

MINUTES OF DISCUSSIONS  
BETWEEN THE JAPANESE CONSULTATION SURVEY TEAM  
AND  
THE AUTHORITIES CONCERNED OF THE GOVERNMENT OF THE PEOPLE'S  
REPUBLIC OF BANGLADESH ON THE INSTITUTE OF POSTGRADUATE STUDIES  
IN AGRICULTURE PROJECT PHASE II

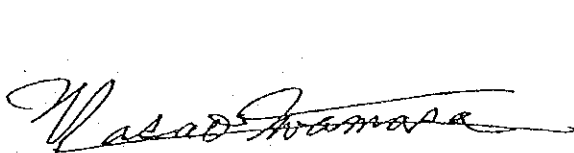
The Japanese Consultation Survey Team ( the Team ) organized by the Japan International Cooperation Agency and headed by Professor Masao Iwamasa, Dean, Faculty of Agriculture, Saga University, visited the People's Republic of Bangladesh from 5th to 14th October, 1990. in order to formulate the Tentative Schedule of Implementation ( the TSI ) for the Institute of Postgraduate studies in Agriculture Project Phase II ( the Project ) as well as to discuss major issues related to implementation of the Project.

During its stay in Bangladesh, the Team exchanged views and had a series of discussions with the authorities concerned.

As a result of the discussions, both parties agreed to recommend to their respective Governments that the Major Points of Understanding as attached in ANNEX I be examined and the necessary steps be taken accordingly towards the smooth and successful implementation of the Project.

Both parties have also jointly worked out the TSI for the Project as attached in ANNEX II. The TSI has been formulated on the basis of the Record of Discussions on the Japanese Technical Cooperation for the Project signed between the Japanese Implementation Survey Team and the authorities concerned of the Government of Bangladesh and on the conditions that necessary budget will be allocated for the implementation of the Project by both sides, and that the TSI is subject to change within the framework of the Record of Discussions when necessity arises in the course of implementation of the Project.

Dhaka, October 13, 1990



Professor Dr. Masao Iwamasa  
Leader,  
Consultation Survey Team,  
Japan International Cooperation Agency,  
Japan



Dr. S. H. Khan  
Director,  
Institute of Postgraduate Studies  
in Agriculture,  
Ministry of Agriculture,  
Bangladesh

Major Points of Understanding

## I. Overall Issues

## 1. Recruitment of Teachers

The Bangladesh side should ensure that the best qualified faculty be recruited against all vacant academic posts at IPSA without any further delay. Various activities of IPSA have been suffering from the serious shortage of teachers during Phase I, but this situation should not be continued during Phase II.

## 2. PCP and PP

The Bangladesh side should ensure that the Project Concept Paper (PCP) and Project Proforma (PP) of IPSA Project be prepared in view of the Record of Discussions on IPSA Project Phase II signed between the Japanese and Bangladesh side on June 14, 1990 and its subsequent discussions and be approved without any further delay so that the Project may not be hampered due to the delayed procedures in future.

## 3. Ordinance for Autonomy

The Bangladesh side should ensure that the autonomy including degree granting authority recommended by the ECNEC be given to IPSA as per the appropriate Charter/ Ordinance without any undue delay.

## 4. Memorandum of Understanding

The Memorandum of Understanding (MOU) for effective linkages between IPSA and other research organizations including BARI and BRRI should be signed without any further delay. The necessary initiative should be taken by Director, IPSA in this matter.

## 5. Residential Quarters

The Bangladesh side should ensure that all the necessary measures be taken for timely construction of the residential quarters of IPSA in close consultation and collaboration with USAID Mission, Dhaka.

## II. Education

## 1. New Curriculum

Every possible effort will be made by IPSA side to start the course-based revised curriculum in January, 1991.

## 2. PhD Program

PhD Program will be started at some selected Departments of IPSA in January, 1991.

### 3. Presentation of Master's Thesis

The presentation of Master's thesis will be made by each student to the faculty as a requirement of the final examination for degree.

### 4. Student Drop-out

The Bangladesh side should ensure that the necessary steps be taken to solve/ reduce the student drop-out problem.

## III. Research

### 1. Selection of Research Subjects

The research topics of IPSA should be selected and reviewed on the basis of more careful attention and relevance to important problems of agriculture in Bangladesh, National Agricultural Research Master Plan, teachers' interests and effectiveness to raise teachers' research capability.

### 2. Joint Research

Cooperative research between IPSA and other research institutions should be established and strengthened.

### 3. Presentation of Faculty's Research

The Annual Research Review Meeting of IPSA should be held in May every year and the increased efforts should be made by IPSA to publish/ publicize the research results through effective means.

## IV. Experts

Every possible effort will be made by the Japanese side to meet the strong request for the 500 Man-Months of experts by the Government of Bangladesh.

## V. Equipment

In the process of selecting equipment, more consultation is required among the concerned parties for the proper assessment of suitability from the viewpoint of program need and maintenance.

## VI. Interim Evaluation

Interim evaluation will be implemented at the middle of the Phase II.

## TENTATIVE SCHEDULE OF IMPLEMENTATION

## I. Project Activities

Categories	1990	1991	1992	1993	1994	1995
1. Research Program						
(1) To give technical advice for survey, planning and implementation of practical research and experimental activities conducted by IPSA teaching staff						
1) Agronomy						
1- Tillage and stand establishment						
a) Soil management and soil moisture conservation						
b) Crop production technique						
c) Fertilizer management						
2- Eco-physiology of crop production						
a) Crop physiology						
-Crop characters						
-Photosynthesis and productivity						
-Stress physiology						
b) Plant nutrition						
-Plant-soil relationship						
c) Crop ecology						
-Canopy structure and root system						
-Crop competition						
3- Weed management						
4- Improvement of seed quality						
2) Genetics and Plant Breeding						
1- Practical approaches for improvement some characters						
a) Rice :						
-Screening of locally available rice germplasms for ESP						
-Screening of mutant lines of rice for total protein and endosperm storage protein						
-Screening of local germplasms and mutant lines for high lysine content						

Categories	1990	1991	1992	1993	1994	1995
b) Others		-----				
-Onions:Hybrid varieties		-----				
-Egg plant:Disease and insect resistance		-----				
-Wheat:Nutritional improvement		-----				
2- Utilization of plant tissue culture for plant breeding	-----					
a) Haploid breeding by anther culture	-----					
-Development of homozygous lines of rice using haploid breeding technique		-----				
-Proliferation of male sterile onions by using tissue culture		-----				
b) Somaclonal variation in regenerants			-----			
c) Trial of remote hybridization by using plant biotechnology				-----		
-The comparison with conventional breeding and new techniques in egg plant and tomato				-----		
3- Cytogenetical analysis of some crop plants	-----					
a) Chromosomal behavior of trisomics	-----					
b) Some cytogenetical observations of remote hybrids			-----			
4- Mutation breeding	-----					
a) Rice	-----					
Development of mutant lines using physical and chemical mutagens			-----			
b) Others			-----			
-Wheat:Development of mutant lines using physical and chemical mutagens			-----			
5- Improvement of dioecious and pulse crop	-----					

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Categories	1990	1991	1992	1993	1994	1995
3) Plant Pathology						
1- Plant Nematology	-----					
a) Ecological studies on plant parasitics nematodes		-----				
b) Histopathological studies on nematode-infected plants by using EMs		-----				
c) Control of nemic diseases of major crops	-----					
2- Plant Virology	-----					
a) Survey and monitoring of virus and MLOs diseases of major crops (Emphasize the Legumes and Vegetables)	-----					
b) Identification and Classification of plant viruses and MLOs		-----				
c) Epidemiology of plant virus and MLOs diseases		-----				
d) Management and control of major plant virus and MLOs diseases					-----	
3- Fungal Diseases	-----					
a) Isolation and identification of major soil-borne plant pathogens			-----			
b) Isolation and identification of antagonistic micro-organisms from Bangladesh soils			-----			
c) Evaluation of antagonistic micro-organisms against major soil-borne pathogens for bio-control					-----	
d) Ecological studies on soil-borne plant pathogens		-----				
4- Plant Bacteriology	-----					
a) Survey and monitoring of bacterial diseases of major crops		-----				
b) Isolation and identification of plant pathogenic bacteria causing diseases of major crops		-----				
c) Bio-control of major bacterial diseases of major crops					-----	

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Categories	1990	1991	1992	1993	1994	1995
5- Genetic Plant Pathology		-----				
a) Search of resistant plant materials against some plant diseases			-----			
6- Miscellaneous						
a) Physiological studies of parasitism with selected fungal, viral bacterial diseases						
4) Soil Science						
1- Effects of manuring on physical and chemical properties of IPSA soils	-----					
2- Water management of different crops (wheat, maize, radish, carrot, mustard, onion and other upland crops) for IPSA and related soils	-----					
a) Water requirement of crops by field experiment	-----					
b) Water requirement of crops by lysimeter experiment				-----		
c) Soil management and tillage practice for increasing soil water storage		-----				
3- Physical properties and constraints of eight soils representing different regions of Bangladesh	-----					
4- Mineralogical studies of Bangladesh soils relating to soil potentiality and soilgenesis			-----			
5- Estimation of microbial biomass of eighteen soils representing different regions of Bangladesh	-----					
6- The effectiveness of nodule bacteria and their performance for nitrogen fixation in different legumes (mungbean, cowpea, gardenpea, soybean and groundnuts)	-----					

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Categories	1990	1991	1992	1993	1994	1995
7- Studies of soil microflora with special reference to nitrogen dynamic in Bangladesh	-----					
8- Evaluation and improvement of soil chemical fertility of upland soil		-----				
5) Horticulture						
1- Collection, evaluation, maintenance and utilization of horticultural germplasm in Bangladesh	-----					
a) Fruits				-----		
b) Vegetables	-----					
c) Flowers and ornamental plants	-----					
2- Improvement of horticultural production	-----					
a) Fruits				-----		
-Propagation: micropropagation, and rootstock				-----		
b) Vegetables	-----					
-Improvement and development of vegetable varieties	-----					
-Management	-----					
-Seed production technology	-----					
c) Orchid culture and production of ornamental plants					-----	
3- Biotechnology in horticultural plant	-----					
a) Micropropagation in vegetables, ornamentals and tropical fruit	-----					
b) Virus free plant in vegetables, ornamentals and tropical fruits			-----			
c) Somatic hybrid plants in various plants in Bangladesh				-----		
d) Somaclonal variations in economically important horticultural plants		-----				

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Categories	1990	1991	1992	1993	1994	1995
4- Hybrid varieties (F <sub>1</sub> ) in horticultural plants						
a) Vegetables						
5- Taxonomy, classification and variety identification of horticulture plants in Bangladesh						
a) Cytogenetic studies in horticultural plants						
b) Chemotaxonomy of horticultural plants						
- Classification and variety identification by isozyme and DNA analysis in tropical fruits, vegetables and ornamental plants						
6- Use of growth regulators in horticultural plants						
a) Plants propagation						
b) Flowering						
c) Fruit set						
6) Entomology						
1- Ecological studies						
a) Insect pests						
- Ecological and integrated control studies on borers affecting legums						
- Ecological and biological studies on insect pests including their natural enemies of important crops						
b) Beneficial insects						
- Biological studies on pollination and utilization of insect pollinators for vegetable seed and oil seed production						

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Categories	1990	1991	1992	1993	1994	1995
2- Classification and taxonomy						
a) Establishment and management of referential insect collection						
- Survey, collection and identification on important crop pests and their natural enemies						
7) Crop Botany						
1- Comparative studies of growth and development of cucurbits raised from seeds and vegetative organs						
2- Embryology						
a) Application of phytohormones for flower initiation of cucurbits						
b) A study of fruit setting behavior of cucurbits						
8) Farm management						
1- Farm development						
a) Soil improvement						
b) Germplasm garden						
c) Experimental orchard						
d) Landscape						
e) Others						
2- Farm utilization						
3- Water management						
4- Maintenance and repair of farm						
5- Maintenance and repair of agricultural machinery						
9) Maintenance of equipment						
1- Operation and maintenance of equipment						
2- Repair of equipment						
3- Green house management						
4- Operation, maintenance and repair of electricity and other supply facilities						
10) Others						

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Categories	1990	1991	1992	1993	1994	1995
2. Academic Program						
(1) To give technical advice to IPSA teaching staff in order to improve the teaching and advising methods for student research and experimental activities in M.Sc. or Ph.D program						
(2) To give technical advice for preparing teaching materials including writing the textbook						
(3) To give technical guidance and advice on lectures to IPSA teaching staff						
(4) To give technical guidance and advice for arranging curriculum, especially, related to experimental activities						
(5) Others						
3. Outreach Program						
(1) To give technical guidance and advice IPSA teaching staff on training of agricultural researchers, extension personnel and teaching staff of agricultural institutions						
(2) To hold a seminars for agricultural researchers and IPSA students, etc.						
(3) To hold a seminars and field days for disseminating the results of the Project to agricultural extension personnel and farmers						

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II. Japanese contribution

Categories	1990	1991	1992	1993	1994	1995
1. Dispatch of Experts						
[ Long-term ]						
- Team Leader						
- Coordinator						
- Agronomy						
- Genetics and Plant Breeding						
- Plant Pathology						
- Soil Science						
- Horticulture						
- Entomology						
- Crop Botany						
- Farm management						
- Maintenance of Equipment						
- Others						
[ Short-term ]						
- Agronomy						
- Genetics and Plant Breeding						
- Plant Pathology						
- Soil Science						
- Horticulture						
- Entomology						
- Crop Botany						
- Farm Management						
- Maintenance of Equipment						
- Others						
2. Dispatch of Teams						
- Consultation Survey Team						
- Technical Guidance Team						
- Interim Evaluation Team						
- Evaluation Team						
3. Training of Counterparts Personnel in Japan		<Approximately three personnels a year >				
4. Provision of Machinery and Equipment						

### III. Bangladesh Contribution

Categories	1990	1991	1992	1993	1994	1995
1. Counterpart personnel						
(1) Head of the Project						
(2) Personnel in the following fields						
- Agronomy						
- Genetics and Plant Breeding						
- Plant Pathology						
- Soil Science						
- Horticulture						
- Entomology						
- Crop Botany						
- Farm Management						
- Maintenance of Equipment						
- Others						
2. Administrative personnel						
3. Land and Buildings						
4. Expenses for implementation of the Project						

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MINUTES OF DISCUSSIONS  
BETWEEN THE TECHNICAL GUIDANCE TEAM  
AND  
THE INSTITUTE OF POSTGRADUATE STUDIES  
IN AGRICULTURE ON IPSA PROJECT PHASE II

The technical guidance team (hereinafter referred to as "the Team") organized by the Japan International Cooperation Agency and headed by Professor Dr. Ichiro Goto, Dean, Faculty of Agriculture, Kyushu University, visited the People's Republic of Bangladesh from the 12th to the 25th of December, 1992 to review and to evaluate activities progress and to modify the Tentative Schedule of Implementation (hereinafter referred to as "the TSI") of the Institute of Postgraduate Studies in Agriculture Project Phase II (hereinafter referred to as "the Project").

During its stay in Bangladesh, the Team exchanged views and held a series of discussions with the concerned authorities. As a result of the discussions, both sides recognized the present situation of the Project as mentioned in the attached document, Major Points of Understanding (ANNEX I) and concur on the steps required to move towards the smooth and successful implementation of the Project.

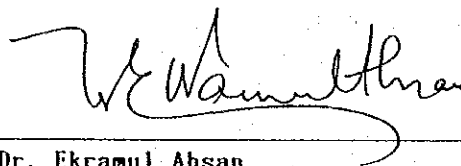
Both sides also have worked out modifications of the TSI based on the Minutes of Discussions signed on 13th October, 1990 between Leader of Consultation Survey Team dispatched by Japan International Cooperation Agency, Japan and Director of Institute of Postgraduate Studies in Agriculture, Bangladesh (ANNEX II).

Dhaka, December 23, 1992.



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Prof. Dr. Ichiro Goto  
Leader,  
Technical Guidance Team,  
Japan International Cooperation Agency,  
Japan.



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Dr. Ekramul Ahsan  
Director/Rector,  
Institute of Postgraduate Studies  
in Agriculture,  
Ministry of Agriculture,  
Bangladesh.

Major Points of Understanding

## I. Project Progress

## 1. Approval of PCP and PP

PCP and PP were approved on August 5, 1992 by the ECNEC meeting and on November 4, 1992 by the OPEC, respectively as a first priority project in the Ministry of Agriculture, Government of Bangladesh. *hjh*

## 2. Introduction of Ph.D. program

The Ph.D. program was introduced in four departments (Agronomy, Genetics and Plant Breeding, Horticulture, and Plant Pathology) on August 1991.

## 3. Implementation of the course based curriculum

The new course based curriculum, developed by the efforts of the IPSA faculty and the JICA-USAID Team, has been implemented for both the M.S. and Ph.D. programs since August 1991. Under the new curriculum, 145 students including 10 Ph.D. students presently are enrolled.

## 4. Memorandum of Understanding

Memorandum of Understandings (MOU) were signed in April 1991 with BARI and BRRI. MOU with BAU and DAE are now under active considerations.

## 5. IPSA catalog

IPSA catalog was renewed and modified. The revised catalog was printed in Oct. 1992.

## 6. Publication of IPSA journal

First issue of Annuals of Bangladesh Agriculture by IPSA was published on December 1991. The second issue of the journal was published on June 1992.

## 7. Department of Agricultural Economics

Department of Agricultural Economics as supporting department was organized in July 1992 and first course of agricultural economics was offered during August and November term 1992.

## 8. New facilities

Library, student's laboratories and field laboratory were inaugurated in July 1992.

## 9. Definition of Sustainability

The definition and criteria of IPSA's sustainability were discussed in the Coordination Committee Meeting held on Dec. 20 1992. 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.

*JS*

*USA*

## II. Pending Issues and Comments

### 1. Overall issues

#### 1) Ordinance/Act

A number of IPSA students are expected to complete their M.S. courses in January 1993 under new curriculum. However, it is desirable that IPSA Ordinance is enacted before the formal degree is awarded. Every possible effort will be made by the Government of Bangladesh to enact the IPSA Ordinance/Act.

#### 2) Recruitment of Teachers and Staff

Shortage of manpower at IPSA is a serious impediment to the implementation of overall program. The recruitment process begun in May 1991 is almost complete about 10 posts will be filled up out of 27 vacancies. The remaining vacant posts must be filled with the best qualified persons without much delay. A second recruitment will start in early 1993.

#### 3) Organization/Administration

The administrative and finance wings of IPSA play important roles as support to the faculty and related staff. In order to strengthen the administrative and finance wings, it is recommended that responsibilities be given to the concerned departments, divisions and committees and all important activities be received commensurate budget.

#### 4) Residential Quarters

The Bangladesh side will fulfill the preconditions for starting the construction work of IPSA's residential quarters in close consultation and collaboration with USAID Mission, Dhaka. Construction work should start within the 1992/93 fiscal year. IPSA should initiate the action to obtain PL480, Title 3 funds which were approved by USAID and allocated in the GOB, ADP.

#### 5) Library

The management of library should be evaluated and the comments of evaluation be followed for its efficient use.

### 2. Academic Matters

#### 1) Student Laboratory

The student laboratories and their equipment should efficiently be used for course works incorporated with laboratory practice.

#### 2) Laboratory Manuals

The laboratory manuals written by IPSA faculty should be prepared for each course requiring a laboratory sessions.

#### 3) Financial support for IPSA students

Necessary steps will be taken to distribute the available supporting

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fund for IPSA students as early as possible by the Government of Bangladesh. As suggested by Dr. Eisgruber, the preferred method of distribution will be in the form of assistantships which require a work component.

### 3. Research

#### 1) Revision of Tentative Schedule of Implementation (TSI)

TSI was modified by reviewing of research program in each Department as attached in ANNEX 2. The Five Year Master Plan (the Plan) in harmony with the TSI has been drafted by the efforts of the IPSA faculty and staff and will soon be finalized. The Plan, once approved, will serve as a guide for faculty research activities.

#### 2) Annual Research Review

An IPSA Annual Research Review consistent with the Five Year Master Plan and TSI should be held annually.

#### 3) Joint Research

Joint research works have been conducted with BARI and BRRI since MOUs were signed in April 1991. IPSA will encourage these joint research programs. IPSA should also explore possibilities for enhance international research activities, i.e. IARC, such as IRRI, ICRISAT, AVRDC as well as those with private sector.

#### 4. Outreach

IPSA's mission statement should be prepared and a consensus be obtained on its implementation as early as possible.

#### 5. Experts

Japanese side will make every effort to dispatch 280 MM of Long and Short term Experts consistent with the revised TSI.

#### 6. Equipment

Maintenance and repair of the equipment is a major problem. IPSA is encouraged to evaluate alternative method to resolve this problem. Some equipment supplied in Phase I is now reaching end of its productive life. IPSA should encourage and evaluate alternative method and develop the specific plan which will be incorporated into Five Year Master Plan to resolve this problem.

#### 7 Evaluation

##### 1) Coordination Committee

The Second Coordination Committee of Phase II, held on Dec. 20 1992 at Ministry of Agriculture, agreed that the Third Coordination Committee be held at the time of dispatching the tripartite evaluation team.

##### 2) Tripartite evaluation

A tripartite evaluation will be conducted in August 1993. The procedures for the evaluation should be decided as early as possible.

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3) Final evaluation

A final evaluation will be conducted about six months prior to the termination of the Project.

III. Summary

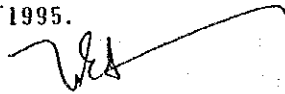
Approval of PCP and PP, introduction of Ph.D., implementation of the course based curriculum and Memorandum of Understanding are the remarkable progress by the cooperation among Bangladesh, Japan and USA sides.

Definition of sustainability is expected to contribute to the successful implementation of the Project.

Many pending issues mentioned above are hoped to be solved immediately by the effort of concerned authorities. The Team strongly requests the approval of IPSA Ordinance/Act in the Cabinet/Parliament as soon as possible for strengthening administrative structure as a autonomous body with degree granting authority.

In spite of several pending issues, the Team wishes that the Project will overcome those issues and will progress steadily by the termination of the Project, July 1995.

JS




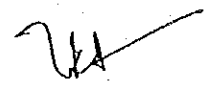
TENTATIVE SCHEDULE OF IMPLEMENTATION  
I. Project Activities

ANNEX II

Categories	1990	1991	1992	1993	1994	1995
1. Research Program						
(1) To give technical advice for survey, planning and implementation of practical research and experimental activities conducted by IPSA teaching staff.						
1) Agronomy						
1- Tillage and stand establishment, crop management						
a) Soil management and soil moisture conservation						
b) Crop production technique						
c) Fertilizer Management						
2- Eco-physiology of crop production						
a) Crop physiology						
-Crop characters						
-Photosynthesis and productivities						
-Stress physiology						
b) Plant nutrition						
-Plant-soil relationship						
c) Crop ecology						
-Canopy structure and root system						
-Crop competition						
3- Weed management						
4- Improvement of seed quality						
2) Genetics and Plant Breeding						
1- Practical approaches for improvement some characters						
a) Rice :						
-Screening of locally available rice germplasms for ESP						
-Screening of mutant lines of rice for total protein and endosperm storage protein						
-Screening of local germplasms and mutant lines for high lysine content						
b) Plant tissue culture						
c) Others :						
-Hybrid varieties (onion, radish)						
-Eggplant: Disease and insect resistance						

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Categories	1990	1991	1992	1993	1994	1995
-Wheat: Nutritional improvement						
3- Cytogenetical analysis of some crop plant						
a) Some cyto-genetical observation of remote hybrids						
4- Mutation breeding						
a) Rice						
Development of mutant lines using physical and chemical mutagens						
b) Others						
-Development of mutant lines using physical and chemical mutagens (Wheat, Mungbean)						
5- Improvement of dioecios and pulse crop						
6- Variety development of horticultural plants						
a) Vegetables						
3) Plant Pathology						
1- Plant Nematology						
a) Ecological studies on plant parastics nematodes						
b) Histopathological studies on nematode-infected plants by using EMs						
c) Control of nemic diseases of major crops						
2- Plant Virology						
a) Survey and monitoring of virus and MLOs diseases of major crops (Emphasize the Legumes and Vegetables)						
b) Identification and Classification of plant viruses and MLOs						
c) Epidemiology of plant virus and MLOs diseases						
d) Management and control of major plant virus and MLOs diseases						
3- Fungal Diseases						

Categories	1990	1991	1992	1993	1994	1995
a) Isolation and identification of major soil-born plant pathogens						
b) Isolation and identification of antagonistic micro-organisms from Bangladesh soils						
c) Evaluation of antagonistic micro-organisms against major soil-born pathogens for bio-control						
d) Ecological studies on soil-born plant pathogens						
4- Plant Bacteriology						
a) Survey and monitoring of bacterial diseases of major crops						
4) Soil Science						
1- Effects of manuring on physical and chemical properties of IPSA soils						
2- Water management of different crops (wheat, maize, radish, carrot, mustard, onion and rice) for IPSA and related soils						
a) Water requirement of crops by field experiment						
b) Soil management and tillage practice for increasing soil water storage						
3- Physical properties and constraints of eight soils representing different regions of Bangladesh						
4- Mineralogical studies of Bangladesh soils relating to soil potentiality and soilgenesis						
5- Estimation of microbial biomass of eighteen soils representing different regions of Bangladesh						
6- The effectiveness of nodule bacteria and their performance for nitrogen fixation in different legumes (mungbean, cowpea, gardenpea, soybean and groundnuts)						

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Categories	1990	1991	1992	1993	1994	1995
7- Studies of soil microflora with special reference to nitrogen dynamic in Bangladesh						
8- Evaluation and improvement of soil chemical fertility of upland soil						
5) Horticulture						
1- Collection, evaluation, maintenance and utilization of horticultural germplasm in Bangladesh						
a) Fruits						
b) Vegetables						
c) flowers and ornamental plants						
2- Improvement of horticultural production						
a) Fruits						
-Propagation and management						
b) Vegetables						
-Improvement and development of vegetable varieties						
-Management						
-Seed production technology						
c) Ornamental plants						
-Production						
3- Biotechnology in horticultural plant						
a) Micropropagation in vegetables, ornamentals and tropical fruits						
b) Virus free plant in vegetables,						

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Categories	1990	1991	1992	1993	1994	1995
4- Taxonomy, classification and variety identification of horticulture plants in Bangladesh						
a) Chemotaxonomy of horticultural plants - Classification and variety identification by isozyme analysis in tropical fruits, vegetables						
5- Use of growth regulators in horticultural plants						
a) Flowering b) Fruit set						
6) Entomology						
1- Ecological studies						
a) Insect pests						
- Ecological and integrated control studies on borers affecting legums						
- Ecological and biological studies on insect pests including their natural enemies of important crops						
b) Beneficial insects						
- Biological studies on pollination and utilization of insect pollinators for vegetable seed and oil seed production						




Categories	1990	1991	1992	1993	1994	1995
2- Classification and taxonomy						
a) Establishment and management of referential insect collection						
- Survey, collection and identification on important crop pests and their natural enemies						
7) Crop Botany						
1- Comparative studies of growth and development of cucurbits raised from seeds and vegetative organs						
2- Embryology of endosperm						
a) Application of phytohormones for flower initiation of cucurbits						
b) A study of fruit setting behavior of cucurbits						
8) Farm management						
1- Farm development						
a) Soil improvement						
b) Germplasm garden						
c) Experimental orchard						
d) Landscape						
2- Farm utilization						
3- Water management						
4- Maintenance and repair of farm						
5- Maintenance and repair of agricultural machinery						
9) Maintenance of equipment						
1- Operation and maintenance of equipment						
2- Repair of equipment						
3- Green house management						
4- Operation, maintenance and repair of electricity and other supply facilities						
10) Others						

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Categories	1990	1991	1992	1993	1994	1995
<p>2. Academic Program To support the following activities of IPSA teaching staff through giving technical advice/guidance.</p> <p>(1) Improvement of the teaching and advising methods for student research and experimental activities in M.Sc. or Ph.D program</p> <p>(2) Preparation of teaching materials including writing the textbook</p> <p>(3) Lectures of IPSA teaching staff</p> <p>(4) Arrangement of curriculum, especially, related to experimental activities</p> <p>(5) Others a) Improvement of library service b) Improvement of computer center</p>						
<p>3. Outreach Program To support the following activities of IPSA teaching staff through giving technical advice/guidance.</p> <p>(1) training of agricultural researchers, extension personnel and teaching staff of agricultural institutions</p> <p>(2) Seminars for agricultural researchers and IPSA students, etc.</p> <p>(3) Seminars and field days for disseminating the results of the Project to agricultural researchers, extension personnel and teaching staff of agricultural institutions</p>						

*JY*  
*WKA*

II. Japanese Contribution

Categories	1990	1991	1992	1993	1994	1995
<b>1. Dispatch of Experts</b> [Long-term] -Team Leader -Coordinator -Agronomy -Genetics and Plant Breeding -Plant Pathology -Soil Science -Horticulture -Entomology -Crop Botany -Farm Management -Others						
	[ one to three Expert(s) per year except for Team Leader and Coordinator]					
[Short-term] -Agronomy -Genetics and Plant Breeding -Plant Pathology -Soil Science -Horticulture -Entomology -Crop Botany -Farm Management -Maintenance of Equipment -Others						
<b>2. Dispatch of Team</b> -Consultation Survey Team -Technical Guidance Team -Interim Evaluation Team -Evaluation Team						
<b>3. Training of Counterparts Personnel in Japan</b>	(Approximately three (3) personnels per year)					
<b>4. Provision of Machinery and Equipment</b>						

III. Bangladesh Contribution

Categories	1990	1991	1992	1993	1994	1995
1. Counterpart personnel						
(1) Head of the Project						
(2) Personnel in the following fields						
-Agronomy						
-Genetics and Plant Breeding						
-Plant Pathology						
-Soil Science						
-Horticulture						
-Entomology						
-Crop Botany						
-Farm Management						
-Maintenance of Equipment						
-Others						
2. Administrative personnel						
3. Land and Buildings						
4. Expenses for implementation of the Project						

*Handwritten signatures and initials.*

附属資料 3. P D M ( Project Design Matrix )

P D M ( バングラデラデシュ農業大学院計画フェーズII ) 1992年12月作成

プロジェクト要約	指標	指標データ入手手段	外部条件
<p>Super. Goal バングラデラデシュの高等農業教育及び農業研究システムの上昇に貢献する。</p>	<p>協力終了後、一定期間経過後の成果 1. 農産物生産機械の普及率の増加 2. 農業関係学会、研究機関及び雑誌の増加</p>	<p>調査団派遣及び在外事務所によるプロジェクトの事後評価</p>	<p>1. カウンターパーセント又は同等の教官が定着する 2. 財政が悪化しない 3. 治安が悪化しない</p>
<p>I. 上位目標 IPSAが持続可能な機関になる。</p>	<p>協力終了後、一定期間経過後の成果 1. 研究、教育、普及の各計画実施による下記指標の増進 2. 前掲、外部条件の安定化</p>	<p>調査団派遣及び在外事務所によるプロジェクトの事後評価</p>	<p>1. カウンターパーセント又は同等の教官が定着する 2. 財政が悪化しない 3. 治安が悪化しない</p>
<p>II. プロジェクト目標 IPSAに在る大学の農業研究及び教育が強化される。</p>	<p>協力終了時の成果 下記指標増加の確認</p>	<p>終了時評価調査団派遣による評価</p>	<p>1. カウンターパーセント又は同等の教官が定着する 2. 財政が悪化しない 3. 治安が悪化しない</p>
<p>III. 成果 1. 研究計画：下記の分野について実用的な研究及び普及活動がIPSA教官により実施される。 ①作物学、②園芸学、③応用植物学、④その他 2. 教育計画：①修士・博士課程の学生に対する教育、②助言者がIPSA教官により実施される。 ③教科書等教材が準備される。 ④実践活動を中心としたカリキュラムが準備される。 3. 普及計画：①農業機関の研究員・普及員及び教員、②IPSA教官により実施される。 ③農業研究者及びIPSA学生に対しセミナーが普及される。 ④農民に対しIPSAの成果を普及するセミナー。</p>	<p>1. 研究発表数、論文数の増加 (修士、博士) 2. ①修士・博士課程の学生数の増加、ドロップアウト数の減少、質問者が幅広い就職先の増加 ②教科書等教材の充実 ③カリキュラムの完成と実践活動の確立 3. ①研修回数及び対象者数の増加 ②セミナー回数及び対象者数の増加 ③セミナー：野外研修回数及び対象者数の増加、研究成果の普及 (作物数、品種数、導入農家数、教員面談等) の拡大</p>	<p>1. 成果報告 2. 成果報告、成果物入手 3. 研修記録、追跡調査</p>	<p>1. カウンターパーセントが異動しない 2. 財政が悪化しない 3. 治安が悪化しない</p>
<p>IV. 活動 以下に開示IPSA教官に対する技術的助言、生 1. 研究：①作物学：新法及び基礎的の確立、生 ②園芸学：品質の改善 ③応用植物学：実用的な研究 ④作物学：特許の取得、突発的実用 ⑤園芸学：特許の取得、突発的実用 ⑥応用植物学：実用的な研究 ⑦作物学：特許の取得、突発的実用 ⑧園芸学：特許の取得、突発的実用 ⑨応用植物学：実用的な研究 ⑩作物学：特許の取得、突発的実用 ⑪園芸学：特許の取得、突発的実用 ⑫応用植物学：実用的な研究 ⑬作物学：特許の取得、突発的実用 ⑭園芸学：特許の取得、突発的実用 ⑮応用植物学：実用的な研究 ⑯作物学：特許の取得、突発的実用 ⑰園芸学：特許の取得、突発的実用 ⑱応用植物学：実用的な研究 ⑲作物学：特許の取得、突発的実用 ⑳園芸学：特許の取得、突発的実用 ㉑応用植物学：実用的な研究 ㉒作物学：特許の取得、突発的実用 ㉓園芸学：特許の取得、突発的実用 ㉔応用植物学：実用的な研究 ㉕作物学：特許の取得、突発的実用 ㉖園芸学：特許の取得、突発的実用 ㉗応用植物学：実用的な研究 ㉘作物学：特許の取得、突発的実用 ㉙園芸学：特許の取得、突発的実用 ㉚応用植物学：実用的な研究 ㉛作物学：特許の取得、突発的実用 ㉜園芸学：特許の取得、突発的実用 ㉝応用植物学：実用的な研究 ㉞作物学：特許の取得、突発的実用 ㉟園芸学：特許の取得、突発的実用 ㊱応用植物学：実用的な研究 ㊲作物学：特許の取得、突発的実用 ㊳園芸学：特許の取得、突発的実用 ㊴応用植物学：実用的な研究 ㊵作物学：特許の取得、突発的実用 ㊶園芸学：特許の取得、突発的実用 ㊷応用植物学：実用的な研究 ㊸作物学：特許の取得、突発的実用 ㊹園芸学：特許の取得、突発的実用 ㊺応用植物学：実用的な研究 ㊻作物学：特許の取得、突発的実用 ㊼園芸学：特許の取得、突発的実用 ㊽応用植物学：実用的な研究 ㊾作物学：特許の取得、突発的実用 ㊿園芸学：特許の取得、突発的実用</p>	<p>V. 投入 日本側 1. 専門家派遣 (自然科学分野) 長期①リサーチ②調査員③作物学④園芸学⑤応用植物学 (各科目各委員) ⑥以上1~3名/年 その他⑦⑧⑨⑩⑪⑫⑬⑭⑮⑯⑰⑱⑲⑳㉑㉒㉓㉔㉕㉖㉗㉘㉙㉚㉛㉜㉝㉞㉟㊱㊲㊳㊴㊵㊶㊷㊸㊹㊺㊻㊼㊽㊾㊿ 短期：上記①②③④⑤と同様 2. 研修風受け入れ 年間約3名 3. 機材供与 毎年20,000-30,000 千円</p>	<p>バングラデラデラ側 1. カウンターパーセント、管理人員の配置 2. 土地、建物の提供 3. プロジェクト実施にかかる費用の負担 USAID側 1. 専門家派遣 (社会科学分野) 長期①カリキュラム②調査員③作物学④園芸学⑤応用植物学 (各科目各委員) ⑥以上1~3名/年 その他⑦⑧⑨⑩⑪⑫⑬⑭⑮⑯⑰⑱⑲⑳㉑㉒㉓㉔㉕㉖㉗㉘㉙㉚㉛㉜㉝㉞㉟㊱㊲㊳㊴㊵㊶㊷㊸㊹㊺㊻㊼㊽㊾㊿ 短期：上記①②③④⑤と同様 2. 研修風受け入れ 長期：博士課程10名、短期：56MM 3. 機材供与 雑誌、書籍、コンピューター、AV機器 4. その他 職員宿舎及び関連施設の建設、奨学金寄付</p>	<p>1. 機材が計画的に設置される 2. 専門家派遣が計画的に受け入れられる 3. カウンターパーセントが異動しない 4. 財政が悪化しない 5. 治安が悪化しない 6. 治安が悪化しない 7. 治安が悪化しない 8. 治安が悪化しない 9. 治安が悪化しない 10. 治安が悪化しない 11. 治安が悪化しない</p>

備考：本プロジェクトは、ほとんどの前提条件が準備段階で開始されたため、その問題解決もプロジェクトの成果と考えられる。

附屬資料 4. 各報告之現狀 (英文)

FORMER RECOMMENDATIONS FOR THE IPSA PROJECT AND ITS PRESENT STATUS

	TRIPARTITE EVALUATION in JUL. 1989	CONSULTATION SURVEY TEAM in Oct. 1990	Dr. Eisgruber's Report in Sep. 1992	Present Situations
1. Autonomy & Status of IPSA	a. The Project should be implemented for the purpose of strengthening postgraduate level education and research based on the favorable result of the Phase I. b. Establishment of the appropriate administrative structure, especially the Ordinance/Act.	1. PCP and PP → GOB should prepare PCP & PP in view of P/D and should approve without any delay. 2. Ordinance for Autonomy → GOB should give autonomy including degree granting authority as per the Ordinance without any undue delay.	Dr. Eisgruber's Report in Sep. 1992	PCP and PP were approved in Aug. 1992 and Nov. 1992 respectively.  The revised draft of the Ordinance was submitted to MOA in Aug. 1992.
2. Funding			Approval of Ordinance.	Ratio of donor fund is higher than its GOB. Source of GOB fund is totally ADP.
3. Organization/ Administration	Same as 1-b.		a. The office of the Dean of graduate studies b. Committee structure. c. Departmental budget. d. Administration & faculty handbook.	Organization/Administration structure should be reconsidered for well functioning and smooth implementation of IPSA programs. Sufficient budget should be distributed to respective activities.
4. Activities	a. Attainment of academic flexibility and authority. b. Immediate recruitment of adequate IPSA faculty and staff by the GOB. c. Early finalization of curriculum and syllabi.	a. Recruitment of Teachers → GOB should recruit the best qualified faculty for vacant post without any delay. b. New Curriculum → Every possible effort will be made by IPSA to start the course based curriculum. c. Ph.D. Program → will be started at some dep. in Jan. 1991.	Filling of sanctioned but vacant positions  a. Reduction in the No. of courses listed in the graduate catalogue. b. Sequencing of Courses.  Teaching of Ph.D. level courses	Academic flexibility and authority will be gained by the Ordinance. Interview was held in Dec. 1992, and readvertisement is scheduled in Jan. 1993. Recruitment strategy must be established. New course based curriculum has been implemented in Aug. 1991. Periodic review is necessary, especially incorporation of laboratories into 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. e. Student Drop-out → GOB should take necessary steps to solve the issue. f. Selection of Research Subject → should be in line with important problem of agr. in Bangladesh, National Agricultural Research, Master Plan, teachers' interests & upgrade teachers' capability.		First student will be graduate in Jan. 1993 under new course based curriculum. Standard of M.S. & Ph.D. are unclear. Drop-out rate has been decrease since course based curriculum is implemented. Further effort is required. Five Year Master Plan is prepared by faculty. Commensurate budget and time to research plan is essential.
			a. Selection of thesis research topics b. Publication of M.S. & Ph.D. thesis.	Most of student research is involved to faculty research.

		<p>6. Joint Research → between IPSA and other research institutions should be established and strengthened.</p> <p>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.</p>		<p>Some Joint Research works are conducted since MOU was signed but not lively.</p> <p>Annual Research Review was held Dec. 1991. What about this year?</p> <p>No systematic effort is observed.</p> <p>Weakness of basic science.</p> <p>Department was just established in Aug. 1992.</p> <p>Library is not functioned well.</p>
		<p>a. Teaching &amp; Advising Load Target.</p> <p>b. Teaching improvement seminars.</p> <p>c. Teachers evaluation.</p> <p>d. Recognition of good teaching performance.</p>		
		Strengthening of basic science background.		
		Strengthening Agricultural Economics Dep.		
		Sustained Library Development.		
		Selection and Role of Advisory Committee.		
		Crop Botany Dep.		Role of Crop Botany Dep. is pure science.
		a. Frequency and timing of admission		Increase in faculty workload by each term admission.
		b. Oversubscription of admission of MS		Fund is not sufficient and system is not well established
		Scholarship and Assistantships.		No advantages of M.S. in employment.
		Preference of M.S. over B.S. holders.		IPSA catalog was reviewed.
		Periodic program review and evaluation		Mission statement is unclear.
		The role of Outreach at IPSA.		MOU was signed with BARI and BARI in May 1991.
		Complete MOU process.		BAU is offering MOU.
		Memorandum of Understanding → for effective linkage between IPSA and other research institutions including BARI & BARI should be signed without any further delay.		
		Residential Quarters → GOB should take all necessary measures for timely construction of the residential quarters in close consultation with USAID.		Precondition is not satisfied yet. Construction is not started yet.
		Equipment → should be selected from the view point of sustainability, program need and maintenance.		Maintenance
				Access to the computers by student is limited.
				No accommodation for married students.
5. Linkage				
6. Infrastructure	<p>a. The immediate construction of laboratories, library and residential quarters.</p> <p>b. Establishment of a maintenance system for equipment and facilities.</p>			

7. Others	8. The strengthening of the IPSA project support system in Japan. 9. The continuation and strengthening of the successful and effective tripartite cooperation.	Experts → JICA should make effort to meet the request for 500 M/M experts.	Continued technical 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.	JICA/Kyushu Univ. support for dispatching of short term experts and C/P training. → page USAID will terminate its corporation to IPSA in Oct. 1993. Joint tripartite evaluation will be held in Jul. or Aug. 1993.
		Interim Evaluation → will be conducted at the middle of the Phase I.		











