

10. 資料

10-1. 調査チームの取りかわしたミニツ

Minutes of the meeting between the Japanese Team and
the Bangladesh Agricultural Research Institute
for providing Technical Cooperation for
the Bangladesh College of Agricultural Sciences,
Salna, Joydebpur

At the request of the Govt. of the People's Republic of Bangladesh the Govt. of Japan despatched a preliminary Survey Team headed by Dr. Keizo Tsuchiya for assessing the needs of the technical cooperation for the Bangladesh College of Agricultural Sciences. The team made necessary studies in the proposed areas and had a series of meetings and discussions with the representatives of the Govt. of Bangladesh from April 2-12, 1983. The team called on the representatives of Planning Commission, ERD., Secretary of Agriculture, Minister for Agriculture. The team also met some professors of BAU at Dhaka and BARI campus.

The following participated in the discussion:

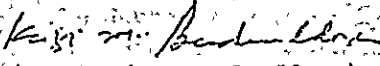
Bangladesh side.

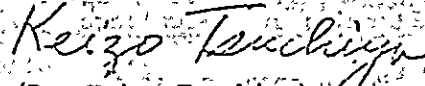
Japanese side.

- | | |
|--|--|
| 1. Dr. Kazi M. Badruddoza,
Director, BARI. | 1. Dr. Keizo Tsuchiya, Professor,
Faculty of Agriculture,
Kyushu University. |
| 2. Dr. Ayubur Rahman,
Associate Director,
BARI. | 2. Dr. Satoshi Wakimoto, Professor,
Faculty of Agriculture,
Kyushu University. |
| 3. Dr. A.H.M. Altaf Ali,
Chief, Agric. Divn.,
Planning Commission. | 3. Mr. Hidetoshi Yakabe, Head of
International Affairs Section,
General Affairs Dept.,
Kyushu University. |
| 4. Dr. A.K.M. Amzad Hossain,
Principal, BCAS,
Salna. | 4. Mr. Yasuo Yoshimura, Second Tech-
nical Cooperation Divn.,
Economic Cooperation Bureau,
Ministry of Foreign Affairs. |
| | 5. Mr. Nobuo Miyashita, Deputy Director,
Technical Affairs Divn., Agril.,
Forestry & Fisheries Planning
& Survey Dept., JICA. |
| | 6. Mr. T. Murakoshi, Resident Repre-
sentative of JICA, Dhaka. |
| | 7. Mr. Kenji Niino, First Secretary,
Embassy of Japan. |


During the stay of the team, series of discussions were held on needs and areas of Technical Cooperation. The contents of discussions are shown in the paper attached herewith.

Dhaka,
The April 12, 1983.

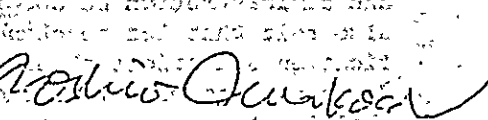

(Dr. Kazi M. Badruddoza)
BARI's Representative.


(Dr. Keizo Tsuchiya)
Team Leader (Japanese Team).

Witness:


(Dr. Ayubur Rahman)
Associate Director (TCP),
BARI, Joydebpur, Dhaka.

Witness:


(Mr. Toshio Murakoshi)
Resident Representative,
JICA Dhaka Office.

THE MINUTES OF DISCUSSIONS

1. Functioning of the college

(a) Recruitment of staff

There will be two category of teaching staff, namely, full-time and part-time. The part-time teaching staff will be the research scientists of BARI/BARI and about 30-40 such scientists are available for the part-time teaching. The full-time teaching staff are going to be recruited as shown in annexure - A. Japanese team desired that an eminent scientist with adequate background of research, teaching and administration be appointed as Principal for BCAS. Japanese team also felt that the teaching staff should be of high calibre and qualification and effort should be made to recruit such persons. The Japanese team expressed their desire to provide them the names and qualifications of the staff members of the college after completion of recruitment.

(b) Curriculum

BARI is running one college (BAC) with a set curriculum of BAU. The BCAS will start initially with this curriculum. BARI is aware about the needs of modifying and up-dating the existing curriculum, both theoretical and practical, according to the needs of the country and it is hoped that such modification of curriculum will be made on National level.

2. Admission of students

Admission of about 40 post graduate students have already been processed by the 'Post graduate Studies Committee', BARI. These 40 students will be the first batch of post graduate students, BCAS. The admission of the under graduate students will be made after publication of the results of the Higher Secondary Certificate Examination sometimes in the month of August/September of this year. The future plan of enrollment of students has been shown in annexure - A.

3. Physical Facilities

It was identified that physical facilities e.g. the housing of staff, fencing, farm development and farm houses etc. are required to be completed immediately. BARI assured about construction of fencing and farm houses and farm development from its own resources but for residential accommodation of staff there is a need for financial assistance. The Japanese team expressed that it is very difficult to provide additional residential accommodation of staff, but they will convey the request of Bangladesh side to their home Government. The requirement of physical facilities has been phased out and shown in the annexure - A.

4. Higher Training for Teachers

Bangladesh side requested the requirement of higher training leading to Ph. D. & Master degree for the teaching staff of the college. But the Japanese team explained that under Technical Cooperation Programme degree level training is not feasible though other training may be considered.

5. Requirement of Expert from Japan

Both sides felt that initially the services of Japanese Expert will be required for development of college. The detail needs on priority has been shown by Bangladesh side in annexure - B to be considered under Technical Cooperation Programme.

6. Equipment, machinery and laboratory chemicals

The requirement has been submitted in annexure - C to be considered under Technical Cooperation Programme.

7. Annual budget

The Japanese team desired that the Government of Bangladesh should make adequate budgetary provision in the ADP so that the college should not suffer for lack of fund.

8. Both sides discussed about the relationship of BAC and BCAS.

Bangladesh College of Agricultural Sciences at Salna,
Joydebpur, Dhaka

Implementation schedule

I T E M	Y E A R					
	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89
<u>Facilities</u>	(Tk. in lakh)					
Houses	160.80	122.60	82.40			
Dormitory				27.00		
Farm Houses	25.00					
Land consolidation.	40.00	40.00				
<u>Professorate</u>	(No. of persons)					
Professor						
Associate Prof.	10	2				
Asstt. Prof.	9	2	4			
Lecturer	10	6				
<u>Students</u>	(No. of persons)					
	U - 50 P - 40 90	U - 110 P - 100 210	U - 170 P - 120 290	U - 240 P - 120 360		

JAPANESE EXPERT TO BE REQUIRED FOR THE COLLEGE OF
BANGLADESH AGRICULTURAL SCIENCES AT JOYDEBPUR.

Annexure-B.

Sl. No.	Title of the post	Specification of the post (qualification & experiences)	Age	No.	Authorities to whom the expert will be responsible	Name of the counterpart	Remarks
1.	Project Monitoring, Implementation and Evaluation Officer	Experienced in Project Management.	35-40	1	Director, BARI or his representative.	Counterpart of Associate Director (TCP).	
2.	Farm development & Management, Farm Machinery.	At least M.S. with 15 yrs. experienced.	-do-	1	-do-	Head, Agronomy Divn.	
3.	Post Harvest Technology	At least M.S. with 10 yrs. experienced.	-do-	1	-do-	Head, Horticulture.	
4.	Agricultural Engineering.	At least M.S. with at least 15 yrs. experience in Research & Teaching.	-do-	1	-do-	Head, Agricultural Engineering.	
5.	Irrigation Expert	M.S. at least 10 years experienced.	-do-	1	-do-	Head, Agronomy Divn.	
6.	Agronomy	Ph.D., at least 10 yrs. teaching & Research experience.	-do-	1	-do-	Head, Agronomy Divn.	
7.	Plant Breeding & Genetics.	-do-	-do-	1	-do-	Head, Plant Breeding.	
8.	Horticulture (Pomology).	Ph.D. with 10 years experience.	-do-	1	-do-	Head, Horticulture Divn.	
9.	Agricultural Extension	Ph.D. at least 10 yrs. experience.	-do-	1	-do-	Head, Agril. Extension	

10. Plant Nutrition	Ph.D. at least 10 years teaching & Research experience.	-do-	-do-	Head, Plant Nutrition.
11. Biometrics & Computer Sciences	Ph.D. with 10 years experience.	-do-	-do-	Head, Biometrics & Statistics.
12. Horticulture (Oloriculture).	-do-	-do-	-do-	Head, Horticulture.
13. Animal Husbandary (Diary Expert).	-do-	-do-	-do-	Head, Animal Husbandary.

MACHINERY AND EQUIPMENT:

1. Farm Mechaneries:

- | | |
|-----------------------------------|----|
| (a) Tractor with all accessories. | 4 |
| (b) Rotavator, grass choppers | 2 |
| (c) Tiller with all accessories | 8 |
| (d) Pump - | |
| (i) Deep tubewell | 2 |
| (ii) Low lift pump | 4 |
| (e) Bulldozer (medium size) | 1 |
| (f) Truck | 1 |
| (g) Dump truck & truck | 2 |
| (h) One tool box complete set | 1 |
| (i) Power Lawn mower | 4 |
| (j) One wheel barrow | 50 |
| (k) Two wheel carrier | 25 |

2. Laboratory Equipment:

- | | |
|--|-----|
| 1. Dissecting Microscope
(Shimadzu - 114 - 450(24)) | 200 |
| 2. Compound Microscope
Shimadzu - 114 - 040 | 200 |
| 3. Zoom Sterio Microscope
Shimadzu - 115 - 320 | 20 |
| 4. Photo-micro graphic opparative
Shimadzu - 115 - 320 | 2 |
| 5. Microscope illuminator
LSD, Serial No. 255549, 255550 | 200 |
| 6. Camera Lucida | |
| Type A - Shimadzu - 115 - 370 | |
| Type D - Shimadzu 115 - 380 | |
| 7. Dissecting box (Standard)
KM-3582 (microscopy specimen making
instrument set) | 200 |

<u>Laboratory Equipment:</u>	<u>No. required.</u>
8. Magnifying Lense (Standard).	200
9. Analytical Balance Electrically operated complete accessories. Shimadzu - 103 - 390(4).	4
10. Chemical balance with weight box (weighing 00.1 mg to 500 mg).	40
11. Chemical balance with weight box (weighing upto 500 g)	40
12. Automatic Table Balance Tech. specification for equipment Model, CE-200 (Bangladesh College of Agril. Sciences).	40
13. Speed Germinator. km 112-1 (6) km 112-1 (4)	1
14. Seed sorter machine (electrical) Part No. 45322 AC 220 V-1Q - 0.5 A	2
15. Incubation chamber per - H, 800 W Controller 600 W, Iswgu Seisakusho Co. Ltd. 81-14	
16. Refrigerator Hitachi 11 cft. 2 doors	40
17. Air conditioner 2,000 BTU	15
18. Diaphonoscope km 133 (page - (1) 12)	4
19. Distillation plant I swzu 200 V. 14 Amp	10
20. Autoclave Model H L 36 C Hirayana Manufacturing Corporation, Japan	4
21. Incubator (two diff. type) km - 3013A (FR - Floor type) & km - 3100A (Model - LT-0)	10
22. Automatic drying oven a) FRESH, 3 way, 1500 W b) SS 105 N	5

<u>Laboratory Equipment:</u>	<u>No. required</u>
23. Distillation set (for N-determination) Isuzu 220V. 14 Amp.	1
24. Kjeldahl digestion set with all accessories electrically operation. km - 402 Shimadzu 142-61	2
25. Saccharimeter Shimadzu - 141 - 820	1
26. spectrophotometer	1
27. Water bath km 705	1
28. Dessicator (simple)	40
29. Automatic deoxydiser	5
30. Muffle furnace km 3925	3
31. Motor diameter 90 & 120 Shimadzu 111 - 470	2
32. Colorimeter (photo-electric) Shimadzu - 141-720 (P-81).	5
33. Oil extractor	1
34. So X h lot's extractor apparatus km 412 - P - (IV) 2	1
35. Large hot plate 240 volts 1700 W, U4 & U6 Iswgu Seisakusho Ltd.	3
36. Specific gravity hygrometer	15
37. Rotary vacuum pump Shimadzu, - 126-120	5
38. pH - Meter with accessories electrical MRK - 10 - 22.	5
39. pH - Testing paper different sizes and different grades.	3
40. Soil Testing Kit (standard size)	10 sft.
41. Bio-chemistry kit (standard)	1

<u>Laboratory Equipment:</u>		<u>No. required</u>	
42.	Paper chromatograph Shimadzu - 143-050 (P-80).	2	complete units
43.	Flame photometer model ANA - 10 Ah.	5	
44.	Electric drying oven Shimadzu - 142 - 080	3	
45.	Canons Photometer	1	
46.	Evaporator with Transformer	5	
47.	Pressure cooker (differnt capacity)	5	
48.	Inertion meter	5	
49.	Mechanical stirrer Shimadzu - 142-490	10	
50.	Soil & Plant Nurient test km - 387	2	
51.	Starch tester km - 388	1	
52.	Water analysis kit km - 410, model 42	5	
53.	Culture shakers km - 462 - P (IV) 6 model RTR - 1	5	
54.	Soil sampling cylinder km - 600	20	
55.	Soil permeability test apparatus km - 718	5	
56.	Micro-kjeldahl apparatus MRK - model No. 1	1	
57.	Centrifuge km - 117	1	
58.	Soil moisture meter km - 346, model - 3-3	25	
59.	Soil PF measuring apparatus km - 356 vertical suction type	10 sets	
60.	Saling tester km - 368	15	
61.	Stop watch (standard)	15	

<u>Laboratory Equipment:</u>	<u>No. required:</u>
62. Alarm clock (standard)	15
63. Inoculating loop (standard)	25
64. Hot air sterilizer, Shimadzu, 145- 400	2
65. Slide (Microscope) standard	5,000
66. Cover slip (standard).	5,000
67. Watch glass (4" diameter) standard.	5,000
68. Test tubes (20 ml) standard	500
69. Conical flask	
2,000 ml	50
1,000 ml	100
500 ml	150
250 ml	300
100 ml	400
70. Petring dish	5,000
71. Funnel	500
72. Measuring cylinder	
1,000 ml	50
500 ml	100
250 ml	150
100 ml	300
50 ml	400
25 ml	500
10 ml	500
73. Beaker	
1,000 ml	150
500 ml	250
300 ml	300
74. Specimen Jar	
2,000 ml	50
1,000 ml	100
500 ml	250
75. Dropping bottle 50 ml	50
76. Reagent bottles	
1,000 ml	50
500 ml	100
200 ml	250

<u>Laboratory Equipment:</u>		<u>No. required</u>
77.	Stage micrometer (standard size)	20
78.	Oculometer	15
79.	Barometer Shimadzu - 147-300	30
80.	Thermo-hygrograph Shimadzu - 147-700	25
81.	Thermometer	
	a) Minimum Shimadzu - 147-500	25
	b) Centigrade (standard)	25
	c) Farenheit (standard)	25
82.	Washing bottles (standard)	50
83.	Puncher (for making hole in rubber stopper) (standard)	100
84.	Cork borer, (standard)	100
85.	Spirit lamp (standard)	100
86.	Burette stand & clamp (Standard)	100
87.	Burette (Standard)	100
88.	Wire basket (Standard)	50
89.	Wire guage (Standard)	100
90.	Pipettes	
	100 mil	50
	50 mil	50
	10 mil	50
	5 mil	50
	2 mil	50
	1 mil (graduation) m	50
91.	Pressing machine (specimen) (standard)	
92.	Gas burner (Standard)	200
93.	Rubber tubes (Standard)	200
94.	Sand bath (Standard size)	100

Laboratory Equipment:	No. required	Estimated cost
95. Calculating machine electrically operated 1 Battery operated/solar	10	\$
96. Xerox machine (plain photocopier)	2	\$
97. Electronic microscope	1	\$
98. Leaf area meter Type AMA-5, Hayashi Denko Co., Ltd. Japan	2	\$
99. Microtome large rotary microtome KM - 5505	1	\$
100. Milk-fat separators KM - 800	2	\$
101. Germination dish KM 113 (pottery made)	100	\$
102. Kjildahl flask 50 ml 100 ml 250 ml 500 ml	100 100 100 100	\$
103. Laboratory glass ware washer machine, jet washer MRX No. 11-15	1	\$
104. Morter Grinder Retach MRX Cat No. 18-27 Model MS - 1	1	\$
105. Dehumidifier	1	\$

3. Laboratory Chemicals:

11/10/1964

Name of Chemicals	No. required	Unit	Weight
1. L-arginine	10	x	500 gm
2. Grcinol	10	x	300 gm
3. L-serine	10	x	500 gm
4. Allumin	10	x	500 gm
5. L-Tyrosin	10	x	100 gm
6. 2,6, dihydrophenol indo phenol	10	x	100 gm
7. I-Nistidin	10	x	500 gm
8. L-Lysin	10	x	500 gm
9. Tryptophan	10	x	500 gm
10. Lecithin	10	x	1000 gm
11. D-I-Alanin	10	x	500 gm
12. D-Ribos	2	x	100 gm
13. Kinhydrin	10	x	500 gm
14. Phloroqhicinol	10	x	1000 gm
15. B-Xylosin	10	x	100 gm
16. 2-D y Ribos	2	x	100 gm
17. Silver Nitrate	10	x	15 lbs
18. Azcorbic acid	10	x	500 gm
19. Glutanic acid	20	x	1000 grm
20. D-Arabinose	10	x	50 gm
21. L-Arabinose	10	x	50 gm
22. Cold chloride	2	x	500 gm
23. Zuparol	50	x	100 ml
24. Indole acetic acid	50	x	5 gm
25. Gibberalic acid	50	x	10 gm
26. Colchicin	20	x	10 gm

Name of Chemicals	No. required
27. Indole butyric acid	20 x 10 gm
28. Safranin	100x 25 gm
29. Carmine alum	100x 25 gm
30. Sulphuric acid pure	10x 100 lbs
31. Hydrochloric acid pure	10 x 100 lbs
32. Nitric acid	10 x 50 lbs

4. Books and Documentation Facilities

New Proposal
for

Education Principle and Management

By

Dr. Abdul Mazid Khan
Education Minister

29th January, 1983

(Translated from Bengali)

From the last 35 years, many conversations, discussions and researches had been done to develop the education system for the benefit of the nation. But till now, the plan for making a morally and socially conscious active young generations remain unsuccessful. From the inquiries and researches of last 7-8 months, the Government knew many informations and these are given below:

1) Initially 56% of the children admit to primary school but 60% of them leave the school after first year and only 20% continue upto 5th year of primary school. Population increased normally but the number of students took admission to primary school in 1981 were 12% less than that of 1978. The expenses which bears by the Government for primary education, only 20% of that is spent for real purpose and 80% are misused due to mismanagement and other causes.

2) The salary of primary school teachers are financed by the Government but because of corruption teachers do not get their payment regularly, so teachers are not very devoted to their duties.

3) In the intermediate study level, there is no scope for technical or vocational education. For this many hundred thousands of students

those leave the school or compel to leave the school before Secondary School Certificate (S.S.C.) examination; they only increase the percentage of jobless in the country. Every year 3-4 hundred thousands students appear in the S.S.C. examination but only 1-2 hundred thousands students pass the examination. The students those fail and also 25% of the students those pass, but can not continue higher study due to different causes, as a whole, they only increase the percentage of educated jobless youngmen of the country. It is impossible for the part of Government, National Corporation and private company to give jobs, this type of large numbers of unskilled people every year.

4) The period between S.S.C. examination and enter into University normally takes two years. But from the experience of several years, it is observed that it generally takes 3-4 years.

5) In 1980-81 session, 4 Engineering Colleges were closed due to corruption and mismanagement. Though these colleges have no administrative and management capacity but they want autonomy, for this they went to strike. Still now, many instruments of these colleges are in unused conditions and also some are out of order. In our country, there are only 30,000 scientists or engineers and 100,000 skilled workers. For this our country should give stress on technical and vocational education.

In 1978, a new type of mathematical course was introduced to the syllabus of primary and lower secondary levels, but from the last 4 years this new system was about to stop due to lack of proper teacher training. Actually, there was no system for preevaluation of text book as well as proper teacher training facilities. Presently

the Government selected text book with preevaluation and also introduced proper teacher training. In the meantime arrangements were already done to train about 700 school teachers in each subject of Bengali, English and Science of Class IX and X about 4-5 days.

In 1981 it was known from a survey that about 42 lac students who studied more than 12 years are jobless (40%). Educated jobless people are increasing year by year. It is known from the result of B.Sc. (Bachelor of Science), B.Com (Bachelor of Commerce) examination of Dhaka University this year (1983) that only 14.7% students of B.Sc. and 10.6% students of B.Com. passed the examination. Students of 40 colleges did not pass the examination. Nine-thousands students appeared in the examination but only 1111 students passed the examination. The life of these students who did not pass the examination became aimless. The due date of that examination was April to May of 1982 and due date of publication of result was August to September of the same year. These examinations of Rajshahi University are now going on (January, 1983). Before that the examination of 1977 was held at 1980 and the examination of 1978 was held at 1981.

Except universities, honours Course (B.Sc./B.Com./B.A. honours) is introduced in 32 colleges of the country. In the honours course the percentage of passing examination is more than that of pass course (B.Sc./B.Com./B.A.). Because Bengali and English are compulsory in the pass course which are not necessary in the honours course.

From the above few examples it is clear that if this type of education system will be continued, the development of this country is completely impossible. So present Government wants to rearrange

the education system.

There are 3 main objectives of the proposed education system.

Firstly to publicize the literacy among the people. Primarily

5 years fundamental course for everybody, and in the next stage,

preparative course for everybody upto 8 years is under active

consideration. The proposed system confirms the 5 year primary

education of the 50% children of 11-12 years old childrens within

1987.

The proposed education system has 4 steps;

- 1) Primary, 2) Preparatory, 3) Intermediate, and
- 4) Higher education.

The new education system proposes compulsory Arabic courses

at the primary level in addition to the English and Bengali courses

for the Muslim students and non-Muslim students study other courses related to their religion instead of Arabic.

After 10 years of study, there will be an examination at the end

of class X. Those students who pass this examination will get Higher

Secondary Certificate in different subjects after 2 years or Diploma

after 3 years. The subjects are:

- 1) Humanity and Science
- 2) Technical higher secondary
- 3) Prequalification of both the general and technical fields before enter to University
- 4) Business and office management higher secondary
- 5) Nursing higher secondary
- 6) Primary teacher training

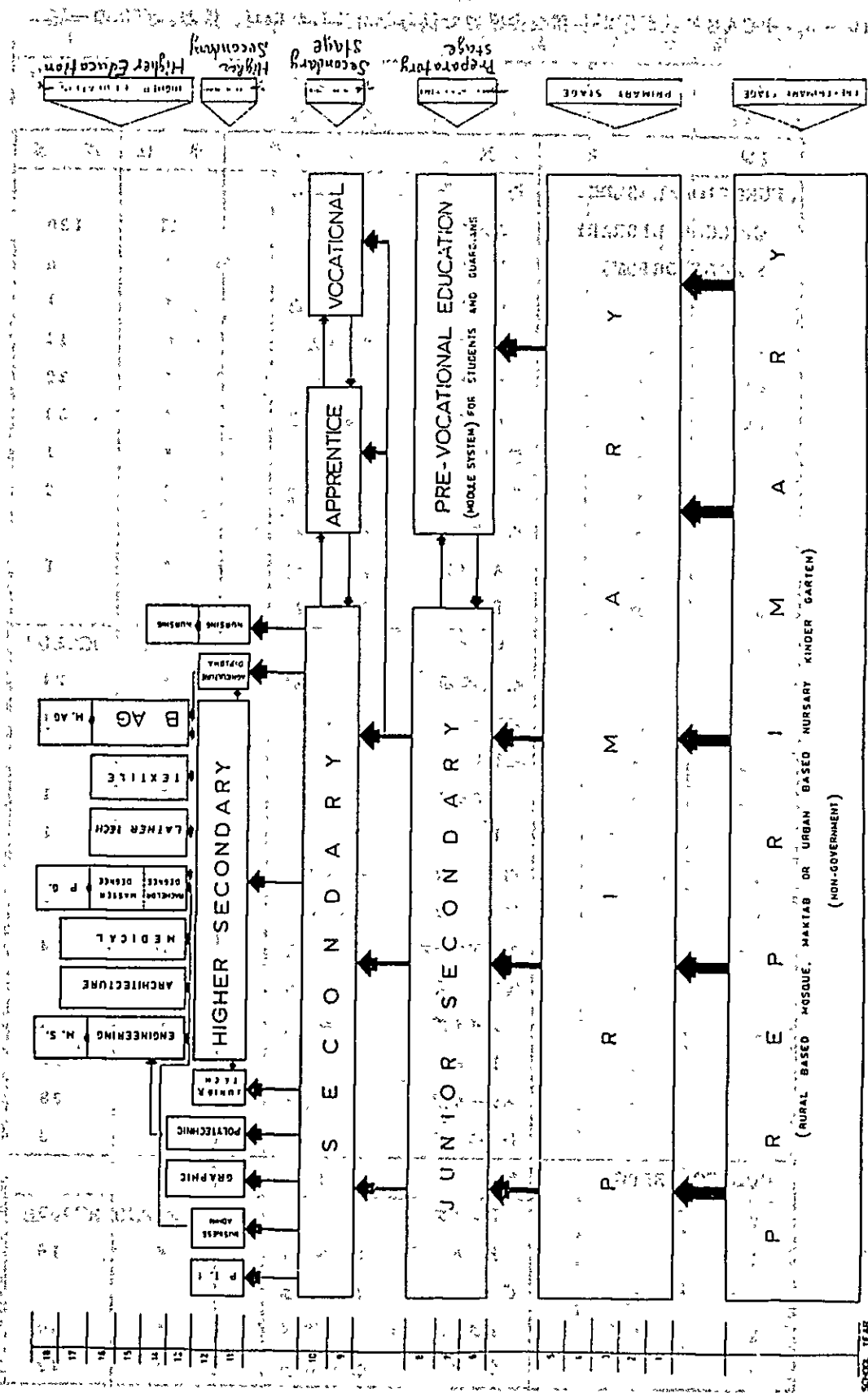
- 7) Agriculture higher secondary
- 8) Leather technology
- 9) Printing and graphic arts diploma (3 years)
- 10) Polytechnic diploma (3 years)

After finishing the above courses, the students may enter into higher education according to their qualification.

The main characteristics of this proposed education system is to rearrange the present education system with the development of socio-economic and industrial business. Vocational and technical education will be closely related with the production system and practical jobs. Government will establish industry for the production and supply of educational materials commercially. These industries will give the students training during the study time and after that, will give regular scope of employment. School dress, school furnitures, different materials for house buildings, leather goods etc. will be produced in those industries.

Now a questionnaire was prepared and circulated among the people of Bangladesh for their opinion and suggestions.

PROPOSED NATIONAL EDUCATION PROGRAMME



10-3 BCASに我が国が無償資金協力で供与を計画した機材、機器、家具の一覧

家具リスト

建 物	家 具	単 位	数 量
FUNCTIONAL BLDG. (INCLUDE LIBRARY & AUDITORIUM)	椅 子		
	Aタイプ	個	120
	B "	"	5
	C "	"	1
	D "	"	14
	E "	"	22
	F "	"	50
	講 壇 机	"	1
	脇 机	"	2
	事 務 机		
	Aタイプ	"	1
	B "	"	6
	C "	"	14
	会議用机	"	24
	スチールロッカー	"	14
	応接セット		
	Aタイプ	"	1
	B "	"	1
	掲 示 板	板	2
	黒 板	"	3
	カードケース	個	3
	書 架		
	Aタイプ	"	4
B "	"	10	
スチール棚	"	38	
長 椅 子	"	3	
COLLEGE BLDG.	椅 子		
	Dタイプ	"	52
	E "	"	16
	机		
	Bタイプ	"	40
C "	"	12	

建物	家具	単位	数量
COLLEGE BLDG.	教室椅子	個	600
	教室机	"	600
	キャビネット	"	46
	ロッカー	"	4
	長椅子	"	11
	テーブル	"	5
	教卓		
	Aタイプ	"	4
	B "	"	16
	生徒実験台	台	24
	流し台	"	8
	観察台	"	8
	準備台	"	12
	備品棚	個	32
黒板	板	16	
HOSTEL BLDG.	ベッド	台	300
	椅子		
	Dタイプ	個	4
	F "	"	110
	G "	"	300
	机		
	Cタイプ	"	4
	D "	"	300
	テーブル	"	19
	ロッカー	"	1
	長椅子	"	32
	テーブル	"	16
	書類ケース	"	1
衝立	板	2	
食器棚	セット	1	
HEALTH CENTER	ベット	台	2
	診察台	"	2
	衝立	枚	2
	医療器テーブル	個	2
	医療器棚	"	2
	キャビネット	"	1

建 物	家 具	単 位	数 量
WORK SHOP	教室椅子	個	40
	教室机	"	40
	教 卓		
	Bタイプ	"	1
	黒 板	板	1
	事 務 机		
	Cタイプ	個	5
	椅 子		
	Eタイプ	"	1
	D "	"	5
	スチールロッカー	"	2
	書類ケース	"	1
棚	"	1	

機器リスト

機 器	機 器	単 位	数 量
事 務 機 器	タイプライター(電動)	台	4
	タイプライター(手動)	#	6
	計 算 機	#	10
	複 写 機	#	2
	小型複写機	#	4
	複写機用紙	一 式	一 式
	印刷機、輪転機	台	2
	製 版 機	#	2
	同 用 紙	一 式	一 式
	掲 示 板	板	7
医 療 機 器	背筋力計	セット	1
	肺活力計	#	1
	視力検査機	#	1
	血 圧 計	#	1
	身 長 計	#	1
	体 重 計	#	1
	座 高 計	#	1
	オーディオメーター	#	1
	握 力 計	#	1
	医療器械(聴診器、etc.)	#	1
	手 洗 鉢	個	2
	枕	#	2
	タオル掛	#	2
	脱 衣 箱	#	2
	冷 蔵 庫	台	2
	薬 品	セット	1
消 毒 器	#	4	
救急カバン	#	2	
実 験 機 器	化学天秤	台	2
	上記天秤用分銅	セット	2
	化学天秤	台	6
	上記天秤用銅	セット	6
	上皿天秤	台	8
自動台ばかり	#	2	

機 器	機 器	単 位	数 量
実 験 機 器	上皿自動ばかり	台	8
	流 量 計	台	4
	ピトー管	#	4
	最高最低温度計	#	36
	乾湿球湿度計	#	36
	自記雨量計	#	1
	雨 量 計	#	2
	雨量計用貯水瓶	個	2
	蒸 発 計	台	2
	ロビッチ自記日射計	#	1
	ジョルダン日照計	#	2
	百 葉 箱	個	2
	PHメーター	セット	2
	水素イオン濃度比色測定器	#	2
	土壤酸度測定器	#	2
	藤田式水質検定器	#	2
	マイクローム	#	1
	顕微鏡(生物)	台	10
	同 上	#	10
	蒸溜装置	セット	1
	加 湿 器	台	2
	ミキサー	#	2
	定温乾燥器	#	2
	線虫淘汰装置	セット	1
	ユッホ式蒸気消毒器	台	1
	無 菌 器	#	1
	ポ ッ ト	#	20
	ジュースー	#	2
	万能かくはん器⓪モーター	#	2
	純水製造装置	#	1
	遠心分離器	#	1
	真空ポンプ	#	2
電気湯せん器	#	2	
恒温水槽	#	1	
坩 堝 炉	#	1	

機 器	単 位	数 量
実験機器	個	400
駒込ピベット	#	100
ラトルマイクロピベット	#	28
試験管台	#	4
回転乾燥管台	#	4
標準比重計	#	100
比重瓶	台	50
土壌用比重計	個	50
オストワルド比重瓶	#	50
棒状温度計	#	4
デシケーター	セット	1
クロマトグラフ装置	台	50
アルコールランプ	個	2
採水瓶	#	100
試験管	#	50
プラスチック	#	50
蒸発皿	#	4
試験管	#	50
砂皿	台	20
ロート台	#	50
三脚台	#	20
ピレット台	個	50
ピンセント	#	100
刷毛	#	20
キーローピーカー	#	20
ホーロータック	#	20
ホーローパット	#	50
ポリ洗浄瓶	#	50
ポリエチレン細口瓶	#	50
広口瓶	#	50
キーカー	#	20
漏斗	#	20
ポリエチレン計量カップ	#	20
磁製グーチ増埒フルイキ	#	100
細口試薬瓶	#	100
広口	#	100

機 器	単 位	数 量	
実 験 機 器	揮 発 瓶	個	50
	油 瓶	"	50
	共通摺合せ瓶	"	50
	集 気 瓶	"	50
	濾 過 瓶	"	10
	標 本 瓶	"	10
	角形標本瓶	"	10
	漏 斗	"	50
	角型ねじ口滴瓶	"	100
工 作 機 器	大工道具	セット	2
	同 金 物	"	1
	溶 接 機	台	1
	キャブタイヤコード	セット	1
	遮 光 面	"	1
	ホルダー	"	1
	手 袋 (皮)	"	1
	溶 接 棒	Kg	20
	ボール盤(卓上)	台	1
	切 断 機	"	1
	バイト、カッタードル類	"	1
	スパナレンチ工具類	セット	1
	研 磨 機	台	1
	サンダー	"	1
	電気ドリル	"	1
	万 力	"	2
	作 業 台	"	1
	工具収納タナ	"	1
	炉	"	1
	金 敷	"	1
	ハンマー類	セット	1
	火 箸 類	"	1
	チェーンブロック	"	1
	ジャッキ	"	3
	作業工具	"	1
	スコップ	本	1

機 器	器	単 位	数 量
工 作 機 器	ク ワ	本	1
	ツルハシ	#	1
	メガネ	#	1
	ドライバー、ペンチ類	セット	1
	テスター	台	1
	アーステスター	#	1
	相回転計	#	1
	安 全 帯	本	2
	保 安 帽	個	2
	安 全 靴	ソク	2
	安全手袋	ソク	2

10-4 BRRI についての英文抜すい

THE BANGLADESH RICE RESEARCH INSTITUTE

BRRI is a research organization established in 1962. It is a government organization and is located in Joydebpur, Dacca, Bangladesh. It is a research organization and is located in Joydebpur, Dacca, Bangladesh.

ABOUT BRRI

1980

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BANGLADESH RICE RESEARCH INSTITUTE
Joydebpur, Dacca
Mail Address : GPO Box No. 911
Dacca, Bangladesh

Rice is important in Bangladesh

Rice is the major food crop in Bangladesh. It is the people's main food and major energy source. Rice covers 80 percent of the total cropped area, some 25 million acres, and is the only source of cash income for many farmers.

Also, special rice varieties are essential for social functions.

Rice seasons

Rice grows under irrigated, rainfed and deep-water conditions in four distinct rice seasons, namely: Aus, transplant Aman, broadcast Aman and Boro.

Aus. Aus is photoperiod-insensitive and grows rainfed as an upland crop from March to August. Aus covers 8 million acres with about 13 percent planted to modern varieties.

Broadcast Aman Broadcast Aman is sown in March and April alone or sometimes mixed with Aus. While Aus is harvested in June and July, broadcast Aman competes with the monsoon floods from July through September and is harvested generally in November and December.

Transplant Aman. Transplant Aman rice is transplanted from July to September.

Aman is the most important rice crop and covers about 60 percent of the total rice area in Bangladesh. Local broadcast and transplant Aman groups are sensitive to photoperiod, but modern varieties are insensitive to slightly sensitive to photoperiod.

Boro. Boro grows mostly under irrigated conditions in the dry winter. Seedbeds are made in November and December, seedlings transplanted in December-January and the crop is harvested in April and May. Nearly 63 percent of the 2 million acres of Boro is planted to modern varieties. Because the winter is relatively free from insects and diseases, and because of higher solar radiation and better water management, Boro yields are higher than for any other seasons.

Boro varieties have cold tolerance and are insensitive to photoperiod.

RESEARCH AND TRAINING CENTER FOR RICE
DOWRY ROAD, RAJSHAHI
1361
DOWRY ROAD, RAJSHAHI

The BRR Challenge

Bangladesh produces only about 12.6 million tons of clean rice for its 85 million people. This leaves a food deficit of about 2 million tons which is currently met by imports. By the year 2000, the population, unless checked, may double to around 140 millions. This will require 27 million tons of foodgrains. Where will this come from?

The Bangladesh Rice Research Institute (BRR) established on October 1, 1970 as a fully autonomous body by parliamentary Act No. X of 1973, is dedicated to develop new rice technologies to meet this challenge.

The major objectives are to :

- conduct research on all aspects of rice;
- establish project areas to demonstrate appropriate agriculture technology;
- train extension officers and farmers in improved techniques of rice production.

A Board of Governors holds full responsibility to determine and execute policies and undertakings of the Institute within the framework of policy directives issued by government. The Director is the executive head and works on behalf of the Board of Governors. The Board consists of :

Chairman :

- The Minister of Agriculture and Forests

Members :

- Two members of Parliament
- The Secretary, Ministry of Agriculture
- The Secretary, Ministry of Finance
- The Secretary, Ministry of Planning
- The Chairman,
Bangladesh Agricultural Development Corporation
- The Director of Agriculture (E & M)
- The Director,
The Bangladesh Agriculture Research Institute
- The Director General,
International Rice Research Institute

Member-Secretary :

- The Director, BRR

Research and support services

BRR I has 15 research and support services divisions and five regional stations. (主要スタッフ 約177名)

Research divisions

- Agricultural Economics and Statistics
- Agricultural Engineering and Irrigation & Water Management
- Agronomy
- Applied Research and Training
- Entomology
- Plant Breeding
- Plant Pathology
- Plant Physiology
- Publications and Public Relations
- Rice Cropping Systems
- Rice Technology
- Soil Chemistry

Support services

- Administration
- Building and Construction
- Farm Management

Regional stations

- Barisal
- Comilla
- Char Chandia
- Habiganj
- Rajshahi

Research is problem-oriented

The work of the institute is organized and managed on a problem basis. In each case, the needs in that particular area are analyzed by an interdisciplinary task force of Institute scientists who prepare and implement a programme through several projects, each of which is performed by one or more divisions at Joydebpur and by the professional staff at regional stations.

Production increased twofold

From 657,565 acres (2.6% of total) in 1969-70, cultivation of modern rices increased to 4.4 million acres in 1978-79. Today modern varieties cover about 18 percent of the total rice area and produce 31 percent of the total rice. Boro and transplant Aman individually produces 1.5 million tons each, while Aus produces 1.0 million tons. Boro coverage is the highest, 62 percent of the 2.6 million acres, but transplant Aman and Aus individually covers 17 and 13 percent respectively of the 10 and 8 million acres.

Consequently, the annual increase in rice production rose from 1.2 to 2.5 percent during this period. A steady annual production growth rate of 4.1 percent must be achieved and maintained to achieve and maintain self-sufficiency in rice production by 1985.

BRR I has five regional stations

Besides the headquarter station at Joydebpur, 20 miles from Dacca, BRR I has set up five regional stations to conduct research on specific fields.

Barisal station

The Barisal regional station (20 acres), situated in Sagordi and Char Badna areas, tests varieties for salt and tidal submergent tolerance. The submerged area in Char Badna farm is gradually rising and reclamation will proceed accordingly.

Comilla station

Research at the Comilla regional station (72 acres) is a follow-up of that at the headquarter with emphasis on local adaptation.

Habiganj station

The Habiganj regional station is engaged in research on deep-water and Boro rices. Established on 92 acres, this regional station has been conducting research on deep-water rices for about 46 years.

Rajshahi station

The Rajshahi regional station (72 acres) is in the preliminary development stage, but when fully established, will screen varieties for suitability to drought conditions in the northern districts.

Char Chandia station

The Char Chandia regional station is in the southern-most saline belt of Noakhali district in Sonagazi thana. Set up in 1976, it is a testing site for salinity tolerance of modern varieties with a special target to identify salt-tolerant transplant Aman lines.

We have some 2 million saline-affected areas in south Bengal where generally transplant Aman and Boro crops are grown. This regional station is also used to develop land rehabilitation programmes.

Table 1. Varietal characteristics of recommended rice varieties of Bangladesh.

Designation	Season	Life cycle (days)	Height (inch)	Yield (md/acre)	Sterility (%)	Milling outturn (%)
Chandna	Aus	115-120				
	Boro	145-150	32-36	50-60	12-16	68
Mala	Aus	120-125				
	Boro	150-160	40-50	50-60	30-35	65
Biplap	Aus	130-135				
	Transplant					
Aman	Aman	140-145	38-40	60-70	10-12	60
	Boro	170-175				
Brrisail	Transplant					
	Aman	140-150	48-50	60-70	10-15	68
Dulhabhog	Transplant					
	Aman	158	55-57	30-35	11-14	60
BR6	Aus	106	32-38	35-45	10-12	70
	Boro	135				
Brribalam	Aus	115-130	42-52	40-50	10-12	70
	Boro	135-155				
Asha	Aus	124	42-51	40-50	10-13	71
	Boro	135				
Sufala	Aus	115	42-48	50-60	10-13	70
	Boro	140				
Progoti	Transplant					
	Aman	147	44-46	60-70	10-14	72
Mukta	Transplant					
	Aman	140	43-45	60-70	10-13	73
IR5	Transplant					
	Aman	130-145	46	60-70	10-15	60
IR8	Aus	130-135	40	60-70	10-15	60
	Boro	170-175				
Irrisail	Transplant					
	Aman	130-140	44	50-60	12-18	68
Purbachi	Aus	110-115	34-36	50-60	10-12	62
	Boro	150-155				
Kataktara	Aus	115-120	56-58	20-24	10-12	65
Panbira	Aus	115-120	57-59	20-24	10-13	60
Dharial	Aus	100-110	56-58	22-25	10-12	60
Dular	Aus	85-90	55-57	22-25	10-12	60
Marichbacl	Aus	95-100	56-58	20-22	10-12	58
Hashikalmi	Aus	85-90	54-56	20-22	10-12	60
Tifokkachari	Transplant					
	Aman	165	60-62	25-30	7-10	62
Latsail	Transplant					
	Aman	150	58-60	25-30	10-15	58
Nizersail	Transplant					
	Aman	165	60-62	30-62	6-10	70
DA29	Transplant					
	Aman	158	60-65	25-30	9-14	58
DA31	Transplant					
	Aman	135	60-62	25-27	7-10	60

Contd.

Designation	Season	Life cycle (days)	Height (inch)	Yield (md/acre)	Sterility (%)	Milling outturn (%)
Patnai-23	Transplant					
	Aman	158 a	62-68	34-38	9-14	60
Rajasail	Transplant					
	Aman	142 a	55-58	25-28	12-15	60
Badshabhog	Transplant					
	Aman	150 a	58-60	28-32	10-12	60
Dulhabhog	Transplant					
	Aman	158 a	55-57	30-35	11-14	60
Habiganj	Broadcast					
Aman I	Aman	210 b	48-60	25-26	10-15	58
Habiganj	Broadcast					
Aman II	Aman	225 b	60-84	25-26	10-12	60
Habiganj	Broadcast					
Aman IV	Aman	230 b	72-96 c	28-30	10-12	62
Habiganj	Broadcast					
Aman V	Aman	240 b	108-144 c	25-27	10-12	62
Habiganj	Broadcast					
Aman VIII	Aman	240 b	108-144 c	25-27	10-12	62
Gabura	Broadcast					
	Aman	230 b	72-96 c	25-27	10-12	60
Maliabhangar	Broadcast					
	Aman	230 b	72-96 c	20-22	10-15	58
Habiganj	Boro					
Boro II	Boro	150	55-57	25-30	8-12	62
Habiganj	Boro					
Boro IV	Boro	145	53-55	25-30	8-12	62
Habiganj	Boro					
Boro VI	Boro	147	55-57	35-45	8-12	60
Habiganj	Boro					
Boro VIII	Boro	150	55-57	30-35	8-12	60

a These varieties are photoperiod-sensitive and their life cycle which varies with date of seeding is based on mid-June sowing.
 b These also are photoperiod-sensitive and their cycle is based on April sowing. They also vary depending on date of seeding. c Height depends on flood levels. Therefore, water depths in which they grow are given.

10-5 パングラデシュ主要穀物及びジュート、茶の年次別生産量等

栽培作物	生産量 (t) 栽培面積 (Acre)	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81
		1971-72	22,73,425	28,02,035	28,58,965	32,10,100	30,11,435	31,03,190	32,87,935	28,09,345	32,36,610
Aus Rice	栽培面積	74,17,935	76,81,045	78,58,715	48,52,365	79,51,805	78,14,910	79,95,270	75,04,620	76,88,580	
Aman Rice	生産量	56,95,260	66,98,900	60,00,000	70,45,100	69,05,580	74,21,640	74,29,090	73,02,790	93,36,260	
	栽培面積	133,71,560	141,32,815	134,69,030	142,35,705	143,55,050	142,60,370	143,47,175	1,47,61,850	1,77,38,330	
Boro Rice	生産量	17,38,070	22,20,000	22,49,680	22,85,580	16,50,125	22,38,615	19,29,185	24,26,890	25,88,625	
	栽培面積	21,85,330	24,34,090	28,71,025	28,37,318	21,11,960	27,03,320	26,19,995	28,38,790	28,67,185	
	生産量合計	97,74,730	1,17,20,395	1,11,08,645	1,25,40,780	1,15,67,140	1,27,63,445	26,46,210	1,25,39,025	1,51,61,495	
小麦	生産量	1,13,195	89,526	1,09,177	1,14,870	2,55,358	3,42,500	4,86,227	8,09,710	10,75,255	
	栽培面積	3,14,460	2,96,850	3,05,015	3,11,400	3,70,906	4,66,870	6,54,212	10,70,500	14,60,910	
大麦	生産量	20,525	16,094	15,175	16,109	16,855	14,511	13,261	12,393	12,494	11,456
	栽培面積	71,030	64,020	60,425	63,135	63,155	58,030	52,700	49,303	48,325	45,347
主要作物 米・小麦・大麦	生産量合計	99,08,450	1,00,35,855	1,18,44,747	1,12,39,624	1,12,39,624	1,18,37,009	1,31,19,206	1,31,44,830	1,33,61,229	1,62,48,206
ジュート	生産量	41,93,220	65,13,900	60,00,000	34,75,725	60,00,000	48,05,920	53,59,260	64,42,560	59,62,545	49,42,520
	栽培面積	16,75,540	22,14,685	21,96,390	14,16,530	21,96,390	16,03,430	18,05,275	20,51,640	18,74,305	15,68,780
茶	生産量	11,817	23,688	26,786	31,661	28,924	33,026	36,437,50	37,700	36,032	39,220
	栽培面積	1,10,000	1,10,000	1,10,000	1,06,682	61,073	1,02,615	1,06,248	1,06,706	1,06,706	1,08,950

(甲) 栽培面積は凡てエーカー

(2) 資料 1982 Agricultural Yearbook of Bangladesh

10-6 パンダデシの年次別主要品目の輸出入等

(1) Exports (f.o.b) by broad commodity groups

Period	Total Export	Frog legs	Prawn and Shrimp	Tea Total	Spices	Hides and Skin row	Raw jute Total	Jute yarn Total	Jute manufactures Total	Leather and leather manufactures Total	Paper, paper board and paper pulp Total	Rayon yarn	Handicrafts	Others
1973-74	2,983.28	5.23	62.23	108.77	2.57	0.52	943.29	36.75	1,548.65	176.42	29.77	7.76	0.86	39.31
1974-75	3,135.85	0.35	46.85	162.61	0.87	5.42	758.34	27.14	1,829.33	184.83	29.47	1.20	3.20	93.16
1975-76	5,551.66	11.68	151.84	238.39	30.79	4.78	1,634.25	29.97	2,743.32	499.81	23.41	5.21	7.39	544.03
1976-77	6,570.06	28.00	266.28	494.60	18.43	0.56	1,810.31	56.52	2,718.52	861.85	32.49	5.30	5.23	339.97
1977-78	7,178.24	91.61	176.32	650.54	12.85	7.99	1,537.25	42.75	3,592.87	683.57	97.70	3.66	13.46	267.67
1978-79	9,631.78	108.19	425.03	611.79	12.07	4.14	2,188.02	78.09	4,314.84	1,266.30	110.38	1.00	8.16	507.91
1979-80	10,986.57	41.08	599.05	563.51	12.34	4.14	2,137.16	138.55	5,778.83	1,056.64	154.39	20.53	36.71	406.64
1980-81	11,484.15	51.33	539.59	671.62	4.90	0.38	1,875.31	109.20	6,455.34	871.71	118.99	8.41	28.31	748.56

(2) Import of Agricultural products & Inputs in the years, 1973-74 to 1979-80 (Value (C.I.F))

Commodity	Unit	1973-74		1974-75		1975-76		1976-77		1978-79		1979-80	
		Quantity	Value ('000 TK)	Quantity	Value ('000 TK)	Quantity	Value ('000 TK)	Quantity	Value ('000 TK)	Quantity	Value ('000 TK)	Quantity	Value ('000 TK)
Wheat	M. Ton	17,44,988	29,93,549	22,47,289	39,45,707	11,72,910	23,36,508	3,81,739	8,56,602	14,24,710	28,05,057	9,18,164	19,26,231
Rice	"	94,400	2,15,395	2,81,917	5,54,446	4,17,210	15,76,266	1,12,654	4,87,367	3,17,865	11,07,876	37,488	1,24,257
Raw Cotton	"	32,001	3,71,037	90,032	6,36,150	43,927	5,00,037	50,764	2,34,475	30,267	5,82,234	21,46,646	10,374
Edible Oil	Ky	3,12,54,134	93,176	2,73,41,043	1,76,413	8,63,78,596	10,86,570	5,70,40,900	3,13,192	6,13,91,320	5,98,395	6,20,39,092	7,09,480
Fertilizer	M. Ton	1,33,100	1,36,511	1,73,162	3,96,120	14,67,968	9,69,591	42,538	1,05,691	1,09,455	3,03,858	10,84,194	15,36,960
Pesticides	Lbs.		1,05,465		1,18,672		21,948		35,045		67,828		76,006

Post Graduate Studies Committee

Proceedings of the meeting held on 6.4.82 in the conference room under the Chairmanship of Dr. Kazi M. Badruddoza, Director, BARI in connection with the formation of an advisory committee of Master's degree students of BARI. The following members were present.

- | | |
|--------------------------------|---|
| 1. Dr. Mohammed Hossain Mondal | - Associate Director (Research). |
| 2. Mr. Masharraf Hossain | - Associate Director (S S). |
| 3. Dr. Ayubur Rahaman | - Associate Director (TCP). |
| 4. A.F.M. Hafizur Rahman | - Head, Soil Science. |
| 5. Dr. M.M. Rashid | - Head, Horticulture Division. |
| 6. Dr. Ameerul Islam | - Head, Entomology Division. |
| 7. Dr. Sharafat Hossain Khan | - Head, Plant Breeding. |
| 8. Dr. Hamizuddin Ahmed | - Head, Plant Pathology. |
| 9. Dr. A.F.M. Mouiruzzaman | - Head, Agronomy Division. |
| 10. Dr. S.M. Elias | - Head, Agril. Economics. |
| 11. Mr. Nurul Islam Khan | - Principal Scientific Officer. |
| 12. Dr. A.K.M. Amjad Hossain | - Principal Scientific Officer (Citrus). |
| 13. Dr. M.S. Islam | - Principal Scientific Officer (Chem.) |
| 14. Dr. Zahurul Karim | - Principal Scientific Officer
(Soil Phy.) |
| 15. Mr. Md. Abdus Satter | - Acting Head, Agril. Engg. Division. |

The Chairman opened the discussion and explained the necessity of forming an advisory committee to organize post-graduate studies undertaken by the M.Sc. (Ag.) studnets of the Institute and fix up terms of reference of such committee.

Decision : A committee will be formed with all Associate Directors, Project Directors & Heads of Division as members and the Chairmanship will rotate in alphabetical order on names of the members. Tenure of the Committee of the Chairman will be for 1 year only. Accordingly, Dr. Ayubur Rahman, Associate Director (TCP) has been appointed Chairman of the 1st Advisory Committee. Tentative terms of reference of the committee may be as follows: -

- i) To explore the source of funds needed for such studies.
- ii) To select research problems for the students.
- iii) To explore possibilities of additional remuneration for the teachers involved in the course work.
- iv) To organize the course-work for the M.Sc. (Ag.) students.

Sd/- Dr. Kazi M. Badruddoza
Director,
Bangladesh Agricultural Research Institute
Joydebpur, Dhaka.

Memo.No. 1920 (15)

Dated : 10.4.1982

Copy to _____
for information and necessary action.

Sd/- Dr. Ayubur Rahman
for Director,
Bangladesh Agricultural Res. Institute

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