrastructure such as garage, farm house and storage room was constructed in the existing field area.

Since the introduction of course-based curriculum, the number of field experiments for students has been increasing. In addition, the amount of faculty research experiments has also increased.

In Phase II, improvement of the soil conditions of the experimental plots has been identified as the top priority for efficient use of the experimental farm. This is especially relevant for the 8 ha of land most recently developed. With the increase in the number of field experiments, the need for the establishment of a farm management system has been recognized as important. IPSA has been seeking to establish the best method of farm management in close cooperation with the JICA experts. The outline of utilization of the experimental farm is shown in Fig.1.

Several private pockets of land are presently scattered over the campus. IPSA has made an effort to purchase all privately owned land in order to maintain campus security and to undertake smooth land development activities. Recently, security conditions have worsened in the experimental fields. A number of hydrants, part of the irrigation facilities, and some experimental materials have been stolen. Purchasing of the pockets of land and the building of boundary fences should be the first priority of land development.

On the other hand, IPSA has developed and financed a large scale canal and additional reservoir. To date, however, IPSA does not have a comprehensive master plan for land/campus development. Such a plan must be prepared to include facilities and planned construction/renovations. The latter items should be prioritized in order to make efficient use of the IPSA budget and other possible future funding.

#### 7.6 The Administrative Structure

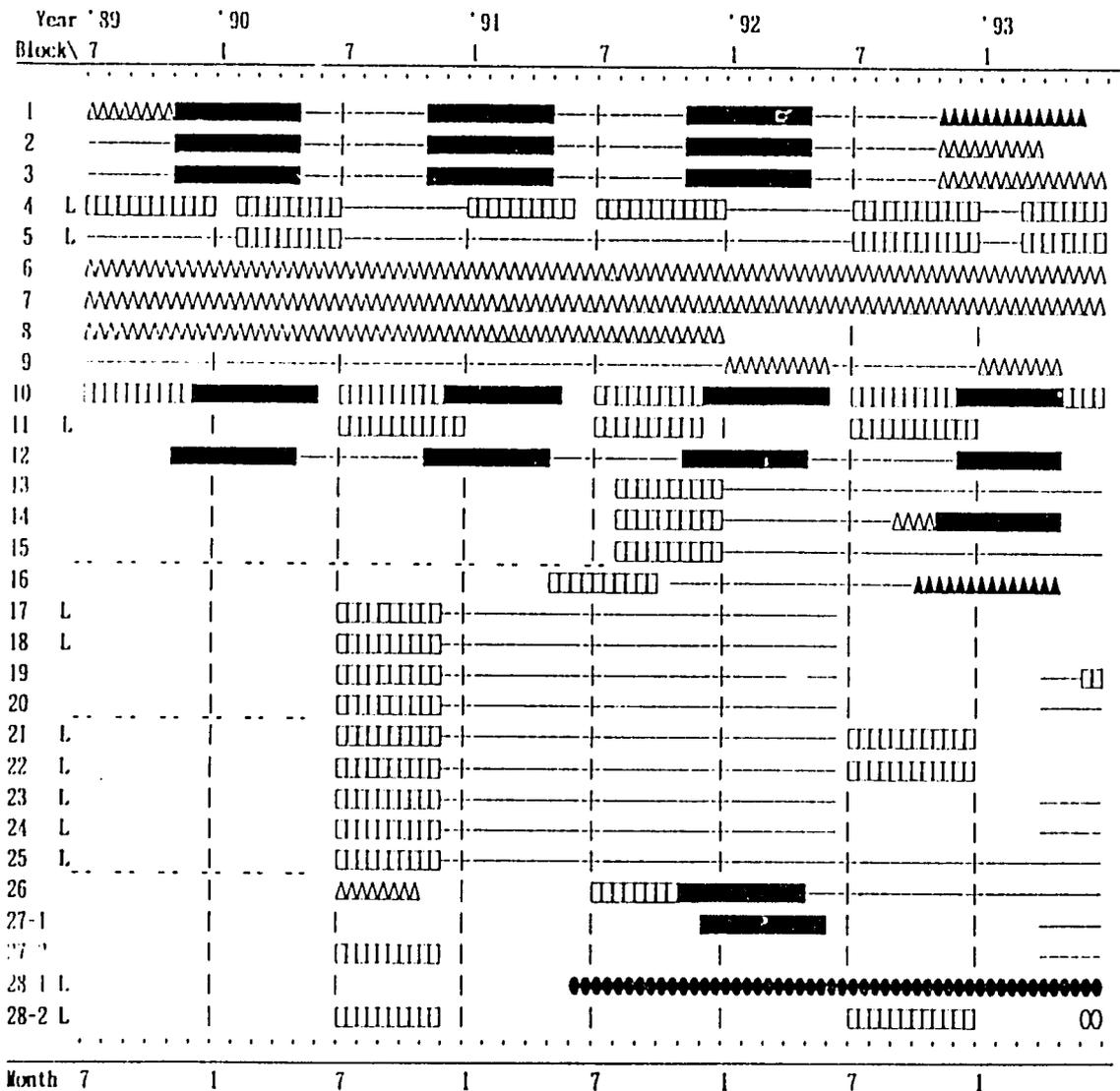
A Management Committee headed by the Secretary of the Ministry of Agriculture has been established to look after the overall management of IPSA. This Committee is equivalent to a Board of Regents and will continue its functions until the IPSA

I P S A B U I L D I N G S

Table No. 7

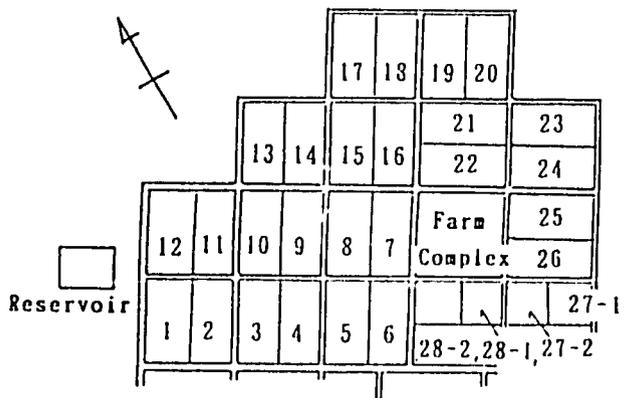
Building \ Funded by	PHASE I			PHASE II			Total (sq m)
	Grant/Jpn	JICA	IPSA	Grant/Jpn	JICA	IPSA	
<b>Administration Bldgs</b>							
Administration Bldg	1,160						1,160
Faculty Building	1,595						1,595
<b>Academic &amp; Research</b>							
Faculty Laboratory	1,985						1,985
Student Laboratory	1,020			654			1,674
Field Laboratory				270			270
<b>Supporting Facilities</b>							
Engineering Building	375		225				600
Community Facilities	315						315
Library				1,330			1,330
Farm Office Building					152		152
Working shed/Store		170					170
Farm Store		240					240
Farm Garage						310	310
Threshing shed/ tool						206	206
Cow shed						62	62
<b>Housing</b>							
Dormitory	5,203					37	5,240
Staff house	737						737
<b>Total</b>	<b>12,390</b>	<b>410</b>	<b>225</b>	<b>2,254</b>	<b>152</b>	<b>615</b>	<b>16,046</b>

Fig. 1 Use of the Experimental Field at IPISA since July, 1989



**LEGEND**

- : Wheat
- ▤ : Rice
- ▲▲▲ : Wheat, Potato, Maize, Mungbean
- △△△ : Other crops (Country bean, Ground nuts, Pulses, Radish etc.)
- : Seed bed
- : Compost preparation and Cow dung preservation
- : Green manuring
- L : Low land



Ordinance is enacted.

Aside from the Management Committee, the Coordination Committee has been established as per provision in the R/D in order to interface between project level decision making and resolution of issues beyond that level. This Committee is composed of representatives of the GOB, JICA and USAID, and it is chaired by the Secretary of the MOA.

The Team Leader of the Project is in close communication with the IPSA Rector. The on-campus coordination meetings, chaired by the IPSA Rector, meet once or twice a month on a regular basis to discuss and solve issues relative to the project. The Committee consists of four members and includes the Dean, the Team Leader, the Project Coordinator, and the long term USAID Expert.

However, with respect to the day to day management of IPSA, the IPSA Rector governs all matters of administration and accounting. Authority and responsibility has not been vested in the Deputy Directors, Assistant Directors or other officers. Therefore, the importance of regular coordination meetings is obvious relative to the coordination of the institution. In addition, the meetings allow for the incorporation of the ideas of the Technical Cooperation team as well as faculty into the decision making process of the Rector.

#### 7.7 Staffing (Faculty and Staff)

According to the Project Proforma (PP) of Phase II, a total of 221 posts for faculty and staff was approved by the GOB for IPSA.

As of August 1, 1993, there were 22 full-time faculty members out of 49 approved posts. Five positions are filled at the professor level, nine at the associate professor level, and eight at the assistant professor level, and one as lecturer. All the present faculty members are assigned to a department and every one is charged with responsibilities in education, research, and outreach programs. The average number of existing faculty members is 2.2 per department while in some cases only one faculty member is assigned to a department. In addition to the faculty members, six senior scientific assistants are assigned to agronomy, entomology, genetics & plant breeding, horticulture, plant pathology, and the soil science department for assisting faculty and student research activities. The present number of faculty members and current vacant posts is provided in Table 8.

There are 20 senior staff members out of 221 posts assigned to supporting sections as a chief or deputy chief officer in the areas of administration, library, engineering, farm, security and others. Another 115 junior staff members are assigned to either academic or administration/supporting sections. The present number of staff and their positions is provided in Table 9. The allocation of faculty and staff members is shown in Fig.2.

Table 8. Number of the HSA Teachers and Sanctioned Posts in Previous PP & NEW PP

Department	Professor		Assoc. Prof.		Asst. Prof.		Total	
	OLD PP	NEW PP	OLD PP	NEW PP	OLD PP	NEW PP	OLD PP	NEW PP
Agril. Extension	1 (1)	(1)	0 (1)	(2)	1 (1)	(2)	2 (3)	(5)
Agril. Economics	0 (1)	(1)	0 (1)	(1)	0 (1)	(1)	0 (3)	(3)
Agronomy	1 (1)	(2)	1 (2)	(2)	1 (2)	(2)	3 (5)	(6)
Crop Botany (Agr. Biology)	0 (0)	(0)	1 (1)	(2)	0 (1)	(1)	1 (2)	(3)
Entomology	0 (1)	(1)	1 (1)	(2)	0 (1)	(1)	1 (3)	(4)
Gene. & Plant Breeding	1 (1)	(1)	2 (2)	(3)	1 (2)	(2)	4 (5)	(6)
Horticulture	1 (1)	(2)	1 (2)	(2)	2 (2)	(2)	4 (5)	(6)
Plant Pathology	1 (1)	(1)	1 (1)	(2)	1 (1)	(2)	3 (3)	(5)
Soil Science	0 (1)	(1)	1 (1)	(2)	2 (2)	(2)	3 (4)	(5)
Stat. & Biometry	0 (0)	(0)	1 (1)	(2)	0 (1)	(1)	1 (2)	(3)
Agril. Engineering	— (0)	—	— (1)	—	— (1)	—	— (2)	—
Animal Science	—	(0)	—	(1)	—	(0)	—	(1)
Agroforestry	—	(0)	—	(1)	—	(0)	—	(1)
Fisheries	—	(0)	—	(1)	—	(0)	—	(1)
<b>T o t a l</b>	<b>5 (8)</b>	<b>(10)</b>	<b>9 (14)</b>	<b>(24)</b>	<b>8 (15)</b>	<b>(17)</b>	<b>22 (37)</b>	<b>(49)</b>

1. OLD PP : Approved in Sep. 1989 for Phase I.

2. NEW PP : Approved in Oct. 1992 for Phase II.

3. ( ) : The number of Sanctioned Posts.

Table 9 . Manpower Appraisal as of August 1, 1993.

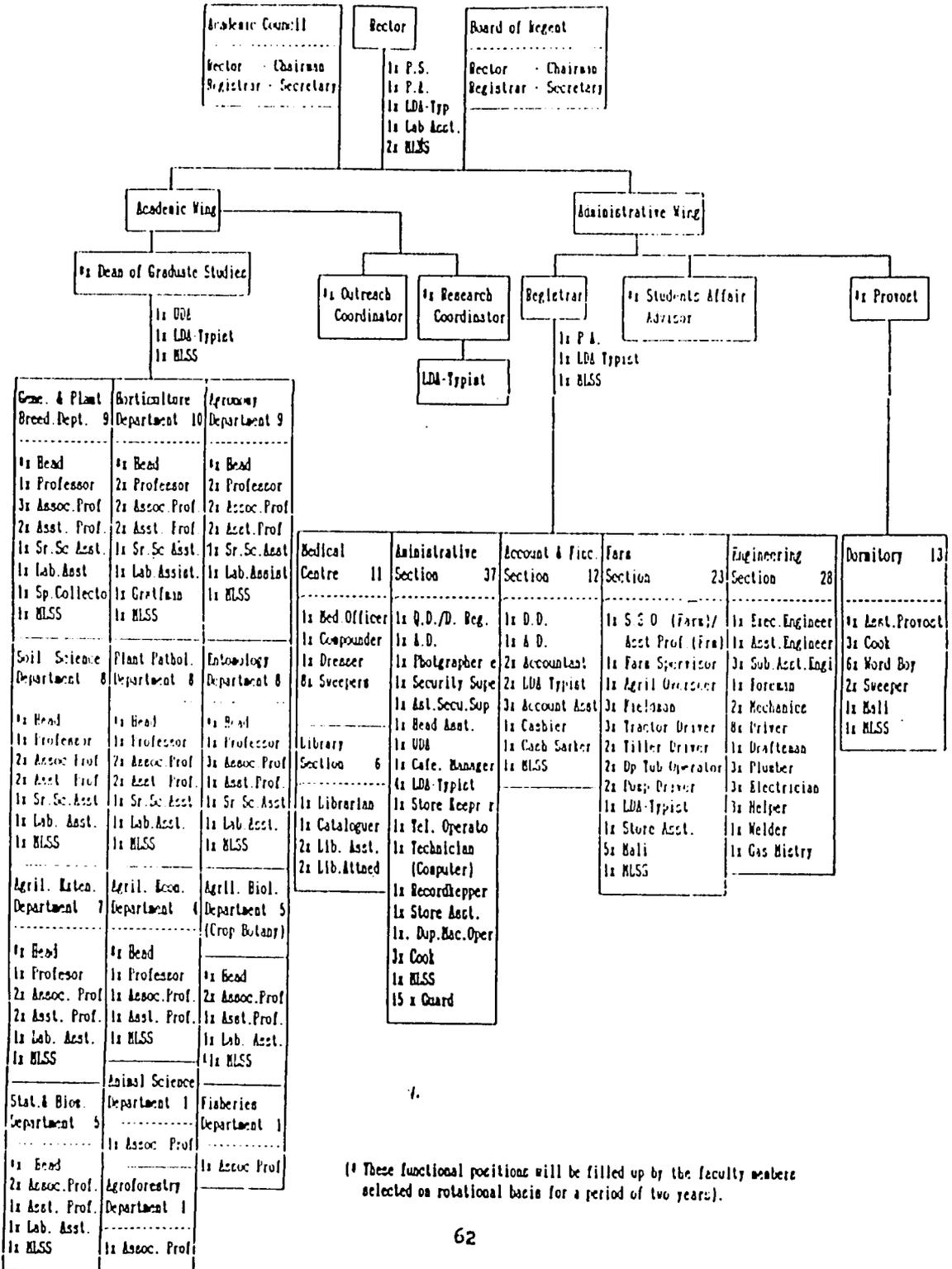
Department /Section	Faculty/**Officer			*** Staff			Total		
	Exist.	Sanct.	Vacan.	Exist.	Sanct.	Vacan.	Exist.	Sanct.	Vacan.
Director/Rector	1	1	0	1	6	5	2	7	5
Register	0	1	1	0	3	3	0	4	4
Dean's Office	-	-	-	0	3	3	0	3	3
Research Cord. Office	-	-	-	0	1	1	0	1	1
Agric. Economics	0	3	3	0	1	1	0	4	4
Agric. Extension	2	5	3	2	2	0	4	7	3
Agronomy Dept.	* 3	6	3	3	3	0	6	9	3
Crop Botany Dept.	1	3	2	2	2	0	3	5	2
Entomology Dept.	* 1	5	4	3	3	0	4	8	4
Gen. & Pl. Breeding Dept.	* 4	6	2	3	3	0	7	9	2
Horticulture Dept.	* 4	6	2	2	4	2	6	10	4
Plant Pathology Dept.	* 3	5	2	3	3	0	6	8	2
Soil Science Dept.	* 3	5	2	3	3	0	6	8	2
Stat. & Biometry Dept.	1	3	2	1	2	1	2	5	3
Agroforestry Dept.	0	1	1	-	-	-	0	1	1
Animal Science Dept.	0	1	1	-	-	-	0	1	1
Fisheries Dept.	0	1	1	-	-	-	0	1	1
Administrative Sec.	3	5	2	12	32	20	15	37	22
Account & Finance Sec.	2	2	0	4	10	6	6	12	6
Library	1	1	0	2	5	3	3	6	3
Farm Sec.	1	3	2	28	20	▲ 8	29	23	▲ 6
Engineering Sec.	4	5	1	20	23	3	24	28	4
Medical Center	1	1	0	1	10	9	2	11	9
Dormitory	-	-	-	12	13	1	12	13	1
<b>Total</b>	<b>35</b>	<b>69</b>	<b>34</b>	<b>102</b>	<b>152</b>	<b>50</b>	<b>137</b>	<b>221</b>	<b>84</b>

Exist. : Existing Posts    Sanct. : Sanctioned Posts    Vacan. : Vacant Posts

\* : Senior Scientific Assistant is not included (counted as a staff)

\*\* : From grade 1 to grade 11

\*\*\* : From grade 12 to grade 20



(\* These functional positions will be filled up by the faculty members selected on rotational basis for a period of two years).

## 7.8 IPSA Project Budget

The IPSA Project has been funded for its operation and development activities by the Annual Development Program of the GOB (ADP) allocation. The financial year of Bangladesh begins on July 1 and ends on June 30. The approved budget for the Project is released on a quarterly basis.

The major development activities (procurement of machinery and equipment, dispatching of experts, participant training and construction of buildings) are largely funded through technical assistance by JICA and USAID.

In Phase II, the ADP allocation was increased year by year. The total allocation from July 1990 to June 1992 was Tk.143.6 million and the total expenditure was Tk.117.4 million. In 1992, Tk.30.5 million of PL-480 funds from the U.S. government was utilized for scholarships and residential housing construction (Table 10).

With respect to distribution of the budget to each activity in IPSA approximately 4.9 % of the total ADP allocation in the Phase II, was earmarked for research and education activities and expenditure of these activities was only Tk.4.7 million. On the other hand, the ratio of miscellaneous expenditure count for more than 20 % of the total allocation (see Annex 6).

According to the PP approved by the GOB, after June 1995 most of the Institution's activities will be funded from the revenue budget of the GOB. This important decision was made by the ECNEC. The GOB's revenue budget allocation is one essential condition for IPSA's sustainability beyond July 1995.

The following table indicates the approximate financial contribution made available by Japan, the United States of America, and the Government of Bangladesh during both Phase I and II.

## 7.9 Project Supporting Bodies in Japan and the USA.

Since Phase I, in order to support the Project input activities conducted by JICA and USAID, Kyushu University, Saga University, and Oregon State University have been of significant support to the development of IPSA.

Kyushu University has contributed to the nomination of the experts, assisted in implementing participants training program, and provided technical guidance to JICA in collaboration with Saga University, Kagoshima University, Miyazaki University, Yamaguchi University, and Ryukyu University.

Similarly, Oregon State University through a contract with USAID, contributed in various ways to the development of the institution and faculty. The University has nominated and dispatched senior highly qualified long- and short-term experts, arranged participant training overseas, taught academic and short-

Table /O. IPSA Project budget in Phase I & II.

(1 Lakh = 0.1 Mill.)  
(T.K. in Lakh)

Source	Phase I	Phase II					Total
		1990	1991	1992	1993	Total	
<sup>1</sup> Bangladesh (allocation)	*1,197	234 (236)	455 (500)	485 (700)	—	1,174 (1436)	2,371
<sup>2</sup> J I C A	*3,548	1,522	242	348	—	2,112	5,660
<sup>3</sup> U S A I D	** 491	72	98	# 120	##255	545	1,036
T o t a l	5,236	1,828	795	953	—	3,831	9,067

\* : Including Grant Assistance Program (1981-1983)

\*\* : Actual expenditure, (indorsed budget was TK.755.20 lakh)

# : Jan.1,1992 ~Mar.31,1993.

## : Apr.1,1993 ~Oct.31,1993.

1 : Financial Year is from July to June.

2 : Financial Year is from April to March.

3 : Financed by PII. (Project Implementation Letter)

Including ARPH fund amount of TK.196 lakh.

courses at IPSA, introduced for the first time several new computerized information management systems and provided for the procurement of books, journals and computer equipment.

#### 7.10 Financial Support for Students

During the 1989 evaluation of IPSA the question of scholarships for students was discussed. This was considered an important item because under the prevailing Bangladesh conditions it is not likely that the better students will come to study at IPSA without an incentive program. Without better students it will be difficult to make IPSA a centre of excellence. In fact, sustainability of IPSA will be doubtful without a steady inflow of meritorious students. Good teachers and modern research facilities cannot compensate for the lack of students. Therefore, good students are as important as highly qualified teachers and excellent research facilities together with adequate funding for carrying on the teaching, research and outreach programmes. It is not enough that good students should seek admission to the program but they should continue, and successfully finish their academic programme with a degree.

As a result of these considerations, IPSA introduced a financial assistantship scheme. However, even with the assistantships the dropout rate is still higher than desirable. The job market for agricultural graduates appears to be weak and with further deterioration in the job market, more graduates will be compelled to seek higher study. This is not a healthy sign as under those conditions the students will drop out as soon as jobs become available. Efforts should be made to attract students rather than create a sense of compulsion. One step may be to make higher degrees obligatory for joining research institutions as a researcher. The other step may be to give increments and/or seniority status when joining the research institutes after receiving a higher degree.

A flexible training policy, if adopted in the research institutes, will ease the situation of academic program drop outs and will give the students incentive to complete the study programme.

Presently at IPSA, master's students receive a sum of Tk.225 to TK.300 per month and doctoral students are given Tk.450 to Tk.500 per month depending on the student's academic record. Eight scholarships at Tk.800 per month for the whole institution are now available.

Depending on the availability of funds and the needs of the research programme, up to 30 students may receive research assistantships or fellowships which provide some financial benefits in exchange for work. With the shrinking of available overseas scholarships the quality of students coming to IPSA will probably improve. Moreover, the BAU attracts some graduate students which affects the number of students at IPSA. Finally it boils down to

the fact that personal factors influence individuals in decision making about higher studies.

In addition to financial help offered by IPSA, in-service students from research institutes receive either part or all of their usual pay and allowances. The in-service student enrollment has declined recently. Such students should not only get proper compensation during the study period but after the degree is awarded there should be some reward in terms of increments and promotional possibilities when they return to their positions.

It is the opinion of the Evaluation Team that the present scheme for financial help for students of IPSA is not satisfactory. Considering the cost of living in Bangladesh the amount should be increased and the number of financial programs should be increased. If the number of assistantships and fellowships can not be increased then the general scholarship scheme should be reviewed.

In entry level positions, agriculture graduates receive starting pay and allowances for a total of about Tk.4200/-per month. Keeping this in view the realistic approach would be to provide a stipend of Tk.1000/-per month for each M.Sc. student and Tk.2000/-per month for each Ph.D. student as stipends. An additional Tk.3000/-per month for meritorious students in the form of a fellowship or assistantship should also be provided. In addition, the expenses for secretarial assistance and thesis preparation should be reimbursed or a grant may be given to every student as they complete their degrees.

It should be noted that the desire for a B.S. degree arises from the student's career considerations. Once the degree is awarded the student has a choice either to go for a job or to go for higher study. Adequate incentives at IPSA in the form of financial help would provide an additional reason for B.S. students to enter graduate studies.

#### 7.11 GOB Budget for IPSA

Although GOB funding has been indicated as necessary in the project proposal by ECNEC, the situation may change and thus monitoring of the situation is needed. Subsequently, revision of the project proposal may become necessary. Most of the research and academic inputs have been made available through donors and it is obvious that the IPSA faculty is concerned about the special care required from the MOA as such care is essential for its sustainability. It should not be treated simply as a research institute nor should it be treated as other universities in terms of national indicators. At IPSA the emphasis is on quality and not quantity.

The normal revenue budget takes care of pay and allowances of teachers and employees but enough foreign exchange allocation with sufficient local fund support for teaching, research and to maintain laboratories should be provided in GOB funding. Funding

for incentives for students in the form of stipends/scholarships/research assistantships should also be provided in the revenue budget. The components of the revenue budget for IPSA should be rational and balanced to ensure the overall development of IPSA.

## 8.0 PROGRAM ACTIVITIES AND ACCOMPLISHMENTS

### 8.1. Institutional Development

Relationship of IPSA Units: Since the production of highly skilled manpower is required for strengthening the National Agricultural System in Bangladesh, IPSA was established as a research oriented educational institution. In order to attain the goal of the project and to meet the immediate demands of the nation, IPSA plans to implement three major programs which are (1) research, (2) education, and (3) outreach. At the present time, the research and education programs are being implemented and plans are being developed for the outreach program.

These programs are not operated separately, but interact closely. The coordination of theory and practice is essential. IPSA's education program emphasizes laboratory work and thesis research to explore and to develop theories. In order to implement such a research education program, the curriculum/syllabus should be substantial and should be prepared by the teaching faculty. Consequently, the teachers must be quality researchers. In IPSA, the research program is considered as the most important tool for education. Quality research activities are in direct relationship to quality education.

IPSA has an obligation to disseminate research results in an efficient manner. The outreach program will be designed to organize such activities. New technology and knowledge developed by research activities flows to the students and other benefit groups through outreach activities. In turn, a better understanding of the problems faced by the target population in the outreach program is to be communicated to the research program and teaching systems to strengthen and invigorate the search for knowledge. Therefore all of the elements of the academic program influence each other and the relationship is interactive.

Administration and Management: While the present IPSA administration and management system is not specifically designed for a degree granting academic institution and is more appropriate for a government unit it is anticipated that after the Ordinance is approved that the management organization will be more relevant to what is required for a university. However, in spite of the government overlay the institution is functioning and some unique management systems have been instituted. The majority of the newly instituted or in-process systems is based in computer programs specifically designed for the conditions and work at the institution.

Research Management: The Research Information System (BARIS) was designed by the long term USAID/OSU Technical Assistant/Expert for use in the management of research for all of the academic departments. Each experiment is assigned a code number which will remain with the activity throughout the tracking and reporting process. Other identifying information includes start date, department, study title, overall objectives, justification, and

methodologies. In addition, the location of the research activities are tracked as well as the researchers' names and amount of time devoted to the experiment. Data relative to publication include the abstract, research results/accomplishments and key words which are part of the access process.

The information detailed in the preceding paragraph is inputted as the research study progresses. When the experiment is completed, additional information is added which includes specifics about the relationship between established technology/methodology against which the new technology was tested, details of the technology developed in the experiment, and the comparative advantage of the newly developed technology. The final entry in the BARIS is the list of references which relates to the experiment.

The BARIS system is activated for each experiment in the initial period of the activity and updated on a yearly basis until the experiment is completed and published. The value of such a system for the management of research is obvious in the short term as well as in the historical perspective. The department and the institution as a whole, therefore, has a powerful planning tool (BARI) which can be used in a multiple ways to reach the ultimate goal of agricultural research which is to improve the economic well-being of the citizenry of Bangladesh. Thus, research management becomes both an educational tool and a requirement for the training of postgraduate agricultural students, as well as an applied tool for solving agricultural production, marketing and development problems. Since the research is supported by IPISA, the Bangladesh Government, outside donor agencies, and by direct contracts, the importance of tracking the research for reporting, accountability and linkages is evident. The BARI system meets those needs.

Department personnel have been trained in the use of the BARIS system and have incorporated the system into the routine planning process within the department.

Department Reporting Relative to the Five Year Plan: An additional computer program utilized in the individual departments includes a broader informational base. Specifically this program compares the Five Year Plan departmental goals with the achievements within the department. The computerized tracking includes enrollment/student statistics, research programmes, research achievements, publications, and completed thesis titles.

Committee Structure: It appears that the committee structure is not operating as fully as it was envisioned. Such committees as the boards of study, teachers' council, seminar committees, computer policy committee, curriculum committee and others should be operating and providing leadership to the programmatic part of the institution. It is to be noted that Professor Eisgruber's 1992 report recommended that the committee structure should be reviewed with a long term perspective as criteria. This type of review is

still needed and more of the recommended committees should be established.

**Planning:** Basic to ISPA's administration is an adequate planning system. The Five Year Master Plan (1990-1995), based on the TSI was developed by IPSA contains the mandate of the institute, description of various clientele for institute research outputs, achievements during the third five year plan ( research, mangement of reserach programmes, manpower development, finance/accounting, and institute facilities), institute organizational structure, research goals/targets and broad programme areas, research priorities, manpower appraisal, status of the institute facilities, and financial implications. The preparation of the document itself is a management process which involves faculty in decision making in a planning mode. This overall process is built on planning within the departments and the results should be utilized by IPSA central management to ascertain whether the current management structure is responsive and supportive of the planned activities. Currently, the present Five Year Plan is in the process of being revised and finalized.

**Institutional Linkages:** Institutional linkages are important to the development of the institution for a variety of reasons. At this time a significant amount of research conducted at IPSA is in cooperation with scientists from BARI, BRRI, SRTI, BAU, Dhaka University, BINA and others. While the administration of IPSA supports the performance of such research linkages the need for formal MOUs is still evident. The present IPSA administration recognizes this and is prepared to move into such a mode after the Ordinance has been formally approved by the GOB.

**Students' Records:** One area which has utilized a significant amount of time on the part of administrators and faculty, as well, has been the construction and maintainence of student's records. To meet this need, a computerized program was designed and at this point approximately 80% of student records have been put into the data base. It is estimated that all of the records will be computerized in a relatively short time.

**Manpower Development:** In addition to long-term academic training in both the U.S.A. and Japan there has been on-going faculty and staff improvement and upgrading via in-service or short term training. For example, the librarian and the engineer at IPSA have undergone short term training in the U.S.A. and one administrative staff person was trained at Kyushu University in Japan. On-the-job training has been provided to members of the financial section of the institution relative to the newly introduced financial computer program. Additional training in various other computer management programs has been planned.

The development of written job descriptions was undertaken by Dr. Wittern and that information is now complete. The descriptions will be entered and become part of a computerized data base for use by IPSA administration.

Institute Finance/Accounting: At present, IPSA is under the overall guidance of a Management Committee chaired by the Secretary of the Ministry of Agriculture. This Committee will continue to function in a governing capacity until the Ordinance is enacted. Until such time, the institute is functioning under the Ministry of Agriculture and follows GOB financial and accounting procedures.

However, even though the institute is subject to GOB financial and accounting procedures, it became apparent that those procedures should and could be streamlined. As a result, a short term USAID/OSU expert worked with the financial office and prepared a computer program which is designed to save time, provide ready access to the status of the financial/accounting records, and develop a historical record which will aid in planning, reporting and managing. The program provides information on transactions as to amount, timing, responsible area, and others.

A computer program for the payroll system has been designed by a USAID/OSU specialist and training is in process relative to this program. An additional accounting computerized system was also developed by the same specialist. The result is that one month of records can be entered in less than two hours by the trained financial staff.

Institute Facilities: The utilization of institute facilities is one aspect of institution management which is important in the operations of the institute's programs. Established buildings or areas include the library building, computer centre, class lecture rooms, laboratories (electron, microbiology, crop physiology, analytical, chemistry, tissue culture, soil physical, and entomology), research land, meteorology station, auditorium, dormitories, and a medical centre. While maintenance planning is needed at the present time the above listed facilities are in working condition and are being utilized.

The USAID/OSU expert is in the process of preparing a computerized engineering bid system which would streamline the procurement process in the engineering unit. Additional computer programs which relate to facilities and which are in the process of finalization is the dormitory record system and the equipment inventory system. These computerized systems are scheduled to be complete and on-the-job training provided before the departure of the present USAID long term person in October 1993.

## 8.2 Research Program

One of the important mandates of IPSA is to conduct agricultural research. Since IPSA was established for producing high quality, skilled manpower to support the "National Agricultural Research System" in Bangladesh, research activities have been a foundation of this high quality postgraduate education program. Particularly, IPSA has put greater emphasis on basic research rather than applied research.

### (1) Research themes and their implementation plan

In Phase II, a Consultation Survey Team, dispatched from JICA in October 1990, discussed research programs with IPSA faculty members and worked out a TSI. Based on the TSI, a Five-Year Research Master Plan was drafted. But a revised TSI was worked out and according to that the five year Research Master Plan (1990-95) was finalised for timely implementation of the research program and for an allocation of the research budget from BARC to IPSA. The main research themes in each department are as follows (for more details see Annex 10):

- a. Agronomy
  - i. Tillage and stand establishment for upland and lowland crops.
  - ii. Eco-physiology of crop production.
  - iii. Weed management for upland and lowland crops.
  - iv. Improvement of seed quality.
- b. Crop Botany
  - i. Comparative studies of growth and development of cucurbits.
  - ii. Embryology of important upland and lowland crops.
- c. Entomology
  - i. Ecological studies of crop pests and predators.
  - ii. Classification and taxonomy of crop pests and predators.
- d. Horticulture
  - i. Collection, evaluation, maintenance and utilization of horticultural germplasm in Bangladesh.
  - ii. Improvement of horticultural production.
  - iii. Biotechnology in horticultural plants.
  - iv. Taxonomy, classification of horticultural plants in Bangladesh.
  - v. Use of growth regulators in horticultural plants.

- e. Genetic and Plant Breeding
  - i. Practical approaches for improvement of plants in Bangladesh.
  - ii. Cytogenetical analysis of some crop plants.
  - iii. Mutation breeding.
  - iv. Improvement of dioecious and pulse crops.
  - v. Variety development of horticultural plants.
- f. Plant Pathology
  - i. Plant nematology.
  - ii. Plant virology.
  - iii. Fungal diseases.
  - iv. Plant bacteriology.
- g. Soil Science
  - i. Effects of manuring on physiological and chemical properties of soils.
  - ii. Water management of different crops.
  - iii. Physical properties and constraints of eight soils representing different regions of Bangladesh.
  - iv. Mineralogical studies of Bangladesh soils relating to soil potentiality and soil genesis.
  - v. Estimation of microbial biomass of eighteen soils representing different regions of Bangladesh.
  - vi. The effectiveness of nodule bacteria and their performance for nitrogen fixation in different legumes.
  - vii. Studies of soil microflora with special reference to nitrogen dynamic in Bangladesh.
  - viii. Evaluation and improvement of soil chemical fertility of upland soil.
- h. Agricultural Extension Education
  - i. The impact of agricultural technology and environment.
  - ii. The role of women in agriculture.
  - iii. Impact of selected farmer training programs.
- i. Agricultural Economics
  - i. Economic assessment of IPSA lablab bean varieties.
  - ii. Economic assessment of new crop varieties and other techniques developed by different technical departments at IPSA (e.g. Summer Tomato).
  - iii. Analysis of crop productivity and cost and return of different rice varieties and other important crops at farm level of IPSA.
  - iv. Study of the important components of farm household economy.
  - v. Outreach research programmes.

j. Agricultural Extension Education

- i. Assessment of the existing rice technology and their level and adoption by selected rice farmers of Gazipur district during Boro season.
- ii. Farmers' attitude towards high yielding variety of potato.
- iii. Understanding the agricultural extension system in Bangladesh and its effectiveness.
- iv. Technology transfer (factors responsible for accepting and rejecting the technology).

k. Statistics and Biometry

(1) Research management

IPSA research activities are managed by the Research Coordination Committee. Annually, each department prepares an annual research plan which is reviewed during a faculty meeting and by the Committee.

For strengthening and improving the management of research activities, IPSA has been attempting to introduce the computerized Bangladesh Agricultural Research Information System (BARIS) in close cooperation with the USAID expert. The system is expected to improve research planning, monitoring, evaluation, and budget allocation.

(3) Research output

Based on the TSI, a considerable amount of research activities have been conducted during the second phase in cooperation with the JICA and USAID experts. The followings are remarkable relative to the research findings/output of the faculty's research work.

a. Agronomy

- i. Physiological analysis for the establishment of high yielding cropping system.
- ii. Improved the methods to produce mungbean, rapeseed, wheat, cowpea, etc.
- iii. Research findings on the drying pattern of upland soil, flowering distribution of mungbean, hydraulic conductivity of upland soil, canopy structure of mungbean, planing geometry of maize, defoliation effects of maize and rapeseed, physiological characteristics of various upland crops, floral characteristics of mungbean, and seed technology information of crops augmented basic knowledge that will be useful for students and researchers world-wide.

b. Crop Botany

- i. Established virus infected okra contains less pigments.
- ii. Determined chlorophyll contents in various crops.
- iii. Developed propagation of Momordica and Trichosynthes through botanical seeds.

c. Entomology

- i. Recorded 3 field and 3 laboratory adult colour morphs of southern green stink bug, Nezara viridula L. for the first time in Bangladesh and included in the world list. They are: pure green (G-type = f. smaragdula), green with yellowish white band on the pronotum (O-type = f. torquata), green spots on yellow body colour (R-type = f. viridula), yellowish orange (Y-type = f. aurantiaca), yellow orange with whitish yellow band on pronotum (OY-type) and green spots on yellow body colour with whitish yellow band on pronotum (OR-type).
- ii. Hereditary basis of adult colour polymorphism in N. viridula L. was determined and the assumed genotypes are: G-type : a/a b/b; O-type : A/- b/b; R-type : a/a B/-; and OR-type : A/- B/-.
- iii. Seven common predaceous coccinellid beetles were identified and preserved in insect museum for references.
- iii. Forty-five species of predatory rice field spiders were identified and preserved in the museum. An illustrated monograph on rice field spiders of Bangladesh is going to be published soon.

d. Genetic and Plant Breeding

- i. Establish of grafting technology to control soil borne diseases on solanum crops.
- ii. Development of heat trelance Brassica crops by cell fusion.
- iii. Isozyme analysis in rice protain for breeding of high quality rice.
- iv. Determined inheritance of different quantitative characters in tomato, wheat and other crops.
- v. Identified sources of male sterility in local onion cultivar.
- vi. Different species of Momordica and Trichosynthes species have been collected for cytogenetic studies.

e. Horticulture

- i. Released two lab bean varieties cultivable for the entire year. A few more are in the pipeline.
- ii. Developed lines capable of year round production that are awaiting release.
- iii. Developed early, mid-season and late lines that are awaiting release.
- iv. Worked on the development of new vegetable varieties.

- v. Worked out Photoperiodism in Lablab beans and fruit ripening.
- vi. Preliminary work was done on tissue culture of papaya, rose, orchid etc.
- vii. Methods of seed production and use of pollinators were investigated.

f. Plant Pathology

- i. Plant parasitic nematodes associated with common crops in Bangladesh have been recorded.
- ii. Major species of root-knot nematodes present in Bangladesh have been identified.
- iii. Two fungicides suitable for control of purple leaf blotch of onion caused by Alternaria porii were noted.
- iv. Furadan 3G and amendments of soil with cotton and mustard oil cakes were found to be effective materials to control of plant root-knot nematodes in potato.
- v. Fungi associated with wheat grains during their development were recorded.
- vi. The inoculum level of root-knot nematodes which causes economic damage to crop plants were noted.
- vii. Determined development and life cycle of root-knot nematodes in jute and rice.
- viii. Reactions of some varieties of potato, brinjal and jute to Root-knot nematodes were recorded. Root-knot and wilt resistant root-stock of tomato and brinjal were selected.

g. Soil Science

- i. Determined moisture regimes required for cultivation of radish.
- ii. Determined frequency of irrigation required for cultivation of brinjal.
- iii. Effect of nitrogen application on the growth, nodulation and nitrogen fixation have been studied.
- iv. Recorded effect of seedling age on growth and yield of brinjal.

h. Extension

- i. Baseline study of villages surrounding IPSA.

IPSA faculty has been taking advantage of several opportunities to present and disseminate their research results to other scientists. An annual Research Review has been held in regular bases for presentations of research findings by IPSA faculty. Scientist from other research and educational institutions are also attend the Review. In the second phase, the review meeting were held two times, the first was held in December 1991 and the second was held in August 1993. Faculty members also give presentations in other professional meetings outside of IPSA.

The IPSA research journal, "The Annals of Bangladesh Agriculture" has been published with JICA assistance, for presentation of research results since June 1991. As of August 1993, Volumes 1, No. 1, No. 2, and Volume 2, No. 1 have been issued and Volume 2, No. 2 is also about to be published. IPSA faculty members have often contributed their research results to many kinds of domestic and international science journals. In the second phase, 87 papers were carried in the journals (see Table 11).

Research abstracts and IPSA journals which describe faculty research activities and their accomplishments in more detail are provided in separate documents.

#### (4) Manpower development and technical guidance of experts

In order to upgrade the research capabilities of IPSA faculty members, a number of JICA and USAID experts have been dispatched and have transferred a considerable amount of technical knowledge/know-how during the first phase. Similarly, in the second phase, JICA and USAID experts have continuously been providing guidance to IPSA faculty members to enable them to reach their full potential for high-level research. Among other things, this has included mastering of following:

- a. approach to problem solving;
- b. search for and reading of references;
- c. planning/design and implementation of experiments;
- d. interpretation of results; and
- e. writing of research reports and research papers.

These skills have been taught to IPSA faculty members through cooperative research with experts and training at IPSA, at Kyushu University, at Saga University, and/or at Oregon State University.

It must be noted that two IPSA faculty members were awarded prizes individually for their reports at the 1992 annual meeting of Bangladesh Association for the Advancement of Science, which is the highest society of scientists in the country. The research was done at Kyushu University while the faculty members were being trained there. The research had already been published already with co-authored with their instructors in 1990 and 1991 though.

Table II. Number of journal publications published by IPSA faculty from 1985 to 1993  
(From Five Year Master Plan 1990-1995)

Departments	In Journals			(Foreign journals)	Joint papers with experts
	1985 - 1986	1990 - 1993	Total		
Agricultural Extension and Education	4	20	24	( 2 )	(2)
Agricultural Economics	-	-	-		
Agronomy	16	3	19	( 10 )	(6)
Crop Botany	4	6	10	( 0 )	
Entomology	4	10	14	( 3 )	(2)
Genetics and Plant Breeding	23	20	43	( 24 )	(18)
Horticulture	9	11	20	( 7 )	(3)
Plant Pathology	16	7	23	( 6 )	(6)
Soil Science	2	8	10	( 2 )	(2)
Agric. Statistics and Biometry	2	2	4	( 0 )	
<b>T o t a l</b>	<b>80</b>	<b>87</b>	<b>167</b>	<b>( 54 )</b> 32.3%	<b>(40)</b> 25%

### 8.3 Academic program

#### (1) Introduction of New Course Based Curriculum

Compared with the Phase I, there have been remarkable changes in the academic programs of IPSA since August 1991. Specifically, a Ph.D. program has been offered by four departments (Agronomy, Genetics and Plant Breeding, Horticulture, and Plant Pathology). A new course-based curriculum has been implemented for M.S. and Ph.D programs. The position of Dean of Graduate Studies was established to provide leadership to the implementation of the new programmes. Needless to say, these accomplishments are the result of the continuing efforts made in Phase I.

The new graduate training programs are for M.S. and for Ph.D., respectively. The curriculum of course work is consisted with core courses (major and minor) and elective courses (major and minor).

A credit is the equivalent of one lecture hour (50 minutes) or three laboratory hours per week for one term (12 weeks). Normally, one course has lecture hours or laboratory hours three times per week.

The M.S. program has a minimum of 42/46 credits, 30 for courses and 12 for thesis research. These credits are earned over four terms. Courses are usually taken during the first three terms, with the fourth term largely devoted to thesis research, analysis, and writing. The Ph.D. program requires a minimum of 75 credits, 45 for course work and 30 for dissertation research. These credits are earned over nine terms. At present, the Ph.D. program accepts only in-service students.

The implementation of the course based curriculum gave an impact to some other higher educational institutions of Bangladesh. Bangladesh Agricultural University (BAU) has also implemented a new course based curriculum in July 1993.

In spite of the serious shortage of IPSA's own faculty members, most of the core courses listed in the catalogue are offered for the students. Teaching duty has priority over other activities. Concerning with the elective courses, the number of the offered courses is sufficient at least to complete the degree requirement, but it is still not so many. For some of these courses, IPSA has made its syllabuses, but not yet for all of them. To carry out the courses, IPSA needs the aid of other institutions. Actually, many courses are taught by adjunct faculty dispatched from other institutions.

The number of the courses which were offered and are offered for the M.S. program in the last three terms (Nov. term 1992, May term 1993, Aug. term 1993) is shown in table 12

Table 12. Number of the courses offered in last three terms for the M.S. program

	core		elective	
	major	minor	major	minor
agril.economics	4 (5)	1 (2)	2	2
agril.extension	5 (5)	1 (2)	4	6
agronomy	4 (4)	2 (2)	4	8
crop botany	2 (3)	3 (3)	2	5
entomology	3 (4)	2 (2)	1	2
plant breeding	5 (5)	3 (3)	2	5
horticulture	3 (4)	1 (2)	2	4
pathology	4 (5)	1 (1)	3	4
soil science	3 (4)	3 (3)	3	5

( ) is the number of the courses which is required to complete the M.S. degree (Degree requirement may be changed on the recommendation of the Board of Studies)

IPSA plans to hold to an academic calender which has been established, and to date has been implemented as planned. The IPSA academic year begins in August of each calender year, and each academic year contains three terms. The academic calender initially laid out is shown in Table 13.

Program requirments, administrative procedures, test and grading procedures, courses offered and course descriptions are well articulated in the "IPSA Catalogue 1992 - 1993".

Table 13. IPSA Academic Calender

Term	Duration				
1	August	14, 1991	to	November	7, 1991
2	November	20, 1991	to	February	17, 1992
3	May	6, 1992	to	August	3, 1992
1	August	19, 1992	to	November	12, 1992
2	November	25, 1992	to	February	25, 1993
3	May	5, 1993	to	August	2, 1993

## (2) The Students

### a. Admission of students

IPSA is requiring its candidates rather high level achievement of their former education. Actually, to be admitted to IPSA, candidates must have obtained the first grade for all their certificates (Secondary Education, Higher Secondary education and Higher Education). The selection is made by an internal committee chaired by Dean based on opinions of each department. Arrangements have been made for admission of foreign students.

#### b. Statistics

Whereas more than 400 M.S. students studied at IPSA under BAU affiliation, since implementation of the IPSA's new curriculum, 175 students have been enrolled to M.S. programs in nine departments and 11 students have been admitted to Ph.D. programs in four departments by August 1, 1993. (see Table 14, 15)

Among these students;

- i) 67 students are in-service (All 11 Ph.D. students are in-service)
- ii) 10 students are female
- iii) 93 students are continuing their study in IPSA
- iv) 27 students are deferring their study in IPSA
- v) 38 students quits their study

#### c. in-service students

One of the important role of IPSA is to provide the opportunities of higher studies for in-service trainees. Since the introduction of course-based curriculum, 64 students including 11 students of Ph.D. program have been enrolled in in IPSA. Half salary is given to in-service student. Recently, number of in-service students have been decrease (see Table 16 ).

#### d. Placement of the students

In February 1993, 7 students of the first class were graduated, and as of August 1, 1993, 28 students have completed their graduation requirements for the M.S. degree. Among the students deferred and graduated, 22 out of 55 students have joined agricultural research institutions or extension department of the MOA. (see Table 17) .

To find a suitable job is not easy for the students. It is said that most of the reason for drop out relates to job opportunities. To date, IPSA has not been working for the placement of the graduating students.

### (3) The Faculty

#### a. IPSA faculty

Currently, there are 22 faculty for 93 students in eleven departments. Due to the shortage of faculty members, in some departments, the teacher/student

ratio is rather high. In one department, there is not even one regularly appointed faculty member.

IPSA has its own recruitment rules and its criteria is very high. In fact, almost all the faculty either have a Ph.D. degree or have enrolled in a doctoral program. Beside, many of the IPSA faculty have the experience of post-doctoral studies in Japan (Table 5). IPSA faculty members also have an obligation of conducting research which will be reflected in higher quality academic programs of IPSA. Considerable amount of their research reports are published in national and international science journals. Recently, two teachers were awarded "The Best Scientist in Bangladesh." However, in some departments, faculty members are suffering from overload due to the shortage of manpower.

#### b. Adjunct faculty

The IPSA faculty is rounded out by highly qualified adjunct faculty from BARI, BRRI, BAU, DAE, Dhaka University, among others ( See Annex 7, List of adjunct faculty). Their contribution is indispensable to the education of the students. IPSA has good relationships with these institutions. Some students do their research work at external institutions.

#### (4) Facilities

One of the major characteristics of IPSA's education is the member of laboratory hours. IPSA is presently the unique institute whose course work for postgraduate education of agriculture has laboratory hours. All departments except agricultural economics have their own student laboratory with a sufficient amount of equipment. Subject matter laboratories with complicated equipment are also available for the students. However, due to the weak preparation in general science, many students don't have enough knowledge and experience to handle scientific experiments.

A student computer laboratory equipped with micro computer is open from 8:00 a.m. to 10:00 p.m. The new library building which is installed with books and journals is also open from 8:00 a.m. to 8:00 p.m. A 16 ha fully irrigated experimental farm is located on campus for field experiments.

Since IPSA is located at a rather isolated place, the students can not find any shop nor any amusement facility around the institution.

#### (5) Activities of experts

In cooperation with an USAID expert, the curriculum of agricultural economics has developed and the department of agricultural economics was established in August 1992 as a supporting department, and has started to admit the students as a degree granting department in May 1993.

For the purpose of understanding the students' level/capability as well as providing the proper guidance of teaching methods, both JICA and USAID experts have handled course works of the students. The experts also have been providing guidance and seminar relative to students' thesis research.

Text books have also been prepared mainly for laboratory course work in collaboration with the JICA experts. Two laboratory manuals for soil science and one text book for entomology have been published.

#### (6) Students' thesis research

Since IPSA aims at being a research oriented educational institution, the student thesis research is largely involved in faculty's research activities. As a result, students have been able to enjoy close guidance of faculty. Some of their thesis research has been published in science journals in joint name with faculty. A list of titles of the student research is provided in Annex 8.

#### (7) Financial support for students

Financial support to the graduate students is considered to be an important element in attracting and retaining quality students. This has been recognized by the concerned authorities and provision for a scholarship program by an endowment fund of PL-480 monies is installed, however this program has not been operated yet.

Research assistantship has also been prepared in accordance with PP on IPSA and has been operated from May 1993. As of August 1, 1993, 24 students were benefited by the program. This research assistantship program will improve not only students' research skill and financial situation but also IPSA's research quality as well as quantities.

#### (8) Academic administration

With the introduction of a independent graduate program, a Board of Studies (BOS) for each academic department has been established. Thus courses of each academic department has been established. The BOS formulates courses of studies, sets academic standards for the departments and prescribes cocourses and research load for students. An academic council provides policy guidelines for the institute's overall academic activities. A Dean of graduate studies coordinates overall academic program.

Table 14 . Number of the Students Enrolled and Graduated from IPISA under BAU Curriculum.

Department	1982-83		1983-84		1984-85		1985-86		1986-87		Total	
	Enr.	Grd.	Enr.	Grd.	Enr.	Grd.	Enr.	Grd.	Enr.	Grd.	Enr.	Grd.
Agric. Extension							4	0	4	3	8	3
Agronomy	30	6	32	6	39	14	14	1	10	10	125	37
Crop Botany	2	1	0	0	4	1	4	0	4	1	14	3
Entomology	6	0	11	2	16	2	10	2	3	2	46	8
Horticulture	15	9	8	5	21	3	9	2	5	3	58	22
Gen. & Pl. Breeding	21	7	26	7	31	13	12	4	9	9	99	40
Soil Science	3	1	25	4	23	5	8	5	8	5	67	20
Plant Pathology	11	2	10	1	26	4	9	1	6	6	62	14
<b>Total</b>	<b>88</b>	<b>26</b>	<b>112</b>	<b>25</b>	<b>160</b>	<b>42</b>	<b>70</b>	<b>15</b>	<b>49</b>	<b>39</b>	<b>479</b>	<b>147</b>

Enr. : Enrolled      Grd. : Graduated

Table 15 The Number of Students Enrolled, Deferred, Dropped, Continuing, and Graduated from '91 to Aug '93 Terms under USA Curriculum as of August 1, 1994.

Department	Aug '91				Nov '91				May '92				Aug '92				Nov '92				May '93				Total							
	E	Def	Drop	C	E	Def	Drop	C	E	Def	Drop	C	E	Def	Drop	C	E	Def	Drop	C	E	Def	Drop	C	E	Def	Drop	C	E	Def	Drop	C
April. Economics	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
April. Extension	6	0	2	1	4	0	1	2	4	0	1	3	3	0	0	3	1	0	0	1	10	2	0	8	10	2	0	8	10	2	0	8
Agronomy	10	2	0	5	3	0	0	1	3	2	2	4	0	0	0	0	1	0	1	0	0	0	0	0	18	0	4	10	4	0	4	10
Crop Botany	4	3	0	0	1	0	0	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	3	0	1	1	3	0	1
Entomology	6	1	1	0	1	0	1	0	3	0	2	1	6	2	2	2	0	0	0	0	5	0	2	3	21	3	8	6	4	3	8	6
Gen. & Pl. Breeding	8	1	1	4	1	0	0	0	5	2	0	3	5	1	1	3	2	2	0	0	5	0	0	5	25	5	2	15	3	5	2	15
Horticulture	10	1	2	3	3	1	0	0	8	1	1	6	6	0	3	3	1	1	0	0	3	1	1	1	31	5	7	13	6	5	7	13
Plant Pathology	8	2	3	0	0	0	0	0	3	1	0	2	5	0	3	2	0	0	0	0	5	1	0	4	21	4	6	3	3	4	6	3
Soil Science	8	0	3	3	3	0	1	2	8	0	1	7	7	0	3	4	0	0	0	0	4	0	0	4	30	0	5	20	2	0	5	20
Total	60	10	12	15	16	1	3	6	39	6	7	25	32	3	12	17	5	3	1	1	34	4	3	27	186	27	38	93	25	27	38	93

1. E: Enrolled. Def: Deferred. Drop: Dropped. C: Continuing. G: Graduated.
2. 67 students out of 93 students are in-service
3. 9 students out of 93 students are in Ph.D. programmes (11 were enrolled), and all of them are in-service.
4. 9 students out of 93 students are female. (10 were enrolled)

Table 16. Number of MS and Ph D students by Departments of IPISA under new curriculum from August, 1991 to August, 1993

August 9, 1993

Department	Inservice Students						Fresh Students								Subtotal
	1991		1992		1993		1991		1992		1993				
	Aug.	Nov.	May	Aug.	Nov.	May	Aug.	Nov.	May	Aug.	Nov.	May	Aug.		
Agriculture Economics	-	-	-	-	-	1	1	-	-	-	-	-	-	1	10
Agriculture Extension and Education	3	2	0	1	1	0	1	3	2	4	2	1	1	3	22
Agronomy	6	2	3	0	0	1	4	4	1	5	0	1	1	3	31
Crop Botany	0	0	0	0	0	0	0	1	1	0	0	0	0	0	5
Entomology	1	0	2	0	0	3	0	5	1	1	6	0	2	0	21
Genetics and Plant Breeding	5	0	1	0	0	3	1	3	1	4	5	2	2	2	29
Horticulture	6	0	3	1	0	1	3	4	3	5	5	1	2	5	39
Plant Pathology	1	0	3	0	0	3	0	7	0	0	5	0	1	0	21
Soil Science	0	0	1	0	0	3	0	6	3	7	7	1	1	4	34
Sub-Total	22	4	13	2	1	15	10	35	12	26	30	4	11	15	
Total							57							147	214

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Table 17. Placement of the IPSA Students Graduated and Deferred as of Aug. 1, 1993.

Department	Placement								Total
	<sup>1</sup> BARI	<sup>2</sup> BRRI	<sup>3</sup> BINA	<sup>4</sup> DAE	<sup>5</sup> MOE	<sup>6</sup> NGO	<sup>7</sup> Ph. D	<sup>8</sup> In-sv	
Agril. Economics									
Agril. Extension						1	1	2	4
Agronomy	4			1	2			2	9
Crop Botany	2					2			4
Entomology				3	1				4
Gen. & Pl. Breeding	2	1				2			5
Horticulture	2			3		1			6
Soil Science	2								2
Plant Pathology			2						2
Total	12	1	2	7	3	6	1	4	36

1. BARI : Bangladesh Agricultural Research Institute
2. BRRI : Bangladesh Rice Research Institute
3. BINA : Bangladesh Institute of Nuclear Agriculture
4. DAE : Department of Agricultural Extension
5. MOE : Ministry of Establishment
6. NGO : Non Governmental Organization
7. Ph. D : Enrolled Ph. D course in domestic or abroad
8. In-sv : In-service students

#### 8.4 Outreach Program

Since the IPSA project started, the outreach program has been recognized as one of the most important components of the project as well as research and education program. In the Revised Project Performa, it is clearly stated that one of the objectives of the project is to disseminate innovations through training, workshops, publications, exhibitions, field days, etc. Also, there is a description in the Mini Project Paper that the project purpose will be achieved through completing the development of a community needs based institutional outreach program.

IPSA has an obligation to disseminate research results in an efficient manner. The purpose of the outreach program is to organize such activities. New technology and knowledge developed by research activities flows to the students and beneficial persons through outreach activities. In turn, a better understanding of the needs and recognition of problems faced by the target population requires feed back into the research and teaching system to strengthen and invigorate the research and search for knowledge.

In spite of the great expectation on the role of the outreach program, IPSA has concentrated its efforts in developing and expanding academic and research activities to give actual accomplishments as a education and research institution. Because of these priorities on the development process and the limitation in manpower, launching a full-scale outreach program has been set aside for the immediate future.

The midterm evaluation report(1989)for phase I indicated concern for the limited outreach activity at IPSA:

"At its present stage of development, IPSA has limited capability to implement an outreach program in a formal and well planned manner. The most serious bottleneck to implementation of a more extensive outreach program is a shortage of faculty. After removal of this bottleneck IPSA will be in a position to make more formal plans for implementation of an outreach program."

The report prepared by Dr. L.M. Eisgruber(1992), short-term consultant on curriculum, included the following discussion on the outreach program:

"There is no evidence that IPSA has come to grips with the issue and role of outreach in its program. Most departments are under the impression that they have no outreach responsibilities and that those responsibilities are entirely with the Department of Agricultural Extension Education. The Department of Agricultural Extension Education has not developed a comprehensive strategy for and IPSA outreach program, does not have a communicable vision of its role in it, and may not think it has the authority to do so."

It was obvious that the shortage of manpower at IPSA has caused significant negative impacts not only on the outreach program but also other aspects on development of IPSA. There were also other factors considered as a serious drawback to the development of outreach program such as lacking of consensus on a mission statement, nonexistence of a central committee, and lack of a realistic and explicit implementation plan.

However, since the Coordination Committee meeting, held in December 1992, decided that the mission statement on IPSA's outreach program should be developed and an implementation plan be formulated, there have been several informal discussions on the outreach program among faculty members and JICA/USAID experts.

Finally, the IPSA mission statement and implementation strategy were developed through a faculty workshop on O&E program and have proposed to IPSA by Dr. Youngberg, the USAID short-term experts in June 1993. At present, the faculty and administration are examining this proposal prior to its active implementation.

Since establishment, IPSA has conducted a number of activities that can be categorized as outreach programs. These include the following:

1. Baseline studies of community as a basis for outreach activities (by the department of agricultural extension education) 1990 - 1992
2. Cooperative agreement with BARI and BRRI 1990
3. Annual Research Review 1991 & 1993
4. Publication of "Annals of Bangladesh Agriculture " 1991
5. Contribution of research report for research journal Continuing
6. Computer workshop in "Statistics & Biometry" for research worker 1992
7. Bangladesh Science Conference 1992
8. Workshop on "Research and Development of Vegetable Crops" 1993
9. Training course on "Role of Anthropology in Agriculture Research" 1993
10. Cooperative agreement with Jomo Kenyatta University College of Agriculture and Technology (JKUCAT), Nairobi, Kenya 1993
11. Cooperative agreement with BAU 1993
12. Cooperative agreement with Department of Agricultural Extention (Being actively considered by both parties)

Although these activities can be classified as outreach programs, they were really not part of conscious or planned outreach activities. Efficient impact can not be anticipated without certain specific planning of outreach activities. IPSA faculty members have to reach formal consensus on the mission statement as early as possible.

## 9.0 SUSTAINABILITY AND END-OF-PROJECT STATUS

A major issue which must be addressed in the design and implementation phases of any development project is the question of sustainability. Obviously if an institution/project is not sustainable after the departure of the donors the waste in terms of manpower and funds is prohibitive. Additional negative issues relate to the impact on the local environment as well as future relations between the relevant donor/development partner and host country. The IPSA project must be subjected to the same examination criteria as other development projects.

The most relevant definition and criteria of sustainability of the IPSA institution was discussed in December 20, 1992 meeting of the Coordination Committee. The definition was recorded in the "Minutes of Discussions Between the Technical Guidance Team and the Institute of Postgraduate Studies in Agriculture on IPSA Project Phase II". This document was signed by Dr. Ekramul Ahsan (Director/Rector, IPSA, Ministry of Agriculture, Bangladesh) and Prof. Dr. Ichiro Goto, Leader, Technical Guidance Team, JICA, Japan) on December 23, 1992.

The 1992 definition and criteria was stated as follows:

"Sustainability, it was agreed, is not the immediate objective of the Project but is the result of the Project which can be evaluated after termination of the Project. Sustainability, therefore, will be gained through Project activities and continuous effort by the Government of Bangladesh. In short, the purpose of the Project is to achieve the certain targets that lead toward the goal, sustainability."

Briefly, the definition can be summarized as being interpreted as meaning that IPSA sustainability will be successful if IPSA becomes an institution that can continue to fulfill its essential tasks with its own resources and with sufficient domestic support without the need for external assistance. The key to this sustainability is a strong and continuing commitment on the part of the Government of Bangladesh. Specifically the issues (see Table 1 for overall review) which must be addressed if sustainability is to be realized are the following items:

(1) Autonomy and status of IPSA is important for in order to be truly sustainable and to attain Project goals, autonomy with full academic degree granting authority is an essential condition. At this point, almost all concerned authorities, including the Minister of Agriculture, have said that IPSA must receive the approved Ordinance/Act as soon as possible.

(2) Government of Bangladesh funding is a requirement relative to the sustainability issue. Even after IPSA becomes an autonomous degree granting institution, quality activities cannot be expected without regular and permanent funding from the GOB. In the approved PCP/PP there is provision for operational expenses after 1995. This decision/recommendation is critical

and if the institution is to be sustained. In order to accomplish this provision, the necessary paper work/approvals must be put into place and ready for implementation at least 12 months prior to the project termination date (July 3, 1995).

(3) The availability of students is important for the life of the institution as the "pipeline" must have continual incoming students. Very simply, the institution will not be able to continue if there is not a supply of students to participate in the academic and research programs. Other GOB and National Research organizations should be encouraged to increase academic requirements for employees while at the same time creating an environment which would help employees attain degrees or degree enhacement academic experience through in-service programs.

The employment market is important in terms of the number of students who will enroll in the institution. Since that particular variable is beyond the control of IPSA one can only call attention to it as a factor to consider. Other non-controllable variables which may impact the number of students includes the lack of a PhD degree requirement as a condition of employment and the amount or lack thereof of salary increases for in-service students as they complete academic programs and return to their work positions.

One source of students at the present time are the in-service students. In order for that number to continue to grow there must be incentives for in-service students to attend IPSA instead of opting for foreign study sites. Scholarships which are at a sufficient funding level(3000T for PhD students) would be an incentive for some students to stay within Bangladesh to complete their degree programs. The program at IPSA should have a program which is comparable to training incentives for students when they participate in training programs outside of Bangladesh. Other incentives for students include married student housing on campus as well as transportation to civic centers and school sites for children.

(4) The organization and administration of the institution must be efficient and must result in a well functioning organization. The administrative and financial offices of IPSA are the key figures in the supporting function for the faculty and staff. They must understand their role and organize for the unique management role which is necessary in an educational institution. The computerized Information Management System which the OSU team is now installing will be helpful but only if the IPSA personnel avail themselves to utilize the system.

It is essential that responsibilities be vested in the offices which are closest to the relevant problem. In other words, it is important for departments, divisions or committees to have clearly defined responsibilities for work within their areas. With the responsibility assignment, authority must also be given. Just as autonomy is important to the institution, some autonomy is also important to the different units on campus.

(5) Essential to the sustainability of a Center of Excellence(which is the expressed aim of IPSA) is the quality of

the personnel. The best quality manpower will achieve the best quality results. Manpower development, which includes training, recruitment and monitoring are preconditions to the establishment of a high quality research, instruction and outreach program.

(6) Institution to institution linkages are important if a research institute strives to be on the cutting edge of technology. Communication, collaborative and sharing are the key words in any highly professional linkage program. Linkages with other associated institutions with similar goals are important as IPISA's academic programs mature. IPISA should continue present linkages and should consider, in a timely manner, other linkages with institutions in the areas of research, instruction or outreach. Creative linkages could result in benefits to both IPISA and their linkage partner.

(7) Adequate and well maintained infrastructure is of prime importance when sustainability is reviewed. Appropriate physical facilities are necessary for research, instruction and outreach activities. Timely and planned maintenance is vital in order to keep the equipment in workable condition. Planning and training for proper maintenance of buildings and furnishings is also important for a safe, efficient and attractive campus and institutional program.

In summary, sustainability is possible for IPISA if the Government of Bangladesh continues support for the institution as a center of excellence. This support must include funding while allowing autonomy for the institution.

## 10.0 CONSTRAINTS TO PROJECT IMPLEMENTATION AND ATTAINMENT GOALS

Over the life of the project various constraints have been identified and discussed with concerned officials. Input relative to this topic was provided by the Phase I Tripartite Evaluation team, the Consultation Team, the Technical Guidance Team, Dr. Yamada, Dr. Eisgruber, and other experts. As may be expected, some problems have been resolved and some are still unresolved. Previous recommendations/suggestions and their present status are presented in APPENDIX 14-5.

The following, among others, are the major issues relative to constraints:

### 10.1 Approval of Ordinance and Degree Granting Authority.

IPSA does not have an Ordinance yet, although in 1989 in a meeting with the Vice Chancellors, it was decided to approve the Ordinance together with degree granting authority to IPSA.

The lack of approval of the IPSA Ordinance has had a strong negative impact on the development of IPSA. The delay in the passage of an Ordinance has created a temporary, confusing and paralyzing decision making structure. The result is that processes such as recruiting have been negatively impacted. Further, the lack of the Ordinance prevents the development and implementation of long-term and stabilizing administrative and decision making structures within IPSA. The most important impact relates to the fact that conferral of degrees cannot take place. For example, in 1993, 28 students graduated from IPSA without being awarded the M.Sc. degree.

The draft Ordinance has been endorsed by the MOA and the Cabinet, and is now being examined in the Ministry of Law. Concerned officials as well as IPSA must urge the passage of the Ordinance without any delay if the institution is not to suffer further negative impacts.

### 10.2 Recruitment of Teachers

The shortage of faculty is a serious impediment to implementation of high quality program activities at IPSA.

Although each IPSA faculty member is charged with responsibilities in teaching, research, and outreach programs, the faculty has been more involved in the academic activities simply because there is an acute lack of manpower. Only about half of the sanctioned positions are filled. The result is that there are only a few faculty members in each department. Emphasis had to be given to teaching activities, while research and outreach activities have been delayed or have sometimes stagnated. Clearly, this condition of understaffing has hampered the development of IPSA despite the extraordinary efforts made by the present faculty.

In order to give full potential to IPSA's ability in higher agricultural education, lively research activities must provide

the basis for the educational program with support by sufficient numbers of high quality manpower. Therefore, recruitment of top quality teachers is one of the most urgent issues for IPSA.

In Phase II of the project, IPSA advertised for teachers in May 1991 and interviews were held in November 1992 (18 months after the initial advertisement). The resulting action was that one teacher was appointed and six IPSA faculty members were promoted. Actually this was the same result as the earlier faculty recruitment process which was completed during Phase I.

One of the strong recommendations of the first tripartite evaluation urged that vacant posts be filled with high quality manpower. However since the finalization of that report, only two teachers have joined the IPSA faculty from off campus. If internal promotion is too intense this may prevent the institution from upgrading the quality of program activities. It is important to have faculty members from a variety of sources. In order to attract senior qualified researchers/teachers, IPSA should reconsider qualifications such as program relevancy and IPSA should work to improve benefits and working conditions for the faculty.

In May 1993, a second recruitment process began with position advertisements. An internal evaluation of the applications was held in the latter part of July 1993. It is important that interviews be held without any delay so that faculty appointment can be made immediately.

### 10.3 Construction of Residential Quarters

In 1990, USAID approved the construction of residential housing and PL-480 funding was provided for the construction. However, since that time there has been little progress due to the delayed approval of PCP and other implementation matters. Currently USAID is in the process of letting the construction contract so the building should begin soon.

On-campus housing for faculty and staff is needed in order to make better use of faculty time, to reduce transportation costs, and to attract the best qualified faculty to IPSA. Thus, the construction of residential housing must be completed without further delay.

### 10.4 Maintenance of Equipment

This matter has been discussed by various Bangladesh organizations as well as several donors. However, as yet, IPSA has not established a practical maintenance plan for equipment. Expressed reasons for the delay are as follows:

- (1) Shortage of available manpower.
- (2) Delayed disbursement process of fund/bid process.
- (3) Lack of responsibility for specific equipment.
- (4) The lack of a plan is not perceived as a major problem because the equipment is either new or unused and therefore not in current need of maintenance.
- (5) Lack of leadership by core staff.

(6) Inadequate expertise in the engineering section at IPSA.

Another problem relates to the present policy of maintenance and repair which requires that the work is to be done by the IPSA employed engineers. However, most of the electrical and electronic equipment is extremely complicated in structure and each one presents a different problem in maintenance. The end result is that it is impossible under present conditions to expect that repair of all the equipment at IPSA can be done by the resident electrical engineer. Repair and maintenance contracts must be "let" to local firms which have engineers trained relative to specific pieces of equipment.

For the sustainable maintenance of equipment, the following matters must be considered:

(1) Utilization of local firms and workshops is one of the most important factors for maintenance through local procurement, local manufacturing and by using other local services as much as possible.

(2) Procurement of simply structured equipment, and selection of manually operated equipment, not computerized or automatic, would result in reduced need for complicated repair procedures.

(3) Similarly, selection of various type of research subjects or various approaches in research for students should be explored in order to distribute the workload on any one specific equipment item.

(4) Practical manual methods should be used to conduct experiments as much as possible.

(5) Proper use and preventive management (daily management) must be the responsibility of specific persons and should be part of their job descriptions.

(6) Local markets must be encouraged to produce equipment. Recently, three electric ovens and other apparatus were manufactured in local workshops under the supervision of a JICA expert.

#### 10.5 Strengthening of Administration and Supporting Sections in IPSA

The Institution's administration is growing in size and in complexity. Since the introduction of the new course-based curriculum, IPSA has been independent from BAU and has had authority to admit students. Therefore, the amount of administrative business has increased.

The handling of faculty, staff and student information on a casual and informal basis is no longer sufficient. IPSA administration must be conducted in an efficient manner. To assure high quality program activities, it is now necessary to reorganize and to decentralize the functions, as well as authority, of each administrative and supporting section. Clear job descriptions, rules and regulations are necessary and should

be set into place as soon as possible.

#### 10.6 Flexibility of Budgeting

At present, neither departments nor supporting sections have their own budget allocations for teaching research, and outreach programs. The practical implication of this situation is that every expenditure - no matter how small necessitates activation of a full approval process, including the signature of the Rector. This wastes an enormous amount of time, results in delayed procurement and, hence, impedes the quality and timely performance of program activities. In addition, financial and program planning by faculty and staff is quite impossible.

Annual budget allocations to each department and supporting section would provide the most efficient procedure for the smooth implementation of program activities.

#### 10.7 Dispatching of Long Term-Experts.

This has been a problem during Phase II. In spite of the TSI which committed 500 M/M of expert time (according to the revised TSI it is 280 M/M) relatively modest percentage of specialists has been assigned. That assignment was in the agronomy department and in the area of farm management through JICA even though there are currently ten established departments at IPSA. Other long term persons were the Team Leader and the Coordinator. Instead of long-term experts, JICA has dispatched a number of short-term experts in all departments except agricultural economics, agricultural extension, statistics and biometry departments. However, the short-term experts were assigned on a subject matter basis, and continuous motivation and follow up is not anticipated from them.

One of the important parameters for confirmation of research activities is availability of long-term experts.

#### 10.8 Master Plan for Campus Development/Physical Facilities Development

A Master Plan must be developed. Since IPSA does not have a master plan for campus development, some physical facilities have been constructed without any prioritization. In order to efficiently utilize the limited GOB budget, IPSA should formulate the master plan for physical facilities with faculty consensus including the purchasing of pocket land and boundary fences.

## 11.0. TRIPARTITE RELATIONSHIP AND EFFECTIVENESS

Phase I of the Project involved a joint effort supported by the GOJ, the USA, and the GOB. Reportedly the IPSA Project is the only existing project in which tripartite cooperation (as compared to tripartite parallel efforts) is practiced. The Tripartite Evaluation Report for Phase I, concluded that the tripartite cooperation was successful. That conclusion was based on the fact that there is evidence that the IPSA Project, as a result of tripartite cooperation, benefited in ways which would not have occurred had there been only bipartite cooperation. This was due to budget limitations, various and differing institutional constraints facing the donors, and comparative advantage among the donors.

### 11.1. Management of the JICA-USAID Project Team

The project team consists of JICA and USAID experts/advisors under the leadership of the Japanese Team Leader. Both JICA and USAID experts/advisors work closely as a single team (see ANNEX 9 ). There is a clear division of labor. In principle, JICA is responsible for the natural science-related fields and USAID is responsible for social science-related fields. This clear demarcation of responsibility is a key to successful implementation of the Joint Technical Cooperation. However, as required for the best interests of the project, through mutual consultation and agreement, there is some flexibility in said responsibilities between JICA and USAID .

In order to maintain the best communication, to share ideas/opinion and to reach consensus on activities, a team meeting is held every two weeks. In addition, there were frequent day to day communications. In addition to the team meetings, JICA and USAID resident offices have participated in high level meetings to discuss the cooperation policy of the Project.

### 11.2. Advantages of JICA-USAID Joint Technical Cooperation

Donor agencies have several restrictions relative to the implementation of the Project due to their own rules and regulations particularly in the area of funding. Generally, all projects, regardless of source of funding eventually face budget limitations. However, the JICA-USAID joint effort makes it possible to apply the rules flexibly and to better cope with institutional constraints.

Furthermore, by planning for the use of resources from the GOB and the two donors in a fully integrated manner, the IPSA project not only had more funds

than if only one donor had been involved, but the funds were committed so as to enhance the effectiveness of the available funds with respect to development objectives. For example, since the GOJ's Grant Assistance Program has a restriction for construction of residential housing, and the USA can support such action, construction was arranged by USAID with PL-480 funds.

The JICA-USAID joint effort also made the best of comparative advantage in the division of labor on project activities. Curriculum development is a case in point. Whereas Japanese post graduate education centers upon research activities rather than courses, while the American system emphasizes course work, the combined system of Japan and USA is more suitable for the foundation of postgraduate programs in Bangladesh. Consequently, curriculum developed by the USAID and JICA experts and course work has been improved and has resulted in upgraded research capability of students with improved laboratory facilities. Similarly, the Information Management System (MIS) introduced by the USAID expert is expected to provide improvement to the administration system as well as to research management.

As structured under the IPSA project, there were considerable exchanges with respect to management procedures and philosophy between all cooperating partners. Indications show that this diverse cultural background is of benefit to IPSA as it develops its own procedures and philosophy.

Of course, the joint effort approach does not solve all problems and remove all bottlenecks. Indeed, it may have its own unique drawbacks. For instance, the JICA-USAID joint technical cooperation in the IPSA project, if it is to be successful, requires more discussion and more meetings than single donor cooperation if concerns and views of all partners are to be taken into account adequately. However, in the case of the IPSA project, whatever drawbacks exist with tripartite cooperation, the advantages outweigh them easily.

Cooperation between JICA and USAID clearly enjoys strong political support in both countries. This political support has its roots in the conviction that better cooperation between the two countries, better understanding of the respective cultures, histories, and resulting approaches to problem solutions, and the complementary use of resources will be beneficial not only to the two countries but to other countries as well.

## 12.0 CONCLUSIONS AND RECOMMENDATIONS

### 12.1 Conclusions

The following conclusions were reached by the Evaluation Team after review of IPSA operations project related documents:

- (1) IPSA management is extremely centralized. It is hoped that a more open and responsive system which will involve delegation of responsibility and authority will be possible after the Ordinance is approved.
- (2) Academic activities are reasonably good under prevailing conditions.
- (3) Research activities cover a fairly wide subject matter area and there has been a significant number of publications.
- (4) A number of MOUs have been signed with research organizations and others but a full collaborative research program has not yet been instituted. The development of the outreach program has not progressed significantly and the emphasis has been on teaching and research.

## 12.2 RECOMMENDATIONS

HIGHEST PRIORITY: PLEASE NOTE THAT THE FOLLOWING TWO RECOMMENDATIONS ARE OF THE HIGHEST PRIORITY.

(1) The most important recommendation which is an absolute necessity for the continuation of IPSA is the ratification/passage of the Ordinance. The Ordinance is a critical issue and the GOB is encouraged to enact it before the end of 1993.

(2) Vacant faculty and staff positions at IPSA should be filled as soon as possible. Those applications which have been processed under the present system should be acted upon while the present system is still in effect. Currently, there are 27 vacant positions and that condition has negatively impacted the institution in a variety of ways. The longer this situation is allowed to continue the greater will be the negative fallout.

Additional personnel related recommendations are as follows:

a. Upgrade the individual positions in the supervisory ranks (directors, librarian, farm manager) of administration.

b. Higher level (senior) administrative positions such as the Registrar position need to be filled in the staffing of IPSA.

c. The IPSA farm manager should be a full time person who has training in the field of farm management and who has decision making authority.

d. Middle level management capability should be developed and more in-service management training provided to persons involved in any aspect of administration. The GOB should arrange for and begin the training within the next month. Training sessions should be held once a semester so that three persons are trained per year. Training should take place at PATC.

e. The lack of support staff in the work of the departments results in an additional load on the faculty thereby utilizing time which should be devoted to teaching, research and outreach. A strong effort should be made to hire support staff and provide training for same.

PLEASE NOTE THAT THE FOLLOWING FIFTEEN RECOMMENDATIONS ARE OF HIGH PRIORITY.

(3) In order for sustainability to be realized it is important for IPSA and the MOA to begin planning now for the termination of the project. No later than June 1994, the MOA should initiate and finalize the procedures for putting IPSA on the revenue budget.

The level of funding as indicated in the PP should be maintained and efforts should be given to finance the long term programme of teaching, research and outreach at IPSA.

(4) The outreach program for IPSA should give emphasis to the development of a Mission Statement based upon the work of Dr. Youngberg and should assist to define, plan and subsequently activate. Consideration should be given to the accomplishments

needed in the outreach program before the end of JICA involvement in the project. A committee should be properly formed, while keeping in mind the mission of the outreach program, and should assist DAEE to manage the activities put under this program.

(5) The input of baseline data required for full development of the information management systems for administration, research and academic programs should be completed as soon as possible. In order to maintain and continue to update the systems special training for the staff should be continued as a part of staff development planning.

(6) Long term experts are very important to the project and additional long term expert personnel is strongly requested. In the past, due to the shortage of long term experts, JICA has substituted short term experts. Short term experts do not fulfill the needs of the institution in the same way as long term personnel. Therefore it is recommended that JICA and Kyushu University as well as adjunct universities increase their efforts to dispatch an adequate number of long term experts from this time until the end of the project.

In addition, departmental input relative to the qualifications and timing of short term experts via the JICA contract should be considered more carefully by JICA.

(7) A comprehensive inventory of facilities, equipment and library holdings at IPSA and the National Research Centers should be prepared and policies formalized for the use of these items.

(8) The organization and management of IPSA should be reviewed relative to the following questions:

a. Are faculty serving on committees which deal with their areas of responsibility? If not, why not? Committees which focus on teaching, research, outreach, students, overall management of the campus, coordination, planning, and coordination of farm and research programs are examples of the kind of committees on which faculty should serve and thereby provide input. The Dean, for example, should be a member of the Management Committee on campus.

IPSA should take specific steps for the formation of these committees before the end of 1993.

b. Is the librarian fulfilling his role as librarian or is he doing other tasks outside of the library and thereby allowing the library work to remain undone? Currently it appears that library work/planning is not being accomplished due to the fact that the librarian is out of the facility for significant amounts of time. It appears that a scope of work does not now exist for the librarian. A scope of work should be formulated for the librarian and the entire library staff before October 1, 1993. Duties outside of the developed scope of work should be limited and the work of the library should come first. Tasks such as binding, correct storage of materials, and other related work are not being addressed fully at this time.

Generally there is a shortage of texts, reference books, and journals in the library even with the recent shipment from the USA. An effort should be made to acquire more library entries.

The Library Committee should be activated and

authorized to address issues brought forth by faculty as well as students.

c. Are responsibilities and authority delegated to the person or persons most logical to address specific problems? If not, why not? At the present time it appears that decisions are being made in central administration without input/comments/thinking from those who are closest to the problem. For example, if the decision relates to teaching then those who teach or who represent teachers(department heads) should be part of the discussions which lead to the decision.

d. Are there communication systems in use which assure that information goes in a regular manner between all of the involved persons on campus( administration/faculty/staff/students)? Are there communication channels for distribution of information both generally and specifically, acceptance of feedback, and initial input. Communication channels must be in place to assure that those who should know are included in the information loop.

e. Are the Department Heads involved in the development of department budgets? If not, why not? The departments should be responsible for preparing and utilizing shadow budgets according to directions/forms which were previously distributed by the Rector's office. In this way, the procedures can be worked out and lessons learned prior to the time when the department budget actually originates in the department and is handled and monitored by same. The BARIS concept should be adopted and utilized as a program budgeting system by the departments to generate and track budget information.

In order to procure needed items for teaching and research in a timely manner it is recommended that an imprest account method be introduced for the departments by the end of 1993.

f. What is the system for ongoing evaluation of teaching, research, and outreach programs? Is the system institutionalized? The faculty strongly indicates that there is a need and desire on their part for evaluation of teaching as well as research but there is no official system in place for such evaluation in the area of instruction. For such a program to become useful, IPSA administration must take leadership.

For the development of a comprehensive evaluation plan for faculty the following criteria are suggested:

(a) Number and quality of publications(books or international scientific journals, domestic scientific journals, educational publications).

(b) Evaluation by the Director and Dean, respectively, relative to an established standard which must be developed as soon as possible.

(c) Evaluation of teachers by students on the basis of teaching performance.

By 1995 IPSA should have a criteria and process in place for the evaluation of faculty..

g. Is there an overall plan for maintenance on the campus? This area should be addressed with the development of a Maintenance Plan for the campus which includes timely repairs and purchases. Maintenance of complicated equipment is of prime importance and special attention must be given to this immediately so that equipment is maintained in workable

condition. Training and budgeting for the maintenance of the scientific equipment must be addressed and specific responsibilities assigned.

Campus security for personnel, facilities and equipment should also be addressed.

The management of the farm should also be addressed in this Plan and the Farm Management Committee must be activated by 1995, with membership including persons with decision making authority, persons who are end users of the farm system and persons involved in the actual farm management.

Pocket areas in the experimental farm which are still under private ownership should be procured as soon as possible and the farm should be surrounded by fencing so as to protect crops and farm facilities from being stolen.

(9) The Five Year Plan for IPSA should be finalized as soon as possible and the process for approval (if necessary) should be initiated. The next Five Year Plan should be completed and finalized at least six months prior to the beginning of the relevant five year period.

(10) USAID involvement should continue until 1995 in the following areas:

- a. Construction of campus housing.
- b. Short term expert assistance in the Agricultural Economics Department as that unit is very new and will need input within the next twelve months just to assure its survival.
- c. Short term expert assistance in the area of computer programming to assure that the systems which have been designed and put in place are continuing to function properly. Additional training may be needed in this area also.
- d. Short term expert assistance in course based curriculum appraisal and revision.
- e. Support for continued linkages between IPSA and OSU for collaboration in teaching, research, and outreach programs, management assistance, and professional associations.

(11) In the absence of faculty housing the majority of faculty are not able to live on campus they are forced to rely on IPSA transportation to get back and forth to their homes. Since the bus leaves at 2:30 pm their day is then 800-1430 which does not allow enough time for research. It is recommended that consideration be given to arranging transportation for faculty so as to allow a work day from 800-1630. In this way, the faculty could be involved in teaching in the morning hours and could then concentrate on laboratory work in the afternoon. However, a little kiost is needed immediately to provide daily necessities and laundry service.

In addition, the creation of community facilities like shopping center, schools, etc. should be encouraged. These facilities will induce the teacher and the students to remain on campus (when housing becomes available) and thus they will be able to give more time to their work.

(12) IPSA should strengthen the basic science courses. Some remedial courses should be offered especially to the first year students. It has been the recommendation of the faculty that the crop botany department should be redesigned and serve as the

basic science department for the institution. This action should be taken as soon as possible.

(13) The Bangladesh Government's Fourth Five Year Plan 1990-1995 emphasized the developemnt of a sound agricultural economy by motivating and sustaining competitive free markets in rural areas and ensuring reasonable return for investment in the farming sector in order to increase agricultural food production. Therefore, the research activities of the Department of Agricultural Economics should cover agricultural food marketing systems, agro-business development and credit systems.

(14) It is important to promote and increase research activity of IPSA through collaborative research with adjunct institutions. For this purpose, seminars and scientific meetings should be held as often as possible. The institution should arrange international seminars frequently. Faculty should be actively encouraged to participate in and present papers at international professional meetings.

(15) It is vitally important for the valuable relationships already developed between IPSA and Kyushu University and Oregon State University be continued. The scientific and professional benefits from these linkages for IPSA are significant. Every effort should be made to strengthen and continue the cooperative interchanges between these institutions. Training, joint reseach, study tours, guest lecturers, special instruction, exchange teaching/research, and involvement and sponsorship of joint conferences/workshops/seminars are examples of the types of activies which should be part of the continued cooperative relationship.

(16) IPSA should increase the amount of stipend, scholarship and research assistantships in order to attract better students and to ensure that IPSA is competitive with other similar institutions which vie for students and that merit scholarships are available for the most outstanding students.

(17) The student's affairs advisor office should assist graduating students to find placement possibilities. The office should maintain liason with prospective employers.

### 13.0 LESSONS LEARNED

In every project there are lessons which are apparent as the end of the project nears. The following lessons, among others, are the major ones which were identified by the Evaluation Team:

- (1) If conditions change, the project implementation plan should be revised.

Since the beginning stage of the IPSA project, some difficulties occurred which slowed the progress of the project. These difficulties were due to the procedures followed in the system and socio-economic conditions, as well as other factors. Under such conditions, projects may take more time to complete than is usually anticipated at the planning stage. Consequently, the vision at the planning stage in respect of time and sequence of events is very important and adjustments should be made so that the goals of the project can be reached.

- (2) Objectives for a project should be agreed upon by all parties.

The IPSA project was started by Bangladesh and Japan in 1985 as a bilateral activity. After that, in 1986, the USA in a Memorandum with Bangladesh joined the IPSA project and took responsibility for a part of the work. In this way, the Tripartite Collaborative Project was started. During implementation of the Project, IPSA achieved progress toward the project goals.

For a Tripartite Collaborative Project, there should be one document signed by all cooperating Parties so that specific responsibilities are spelled out and fruitful collaboration can be achieved.

- (3) The partnership between GOB, JICA and USAID resulted in a stronger project and the development of a better IPSA.

The culturally sensitive input from IPSA combined with the technical knowledge of the other two partners (JICA and USAID) contributed to the process of the project. The "marriage" which took place between the US and Japanese technical expertise provided reinforcement to the IPSA program in a significant manner. Since the expertise of the US and Japan did not overlap, a division of labor was created and a workable climate with mutual benefits was realized. The basis of the success of such a program with multiple partners is frequent and open communication.

## 14. Appendix

## 14.1. Evaluation Scope of Work

### 1. Background on IPSA

The Institute of Postgraduate Studies in Agriculture (IPSA) was established by the Government of Bangladesh (GOB) in October 1983 by conversion of the Bangladesh College of Agriculture Sciences, an undergraduate institution, to IPSA. The institute, located at Salna, Gzipur, about 10 km northwest of Gazipur District headquarters and about 40 km north of Dhaka, is in close proximity to the Bangladesh Research Institute (BARI) and Bangladesh Rice Research Institute (BRRI).

In June 1984 IPSA started functioning with the first group of M.Sc. Ag. students. Technical cooperation between the Government of Japan (GOJ) through the Japan International Cooperation Agency (JICA) and the GOB began in July 1985. The Government of the United States through the Agency for International Development (USAID) has participated in the project since April 1986.

The first phase of technical cooperation program under JICA and USAID would continued until July 1990. However, before the termination of the Project, Tripartite Evaluation was conducted by the three Governments. Based on the recommendations of the Tripartite Evaluation Team, the Government of Bangladesh requested continuation of both JICA and USAID assistance for further years as the Phase II project. JICA and USAID have continued their assistance until July 1995 and October 1993 respectively.

The overall goal of IPSA is to contribute to the development of Bangladesh through providing intellectual leadership and high quality graduates at the M.S. and Ph.D. levels to work in the country's most important sector --- agriculture. IPSA will strengthen postgraduate level training and basic research with an outreach program designed to improve the economic well-being of the farmers and to accelerate rural development.

The principal objectives of IPSA are (1) to serve as a "Center of Excellence" for postgraduate education leading to M.S. and Ph.D. degrees in all disciplines of the agricultural sciences, (2) to conduct basic and applied research to support and complement the national agricultural research system in Bangladesh, and (3) to provide facilities, information, and programs for in-service training and outreach activities.

### 2. The Purpose of the Evaluation

a. The Second Tripartite Evaluation will be held jointly as an interim

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evaluation of the JICA project activities and as a final evaluation of the USAID participation.

- b. To assess the overall performance and impact of the Project to date. (The primary focus of the evaluation will be Phase II, however, Phase I must be considered in evaluating results.)
- c. To recommend measures to be taken by the three Governments concerning pending issues and major problems encountered.
- d. To provide feedback of the evaluation result to the farther project activities for efficient implementation to attain the goal of the Project.

### 3. The Outline of the Evaluation

- a. Logical framework will be a base of the evaluation.
- b. The evaluation will cover the level of inputs and outputs provided to the project activities to attain purposes and goal of the project.
- c. Review actual versus planned progress toward outputs, purposes and goal of the project.
- d. Attempt to find solutions to major problems encountered.
- e. Suggest modifications in the project activities.
- f. Recommend solutions to any disagreements between the project partners which have arisen.
- g. In addition, since the report must serve as an interim evaluation for JICA and as a final evaluation for USAID, the team utilizing much of the same data in above mentioned items from a. to f.

### 4. Evaluation Items

- a. Background status of the establishment of the Project.
- b. Purposes and goal of the Project.
- c. Preconditions for the Project implementation.
- d. Input Support Activities
  - i. Dispatch of Experts
  - ii. Participant Training
  - iii. Dispatch of Teams
  - iv. Procurement of Equipment and Machinery
  - v. Physical Infrastructure
  - vi. Staffing (Faculty & staff)
  - vii. IPSA Project Budget
  - viii. Scholarship
- e. Program Activities and institutional impact
  - i. Research program
  - ii. Academic program
  - iii. Outreach program
  - iv. Administration and Management
- f. GOB budget
- g. Relationship among education, research and outreach programs within IPSA

- h. Relationship between IPSA and other educational and research institution
- i. Tripartite relationships and effectiveness
- j. Sustainability
- k. Other

5. Team Composition

The evaluation team will consists of representatives from JICA, USAID and GOB. The team leader will supervise all over progresses of evaluation activities and each one of the team member has his own responsible field and conduct his studies in cooperation with other members.

a. Bangladesh

Member	from Ministry of Agriculture
Member	from Planning Commission
Member	from UGC

b. Japan (JICA)

Team Leader	from a University in Japan
Member	from Ministry of Education
Member	from Kyushu University
Member	from FASID
Member	from JICA

c. U. S. A. (USAID)

Member	from a Land Grant University in the U.S.A.
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6. Allocation of Responsibilities Among the Evaluation Team

6-1 Team Leader

The Team Leader (representative from a University in Japan) will have primary responsibility for the following tasks:

- a. Overall leadership responsibility for the evaluation,
- b. Assessment of sustainability of the overall evaluation project plan,
- c. Coordination of preparation of the final report.

6-2 Team Members

Each team member will have the opportunity and responsibility to participate in all aspects of the evaluation. Certain evaluation tasks and/or primary responsibilities will be designated to selected members of the evaluation team, however, many of the evaluation tasks will overlap with various specialities represented on the team because most project activities have been implemented in association with and/or interact with others.

6-3 Assignment of Team Member Responsibilities

In principle, the division of labors are as follows:

a. Bilateral and trilateral activities will be evaluated by representatives of the countries involved.

The project activities concerned with:

Evaluated by:

- |  |   |                       |
|--|---|-----------------------|
| (1) JICA and its corresponding with GOB      | → | GOB and Japan         |
| (2) USAID and its corresponding with GOB     | → | GOB and U.S.A.        |
| (3) Common portion among GOB, JICA and USAID | → | GOB, Japan and U.S.A. |
| (4) JICA and USAID relationship              | → | Japan and U.S.A.      |

b. Topical program issues may be assigned to individual team members according to expertise as follows:

- (1) Research Program
- (2) Academic Program
- (3) Outreach Program
- (4) Institutional Development (Administration & Management)
- (5) Cooperation Policies and Planning
- (6) Sustainability of IPSA
- (7) Other

Aspects for consideration in each assignment are presented in Annex I.

7. Schedule of Evaluation

The evaluation will begin on or about August 14, 1993 and end on or about September 3, 1993 for three weeks.

8. Evaluation Team Report

The evaluation team will prepare a final report for submission to the Governments of Bangladesh, Japan, and the U.S.A. prior to its departure from Bangladesh. A debriefing will be given the respective governmental authority at the conclusion of the evaluation. The final report will be concurred in and will be signed by each Team Member. A suggested outline is presented in Annex II.

9. Necessary Information for the Evaluation

Working Paper will be prepared by IPSA-JICA-USAID team correspond to its item No. 4.

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(Sep. 1, 1993)

Narrative Summary	Verifiable Indicators	Results	Important Assumptions
<p>Supper Goal:            R/D: To accelerate agricultural development and to improve the economic well-being of the farmers.            Mini Project Paper:            To improve rural incomes, the quality of life of rural residents, and to enhance agricultural development through training of postgraduates.</p>	<p>The results of a few years later after the Project termination:            Increase in No. of the graduates, institute, societies, journals and Ph.D. etc.</p>		
<p>I. Overall Goal:            R/D: To establish and strengthen the IPSA to serve as a Regional Center of Excellence for Bangladesh and the neighboring countries providing quality education leading to M.S. and Ph.D. degrees.            To conduct research on fundamental aspects of applied agriculture as conducted by various agricultural research organization.            R/D: To become IPSA a sustainable institution.            To contribute to enhancement of higher agricultural education and agricultural research system in Bangladesh.</p>	<p>The results of a few years later after the Project termination:            Continuation of activities. Stabilization of Assumption.            I. Overall Goal:            Mini Project Paper:            To be established a sustainable institution.</p>		<p>1. Counterpart personnels or the staff of same level will be taken root.            2. Budget and public peace will not become worse.</p>
<p>II. Project Purpose:            R/D: To complete the activities projected in the original IPSA project (1985-1990)            To strengthen the national agricultural research system (NARS) by providing quality manpower and technical know-how generated by IPSA.            To disseminate innovation through training, workshops, publications, exhibitions, field days etc.            R/D: To be strengthened postgraduate level agricultural research and education at IPSA.</p>	<p>Continuance of following verification at the time of the Project termination.            II. Project Purpose:            Mini Project Paper:            To integrate agricultural postgraduate education and problem oriented basic research.            To improve the quality of agricultural postgraduate education offered in Bangladesh.            To be strong linkages and outreach program with educational NARS institutions.</p>		<p>1. Counterpart personnels or the staff of same level will be taken root.            2. Budget and public peace will not become worse.</p>

III. Outputs:  
1. Institutional Development:

- ① GOB Funding will be obtained.  
② All posts of the Faculty and Staff will be recruited.  
③ IPSA will be a national project by approval on PCP/PP.  
④ IPSA will obtain an authority on conferment of degree by enactment of Ordinance/Act.  
⑤ Organization and Administration structure will be improved.  
⑥ Budgeting will be allocated properly.  
⑦ Manpower will be allocated properly.  
⑧ IPSA will be connected with other institutions.

⑨ Computer Center will be maintained.  
⑩ Information Management System will be utilized.

⑪ Farm Management System will be improved.

- ⑫ Coordination Meeting will be set up and managed.  
⑬ Manpower Development will be promoted rightly.  
⑭ Physical Facilities will be maintained and managed.  
⑮ Library will be managed.  
⑯ Master Plan of IPSA Development on Physical Facilities will be made.

2. Research Program:  
Well functioning research management and quality research program.

- ① IPSA will have joint research with national and international institution.  
② Well functioning following department  
Agricultural Extension  
Agricultural Economics  
Statistics and Biometry  
Agronomy  
Genetics and Plant Breeding  
Plant Pathology  
Soil Science  
Horticulture  
Entomology  
Crop Botany  
③ IPSA will publish research journal.  
④ IPSA will be enacted according to five Year Research Master Plan.  
⑤ Research Coordination Committee will be formed and managed.  
⑥ Annual Research will be reviewed and evaluated.

3. Academic Program:  
Well functioning academic administration and quality academic program.

- ① Placement of graduated students will work smoothly.  
② IPSA will be linked with other organization (Adjunct Faculty etc.).  
③ Financial Support for students will be realized.  
④ Course work will be worked under a well organized curriculum.

- ① Amount of GOB Funding and its executive situation.  
② Recruited situation and No. of Faculty and Staff.  
③ Confirmation of approval and contents on PCP/PP.  
④ Confirmation of enactment of Ordinance/Act.  
⑤ Confirmation of present condition on Organization and Administration Structure.  
⑥ Confirmation of allocated Budget.  
⑦ Confirmation of allocated Manpower.  
⑧ Confirmation of Minutes of Understanding with other institutions.

- ⑨ Confirmation of maintenance of Computer Center.  
⑩ Present condition of Information Management System.

⑪ Present condition of Farm Management System.

- ⑫ Management of Coordination Meeting and its held frequency.  
⑬ Frequency and contents of training and changed position etc.  
⑭ Maintained and managed Physical Facilities

⑮ Present condition on Library. No. of books  
⑯ Confirmation of Master Plan.

① Name of joined national and international institutions. Contents of Minutes of Understanding.

No. of research presentation and thesis, and No. of master and doctor degree.

- ③ No. of published books and journals  
④ Confirmation of Five Year Research Master Plan and ISI.  
⑤ Confirmation of management and frequency of the Committee.  
⑥ Confirmation of contents of review and evaluation.

- ① Confirmation of No. of placement of graduated students.  
② Name of place of employment.  
③ Confirmation of linkage with other organization.

④ Amount of Financial Support

⑤ Confirmation of the present state of implementation on new course based

① See page 30 and annex 6.

② Recruited 22. Vacant 27 faculties.

③ Approval: PCP in Aug. 1992. PP in Nov. 1992.

④ Draft of Ordinance/Act are Ministry of Law. It will be enacted until Oct. 1993.

⑤ See page 27.

⑥ See annex 6, page 30, 31.

⑦ See annex 2, 28.

⑧ See page 6, 7

⑨ computers for administration.  
⑩ computers for students training.  
⑪ See page 36, 37

⑫ Necessary acreage of the farm was allotted and fixed to each departments.  
⑬ Labors necessary for taking care of farm. Farm experiments were stolen.  
⑭ See page 26.  
⑮ See page 14-20.

⑯ See page 11.

⑰ Library was established in 1991.

⑱ Approval by Management Committee is not yet.

① National Institution: BARRI, BARI, BAU International Institution:  
Kyushu Univ., Saga Univ., Kagoshima Univ., Miyazaki Univ., Ryukyu Univ., Yamaguchi Univ., Oregon State Univ.

② See page 34-43.

③ See page 44 and annex 10.

④ ISI and Five Year Research Plan are enacted. (See page 39 and annex 10.)

⑤ See page 39

⑥ See page 26

⑦ See page 54

⑧ See page 49 and annex 7.

⑨ See page 32, 33 and 50.

⑩ Almost all courses of the Curriculum are taught during the last one year.

1. Counterpart personnels will not transfer.

2. Budget and public peace will not become worse.

3. IPSA will be managed by tripartite cooperation among Bangladesh, Japan and U.S.A.

<ul style="list-style-type: none"> <li>⑤ Syllabus of Course Works will be drawn up.</li> <li>⑥ Ph. D. and M. S. course will be operated.</li> <li>⑦ Academic Administration and Admission Committee will be formed and managed.</li> <li>⑧ Thesis Research will be carried out.</li> <li>⑨ Teaching Materials will be developed.</li> </ul>	<ul style="list-style-type: none"> <li>① Curriculum.</li> <li>② Confirmation of Syllabus of Course Works.</li> <li>③ Present condition of Ph. D. and M. S. course</li> <li>④ Confirmation of formation of Academic Administration and Admission Committee.</li> <li>⑤ List of Thesis Researchs.</li> <li>⑥ Confirmation of the development of teaching materials.</li> </ul>	<ul style="list-style-type: none"> <li>(See page 47.)</li> <li>⑤ See page 46.</li> <li>⑥ See page 46.</li> <li>⑦ See page 50.</li> <li>⑧ See annex 3.</li> <li>⑨ See page 43.</li> </ul>
<p>4 Outreach Program: Well functioning outreach program and quality outreach program</p> <ul style="list-style-type: none"> <li>① Departments will participate in Outreach Program.</li> <li>② Outreach Program will be connected with other Organizations.</li> <li>③ Outreach Management will be worked.</li> <li>④ Outreach Extension Materials will be developed.</li> <li>⑤ Seminar and Workshop will be held.</li> <li>⑥ Training will be carried out.</li> </ul>	<ul style="list-style-type: none"> <li>① Organize Committee Meeting including representatives from all department by the end of 1993.</li> <li>② Name and contents of connected other Organizations.</li> <li>③ Confirmation of Outreach Management.</li> <li>④ Name and No. of Outreach Extension Materials.</li> <li>⑤ Frequency and contents of Seminar and Workshop. No. of participants.</li> <li>⑥ Frequency and contents of Training. No. of participants.</li> </ul>	<ul style="list-style-type: none"> <li>① There has not been any Committee meetings.</li> <li>② ~ ⑤: See 8.4 Outreach Program.</li> <li>④ New varieties of two vegetables were developed, and two scientists were awarded at annual meeting of 1992 by Bangladesh Association for Advancement of Science.</li> </ul>
<p>5. Cooperation Policy and Planning: ① JICA and USAID will be coordinated and cooperated. ② Planning of the Project will be carried out. ③ JICA, USAID and IPSA will be coordinated and cooperated.</p>	<ul style="list-style-type: none"> <li>① Frequency and contents of coordination.</li> <li>② Confirmation of contents of Planning of the Project.</li> <li>③ Frequency and contents of coordination.</li> </ul>	<ul style="list-style-type: none"> <li>① See page 64 . 2 meetings/month</li> <li>② See appendices 14-2</li> <li>③ Coordination Committee meeting : 1-2/year. On-campus meeting: 1-2/month. (See page 244.)</li> </ul>

- IV. Activities:**
- 1. Institutional Development:**
- IPSA
- ① To obtain GOB Funding
  - ① To recruit all posts of the Faculty and Staff.
  - ① To obtain approval on PP/PCP.
  - ① To enact the Ordinance/Act.
  - ① To improve Organization and Administration Structure.
  - ① To allocate Budget properly.
  - ① To allocate Manpower properly.
  - ① To connect with other institution.
- IPSA-TSAID
- ① To maintain Computer Center
  - ① To utilize Information Management System.
  - ① To manage Library.
- JICA-IPSA
- ① To improve Farm Management System
- JICA-TSAID-IPSA
- ◆ ① To set up and manage Coordination Meeting
  - ① To promote Manpower Development
  - ① To maintain and manage Physical Facilities.
  - ① To supply Library by books.
  - ◆ ① To make Master Plan of IPSA Development on Physical Facilities.
- 2. Research Program:**
- IPSA
- ① To have joint research with national and international institution.
- IPSA-TSAID
- ① Agricultural Extension
  - ① Agricultural Economics
  - ① Statistics and Biometry
- JICA-IPSA
- ① Agronomy
  - ① Genetics and Plant Breeding
  - ① Plant Pathology
  - ① Soil Science
  - ① Horticulture
  - ① Entomology
  - ① Crop Botany (USAID joins.)
  - ◆ ① To publish research journal.
- JICA-TSAID-IPSA
- ① To enact 5Y according to Five Year Research Master Plan.
  - ◆ ① To form and manage Research Coordination Committee.
  - ◆ ① To review and evaluate Annual Research.
- 3. Academic Program:**
- IPSA
- ① To advice placement of graduated students
  - ① To link with other organization (Adjunct Faculty etc.).
- IPSA-TSAID
- ① To realize Financial Support for students.
- JICA-TSAID-IPSA
- ① To work Curriculum Development and its improvement.
  - ① To draw up Syllabus of Course Works.
  - ① To operate Ph.D and M.S. course.
  - ◆ ① To form and manage Academic Admini-

**V. Inputs:**

Japanese side	Bangladesh side
<p>1. Dispatch of Experts: (Natural Sciences) 280M/M for five years Long-term: One to three Experts per year except for Leader and Coordinator.</p> <ul style="list-style-type: none"> <li>① Leader</li> <li>① Coordinator</li> <li>① Agronomy</li> <li>① Genetics and Plant Breeding</li> <li>① Plant Pathology</li> <li>① Soil Science</li> <li>① Horticulture</li> <li>① Entomology</li> <li>① Crop Botany</li> <li>① Farm Management</li> <li>① Maintenance of equipment</li> <li>① Others</li> </ul> <p>Short-term: ① to ① Experts the above mentioned.</p> <p>2. Acceptance of trainees: About three trainees per year (JICA only)</p> <p>3. Provision for Equipments: Twenty to thirty million yen per year</p>	<p>1. Dispatch of Experts: (Social Science)</p> <p>Long-term: ① Curriculum ① Agricultural Extension ① Agricultural Economics</p> <p>Short-term: ① Library Development ① Computer Center Development ① Statistics and Biometry</p> <p>2. Acceptance of trainees: Long-term: ten trainees in Doctor Course Short-term: 56 person months</p> <p>3. Provision for Equipment: Computer, Books, Journals</p> <p>4. Others: ① To construct Staff Quarter. ① To support scholarship.</p>
<b>U.S.A. side</b>	
<p>1. Dispatch of Experts: (Natural Sciences) 280M/M for five years Long-term: One to three Experts per year except for Leader and Coordinator.</p> <ul style="list-style-type: none"> <li>① Leader</li> <li>① Coordinator</li> <li>① Agronomy</li> <li>① Genetics and Plant Breeding</li> <li>① Plant Pathology</li> <li>① Soil Science</li> <li>① Horticulture</li> <li>① Entomology</li> <li>① Crop Botany</li> <li>① Farm Management</li> <li>① Maintenance of equipment</li> <li>① Others</li> </ul> <p>Short-term: ① to ① Experts the above mentioned.</p> <p>2. Acceptance of trainees: About three trainees per year (JICA only)</p> <p>3. Provision for Equipments: Twenty to thirty million yen per year</p>	<p>1. Dispatch of Experts: (Social Science)</p> <p>Long-term: ① Curriculum ① Agricultural Extension ① Agricultural Economics</p> <p>Short-term: ① Library Development ① Computer Center Development ① Statistics and Biometry</p> <p>2. Acceptance of trainees: Long-term: ten trainees in Doctor Course Short-term: 56 person months</p> <p>3. Provision for Equipment: Computer, Books, Journals</p> <p>4. Others: ① To construct Staff Quarter. ① To support scholarship.</p>

- 1. Dispatch of Experts, acceptance of trainees and provision of equipment will be implemented as previously planned.
- 2. Counterparts personnels will not be transferred.
- 3. Budget and public peace will not become worse.
- 3. IPSA will be managed by tripartite cooperation among Bangladesh, Japan and U.S.A.

- stration and Admission Committee.  
 ⑤ To carry out Thesis Research.  
 ⑥ To develop Teaching Materials.

4. Outreach Program:

IPSA

1. To make Departments participated in Outreach Program.  
 2. To connect with other Organizations

JICA-USAID-IPSA

- ◆ To work Outreach Management.  
 ◆ To develop Outreach/Extension Materials.  
 2. To hold Seminar and Workshop.  
 3. To carry out Training.

5. Cooperation Policy and Planning:

JICA-USAID

- ◆ To coordinate and cooperate between JICA and USAID.

JICA-USAID-IPSA

- ◆ To carry out Planning of the Project.  
 ◆ To coordinate and cooperate among JICA, USAID and IPSA.

Pre-condition

Remarks: 1) Net sign: JICA and USAID supports positively though these activities are not mentioned in their planning. Because these contents are important matters to manage IPSA

2) ◆ sign: JICA regards these contents as project activities though these contents doesn't mention in Record of Discussions (R/D) directly.

In these cases, these contents are able to understand in a broad sense by following sentence in R/D.

"The Japanese Team Leader will provide necessary recommendation and advice on technical and administrative matters concerning implementation of the Project to the Head of the Project."

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### 14-3 List of documents consulted

#### [ Tripartite Cooperation ]

1. Joint Tripartite Evaluation of IPSA in Bangladesh, July 1989
2. Minutes of the Wrap-up Meeting for Tripartite Evaluation, July 1989

#### [JICA and GOB]

1. Record of Discussions (R/D) for the Phase II Project, June 1990
2. Tentative schedule of Implementation (TSI)  
(Minutes of Discussions, by Consultation Team), October 1990
3. Revised Tentative schedule of Implementation (TSI)  
(Minutes of Discussions by Technical Guidance Team), December 1992

#### [USAID and GOB]

1. Project Implementation Letter (PIL) No.30.Oct.1991

#### [JICA and USAID]

1. Letters exchanged between JICA/Dhaka and USAID/Dhaka, July 1985
2. Memorandum of Understanding between JICA/Dhaka and USAID/Dhaka. June 1990

#### [Government of Bangladesh]

1. Revised Project Proforma (PP), Nov. 1992
2. GOB Third Five Year Plan (1985-90), Nov.1985
3. GOB Forth Five Year Plan (1990-95), Oct.1990

#### [IPSA]

1. IPSA Five Year Master Plan (1990-95)
2. IPSA Catalogue 1992-1993
3. Research Abstract, No. 1 and No. 2.
4. Annals of Bangladesh Agriculture, Vol. 1, No. 1 and No. 2. 5.
5. Dr. Eisgruber's Report, Sep. 1992
6. Dr. Youngberg's Report, June 1993

#### [USAID]

1. Mini Project Paper, March 1990
2. Amendment No.10 USAID-OSU

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## List of Individuals and Agencies Met

The Ministry of Agriculture		
	Minister	Major General, M. Mazid-ulluq(Retd)
	Secretary	Mr. A.N.M. Eusuf
	Joint Secretary	Mr. M.A. Jaigirdar
Embassy of Japan		
	Minister	Mr. Y. Ichihasi
Planning Commission		
	Division Chief	Dr. M.I. Talukdar
Economic Relation Division/the Ministry of Finance		
	Deputy Secretary	Mr. Dewan Zakir Hossain
University Grants Commission		
	Chairman	Prof. M.Shamsul Huq
United States Agency for International Development		
	Deputy Director	Ms. H.K. Gunther
	Office of Food & Agriculture	
Japan International Cooperation Agency		
	Resident Representative	Mr. H. Suzuki
	Deputy Resident Representative	Mr. Y. Ishi
Bangladesh Rice Research Institute		
	Director General	Dr. Shamsul Alam
Bangladesh Agricultural Research Institute		
	Director General	Dr. S.N.H. Awrangzeb
Bangladesh Agricultural Research Council		
	Member Director	Dr. M.A. Hamid Miah
Bangladesh Agricultural University		
	Register	Mr. A. Hannan Khan
	Director, Public Relations	Mr. A. Razzaue
Institute of Postgraduate Studies in Agriculture (IPSA)		
	Director/Rector	Dr. E. Ahsan
	Dean of Graduate Studies	Dr. E. Hossain Miah
	Administrator, Faculty, Staff, Students	
Oregon State University Experts in IPSA		
	Curriculum & Research	Dr. R. E. Witters
Japan International Cooperation Agency Experts		
	Team Leader	Dr. M. Sugiura
	Coordinator	Mr. T. Fujii
	Agronomy	Dr. O. Hirota
	Farm Management	Mr. N. Morita

## 14.5 COMPARISON OF PREVIOUS EVALUATIONS AND PRESENT PROJECT STATUS

No1

	TRIPARTITE EVALUATION, Jul. 1989	CONSULTATION SURVEY TEAM, Oct. 1990	Dr. Eisgruber's Report, Sep. 1992	Technical Guidance Team, Dec. 1992	Present Situations, Aug. 1993
1. Autonomy & Status of IPSA	a. The Phase II project should be implemented for the purpose of strengthening post-graduate level education and research based on the favorable result of the Phase I.	1. PCP and PP → GOB should prepare PCP & PP in view of R/D and should approve without any delay.			Phase II project has been implemented. PCP and PP were approved in Aug. 1992 and Nov. 1992 respectively.
	b. Establishment of the appropriate administrative structure, especially the Ordinance/Act.	2. Ordinance for Autonomy → GOB should give autonomy including degree granting authority as per the Ordinance without any undue delay.	Approval of Ordinance is needed.	IPSA students completed their MS course in Jul. '93, every possible effort will be made by the GOB to enact the Ordinance.	The revised draft of the Ordinance was submitted to MOA in Aug. 1992. The cabinet approved the Ordinance in May 1993 and it is being processed in MOL.
2. Funding					Ratio of donor fund is higher than GOB input. All GOB fund is from ADP.
3. Organization/ Administration	Same as 1-b.		a. The office of the Dean of graduate studies should be established. b. Committee structure is needed. c. Departmental budget is needed. d. Administration & faculty handbook is needed.	Responsibilities should be given to the dept., Sec., committees and all important activities should have commensurate budget.	Organization/Administration structure are being reconsidered for well functioning and smooth implementation of IPSA programs. Sufficient budget is not distributed to the respective activities.
4. Activities	a. Attainment of academic flexibility and authority.				Academic flexibility and authority will be gained by the Ordinance.
	b. Immediate recruitment of adequate IPSA faculty and staff by the GOB.	a. Recruitment of Teachers → GOB should recruit the best qualified faculty for vacant post without any delay.	Filling of sanctioned but vacant positions is necessary.	The remaining vacant posts must be filled with best qualified persons without much delay.	22 teachers has been employed out of 49 sanctioned posts. 2nd advertaizement has been done on May 1993. Recruitment strategy is not clear.
	c. Early finalization of curriculum and syllabi.	b. New Curriculum → Every possible effort will be made by IPSA to start the course based curriculum.	a. Reduction in the No. of courses listed in the graduate catalogue. b. Sequencing of courses required	The student laboratories and equipment should be used efficiently for course work. Text book should be prepared for student laboratory.	New course based curriculum has been implemented in Aug. 1991. Graduate catalogue has been reviewed periodically. Laboratory hours are not incorporated into courses work.
		c. Ph. D. Program → must be started in some dept. in Jan. 1991.	Teaching of Ph. D. level courses		Ph. D. Program was started in Aug. 1991.
		d. Presentation of Master's Thesis → will be made as a requirement of the final examination for degree.			First batch student graduated in Jan. '93 under new course work system. Standards of M.S. & Ph.D. are unclear.
		e. Student Drop-out → GOB should take necessary steps to solve the issue.			Drop-out rate has been decreased since course based curriculum has been introduced.

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		f. Selection of Research Subject → should be in line with important problems of agr. in Bangladesh, National Agril. Research Master Plan, teachers' interests & serve to upgrade teachers' capability.	a. Selection of thesis research topics. b. Publication of M.S. & Ph.D. thesis.	TSI was modified by reviewing of research programs. Five Year Plan based on TSI should be finalized as a guide for faculty research.	Five Year Master Plan was prepared by faculty based on TSI. Commensurate budget and time to research plan is essential. Most of student research is involved to faculty research.
		g. Joint Research → between IPSA and other research institutions should be established and strengthened.		Joint research work should be encouraged both in national and international levels.	Some Joint Research work has been conducted since MOU was signed but not lively.
		h. Presentation of Faculty's Research → The Annual Research Review Meeting should be held every year and effort should be made for publication of research results.		Annual Research Review should be held regularly.	Annual Research Review was held on Dec. 1991. and Aug. 1993. Research abstracts were published.
			a. Teaching & Advising Load Target. b. Teaching improvement seminars. c. Teachers evaluation. d. Recognition of good teaching performance.		Some are progressed but difficult with limited faculty. Ordinance approval is needed.
			Strengthening of basic science background of students.		Supporting dept. for strengthening of basic science is being considered.
			Strengthening Agricultural Economics Dep.		Department was established in Aug. '92. Faculty needs to be recruited.
			Sustained Library Development.	The management of library should be evaluated for efficient use.	Library is not functioned well. USAID expert will be dispatched on Aug 26 '93.
			Selection and Role of Advisory Committee.		
			Crop Botany Dep.		Conversion of Crop Botany Dep. is being considered.
			a. Frequency and timing of admission b. Oversubscription of admission of MS student.		Increase in faculty workload by each term admission.
			Scholarship and Assistantships	Necessary steps will be taken to distribute the available supporting fund for student.	Research assistantships has been operated since May '93. PL480 endowment fund is available but scholarship program is not implemented yet.
			Preference of M.S. over B.S. holders.		No advantages of M.S. in employment.

AP

			Periodic program review and evaluation		IPSA's 1994 was reviewed in Aug. '92 and 1995 was reviewed in Oct. '93.
			The role of Outreach at IPSA.	Outreach mission statement should be prepared and IPSA's consensus be obtained.	Mission statement is clarified by Dr. Youngman's report.
5. Linkage		Memorandum of Understanding → for effective linkage between IPSA and other research institutions including BARI & BIRRI should be signed without any further delay.	Complete MOU process.		MOU was signed with BARI and BIRRI in Aug. '93. MOU was signed in Aug. 1993.
6. Infrastructure	a. The immediate construction of laboratories, library and residential quarters.	Residential Quarters → GOB should take all necessary measures for timely construction of the residential quarter in close consultation with USAID.	Housing for faculty and staff	GOB will fulfill the preconditions for starting the construction work with close cooperation with USAID.	Precondition has been satisfied and USAID will give full approval in a few days. Construction is not started yet.
	b. Establishment of a maintenance system for equipment and facilities.	Equipment → should be selected from the view point of sustainability, program need and maintenance.		IPSA should encourage and evaluate alternative method and develop the plan for maintenance of equipment. It should be incorporated into Five Year Master Plan.	Maintenance Plan is offered by the project team. Inventory system is being developed.
			Computer use by students.		Computer center was expanded for student use.
			Housing for married students.		No accommodation for married students.
7. Others	8. The strengthening of the IPSA project support system in Japan.	Experts → JICA should make effort to meet the request for 500 W/M experts.		JICA will make every effort to dispatch 280 W/M of long & short-term experts in line with TSI.	- Total W/M of JICA expert was decreased. - JICA/Kyushu Univ. support for dispatching of short term experts and C/P training.
	9. The continuation and strengthening of the successful and effective tripartite cooperation.		Continued technical support in institutionalizing the new curriculum, assistance in the development and strengthening of the social sciences is critically needed through at least the end of Phase II (1995) of the project.		USAID will terminate its cooperation to IPSA in Oct. 1993 with completion of SOW.
		Interim Evaluation → will be conducted at the middle of the Phase II.		Joint tripartite evaluation will be conducted in Aug. '93. Final evaluation will be held about six months before termination of the Project.	Joint tripartite evaluation is held in Aug. - Sep. 1993.