

PD - AAU - 959
40

AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT DATA SHEET

1. TRANSACTION CODE

A = Add
 C = Change
 D = Delete

Amendment Number 2

DOCUMENT CODE 3

2. COUNTRY/ENTITY

Bangladesh

3. PROJECT NUMBER

388-0051

4. BUREAU/OFFICE

ANE

04

5. PROJECT TITLE (maximum 40 characters)

Agricultural Research Phase II

6. PROJECT ASSISTANCE COMPLETION DATE (PACD)

MM DD YY
03/04/92

7. ESTIMATED DATE OF OBLIGATION (Under 'B' below, enter 1, 2, 3, or 4)

A. Initial FY 91 B. Quarter 4 C. Final FY 91

8. COSTS (\$000 OR EQUIVALENT \$1 =)

A. FUNDING SOURCE	FIRST FY			LIFE OF PROJECT		
	B. FX	C. L/C	D. Total	E. FX	F. L/C	G. Total
AID Appropriated Total	2,208	92	2,300	40,000	6,500	46,500
(Grant)	(2,208)	(92)	(2,300)	(40,000)	(6,500)	(46,500)
(Loan)	()	()	()	()	()	()
Other U.S.						
1.						
2.						
Host Country		2,000	2,000			
Other Donor(s)	200		200	40,000		40,000
TOTALS	2,408	2,092	4,500	1,000	-	1,000
				41,000	46,500	87,500

9. SCHEDULE OF AID FUNDING (\$000)

A. APPRO. PRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE		D. OBLIGATIONS TO DATE		E. AMOUNT APPROVED THIS ACTION		F. LIFE OF PROJECT	
		1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan
(1)	FN	181	080	27,000		19,500		46,500	
(2)									
(3)									
(4)									
TOTALS									

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each)

070 020 220 310 968 978

11. SECONDARY PURPOSE CODE 121

12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)

A. Code BS R/AG TECH INTR TNG NUTR

13. PROJECT PURPOSE (maximum 480 characters)

To continue to strengthen the capacity of the National Agricultural Research System to develop appropriate technologies for farmers.

4. SCHEDULED EVALUATIONS

Interim MM YY MM YY Final MM YY
05/88 05/89 11/90

15. SOURCE/ORIGIN OF GOODS AND SERVICES

000 941 Local Other (Specify)

6. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a _____ page PP Amendment.)

To refocus project efforts to achieve original objectives through a PP Supplement which extends the PACD by four years and increases LOP funding by \$19.5 million.

Concur in method of financing. Funding for external audits have been included in the budget.

George B. Jenkins
Controller

11/23/86
Date:

17. APPROVED BY

Signature: John R. Westley
Title: Director USAID/Dhaka
Date Signed: 11/23/86

18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION

MM DD YY

ACTION MEMORANDUM FOR THE ADMINISTRATOR (SUPPLEMENT SYNOPSIS)

FROM: John R. Westley, Mission Director, USAID/Bangladesh 

Problem:

Your approval is requested to fund a Supplement of the Agricultural Research Phase II Project (388-0051). With this Supplement, Life-Of-Project (LOP) funding will total \$46,500,000 to be incrementally funded from FAA Section 103 in fiscal years 1981 through 1991.

Requested Action Summary:

The conditions and covenants required for the proposed Project Supplement are set forth in the Project Authorization Amendment No. 3 which is attached for your signature. Project Supplement approval entails a four-year extension of the Project Assistance Completion Date, an addition of \$19.5 million to planned LOP funding, and a waiver, justified in attached Annex D and included in Project Authorization Amendment No. 3, for procurement of incumbent technical services.

Background:

By international standards, the National Agricultural Research System (NARS) in Bangladesh is in an embryonic stage of development. Agricultural research efforts to meet national goals are conducted by numerous institutions often in an uncoordinated fashion resulting in a less than efficient allocation of research resources.

With the goal of increasing domestic food production, small farm income, and rural employment, the purpose of the Agricultural Research Phase II Project (ARP-II) is to strengthen the capacity of the National Agricultural Research System to develop appropriate technologies for farmers through improved planning, integration, allocation, and utilization of resources. The \$ 27 million, six-year Project is designed to integrate research programs across ministerial and institutional lines to generate appropriate small farmer technologies. The actual transfer of those technologies to the farmer is the basis of a separate World Bank Project. ARP-II which began in 1981 provides technical assistance, training, and commodities focused mainly at strengthening the Bangladesh Agricultural Research Council (BARC), a body which is charged with coordinating agricultural research in Bangladesh. In 1982, a Project Paper (PP) Amendment was developed to support an expansion of the nation's water management program and to contribute to the development of the country's rice research institute. In addition to improving BARC's management capacity of and support services to the National Agricultural Research System, by the end of the Project, the research programs in six core disciplines should be

strengthened, and the nation's farming system research program should be operating effectively nationwide.

BARC's management of and services to the NARS are expected to insure that all needed agricultural research is carried out and that this research is accomplished as efficiently and effectively as possible. BARC's activities include (1) training research personnel, (2) communicating and storing research information, (3) allocating research resources, (4) identifying, planning, prioritizing, integrating, monitoring, and evaluating national research programs, and (5) assisting research institutes with research facilities' management, commodities procurement, and maintenance of facilities and commodities.

The Project is designed to develop disciplinary research in Economic and Social Science, Crop Research, Livestock and Fisheries Research, Soil Management, Water Management and Pest Management. This core discipline development expands, promotes, and disseminates findings of prioritized, problem-solving research in these six areas.

In farmers' fields and with farmer participation, farming system research involves testing and adjusting the improved farmer technologies which have been generated at research stations as well as incorporating and testing cultural practices which are innovative and highly successful for farmer adoption. Farming system research sites are meeting grounds for researchers, extension workers, and farmers. These sites also provide an opportunity for Bangladesh's agricultural research institutes to integrate their efforts and pool their resources.

Project evaluations indicate that the Project is being successfully implemented and that Project objectives are likely to be achieved although not as rapidly as originally envisaged. Implementation delays by the host country and the primary technical assistance contractor delayed initial implementation of the Project. In addition, the original implementation plan was overly optimistic regarding time periods required for institutional and human resource development as well as conducting agricultural research.

Discussion:

Although implementation of the Project has made and continues to make substantial progress towards achieving its original objectives, additional time and resources are proposed through this PP Supplement to facilitate attainment of these objectives. Since the Project's start-up problems have been overcome and its implementation is progressing well, the continued success of the Project will require only minor modifications in Project design. The proposed PP Supplement will extend the Project Assistance Completion Date (PACD) by four years and will increase the Project's funding level by \$19.5 million.

With this PP Supplement, the Agricultural Research Phase II Project (388-0051) will have a ten-year life and total authorized funding of \$46.5 million.

As the May, 1985 External Project Evaluation indicates, attainment of original Project objectives can be achieved without major restructuring of the Project. However, the refocusing of efforts, suggested by AID/Washington, is a central element of this PP Supplement. The proposed Project adjustments are based on the 1985 Evaluation results and are aimed at sharpening the Project's focus on: (a) BARC's management of and support services to the National Agricultural Research System, to include development and management of human resources, (b) development of core discipline research, and (c) on-farm testing of research results through a farming systems research approach. This PP Supplement proposes to facilitate BARC's execution of its mandated responsibilities.

The above refinement of efforts is consistent with the Bangladesh Government's development goals, USAID/Dhaka's program objective of increased agricultural productivity, and AID's major policy concerns related to technology transfer, increased food availability, and the development of human resource and institutional capacities, as outlined in the AID Policy Paper "Food and Agriculture Development" (May 1982).

The Project's ultimate beneficiaries will be small-scale, rural farmers cultivating two acres or less who will have available improved farming practices. The nation's research staff will also benefit from technical assistance and training.

The Bangladesh Government's contribution to ARP-II is equivalent to an estimated \$40 million for local costs including the NARS's recurrent costs. The International Development Association (IDA), Canada, Australia, Britain, Japan, Netherlands, and Sweden also provide support to the National Agricultural Research System.

Recommendation:

That you approve the Bangladesh Agricultural Research Phase II Project Supplement and sign the attached Authorization Amendment No. 3 and the waiver in Annex D.

Attachments:

1. Project Authorization Amendment
2. Project Paper Supplement

PROJECT AUTHORIZATION AMENDMENT NO. 3

Name of Country: Bangadesh
Name of Project: Agricultural Research II Project
Number of Project: 388-0051

Pursuant to Section 103 of the Foreign Assistance Act of 1961, as amended, the Agricultural Research II Project was authorized on February 9, 1981. The authorization was amended on July 7, 1982 and February 18, 1985. The authorization is hereby further amended as follows:

1. Financing. The first paragraph of the authorization, as amended, is revised to read as follows:

"1. Pursuant to Section 103 of the Foreign Assistance Act of 1961, as amended (the FAA), I hereby authorize the Agricultural Research II Project (the 'Project') for the People's Republic of Bangladesh (the 'Cooperating Country') involving planned obligations of not to exceed Forty-Six Million Five Hundred Thousand United States Dollars (\$ 46,500,000) in grant funds over a ten year period from date of original authorization on February 9, 1981, subject to the availability of funds in accordance with the A.I.D. OYB/allotment process, to assist in financing foreign exchange and local currency costs for the Project. The planned life of the Project is ten years from the date of initial obligation, June 5, 1981, until June 4, 1991."

2. Additional Conditions Precedent to Disbursement.

Except as A.I.D. shall otherwise agree in writing:

(a) Prior to any disbursement of funds authorized by this Amendment except for technical assistance for the Project, or to the issuance of any commitment documents under the Project Grant Agreement therefor, the Cooperating Country shall furnish in form and substance satisfactory to A.I.D.:

Evidence that the Office of the Executive Vice Chairman of the Bangladesh Agricultural Research Council (BARC) has been given the flexibility and authority to operate across Ministries in the agricultural research system when dealing with matters of research planning and budgeting.

(b) Prior to any disbursement of funds authorized by this Amendment for training, or to the issuance of any commitment documents therefor, the Cooperating Country shall furnish in form and substance satisfactory to A.I.D.:

Evidence that the Executive Vice Chairman of BARC has been delegated the authority to authorize and approve short-term overseas training and travel for personnel within the National Agricultural Research System.

3. Additional Project Covenants. During the Supplement period governed by this Amendment, the Project Grant Agreement shall contain additional covenants providing in substance that, except as A.I.D. shall otherwise agree in writing:

(a) The Cooperating Country shall budget and allocate local currencies sufficient to meet the recurring costs of the National Agricultural Research System;

(b) The Cooperating Country will ensure that BARC is fully and appropriately staffed at all times and in particular that the positions of BARC Executive Vice-Chairman and Member-Directors are continuously occupied all times during Project implementation; and

(c) BARC will review the use of all donor and Bangladesh Government funds provided for agricultural research before agreements or annual research plans are considered by the home Ministry of each Agricultural Research Institute and by the Planning Commission.

4. Waiver. The following waiver is approved, based upon the justification set forth in the Project Paper Supplement:

Pursuant to Handbook 11, Chapter 1, Section 2.4.2.a.4., b. and c.1., I hereby waive competition in the procurement of technical services for the Project from the International Rice Research Institute (IRRI) and permit the Cooperating Country to negotiate with IRRI to provide technical services for the remainder of the Project.

The original authorization, except as hereby amended, remains in full force and effect.

M. Peter McPherson
Administrator, AID

Date: _____

F&AGR/KARushing _____
F&A/ARHurdus _____
F&A/HPPeterson _____
PDE/DReese _____
CONT/GJenkins _____
PRO/HRKramer _____
DD/BAPounds _____
DIR/JRWestley _____

Drafted:RLA/SCAllen:msj: 3/10/86
Redrafted by KARushing: 11/19/86

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ACRONYMS

AID/W	- Agency for International Development in Washington
ARP-II	- Agricultural Research Phase II Project, Number 388-0051
AVRDC	- Asian Vegetable Research and Development Center in Taiwan
BARC	- Bangladesh Agricultural Research Council
BARI	- Bangladesh Agricultural Research Institute
BAU	- Bangladesh Agricultural University
BDG	- Bangladesh Government
BCSIR	- Bangladesh Council of Scientific and Industrial Research
BDG	- Bangladesh Government
BINA	- Bangladesh Institute of Nuclear Agriculture
BJRI	- Bangladesh Jute Research Institute
BRRI	- Bangladesh Rice Research Institute
BTRI	- Bangladesh Tea Research Institute
CSR	- Cropping Systems Research
DAE	- Department of Agricultural Extension
DWRC	- Denver Wildlife Research Center
FAR	- Fixed Amount Reimbursement
FRI	- Forestry Research Institute
FSR	- Farming Systems Research
GOB	- Government of Bangladesh
HYV	- High Yielding Variety
IFB	- Invitation for Bids
IPSU	- BARC's International Project Support Unit
IRRI	- International Rice Research Institute in the Philippines
Kg	- Kilogram
L/COMM	- Letter of Commitment
LDC	- Less Developed Country
LOP	- Life of Project
LRI	- Livestock Research Institute
MSc	- Master of Science Degree
MT	- Metric Ton
NALDOC	- National Agricultural Library and Documentation Center
NARP	- National Agricultural Research Plan
NARS	- National Agricultural Research System
NIFR	- National Institute of Fisheries Research
PACD	- Project Assistance Completion Date
PASA	- Participating Agency Service Agreement
PhD	- Doctor of Philosophy Degree
PIL	- Project Implementation Letter
PIO/T	- Project Implementation Order for Training
PL-480	- Titles I, II & III - USG Agricultural Trade Development and Assistance Act of 1954, as amended: i.e., agricultural commodity loans & grants
PP	- Project Paper
PRE	- AID's Bureau for Private Enterprise
PSA	- Procurement Services Agent
RLA	- Regional Legal Advisor
S&T/AGR	- AID's Bureau for Science and Technology, the Directorate for Food and Agriculture
SDB	- Office of Small and Disadvantaged Business Utilization
SO	- Scientific Officer
SRTI	- Sugarcane Research and Training Institute
TA;T.A.	- Technical Assistance
USAID	- AID Missions Overseas
U.S.	- United States of America
USG	- United States Government

I. PROJECT IMPLEMENTATION AND PROBLEMS

A. Introduction

1.01 With a population of over 100 million in an area the size of Wisconsin, Bangladesh is the world's most densely populated agrarian country with over 1,800 people per square mile. At the current annual growth rate of 2.6 percent, the population will double by the year 2010. Despite recurring natural disasters ranging from severe flooding to drought, agricultural production has barely kept pace with population growth during the 1980's. Per capita foodgrain consumption is among the lowest in the world, and food deficits are significant, requiring large infusions of donor food assistance and periodic depletion of scarce domestic foreign exchange reserves to commercially procure foodgrains.

1.02 Agricultural productivity in Bangladesh remains among the lowest in Asia. This low level of agricultural productivity is one of the basic causes of the country's poverty. In the context of rapid population growth, high population density, and a very limited arable land base, the need to increase agricultural productivity is critical and has become one of the Bangladesh Government's (BDG's) most urgent development goals. After independence in 1971, the Government recognized that in the absence of options to expand arable land to increase production, a policy had to be adopted to increase agricultural production through increasing development and utilization of new, appropriate farmer technologies that result in increasing cropping intensities. This required the adoption of a number of measures including the development and application of high yielding varieties (HYVs) and farming systems research, defined below, as well as readily accessible key agricultural inputs. Donors responded with programs designed to address the constraints to increased agricultural productivity through major programs in critical areas, including agricultural research (See attached Annex E).

1.03 USAID's involvement with Bangladesh's National Agricultural Research System began in 1976 with the \$8 million Agricultural Research Phase I Project (388-0003) which primarily supported construction of research facilities for the Bangladesh Agricultural Research Institute (BARI) and provided limited amounts of technical assistance, training, and commodities. The \$27 million Phase II Project (388-0051) which began in 1981 provides technical assistance, training, and commodities directed mainly at strengthening the Bangladesh Agricultural Research Council (BARC), a semi-autonomous body charged with coordinating agricultural research in Bangladesh. In 1982, a Project Paper (PP) Amendment was developed to support an expansion of the nation's water management program and to contribute to the development of the Bangladesh Rice Research Institute. This PP Amendment does not change the objectives of the Agricultural Research Phase II Project.

1.04 The Agricultural Research Phase II Project is concerned with the development of agricultural productivity in Bangladesh, through selective enhancement of the country's agricultural research system. This National Agricultural Research System, though young by international standards, has made some notable contributions to Bangladesh's agricultural development:

- The Bangladesh Rice Research Institute (BRRI) has developed improved rice varieties which now produce 30 percent of the total rice harvested.
- The Wheat Improvement Program, established at the Bangladesh Agricultural Research Institute (BARI), strongly contributed to a seven-fold increase in wheat production during the life of the USAID Agricultural Research Phase I Project, 1976-1981.
- A new variety of mustard developed by BARI yields 75 to 100 percent more than traditional mustard and has been widely accepted by farmers.
- BARI's Pulses Improvement Program has resulted in the release of black gram and mung bean varieties that can now be grown during the summer months.
- The National Agricultural Research System identified zinc and sulfur deficiencies in paddy soils that, when ameliorated, dramatically increased fertilizer efficiency and rice yields.

1.05 It has been estimated (See, "Agricultural Research in Bangladesh: Costs & Returns," by J. Gill, 1983) that the benefits of the country's agricultural research system during the 1970's were at least double the costs of the research system. With liberal assumptions, benefits are estimated to have been 20 times as high as the research system's recurrent (operating) costs. The overall rate of return was about 50 percent which is within the range of estimates accumulating worldwide on the returns to investments in agricultural research.

B. Project Implementation

1.06 Although less rapidly than originally envisaged, recent Project evaluations indicate that the Agricultural Research Phase II Project (ARP-II), under the leadership of BARC, has: (a) improved overall management of the National Agricultural Research System, (b) contributed to development of interdisciplinary research through improved on-station and farming systems research programs, (c) improved capabilities of scientists through training and expanded communication services, and (d) improved physical facilities of the research system through procurement of farm machinery, scientific equipment, and other commodities.

1.07 ARP-II is aimed primarily at strengthening BARC's ability to manage and service the National Agricultural Research System. The Project also focuses on developing on-station research in core disciplines and an effective nationwide farming systems research program. (For a detailed description of farming systems research, see Annex K of the 1980 Project Paper, No.388-0051.) With the goal of increasing domestic food production, small farm income, and rural employment, the purpose of ARP-II is to strengthen the capacity of the National Agricultural Research System to develop appropriate technologies for farmers through improved planning, integration, allocation, and utilization of resources. The actual transfer of those technologies to the small farmer is the basis of a separate World Bank Agricultural Extension Project.

C. Recent Project Evaluation

1.08 The 1985 External Evaluation Team concluded and recommended the following: (1) that the objectives of ARP-II are appropriate (as originally conceived); are still valid for building a National Agricultural Research System; are only partially accomplished; and that USAID should continue support until an effectively functioning National Agricultural Research System is in place; (2) the research system through ARP-II has made significant accomplishments; (3) Project management, by BARC and the prime contractor, has improved substantially, but further significant improvement is constrained by difficulties in maintaining an adequate and full complement of staffing at BARC as well as by insufficient authority of BARC to fully implement its mandate; (4) research planning and setting of research priorities will improve as BARC becomes more involved, as planned, in review and analysis of the research institutes long-range and annual plans; (5) research, extension, and farmer linkages at farmers' fields have been developed and are now maturing to incorporate non-crop activities into the field program achieving a full farming systems approach; (6) decentralization of activities within the research system has progressed, and effectiveness of regional research planning and execution has been facilitated; (7) there are critical manpower shortages throughout the research system; more human resource development, additional staff, reallocation of some staff, and further in-the-field training is needed and will require innovative management to make the farming systems research program work; and (8) a major problem in the National Agricultural Research System is the Government's lack of funding balance between research personnel and the operating expenses required to make them productive.

D. Implementation Problems

1.09 Project evaluations have demonstrated that past problems and delays in achieving ARP-II's objectives are attributable to AID, the Bangladesh Government, and the Project's prime technical assistance contractor.

1.10 On AID's account, the original implementation plan, which was developed more than six years ago, was overly optimistic regarding time periods required for completion of some project elements, e.g. institutional development and the generation of agricultural research results.

1.11 Delays attributable to the BDG have included: (1) inadequate funding for recurrent costs of the National Agricultural Research System, (2) delayed approval and frequent non-approval of researchers selected for training outside of Bangladesh, (3) delays in staffing key BARC positions, and (4) inadequate cooperation among Bangladeshi research organizations.

1.12 BARC, the BDG's ARP-II implementing agency, is maturing but still suffers from the customary problems associated with new institutions in less developed countries. These problems define both the difficulties of and need for institutional development projects. Specifically, ARP-II implementation delays which can be at least partially attributable to operational shortcomings of BARC include: (i) often operating on an ad hoc and piecemeal basis, BARC lacks sufficient adherence to a National Agricultural Research Plan (See "Planning, Monitoring and Evaluation of Bangladesh Agricultural Research," by Guy B. Baird, October, 1985); (ii) the fact that BARC is empowered with only relatively limited status, while being responsible for the coordination of programs of research institutes which are spread across several ministries, i.e., the Ministries of Agriculture, Livestock and Fisheries, Industries and Commerce, Local Government and Rural Development, and Education; (iii) the Government expects BARC to influence research institutes while having little control over the budgets of some of these institutes; (iv) BARC has not provided enough support services to these research institutes; (v) BARC has insufficient personnel to support training; and (vi) BARC's International Project Support Unit (IPSU) has been largely ineffective.

1.13 In its present form the IPSU is unable to fulfill its role as the BDG's focal point to which all donors and lenders are to go if they are interested in supporting Bangladesh's agricultural research efforts. Furthermore, IPSU is unable to fulfill many of its responsibilities for providing support to external technical assistance teams. This support was to include clearing commodities from ports, facilitating granting of visas, finalizing housing arrangements, coordinating transport, repair and maintenance efforts, and processing expatriate travel arrangements.

1.14 To various degrees, BARC has been deficient in providing relevant and reliable support services to the nation's research institutes. BARC's services to research institutes include the following: (i) assisting the institutes in developing their research plans while insuring conformance with the country's research needs, national policies, and development goals; (ii) integrating,

monitoring, and evaluating the institutes' research programs; (iii) planning and implementing national programs on agricultural training and career development; (iv) communicating agricultural research and planning information to research station managers and scientists; (v) guidance in research facilities management, commodities procurement and maintenance; (vi) allocating research resources provided by the BDG and donors; and (vii) developing the national agricultural research manpower base through international training programs. If BARC could more effectively provide these services, it would be viewed by the research institutions more as a valued contributor to the nation's research efforts and less as a competitor for scarce research resources.

1.15 Project implementation problems and delays attributable to the prime technical assistance contractor include: (a) delays in identifying, recruiting, and placing specialists, (b) problems in retaining suitable expatriate staff, and (c) lack of administrative experience with AID regulations. As a result of the prime contractor's shortcomings, initiation of Project financed commodity procurements was greatly delayed, and formation of effective working relationships among contractor personnel and counterparts was also greatly delayed.

E. Present Status of Implementation Problems

1.16 Many of these problems have been mitigated or resolved, directly or indirectly. For example, insufficient financing to support the agricultural research system's recurrent costs was temporarily addressed when the BDG and USAID agreed to augment recurrent cost financing with revenue generated from the 1983 supplemental grant to PL-480 Title II. Since approval for participants to attend out-of-country training programs has been a problem, the Project has focused on in-country training activities. BARC's Training Cell now has additional office space but still needs to increase the number of qualified staff. Problems with vacant BARC's top management position has been resolved under the World Bank's and USAID encouragement. The nine Member Director positions and BARC's Executive Vice Chairman have been filled. Many of the shortcomings of BARC's IPSU have been mitigated by the Project's prime contractor, who has assumed some of IPSU's responsibilities, but not its role as a donor contact point. Since the prime contractor's Project Supervisor and Administration Specialist were replaced, Project performance in implementation, financial accounting, planning, and reporting has improved.

1.17 This PP Supplement will alleviate the Project's overly optimistic implementation schedule by extending the Project's time frame. As explained below, the proposals in this Project Paper Supplement will re-orient BARC toward research system management and support services and away from becoming merely a bureaucratic layer within the National Agricultural Research System. As the May, 1985

External Project Evaluation indicates, progress in project implementation has occurred over the past couple of years and is expected to continue throughout the extended life of the Project.

1.18 Although the ARP-II has made and continues to make progress toward achieving its original objectives, additional resources are needed to facilitate attainment of these objectives. A Project extension could provide the time and resources necessary for institutional and human resource development which comes from sustained operational and management experience. If the Project were to end after its sixth year (June 5, 1981-June 4, 1987), its objectives would not be completely fulfilled.

II. PROPOSED SOLUTION: A NUMBER OF ACTIONS THAT REQUIRE EXTENDING PROJECT ACTIVITIES

2.01 Although the Project's objectives will not be fully met within a six-year time-frame, the original objectives are critical and obtainable if USAID support to the long-term development of the National Agricultural Research System is increased for an extended period. This conclusion was reached by the 1985 External Evaluation Team (Evaluation Report pg.3, para. 2) and USAID/Dhaka. Recognizing that institutional and human resource development, as well as agricultural research, are long-term processes, this Project Paper Supplement proposes to extend the Project Assistance Completion Date (PACD) by four years (from June 4, 1987 to June 4, 1991) and to increase the Project's funding level by \$19.5 million. With this PP Supplement, the Agricultural Research Phase II Project (388-0051), will have a ten year life and total authorized funding of \$46.5 million. Note Annex A, PP Supplement approval cable from AID/Washington.

III. ALTERNATIVES TO THE PROPOSED SOLUTION

A. Alternative Approaches

3.01 First, USAID/Dhaka could withdraw from the field of agricultural research once ARP-II's present PACD is reached. This is inadvisable, since the Project's objectives which will not be fulfilled by that time can be achieved without a restructuring of the Project, and there will still be a substantial need for donor assistance to strengthen the National Agricultural Research System.

3.02 Second, without involving BARC, USAID could fund agricultural research programs by providing support directly to the nation's agricultural research institutes. Note, however, that the various national research institutes were established prior to the establishment of BARC. The institutes developed research capabilities to serve specific commodity mandates and were often influenced by special interest groups. Before BARC, separate research organizations, universities, and institutes, having their individual authorities, functioned independently with no defined responsibilities for an integrated National Agricultural Research System.

Fragmentation of research throughout different ministries occurred and costly duplication of facilities were serious constraints to building an effective National Agricultural Research System (See Annex C in the 1980 Project Paper). USAID/Dhaka feels strongly that to avoid re-occurrence of these past inefficiencies (i.e., duplication and fragmentation of research efforts), BARC is essential. This PP Supplement proposes to strengthen agricultural research programs only by providing our support through BARC. We will focus our attention on strengthening BARC's ability to coordinate the National Agricultural Research System.

B. Alternative Documentation

3.03 An extension could be accomplished by a second PP Amendment or a Phase III follow-on Project. These solutions do not accurately reflect the fact that the original ARP-II objectives are likely to remain unfulfilled, and more importantly, they ignore our confidence that these objectives can be attained without major restructuring of the Project. The refocusing of efforts, suggested by AID/Washington in attached Annex A, is a central element of this PP Supplement, as outlined below.

3.04 An extension (by a PP Supplement) could be proposed which entails less time. However, proposals for shorter extensions were rejected at the beginning of our deliberations. We believe that a ten-year effort is needed to develop the institutional and human resources required for the National Agricultural Research System. Each year of support, beyond the present six, enhances the probability of success -- fulfilling the objectives of ARP-II.

IV. PROPOSED ACTIVITIES

A. Background

4.01 The unifying concept of ARP-II is the strengthening of BARC in its leadership role in efficient management, planning, integration, provision of support services, and allocation of research resources. The Project is designed specifically to integrate research programs across ministerial and institutional lines.

4.02 The Project is being implemented through:(1) a host country contract between the Bangladesh Agricultural Research Council and Winrock International, which is the Project's prime contractor (This contract constitutes approximately 80 percent of AID's contribution to ARP-II.), (2) a host country contract between the Bangladesh Rice Research Institute and the International Rice Research Institute (IRRI), and (3) a Participating Agency Service Agreement (PASA) with the Denver Wildlife Research Center (DWRC). The advisory consultants provided by the above organizations do not conduct research per se. Instead, they assist in planning, selecting, managing, and evaluating the research activities which are conducted by the Bangladesh research community.

4.03 Benefiting from two external and three internal evaluations over the past five years, the extension will involve Project refinements.

4.04 Under this PP Supplement, the proposed Project adjustments are primarily based on the 1985 evaluation results and are aimed at sharpening the Project's focus on:(a) BARC's management of and support services to the National Agricultural Research System, (b) regional level core discipline research analysis and reporting, (c) on-farm testing of research results through a farming systems research approach, and (d) development and management of human resources. The PP Supplement's technical assistance teams will help to identify training activities needed by field station staff and will assist in promoting and disseminating field station research findings through farmer field days and publications. In addition, this Supplement proposes that the BDG empower BARC with authority commensurate to its responsibilities.

B. Areas of Focus

4.05 Under the extension, selected aspects of the Project's areas of focus include: (1) Research System Management and Support Services; (2) core discipline development in Economics and Social Science, Crop Research, Livestock and Fisheries Research, Soil Management, Water Management, and Pest Management; and (3) Farming Systems Research; all which deserve special attention.

1. Research System Management and Support Services

4.06 The function of this Project element is "to strengthen and expand research management, planning, coordination, implementation, technical and financial monitoring, whereby a national system can function and perform effectively" (Project Paper, 1980, p.14). Since this is the Project's most diverse and important area of activity, it will be discussed in the ten following subsections: (i) the coordinating body for the National Agricultural Research System; (ii) technical assistance; (iii) manpower development; (iv) sabbatical studies; (v) evaluations; (vi) contract research; (vii) integration of external projects and programs; (viii) recurrent costs; (ix) research facility management and support services; and (x) communication, information, and library services.

(i) The Coordinating Body for the National Agricultural Research System

a. Background

4.07 The Bangladesh Agricultural Research Council (BARC) was established in 1973 to provide national unified leadership to the then fragmented agricultural research system. It is charged with planning, identifying, prioritizing, integrating, monitoring, evaluating, and reporting national agricultural research programs.

BARC is expected to insure that all needed agricultural research is carried out and that this research is accomplished as efficiently and effectively as possible. BARC provides the umbrella under which research efforts are coordinated. It is not designed, however, to conduct research per se.

4.08 According to government ordinance, BARC's mandated responsibilities are as follows: (1) Serve as the national coordinating organization for the planning, integration, and effective implementation of research on crops, livestock, soil, water, crop protection, agricultural engineering, forestry, fisheries, and economics and social science; (2) Identify problem areas in agriculture and prepare national plans for agricultural research within the framework of national policies and development goals; (3) evaluate, coordinate, and monitor the research of Government and autonomous bodies conducting agricultural research; (4) plan regional programs on agricultural research, development, and training; (5) communicate and store information from national and international sources for national agricultural research and planning purposes and for use by scientists, policymakers, and documentation facilities; (6) establish research centers as deemed necessary; (7) serve as an agricultural technical branch of the Government, and coordinate both domestic and external resources for implementation of agricultural research and development programs; (8) collaborate with International and National Research Centers to insure the rapid introduction, evaluation, and use of improved agricultural technologies; and (9) plan, develop, and upgrade the manpower base of the National Agricultural Research System.

4.09 Since 1973, BARC has strived to meet these responsibilities. Agricultural research in Bangladesh is conducted by the following institutions:

Bangladesh Agricultural Research Institute (BARI)*
Bangladesh Rice Research Institute (BRRI)*
Bangladesh Jute Research Institute (BJRI)
Bangladesh Institute of Nuclear Agriculture (BINA)
Forestry Research Institute (FRI)
Bangladesh Agricultural University (BAU)
National Institute of Fisheries Research (NIFR)
Livestock Research Institute (LRI)
Sugarcane Research and Training Institute (SRTI)
Bangladesh Tea Research Institute (BTRI)
Other organizations, national cooperatives, and universities conduct limited agricultural research activities.

* BARI and BRRI are the nation's most influential and important agricultural research organizations.

4.10 BARC, BARI, BRRI, BJRI, BINA, FRI, and BAU are under the control of the Ministry of Agriculture, as is the Department of Agricultural Extension (DAE). NIFR and LRI are under the newly established Ministry of Livestock and Fisheries, while SRTI and BTRI are under the Ministry of Industries and Commerce. Universities, other than BAU, are under the control of the Ministry of Education. The nation's cooperatives are under the Ministry of Local Governments and Rural Development.

4.11 The policies of BARC are set by a top-level, multi-ministerial governing body, which consists of high-level representatives of several ministries and the public. This governing body usually meets on a quarterly basis and consists of the following:

Minister of Agriculture, the Council's President
Secretary, Ministry of Agriculture, Vice President I
Executive Vice-Chairman of BARC, Vice President II
Vice-Chancellor, Bangladesh Agricultural University
Head of the Agriculture Division, Planning Commission
Secretary, Ministry of Livestock and Fisheries
Secretary, Ministry of Finance
Director, Bangladesh Jute Research Institute
Director, Bangladesh Tea Research Institute
Director, Cane Development and Research, Bangladesh
Sugar Mills Corporation
Director, Bangladesh Council of Scientific and Industrial
Research (BCSIR) Laboratories
Director, Department of Agricultural Extension
Director of Agriculture (Research), Ministry of Agriculture
A Representative of Forests Division, Ministry of Agriculture
A Representative of the Ministry of Power, Water Resources, and
Flood Control
A Representative of the Bangladesh Atomic Energy Commission
Two Public Representatives (Nominated by the Government)
An Eminent Agricultural Scientist
Secretary, BARC

4.12 Since individual members of this governing body have many responsibilities beyond setting BARC's policies, the day-to-day operations of BARC are conducted by an organization which consists of the Executive Vice-Chairman, nine Member-Directors,* several Directors, numerous Scientific Officers and their associated staffs.** The personnel of this organization are assigned as administrators -- not scientists; however, at least sixty of these personnel are experienced agricultural scientists. The Member-Directors of this organization (which henceforth will be referred to simply as BARC) have responsibilities within specific fields for identification of problem areas, setting priorities for research, and for monitoring and evaluating research programs. The Member-Directors are responsible for assisting the research institutes in the preparation of research programs. They are, thereby, in a position to coordinate among the institutes' work on common major problem areas (e.g. evaluation of improved rice varieties by BINA and BRRI). Within BARC, the Planning and Evaluation Division, headed by a Member-Director, has primary responsibility for insuring these functions. Its actual role and possible means for improving its effectiveness will be discussed below.

4.13 BARC has an Executive Committee which advises the governing body, described above. The Executive Committee consists of BARC's Executive Vice-Chairman, his nine Member-Directors, the Director of BARI, and the Coordinator for the Committee for Advanced Studies and Research at BAU. BARC also constitutes Technical Committees, a Finance Committee, and Finance Subcommittees. The Technical Committees, with varied memberships, are charged with scrutinizing agricultural research program proposals. The Finance Committee examines and estimates the financial implications of the research programs and proposals. The Finance Committee consists of the Executive Vice-Chairman of BARC, the Head of the Agriculture Division of the Planning Commission, the Financial Advisor to the Ministry of Agriculture, Vice-Chancellor of BAU, and the Director of the BCSIR Laboratories. The Finance Subcommittees for Contract Research are composed of professional members of BARC.

* One in each of the following areas: Crops, Livestock, Fisheries, Forestry, Soils and Irrigation, Agricultural Engineering, Economics and Social Science, Planning and Evaluations, Administration and Finance.

** BARC's organization chart is provided in the attached Annex I.

4.14 BARC has made commendable progress in agricultural research evaluation, planning, and prioritizing. BARC's 1979 National Agricultural Research Plan (NARP), keyed to the Government's Second Five-year Plan (1979/84), was succeeded by the NARP 1984-1989, relating to the Third Five-year Plan (1985/90). BARC is currently in the process of revising the NARP for the period 1985-1990.

4.15 BARC's capacity and authority to carry out its planning and priority setting mandate needs to be expanded. In order for it to do this effectively, it must at least have authority to review all research plans and program proposals. Normally, organizations with national mandates comparable to that of BARC (e.g. the Indian Council of Agricultural Research, the Pakistan Agricultural Research Council, the Malaysian Agricultural Research and Development Institute, the Philippine Council for Agricultural Research, and the Indonesian Agency for Agricultural Research and Development) also have major funding power for research. Such power by BARC is largely limited to contract funded research and administration of funds generated under PL-480.

4.16 At present, research institutes in Bangladesh present their proposals for projects to be included in the Five-year Plans to the ministries to which they pertain and report. From there proposals go to the Planning Commission. BARC does not routinely receive a copy of such proposals for review and advice and only in some cases it receives a list of these proposals. In fact, the present request by BARC to the institutes for their Master Plans has received scant attention by some of them. Compliance, sometimes reluctant, seems to be associated with the hope by institutes of obtaining BARC contract research funds for some of their projects.

b. Improving BARC's Effectiveness

4.17 As indicated in the report, "Planning, Monitoring and Evaluation of Bangladesh Agricultural Research," by G.B. Baird, BARC should develop and adhere to meaningful National Agricultural Research Plans and improve its services to the research institutes. While the National Agricultural Research Plan 1984-1989 is a marked improvement over its predecessor, it does not appear to be very useful to the research institutes since it seems presently to be used merely as a guide for identification of contract research projects. This raises the question of the utility of NARPs for the institutes' planning purposes and of BARC's success in using these NARPs as a management tool in guiding and coordinating research priorities at the institute level.

4.18 The problem of a circumscribed authority for research planning and coordination is easily recognized, but the solution appears to be complex. Certainly one measure is to develop standard procedures oriented to provide adequate information required by the institutes, their associated ministries, BARC, and the Planning Commission. A second step, flowing from an improved single standard proforma/outline or program/project proposal document, is involving BARC in the review process for all research plans and proposals.

4.19 How can the NARP be made more useful? Basically, it should identify critical problems amenable through research, set forth research priorities and the resources (staff and budget) required, with allocation by problem areas. While all of these elements are reflected in the NARP 1984-89, there is lack of clear association of priority research programs with necessary staff and budget.

4.20 The agro-economic problems of users of agricultural technologies constitute one of the two most important determinants of agricultural research priorities, i.e., problems of farmers and their families. The other important determinant is made up of national development goals, policies and strategies, i.e., Five-year Plans. Another determinant is made up of special interest groups which may include professional career interests of scientists, foreign donor interests, and political objectives. BARC's challenge is to reach priorities as objectively as possible, keeping in mind the above determinants.

4.21 BARC can take measures to improve its ability to help identify priorities among important research problems. The institutes should regularly provide BARC with the basic information needed for an approximation of critical problems as perceived at the institute level (among farmer produced commodities as in the case of BARI; within commodities as in BJRI, BRRI, FRI, etc.; and among stages of farmer activities, i.e. production, storage, and utilization as in BJRI and FRI). These draft research plans should permit BARC to relate staff and budget to the needed research on a problem basis.

4.22 Experience needs to be gained by BARC staff in the utilization of such basic information. Confidence is needed by BARC's commodity and non-commodity divisions to work efficiently with the institutes on their Master (Five-Year) and Annual Plans. Therefore, this PP Supplement proposes to provide a qualified Planning/Monitoring Specialist for this task. Throughout the Project extension, this Planning/ Monitoring Specialist (described in Annex G) will work with BARC and through the institutes. He/She will conduct in-service training for BARC and institute staff and will probably be located in BARC's Planning and Evaluation Division. One of this Specialist's tasks will be to assist in developing a clear mandate for this BARC Division, and corresponding revised terms of reference for the Member-Director and his professional staff.

4.23 Keeping in mind the specified responsibilities of BARC's Member-Directors for commodity and non-commodity research priorities, evaluation, and planning, the following was suggested in the above cited report by Guy Baird (1985) that BARC's Planning and Evaluation Division's responsibilities should include:

1. Development of a standardized format methodology for preparation of National Agricultural Research proposals, Institute Five-Year Master Plans and Annual Plans.

2. Development and monitoring of annual calendars of BARC and Institute planning and evaluation activities.
3. Training of BARC and Institute personnel in research planning methodology.
4. Development and maintenance of a computerized data base needed for planning and determination of research priorities. This would include development of a comprehensive (but not excessively complicated) classification of research linked to staff and budget.
5. Development and maintenance of a reference facility that would make all relevant planning documents readily available to those who need to use them. These documents include the BDG's National Five-Year Plans, BARC's National Agricultural Research Plans, Institute's Five-Year Research and Annual Plans, and relevant reviews, consultancy reports, etc. This Division would be expected to develop and maintain corresponding research review and evaluation documents.

Implicit from the above, the mandate of the Planning and Evaluation Division should reflect its service and support role at BARC. In addition, all BARC Member-Directors have explicit planning and evaluation responsibilities related to their mandated commodity and non-commodity areas. The Planning and Evaluation Division should help these Member-Directors and their staff to do their planning more effectively.

4.24 For BARC to be more effective in coordinating the nation's research programs, it not only needs to re-examine its orientation with regards to evaluations, planning, and setting priorities, but its Executive Vice-Chairman must function as the spokesman for the National Agricultural Research System. As indicated in Annex I, it has been proposed by the World Bank with support from USAID that the Executive Vice-Chairman of BARC be given the status and rank of a Ministerial Secretary. USAID/Dhaka has met with the MOA to stress the importance of elevating the Executive Vice-Chairman to this level. However, the BDC will soon release the new BARC Ordinance, which will describe in detail the authority and responsibility of the Executive Vice-Chairman position. We understand the Executive Vice-Chairman's position has already been elevated three ranks above an Institute Director General and the Executive Vice-Chairman now receives the same salary and benefits as the current Secretary of Agriculture. Presently, the new BARC Ordinance is an internal BDG document. Since the Mission has not been able to read the final BARC Ordinance, a Condition Precedent to initial disbursement of the PP Supplement's grant funds, excluding T.A. support, will be included in order to identify the Executive Vice-Chairman of BARC as the spokesman for the NARS.

4.25 Even with the above re-orientation measures, BARC will be faced with difficulties in meeting its mandate unless additional limitations are corrected. For example, BARC should, at all times, be fully staffed (particularly at top management levels) to function effectively. BARC's personnel system should allow and encourage vertical movement of its employees rather than exclusive reliance on filling higher level positions with people from outside of BARC. A continuous personnel ladder is needed, so that a BARC Scientific Officer (SO) can, if his performance merits it, move vertically from SO to Senior Scientific Officer (SSO) to Principal Scientific Officer (PSO) to Chief Scientific Officer (CSO) to Director to Member-Director to Executive Vice-Chairman. This PP Supplement will have covenants to the effect that BARC should be fully and appropriately staffed, and that all donor, Government, and lender projects provided for agricultural research must be scrutinized by BARC.

(ii) Technical Assistance

4.26 The Project's technical assistance during the extension will continue to be concentrated on strengthening BARC's ability to manage, coordinate, plan, prioritize, monitor, evaluate, and publicize national research programs. In general, this technical assistance will be concentrated, more than in the past, on strengthening BARC's research system management and services capabilities. It will focus less on activities at BARI and BRRI central research stations in Joydebpur and more on research at field stations in Joydebpur and more on research at field stations of all research institutes and farming systems sites. Refocusing of the Project's technical assistance toward research system management and services will directly support BARC's need for further movement in this direction. Through establishment of a Field Specialist Team (See attached Annex G) and continued provision of a Farming Systems Research Specialist, the technical assistance will support field research stations by strengthening their capacity to design their own research activities in close collaboration with extension workers and farmers and to analyze their own research results at the testing sites.

4.27 Field stations will be assisted in publishing their own results and encouraged to discuss their findings with farmers, extension workers, and the research community at large. The continuous exchange of ideas and findings among farmers, extension workers, and researchers will continue to be stressed through the farming systems research approach. As occurs today on a limited scale, before experiments are conducted on-station or on-farm, joint planning sessions will be held with researchers and extension workers and in some cases with farmers. After the growing season, the same group will reconvene to examine and discuss the usefulness of the results in light of real farmer needs in the area.

4.28 Technical assistance provided by IRRI to BRRI and by DWRC to BARI will be continued with some modifications. This assistance is discussed below, under the Crop Research and Pest Management sections, respectively. In accordance with the objectives of this PP Supplement, these technical assistance agreements will be signed by BARC.

4.29 As outlined in Annex G, throughout the entire four-year extension the prime contractor will provide 13 resident consultants. BARC will be the primary counterpart agency for these resident consultants. In addition to the 13 resident consultants, a total of 69 person-months of short-term technical assistance will be provided to the Project's areas of focus as determined appropriate by BARC, the prime contractor, and USAID.

(iii) Manpower Development

4.30 One of BARC's most important, yet perhaps most neglected, areas of responsibility is human resource development. Under the PP Supplement, long and short-term training, workshops, seminars, study tours, and on-the-job training will, as a major Project thrust, continue the process of career and human resource development in agricultural research. The desired coordination of interdisciplinary research efforts demands a single, organized BARC Manpower Development Office with adequate staffing, space, and administrative support. This is an acute national need which the present Training Cell has only partially addressed.

4.31 The two studies of the human resource development function of BARC carried out by Dr. Francis C. Byrnes have delineated the problems and possible solutions for higher levels of performance. Higher performance will require an adequate BARC manpower development staff including appointment of qualified office personnel, provision of adequate logistical support for the Manpower Development Office, and a Government commitment to develop human resources for the National Agricultural Research System. BARC's Manpower Development Office needs to determine, manage, and develop the human resources required to effectively execute the National Agricultural Research Plan. This Office needs to develop and continuously update a National Research System Master Plan for personnel requirements and to maintain an up-to-date computer record of the nation's existing agricultural research personnel. These records should indicate each individual's present rank and position, discipline, level of education, training undertaken and/or required, etc., and should enable BARC to better monitor system-wide personnel requirements.

4.32 Work is underway on a national manpower survey of agricultural researchers in Bangladesh. This vital undertaking was bolstered by a Regional Workshop on "Managing Human Resources in Agricultural Research" held in March, 1986 and was sponsored by BARC. A computerized data base for the manpower survey data has been designed by Jane Johnson in "Data Base Management at BARC: Applications for Documentation and Administration," April, 1985. This will be one of the key elements in effectively linking research planning of programs with needed manpower and funds.

4.33 The Project will continue to provide support for in-country graduate scholarships. Non-degree training within country will focus on improving technical competence in strengthening the research-extension linkage for effective transfer of technology. The Supplement will also provide financing for out-of-country scholarships and training with areas of study to be determined by BARC in consultation with the Project's resident Manpower

Development Specialist and USAID. This Specialist will assess the qualifications of out-of-country participant candidates to ensure that they are sufficiently qualified for overseas training and that they are available for training in a timely manner.

4.34 Since government approval for out-of-country training has been a real barrier, the Executive Vice-Chairman of BARC will be empowered (as a Condition Precedent to disbursement of training funds) by the Government to authorize and approve personnel within the National Agricultural Research System for overseas training and travel in the same manner as such authority is now delegated to university vice-chancellors.

(iv) Sabbatical Studies: Senior Scientist Research Fellowships

4.35 The sabbatical leave program envisaged in the Project was to provide opportunities for researchers and university personnel to sharpen skills and up-grade professional expertise. Funded through BARC, the program was expected to provide a means of closer cooperation and understanding between Bangladesh's agricultural research institutes and its university communities. Although a significant amount of money is available in the Project for this activity, it has been underutilized. Applications to participate in the program have been disappointing. Recognizing this, BARC has relaxed the requirements for participation. Much still needs to be done to stimulate sabbatical studies and action is needed to increase stipends of participants. A review of the program, to identify other constraints which limit full participation and to explore the program's potential for international sabbatical studies, also needs to be undertaken. Under the Supplement, no additional funds will be reserved for sabbatical studies. Residual sabbatical funds will, however, continue to be available throughout the four-year extension.

(v) Evaluations

4.36 Due to the Project's wide scope and complexity, annual evaluations (alternately conducted by internal and external teams) will continue to assess progress and address constraints throughout the extension period. The PP Supplement will allow for special evaluations and reviews as agreed upon by BARC, AID, and the Project's contractors. See Annex C, "Data Collection, Monitoring, and Evaluation Plan."

(vi) Contract Research

4.37 The Contract Research Program, presently one of BARC's two mechanisms for financially supporting agricultural research activities (recurrent cost allocations being the other), will continue to be used to finance research which has been identified in the National Agricultural Research Plan but has not been included in research programs of any of the research institutes. Under BARC's Contract Research Program, high priority will be given to multi-institutional research activities and research responding to newly emerging problems.

4.38 As per BARC's mandate, it is responsible for prioritizing the nation's agricultural research needs and is expected to regularly update the National Agricultural Research Plan. To do this effectively, BARC must assist the research institutes in developing their research plans. These plans must indicate the funding, equipment, facilities, personnel, and support services required for each proposed research program. Using each institute's plan and its own, BARC can readily update the National Agricultural Research Plan.

4.39 While preparing the National Agricultural Research Plan, BARC is to identify research needs which are not covered by any of the research institutes' programs. These gaps are to be filled by BARC through its Contract Research Program. This program helps to firmly establish BARC's position as coordinator of a diverse range of research activities.

4.40 USAID is one of several organizations supporting BARC's Contract Research Program. The others are the World Bank, the Food and Agriculture Organization, the Canadian International Development Agency, the International Development Research Center, and the Bangladesh Government.

4.41 Under the Contract Research Program, BARC solicits research proposals from all agricultural research organizations, screens the proposals for relevance to immediate problems facing farmers and/or planners, funds selected projects, monitors their progress, and evaluates the usefulness of the end results. Contract Research provides BARC the "budget clout" to direct research into priority problem areas. The 1985 External Evaluation noted that although a manual for contract research had recently been published and approved, problems exist with this program. These problems mostly concern cumbersome implementation procedures. The manual for contract research clarifies procedures but has not simplified them. Therefore, the External Evaluation Team devoted pages 172-176 of its report to simplifying these procedures. These simplified procedures are being followed.

4.42 Through ARP-II's prime technical assistance contract, USAID has budgeted \$1.4 million for contract research. As of June 31, 1986, actual expenditure of these funds totaled \$0.5 million. Since more than one donor is providing contract research funds, BARC has been expending first those funds which are least difficult to release. To overcome this slow expenditure rate, under the PP Supplement USAID's additional \$250,000 of contract research funds and any ARP-II residual contract research funds will be provided to BARC through the fixed amount reimbursement (FAR) method of financing. These funds will, therefore, be outside the prime consultant's contract. Furthermore, these funds for contract research will no longer be restricted to specific research areas, e.g. water management. The prime T.A. consultancy will continue to provide technical assistance for the implementation and evaluation of the Contract Research Program.

(vii) Integration of External Projects and Programs

4.43 To date, ARP-II has been a Project unto itself. This PP Supplement proposes to integrate ARP-II with external projects and programs. This will be accomplished in the following three ways: 1) participating in "buy-in" projects which are offered by the Directorate for Food and Agriculture within AID's Bureau for Science and Technology (S&T/AGR); 2) utilizing programs which provide grants to agricultural researchers in developing countries; and 3) creating programs for Bangladesh which are international collaborative efforts. Each of these will be discussed in turn.

4.44 First, we note that the development objectives of S&T/AGR include the establishment of the following: (a) a sound small-farm or broad-based agricultural sector that is labor-intensive, energy-efficient, and environmentally sound; and (b) human and institution capacities within less developed countries (LDCs) that will sustain a dynamic agricultural production and marketing system. In addition, S&T/AGR with a broad base of expertise (1) provides funds for the United States Government's share of support to International Agricultural Research Centers, e.g. IRRI in the Philippines, (2) monitors and implements development contracts and grants for AID centrally Funded Projects, and (3) conducts region-by-region workshops involving technical assistance teams, host country researchers, and USAID staff.

4.45 S&T also offers "buy-in" projects which are designed to augment the efforts of USAID/Mission projects, e.g. ARP-II. These are called "buy-in" projects because Missions must contribute funds to participate in these projects which are only partially financed by S&T. Often, these projects initiate research in critical development areas. Participants identify ways to coordinate research programs that frequently address regional concerns and establish intercountry research networks. To take advantage of these "buy-in" projects, \$200,000 or an average of \$50,000/year during the life of the PP Supplement will be reserved outside the prime T.A. contract. Utilization of this money will be determined by BARC and USAID/Dhaka, as the need arises.

4.46 Second, participation in programs which provide grants to agricultural researchers in LDCs will be encouraged throughout the life of this PP Supplement. Such programs are offered by the following: 1) The Board on Science and Technology for International Development (BOSTID), Research Grants Program, Office of International Affairs, National Academy of Science/National Research Council, Washington, D.C., and 2) The Program in Science and Technology Cooperation (PSTC), Office of the Science Advisor, AID/Washington, D.C. The former is actually a long-term funding allocation from the latter and is, therefore, not as broad as the latter. Both programs convene workshops, organize advisory teams, and issue reports on agricultural research opportunities related to development. After identifying well defined topics, Bangladeshi agricultural research institutes and researchers will be encouraged to submit proposals for such research grant programs.

4.47 Third, using PP Supplement funds, programs will be created specifically for development of the Bangladesh agricultural research system's international collaborative efforts. An example of this is the proposal to create a new linkage between the Bangladesh research community and the Asian Vegetable Research and Development Center (AVRDC) in Taiwan. This linkage, described below under the Crop Research section, is aimed at improving the nutritional level of food intake by Bangladeshis.

(viii) Recurrent Costs

4.48 The absence of sufficient finances to support recurrent costs has been identified (See, "Operational Funding Constraints on Agricultural Research in Bangladesh," by J. Gill, 1981) as a highly critical element in restricting the National Agricultural Research System's output. In December, 1983, the BDG began augmenting the government's financing of recurrent costs with the Taka equivalent of \$4 million of revenue generated from a supplemental grant under PL-480 Title II.* These funds have been allocated to nine organizations: BARI, BJRI, BAU, BRRI, FRI, BINA, LRI, NIFR, and BARC. In most cases funds are being used to supplement operating expenses of various research institutions, particularly at regional stations and sub-stations. The funds may be used for:

- ++ Labor wages, including seasonal labor
- ++ Fuel and oil
- ++ Travel allowances
- ++ Input supplies, including fertilizers, pesticides, and seeds
- ++ Consumables, including chemicals and glassware
- ++ Journals, reprints, publications, and reporting
- ++ Spare parts for laboratory and field equipment
- ++ Repair and maintenance costs of equipment and laboratories
- ++ Workshops and project meetings
- ++ Contractual services, including statistical and chemical analysis
- ++ Internal monitoring and evaluation
- ++ Miscellaneous

* Note that during the 1987 U.S. fiscal year, there will be an estimated \$2.5 million required for recurrent costs following exhaustion of the PL-480 Title II financing and prior to commencement of the ARP-II PP Supplement. To address this critical shortfall, the BDG is in the process of programming, for agricultural research recurrent costs, Taka to be generated from the August 1985 supplement grant to PL-480 Title III.

4.49 The PL-480 Title II funds, which were available on a one time basis and are expected to be exhausted by June, 1986, have had a highly positive impact on the productivity of the National Agricultural Research System. A study by S.A. Wahed and Hafizuddin Ahmed titled, "Impact Study of Commodity Grant PL-480 Funded Project for Agricultural Research in Bangladesh," November 1984, indicates that when comparing 1983 and 1984 research activities at BARI field stations, (1) the number of experiments nearly doubled, (2) visits by researchers to on-farm research sites more than doubled, (3) farmer attendance at demonstration/training programs at the field stations doubled, (4) the number of farmers contacted by researchers increased by almost ten-fold, and (5) the field stations published four-times as many reports and bulletins. In addition, the PL-480 funds improved the quality and continuity of research activities by allowing timely land preparation, cultivation, input applications, and harvesting. Furthermore, these funds permitted farm equipment operation, repair, and maintenance which would otherwise not have taken place.

4.50 As a consequence of the positive impact of the PL-480 funds, under the four-year extension of the Project's PACD, USAID/Dhaka will annually grant forgiveness for PL-480 Title I/III commodities in amounts sufficient to meet the recurrent costs of the National Agricultural Research System (See Table 1, below).

As in the past and present, these funds will be administered by BARC and relevant utilization specifications will be provided via Project Implementation Letters (PILs). The attached Annex F provides a study of recurrent costs. This study investigates (a) causes of the recurrent cost problem, (b) the likelihood and magnitude of future recurrent cost problems, and (c) the recurrent cost implications of the Project.

Table 1.

Projected PL-480 Title III Grant Forgiveness for
Agricultural Research Recurrent Cost Needs during
the ARP-II Supplement (in \$000)

U.S. Fiscal Year	Recurrent Costs*
1988	7,000
1989	7,500
1990	8,200
1991	8,800
TOTAL:	31,500

* These figures are based on projections of the operational cost element of recurring costs (from the data in Annex F) and are in 1988 dollars.

4.51 BARC is responsible for continuously assessing the need for additional agricultural research stations nationwide and determining which stations, if any, should be closed and the most appropriate combination of regional stations and sub-stations that will best meet the research needs of the nation as required by the National Agricultural Research Plan. These efforts will be closely linked with the activities of BARC's recurrent cost personnel, as they determine allocation of funds for experiment station development, facilities' management, and support services.

(ix) Research Facility Management and Support Service

4.52 As a result of BDG, USAID, and other donor/lender investments, by the end of 1986, the National Agricultural Research System is expected to have an adequate network of institutes, regional stations, sub-stations, and farming systems sites to permit quality research to be conducted. However, research station management has received much less attention than required. Little emphasis has been given to the selection and training of research station managers or support services personnel. As a result, most stations lack one or more of the following operational components: (1) understanding of the importance, role, and responsibilities of station managers and operations support personnel, (2) procedures and funds for timely maintenance and repair of buildings, equipment, and other facilities, (3) long-range institutional planning and funds for the phased replacement of equipment, (4) inventory control and spare parts management, (5) optimum utilization of land, equipment, and building space, and (6) optimum land development practices.

4.53 To alleviate the deficiencies listed above, the PP Supplement will provide support for technical assistance, commodities, vehicles, spare parts, periodic in-country training programs and workshops, and limited training abroad.

4.54 Through the combined efforts of BARC's present Procurement and Engineering Sections, BARC will provide assistance to the institutes in research facilities management and will help develop and strengthen their support services capabilities. The Research Facilities/Support Services Specialist (See Annex G) will be assigned to BARC and will assist it in providing this coordination and support to the institutes. He will work closely with station managers and support personnel and assist in improving facilities and training staff to operate them effectively. He will plan and implement a series of workshops and training modules in the following and other related areas: (1) the role of research facility managers; (2) utilization of experiment station facilities; (3) utilization of laboratory facilities; (4) machinery operation and maintenance; (5) phased maintenance and replacement scheduling procedures; (6) methods of land shaping and field layout; (7) selection criteria for station locations; and (8) budgeting to improve funding timeliness and increase flexibility to respond to needs. Short-term consultants will occasionally be needed to assist in these activities. These activities will also assist BARC's Manpower Development Office in providing training and career development opportunities to the research system's support service personnel.



BANGLADESH AGRICULTURAL RESEARCH COUNCIL

Farm Gate, New Airport Road, Dacca-15
Bangladesh.

ANNEX I
PAGE 3 of 4
TELEGRAM : AGRRESEARCH
G. P. O. BOX : 3041
PHONE : 31 47 99
31 65 87
32 50 61-8

Ref : No.EVC/BARC/146

Date : 30 Aug.1982

Mr.A.M.Anisuzzaman,
Secretary,
Agriculture & Forests Division,
Ministry of Agriculture,
Bangladesh Secretariat,
D a c c a

Subject: Conversion of BARC into a Division of the Ministry of Agriculture.

You may kindly recall that on 30 April,1982. I had submitted a proposal to you for consideration of the Chief Martial Law Administrator for the integration of important agricultural research institutes and placement of same under the Ministry of Agriculture. The main objectives were to bring them in the mainstream of agricultural research activities, ensure coordinated programmes and actions, and to overcome other operational difficulties arising out of isolation and duplication. You and the Minister were good enough to recommend this proposal to CMLA, who promptly approved the same.

The first part of the proposal has already been given effect but the second part, namely, the creation of a Division for Research within the Ministry of Agriculture and Forests has not yet been implemented to strengthen supervising and administrative capacity of the Council, although the matter was forwarded long ago to the Cabinet Division for necessary action on the decision of CMLA. I understand there is some confusion as to how the Agricultural Research Council, as an autonomous body, could be converted into a Division of the Ministry. I had already mentioned in my proposal that the creation of a Research Division would merely be a slight structural modification involving no extra expenditure. All that is required, is to give the Executive Vice-Chairman of Bangladesh Agricultural Research Council the status and rank of a Secretary and provide him with one Deputy Secretary to assist in functional responsibilities. Rest of the support services, mainly on technical matters, would be rendered by the existing autonomous secretariat and technical personnel of BARC. This is essentially how Pakistan has established a Research

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Division following Indian pattern of the Council within the Ministry of Agriculture. Similar structure operates in India where the Director-General of Indian Council of Agricultural Research has the status of a Secretary to the Government; he is assisted by a Joint Secretary and a few under secretaries deputed from the government. I am enclosing herewith a copy of the letter from the Chairman of Pakistan Agricultural Research Council, which is self-explanatory. I do not have at the moment a letter from the Director-General of ICAR giving description of such structure but the title on the enclosed letter, which I received some time ago, indicates the operational structure in India. In Bangladesh, we can begin on a smaller scale. It was not my intention to suggest turning the whole Council into a Division which is neither practical nor desirable.

In the process of developing a strong national agricultural research system, we have already integrated the research institutes under the umbrella of the Council. More integration, however, will not be effective unless a Research Division, as envisaged in my proposal, and approved by OMLA is created simultaneously following the pattern as indicated at para 2 above.

(Razi M. Badruddoza)
Executive Vice-Chairman,
APC.

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4.55 The May, 1985 External Evaluation recommends that BARC commission an analysis of field training facilities for the purposes of determining facility improvements necessary for effective in-country training programs. Kitchens and adequate sleeping and studying facilities may be required at several locations. Many research stations are also without boundary fencing. This evaluation report suggests that these facility improvements might be financed by this PP Supplement as "unforeseen minor construction needs" under the Project's Commodities & Minor Construction line item.

X. Communication, Information and Library Services

4.56 Many libraries and other reference centers of the agricultural research system are just now acquiring collections of scientific books, journals, and other publications. Under the Supplement, the literature resources available to agricultural researchers will be expanded and improved by developing an effective exchange of publications between research, extension, and planners.

4.57 BARC's National Agricultural Library and Documentation Center (NALDOC) will maintain an up-to-date collection of extension literature to complement its research holdings, and the various libraries will keep collections of those extension publications related to their areas of responsibilities. The 1985 External Evaluation indicates that research literature is inadequately available at the regional research stations, and it may be assumed that this condition exists in sub-stations throughout the National Agricultural Research System. Therefore, under this PP Supplement, Project funds will finance literature resources aimed at the research system's network of sub-stations.

4.58 Under the Supplement, broader dissemination will be given to BARC and research institute publications. Institutes will also be encouraged to develop their own publication procedures to best serve the needs of their clients.

4.59 As outlined in Annex G, the technical assistance provided to BARC by the Communications Specialist will continue to institutionalize communication programs at experiment stations as well as to help BARC in expanding its publication program and continuing its newsletter and the National Symposium on Agricultural Research series. This technical assistance will also help the research community in widely publicizing its success stories. Under this proposed PP Supplement, BARC will provide the Project's Communication Specialist with appropriate counterpart staff and adequate facilities. The 1985 External Evaluation strongly recommends that during the proposed ARP-II extension, funds be reserved for publications and reproductions. Therefore, \$500,000 will be explicitly reserved for publications and reproductions (See Section V., Financial Summary).

2. Core Discipline Development

(i) Economic and Social Science

4.60 In Bangladesh, the socio-economic aspects of new agricultural technologies have yet to receive due consideration. Outstanding examples have been the low rates of adoption of HYV rice and HYV mustard which presently only account for an estimated 30 percent and 10 percent, respectively, of the total area under rice and mustard. Both HYV crops offer potentially high farmer returns but only if sufficient, timely quantities of water and fertilizer are provided (purchased). Under the Supplement, the appropriateness of technologies and practices recommended at the research stations and farming systems sites will be rigorously examined and justified not solely in terms of farmer returns but with consideration for suitability within the limited resources of small farmers.

4.61 The socio-economic studies will strive to help both scientists and farmers allocate resources more effectively and will provide policymakers with information necessary for effective policy formulation. Throughout the extension, short-term technical assistance will be available to help with these efforts, and in-country training programs will continue to upgrade the level of skill of local field station staff members. In addition, the Supplement's proposed Field Specialist Team will include an Economist/Social Scientist. This Specialist will assist in generating information and analyses necessary to identify and assign priorities for immediate and long-term research program issues.

(ii) Crop Research

4.62 Under the Supplement, the Project's major facets of crop research (agronomy, cash crops, and horticulture) will converge on the farming systems sites. Virtually all of the 50 crops raised in Bangladesh have some growth potential and a case can be made on grounds of potential contribution to nutrition, energy, export earnings, employment generation, etc., for promoting their expansion. However, given the high population density (person/land ratio), the country's pattern of fragmented land holdings, and the limits on resources for research, extension, and support services, priorities have to be established in regard to crop diversification.

4.63 A start has been made in developing a crop diversification strategy in Bangladesh. In 1982, BARC appointed a committee of specialists which prepared a crop diversification plan. In that document, it was recommended that investments should be limited to those minor crops which had a clear growth potential. Availability of suitable land, market potential, and returns on research investment were some of the criteria used. It was concluded that primary attention should be given to summer pulses, oilseeds (particularly mustard), and potato. Note that as discussed in Annex E, the Canadian International Development Agency is planning a crop diversification program, aimed at research and development of potatoes, pulses, and oilseeds. In addition, under the Supplement the following research neglected crops and groups of crops should receive increased attention: horticultural crops, fodder crops, and homestead agroforestry crops (See Homestead Agroforestry PP, No.388-0062).

4.64 The ARP-II's 1985 External Evaluation indicates that horticultural research, to include homestead gardening, has not received attention equal to its potentially positive impact on nutrition and income generation. More emphasis in this research area is expected to benefit Bangladesh society in general and in particular rural Bangladeshi women, recognizing that these women have multiple roles as homemakers, agricultural workers, and income earners. National development plans have primarily treated this important target group as merely recipients of social services without fully acknowledging their economic and nutritional roles.

This can be attributed to social and religious practices which prevail in Bangladesh. Women in Bangladesh have been given lower status than men in every phase of life, both inside and outside the home. The roles and activities assigned to women have been greatly influenced by the Muslim practice of purdah which literally means "curtain" or "veil" and results in the segregation of sexes and dependence of women. This practice restricts rural women primarily to homestead activities, e.g. post harvest operations, homestead gardening, and food preservation and preparation. However, since these areas have economic and nutritional implications, it is important that these women be provided with appropriate assistance and given access to education and training in these areas. This PP Supplement will aim at strengthening homestead gardening activities through the farming systems research approach and provision of a resident consultant whose area of expertise is horticulture/agronomy (See Annex G.).

4.65 The Project's 1985 External Evaluation recommended that "the horticulture research program should be strengthened by making use of the Asian Vegetable Research and Development Research Center (AVRDC) linkage." In recognition of this, the Supplement will provide AVRDC with \$50,000 annually for a total of \$200,000. (These Project funds may be combined directly with the core support financing of A.I.D's Bureau for Science and Technology.) In return for this contribution, AVRDC will, at its own expense, send scientists to Bangladesh at least twice per year. These visiting scientists will (i) report to the Bangladesh research community on AVRDC's research which has high potential utility in Bangladesh, (ii) confer with individual Bangladeshi scientists, and (iii) identify opportunities for joint research.

4.66 The Project extension will continue to support the Bangladesh Rice Research Institute (\$2 million is reserved for this purpose) through the informal donor consortium consisting of the Ford Foundation and the Canadian, Australian, and U.S. Governments (See Annex E, last paragraph). This consortium finances a technical services contract between BRRI and the International Rice Research Institute. The November, 1984 Evaluation of BRRI indicates that the following have been among BRRI's major recent accomplishments: (1) development of HYVs which have been adopted mainly in the dry (boro) season, (2) identification of major soil deficiencies and suitable low cost soil treatments, and (3) development of cropping systems that make intensive use of land without increasing exposure to risk.

4.67 The same report is also critical of both IRRI and BRRRI, stating the following:

In almost every (BRRRI) division there was insufficient commitment to on-farm research. This type of research is essential if farmers problems are to be adequately defined; appropriate improved technology is to flow to farmers; and farmer feedback is to be obtained. BRRRI should increase its work in Farming Systems Research.

This PP Supplement will address this BRRRI shortcoming through the integration of ARP-II's technical advisors as discussed in Annex G. In addition, IRRI will be supported in assisting BRRRI to further improve its research management activities. IRRI's assistance has accomplished too little in helping to clarify research priorities, set research targets with their associated financial and manpower requirements, monitor research performance, and reprogram research resources as appropriate.

(iii) Livestock and Fisheries Research

4.68 To date ARP-II has had little involvement in the fisheries and livestock sectors. During the extension, the Project will provide both the livestock and fisheries sectors with training (in-country and abroad), technical assistance, and increased assurance of recurrent cost funding. The major emphasis of Project activity during this period will be promotion of effective integration of fisheries and livestock testing through research on farming system sites and strengthening on-station livestock and fisheries research.

4.69 To assist BARC's Member-Director for Livestock, the on-going Project provides a resident Livestock Specialist (24 person-months); however, the original individual assigned to this position was able to complete only six months of duty before ill health forced termination of employment. A second Livestock Specialist arrived in Bangladesh in mid-January 1985.

4.70 In the livestock sector of Bangladesh (1) the available animal feed supply is insufficient to support current livestock numbers at adequate nutritional levels, (2) serious disease problems exists, (3) livestock support services are poor, and (4) livestock productivity is low. This situation is a serious constraint to improving farm output. Assistance provided under the Supplement for livestock research will be directed at (i) increasing the animal feed resource base, (ii) improving support services for livestock, and (iii) breeding for stock improvement. An assessment of trained researchers in the livestock sector is expected to be completed before this Supplement begins and will identify specific subject areas for training under the Supplement. This training and AID's contribution to development of Bangladesh's livestock sector will be determined by BARC in consultation with the Project's resident Livestock Specialist (See Annex G) and USAID.

4.71 Given the relatively high cost of meat, eggs, and milk products, fish is likely to continue to be an extremely important source of animal protein in Bangladesh. Total fishery production in Bangladesh is believed to have increased from 542,000 MT in 1962 to 751,000 MT in 1984. However, Bangladesh's population has increased at a faster rate and the annual per capita fish supply has fallen from 10.1 kg (27.7 gram per capita consumption per day) in 1968 to 7.8 kg (21.3 gram per capita consumption per day) in 1984. In 1981-82, an estimated 77 percent of Bangladeshi households were protein deficient. It is estimated that the population will reach at least 140 million by the year 2005. Thus, even to maintain a steady per capita supply at current levels, fish production over the next 20 years must increase to 1.1 million MT, an increase of 349,000 MT or 46 percent (2.6% annually).

4.72 Major impediments to increased fish production are (1) lack of information about the natural stocks (Hilsa, Carp, Shrimp, Demersal fish, and Pelagic fish) and their environment and (2) lack of information in aquaculture (i.e.) feed, disease, and additional potentially useful species. Research in these areas would permit maximizing the yield from wild stocks through appropriate management measures. With the help of FAO funding, the Government has prepared a 20-year (1985-2005) National Fishery Development Plan. The Supplement may contribute to the support of the training and research components of this Plan. AID's contribution to these components will be determined by BARC in consultation with the Project's resident Aquaculture Specialist, Farming Systems Research Specialist, and USAID.

(iv) Soil Management

4.73 Substantial progress has been made in establishing a national soil fertility evaluation and improvement program. A high-capacity central soil and plant analysis laboratory at BARI, which is being utilized by all research institutes and the DAE, has also been successfully established. Building upon this solid base, the Supplement will continue support for the soils program through training and selected short-term technical assistance. Priority attention, by the research community, should be given to (1) the recently initiated soil correlation and crop response studies, (2) biological nitrogen fixation with minimum tillage, and (3) sulphur and zinc research programs.

(v) Water Management

4.74 Water management and irrigation will continue to be high priority areas of study by Bangladesh's research community. Other donors are providing capital assistance for well installations and other irrigation equipment. The missing ingredient is research (and demonstration) of water management practices, both on and off farm, including yield response to various levels of water and in interaction with fertilizer and HYVs. Without such basic information, resource waste is likely, and the command areas for wells will

remain limited. The emergence of significant water development in recent years is leading to extensive adjustments and new patterns of resource use by farmers. Cropping patterns can be particularly affected by the introduction of irrigation as new crops become viable and production sequences are extended to two, three, and, in some cases, four rotations annually. These new production options are extremely important to the intensification of agriculture, and farmers urgently need guidance. As a consequence, the farming systems research approach will continue to be encouraged as part of the broader water management research program, primarily as an integrating concept. The Supplement will provide a Water Management/Agricultural Engineering Specialist, as discussed in Annex G.

4.75 Attention should continue to be focused on water lifting devices (to include animal-powered) and improved methods of water delivery and distribution. Noting current concern with tubewells which are running dry in some regions, a program of research should be initiated on irrigation of dry-field (upland) crops including improved distribution systems, water application methods, and farming systems research (featuring dry-field crops) as well as improved rainfed agricultural practices.

(vi) Pest Management

4.76 At present, systems for monitoring the occurrence and severity of insect, disease, and vertebrate pest outbreaks are being developed. Efforts under the extension will be concentrated on coordinated research through the integrated pest management approach on research stations and with emphasis on farming systems research. It is important to note that methodologies for pest surveillance or crop loss assessment should be well developed under controlled conditions before integration into farming systems research. A great deal of effort during the extension will be spent upon training of agricultural extension workers and the dissemination of training materials, manuals, brochures, and audio-visuals to extension workers and farmers. The Supplement will provide an Integrated Pest Management Specialist, discussed in Annex G.

4.77 Managed with assistance from the Denver Wildlife Research Center (DWRC), during the Supplement the Project's vertebrate pest management activities are expected to continue the development (and dissemination through private formulators and pesticide dealers) of simple, inexpensive bait materials for control of rats and mice. This research is also expected to develop an inexpensive chemical to repel pest birds from damaging wheat and rice in the seeding-stage, to be followed by large-scale demonstrations in farmers' fields. Research on methods of protecting maturing grain and oilseed crops from pest bird damage with mechanical and chemical materials and research to assess and control jackal damage to crops and livestock will be major programs during the extension of this Project component.

4.78 Work will also be conducted on the minor vertebrate pests, such as squirrels, porcupines, mongoose, and wild pig. This will involve back-up visits by wildlife biologists from the DWRC to assist in preparation of research plans and control strategies for these pests. For this Project component, funding will be reserved outside the prime technical assistance contract.

3. Farming Systems Research

4.79 Farming systems research, the nation's multi-institutional, multi-disciplinary research program, cannot be overstressed in Bangladesh. (For a detailed description of farming systems research, refer to the original PP's Annex K.) The activities of farming systems research include working both at research station and farm levels. In farmers' fields and with farmer participation, farming system research involves testing and adjusting the improved technologies which have been generated at research stations as well as incorporating and testing cultural practices which innovative and highly successful farmers have developed.

4.80 This approach to agricultural research offers Bangladesh two highly desirable and unique opportunities. First, farming system sites are meeting grounds for researchers, extension workers, and farmers, and as such they afford a real opportunity for farmers' concerns to be heard by researchers. Second, farming system sites provide an opportunity for Bangladesh's numerous agricultural research institutes to integrate their efforts and pool their resources. In Bangladesh, the farming systems approach to research will be completed under this PP Supplement by incorporation of on-farm forestry crops (note USAID/Dhaka's newly developed Project entitled, "Homestead Agroforestry Research & Extension," No. 388-0062), livestock, fisheries, and cash crops, e.g. jute. This research will be broadened to include not only production technologies but also post-harvest technologies and the development of farmer contingency plans for coping with flood and drought situations.

4.81 According to the ARP-II 1985 External Evaluation, emphasis at the nation's farming system sites to date has been on developing cropping systems research (CSR) with much less done on the rest of the activities of a farming system. This cropping systems focus stems from a decision BARC took to complete its National Cropping Systems Research Program, which began in 1980, before expanding to a farming systems research (FSR) approach. By the latter part of 1984, however, BARC made the policy change from CSR to FSR at the urging of the then Secretary of Agriculture. The 1985 External Evaluation Team felt that the decision to concentrate scarce resources first on developing the cropping systems research program was correct.

4.82 The farming systems research program will be greatly enhanced by this PP Supplement's provision of a multi-disciplinary, six-member team of Specialists. The composition and activities of this Field Specialist Team are described in detail in Annex G. Briefly, the team will concentrate on smooth functioning of field stations and the stations' interactions with agricultural extension workers and should provide improved technology components for use in farming systems research. Each Field Specialist will assist in promoting and disseminating their assigned stations' research results through farmer field days and publications. Regarding the farming systems research program in different regions of the country and in a step-wise manner over the four-year extension, this team will annually focus on and upgrade at least one of the nation's cropping systems sites, expanding it to an active farming systems site.

V. FINANCIAL SUMMARY

Table 2. Project Budget Summary
(\$000)

	<u>AID Contribution</u>		<u>Project Total</u>	<u>BDG Contribution</u>
	<u>Original Project</u>	<u>Project Supplement*</u>		<u>Project Total</u>
1. Technical Assistance (Resident and Short-term)	10,210	8,835 **	19,045	100
2. Training (In-country and abroad)	3,212	2,050	5,262	1,000
3. Sabbatical Studies	300	-0-	300	-0-
4. Commodities & Minor Construction	2,687	990	3,677	2,000
5. Publications & Reproductions	-0-	500	500	500
6. Evaluations	100	400	500	400
7. Financial Compliance Audits	-0-	200	200	-0-
8. Contract Research	1,400	250	1,650	1,000
9. Support for External Projects & Programs	-0-	400	400	-0-
10. BRRRI Support	3,000	2,000	5,000	-0-
11. DWRC PASA	1,350	1,300	2,650	-0-

12. Contingencies/Inflation	4,741(18%)	2,575(14%)	7,316(16%)	-0-
13. Local Facilities/Staff Costs	-0-	-0-	-0-	35,000
Total :	<u>27,000</u>	<u>19,500</u>	<u>46,500</u>	<u>40,000</u> ***

* Note that during the Supplement, line items 6 through 12 will be outside the prime technical assistance contract.

** This estimated figure is based on the sum of 13 resident consultants for four years at \$150,000/year/consultant and 69 person-months and is inclusive of overhead charges.

*** During the proposed four-year extension of the ARP-II, funding for recurring costs of the agricultural research system will be supported through the Title III forgiveness provision.

****Note that \$4 million of the contingencies line item was re-programmed to other line items.

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VI. METHODS OF FINANCING

6.01 USAID/Dhaka will utilize the preferred AID methods of financing for payments under the Agriculture Research Phase II Project Paper Supplement. Technical assistance will be provided under a host country contract which will be financed under a USAID direct letter of commitment. The host government will be responsible for issuing the invitation for bid (IFB) and evaluating the proposals in conjunction with AID. The host government will negotiate the contract with the selected contractor. All standard AID clauses will be included in the host country contract and all allowances and benefits will be consistent with those available under AID direct contracts and for AID direct hire employees. Payments under the contract will be made directly to the contractor by AID as the host government does not have sufficient foreign currency available to make payment directly and seek reimbursement from AID. As such, USAID has agreed to issue a direct letter of commitment to the firm and make all payments.

6.02 In addition, funds for technical assistance procured locally by the host government may be earmarked through a separate project implementation letter (PIL). Funds for procurement of this type will not exceed \$200,000. Payments for services procured locally will be on a cost reimbursement basis only. Procedures for handling procurements of this nature will be detailed in the PIL.

6.03 Most commodities and minor construction financed under the Project will be procured through the technical assistance host country contract or funded through separate host country contracts. In all cases, procurement will be funded through an AID direct letter of commitment. The host government and/or the technical assistance contractor, depending upon the funding source, will be responsible for issuing IFBs (technical specifications for commodities will be reviewed and approved by the technical assistance contractor) and reviewing all tender documents received. For all procurement outside the technical assistance contract, the host government will negotiate and sign all contracts subject to USAID approval. Payment will be made direct to the supplier to facilitate purchases.

6.04 Funds provided for contract research will be earmarked under project implementation letters. The host government and the technical service contractor will be responsible for determining the cost for developing or maintaining a particular contract research activity. The government will approve all contract research proposals subject to the concurrence of the technical assistance contractor prior to requesting funds for the research activity from AID. The government will issue fixed price contracts to the qualified researchers/institutes. Payment to the researchers/institutes will be made directly to the researcher/institute by the host government who will then seek reimbursement from AID for the agreed upon research amount. Payments will be made at various intervals during the research and will be based upon percentage of

completion. The technical assistance contractor will be responsible for reviewing requests for payment on the research contracts and certifying that the researcher has completed X percentage of the work as adhering to the necessary research standards. Modifications to the fixed price research contract will only be allowed if unanticipated costs arise due to underestimating the work involved in developing or maintaining a particular research activity. As such, USAID considers this a modified fixed amount reimbursement scheme. No payment will be made by AID to the host government in excess of the level of work or research completed. Receipts from the researchers certifying that payment has been made by the host government will be included in all reimbursement requests. If the host government does not have adequate resources to finance this activity on a reimbursement basis, advances may be provided by USAID. Procedures for such advances will be described in a separate PIL.

6.05 Funds provided for publications and reproductions will be included in the host country technical assistance contract. The technical assistance contractor will be responsible for reviewing research papers prepared by the agriculture research institutes and scientists in Bangladesh as well as relevant papers from U.S. and third country institutes and scientists to determine the applicability and necessity for wide-spread dissemination within Bangladesh. The technical assistance contractor will be responsible for either purchasing or reproducing the material utilizing the company's procurement policies.

6.06. Funds obligated for Support for External Projects and Programs are earmarked for S&T buy-ins to existing AID contracts. \$400,000 will be earmarked in particular for buy-in projects and the S&T AVRDC contract. Scientists from AVRDC will be expected to travel to Bangladesh to give seminars on research applicable to Bangladeshi farmers and research institutes. Payments for services received through the buy-in will be made direct by AID/W.

6.07 Most of the training will be handled under the host country technical assistance contract and, as such, will be financed under and AID direct letter of commitment. As necessary, AID may issue invitational travel orders, PIO/Ps, purchase orders, or PILs for in-country or third country training handled outside the technical assistance contract. Payment under these implementation mechanisms will be consistent with preferred financing methods.

6.08 The evaluation will be implemented through a host country or direct contract. USAID and/or the technical assistance contractor (if funds are committed under the prime technical assistance contract) will be responsible for issuing a PIO/T, soliciting proposals, and negotiating a contract or purchase order. Payment to the contractor will be contingent upon the implementation mechanism. If a contract is issued, payment will be made to the contractor on a reimbursement basis only. If a purchase order is issued, payment will be made as defined units of work are completed.

6.09 Funds for BRRRI support and the DWRC PASA will be funded separately. A PIO/T will be issued for the PASA, after a non-competitive waiver is approved. The existing PASA agreement will then be extended utilizing the supplemental funds. Payments under the PASA are direct reimbursement only. Local costs incurred for PASA personnel are paid directly by the USAID under purchase orders, travel orders, leases, etc.

6.10 Funds for the BRRRI/IRRI host country contract will be added as an amendment to the existing contract if a non-competitive waiver is approved. Payments on this contract are also made under a direct letter of commitment on a reimbursement basis only.

6.11 As required by AID/W Payment Verification Policy Implementation Guidelines, USAID will earmark up to \$200,000 to audit the host country contractors and BARC's financial system under the project.

TABLE 3.

PP Supplement's Methods of Implementation and Financing
(\$ 000)

<u>METHODS OF IMPLEMENTATION</u>	<u>METHODS OF FINANCING</u>	<u>AMOUNT</u>
Technical Assistance Host-Country Contract	Direct L/Commitment	\$8,835
Technical Assistance Host Country Contract BRRRI/IRRI	Direct L/Commitment	2,000
Technical Assistance DWRC PASA	Direct Reimbursement	1,300
Commodities and Minor Construction--HCC	Direct L/Commitment	990
Training--Host Country Contract	Direct L/Commitment	2,050
Evaluation--Purchase Order/ Direct Contract	Direct Reimbursement	400
Financial Compliance/ Audits--Purchase Order/ Direct Contract	Direct Reimbursement	200
Contract Research--Host Country Contract	Fixed Amount Reimburse- ment	250
Publications & Reproductions	Direct L/Commitment	500
Support for External Projects and Programs	Direct Reimbursement	400
Contingency/Inflation	Direct Pay/Reimbursement	<u>2,575</u>
	TOTAL:	\$19,500

6.12 The accounting system has been reviewed and the Mission will continue to monitor it to ensure adequate internal controls continue to safeguard U.S. funds which will be utilized to finance the Agriculture Research II Project.

VII. PROJECT PROCUREMENT ACTIVITIES

A. Technical Assistance, Commodities, and Training

7.01 The BDG and USAID have agreed that during the ARP-II Supplement the Project's prime technical assistance contractor will be procured competitively through a host country contract. In addition, external Project evaluation teams may be procured under AID-direct contracts. As described in Annex D, BRRRI may retain the present host country contractor who will continue to provide BRRRI with advisory assistance, commodities, and training.

7.02 As in the past, the Project's contractors may utilize procurement services agents to procure the needed spare parts for new and previously Project-financed research, office, and transportation equipment. These commodity procurements will be based upon the successful procedures developed during the beginning stages of ARP-II.

B. Gray Amendment Certification

7.03 The design of ARP-II has included consideration of potential opportunities for (i) minority and women-owned enterprises, (ii) historically black college and universities, (iii) minority private voluntary organizations, and (iv) small businesses to participate to the maximum extent possible in this Project's implementation and evaluation. Under this PP Supplement, the greatest areas of potential project participation by organizations covered under the Gray Amendment are the Project's prime T.A. contractor, procurement services agents (PSAs), subcontracts, and AID-direct contracts for evaluation. With these contracts, the scopes of work will be matched with PRE's and SDB's resource information in order to assure maximum consideration of appropriate sources of technical assistance from small, minority, and women-owned enterprises.

7.04 In submitting this PP Supplement with the signed attached Data Facesheet, the Mission Director hereby certifies that these Project procurement activities have been developed with full consideration of maximally involving Gray Amendment organizations in the provision of required goods and services and that the Project is appropriate for minority or Gray Amendment contracting as stated herein.

VIII. SUPPLEMENT CONDITIONS, CONVENANTS, AND STATUTORY CHECKLIST

A. Conditions to Supplement Disbursements

1. Prior to any disbursement of funds authorized by this Amendment except for technical assistance for the Project, or to the issuance of any commitment documents under the Project Grant Agreement therefor, the Cooperating Country shall furnish in form and substance satisfactory to A.I.D.:

Evidence that the Office of the Executive Vice-Chairman of the Bangladesh Agricultural Research Council (BARC) has been given the flexibility and authority to operate across Ministries in the agricultural research system when dealing with matters of research planning and budgeting.

2. Prior to any disbursement of funds authorized by this Amendment for training, or to the issuance of any commitment documents therefor, the Cooperating Country shall furnish in form and substance satisfactory to A.I.D.:

Evidence that the Executive Vice-Chairman of BARC has been delegated the authority to authorize and approve short-term overseas training and travel for personnel within the National Agricultural Research System.

B. Covenants

1. The Cooperating Country shall budget and allocate local currencies sufficient to meet the recurring costs of the National Agricultural Research System,

2. The Cooperating Country will ensure that BARC is fully and appropriately staffed at all times and in particular that the positions of BARC Executive Vice-Chairman and Member-Directors are continuously occupied all times during Project implementation,

3. BARC will review the use of all donor and Bangladesh Government funds provided for agricultural research before agreements or annual research plans are considered by the home ministry of each research institute and by the Planning Commission, and

4. Additional covenants may be included in the Project Agreement, if necessary, depending upon BARC improvements prior to the FY 87 obligation.

C. Statutory Checklist

The Regional Legal Advisor (RLA) has reviewed the statutory checklist for FY 86, and the original statutory checklist, and has concluded that the responses in the original checklist are still valid. Since the FY 86 Checklist is not substantially different from the FY 82 Checklist included in the 1982 PP Amendment for statutory concerns relevant to this Project, the RLA determined that inclusion of a revised checklist in this Supplement was not necessary. Likewise, because the activities contemplated during the Supplement period are similar to and an extension of those begun in 1981, no further environmental analysis is necessary.

INCOMING TELEGRAM
AMEMBASSY DHAKA

ZNR UUUUU ZZH
R 242338Z APR 85
FM SECSTATE WASHDC
TO AMEMBASSY DHAKA 0801
BT
UNCLAS STATE 123594

25 APR 85 07 03z

AIDAC

E.O. 12356: N/A

TAGS:

SUBJECT: AGRICULTURE RESEARCH II PROJECT AMENDMENT
PROPOSAL (388-0051)

AS PART OF BANGLADESH PROGRAM WEEK ACTIVITIES, THE BUREAU REVIEWED AND APPROVED THE AMENDMENT PROPOSAL. PP SUPPLEMENT TO BE SUBMITTED TO AID/W FOR APPROVAL DUE TO THE FUNDING LEVEL INVOLVED. MISSION SHOULD TAKE INTO ACCOUNT THE FOLLOWING ISSUES/GUIDANCE IN PREPARING THE SUPPLEMENT:

A. PROCUREMENT: SINCE THE CURRENT CONTRACT FOR TA IS A HOST COUNTRY CONTRACT AND SINCE THERE APPEARS TO BE STRONG JUSTIFICATION FOR A CONTINUATION OF THE CONTRACT WITH IADS, THE BUREAU SUPPORTS THE MISSION'S DETERMINATION ON THIS MATTER.

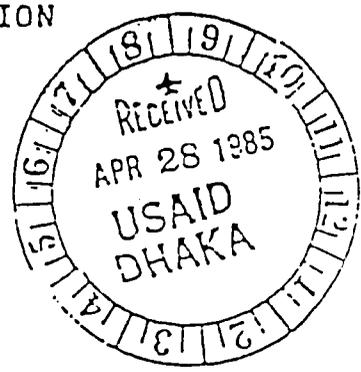
B. ANALYSIS: TO THE EXTENT THAT PROJECT ACTIVITIES ARE INSTITUTION BUILDING, THE EXTENDED TIME FRAME OF THE PROJECT DEMANDS SOME PROGRESSIVE REFOCUSING OF EFFORTS.

C. EVALUATION: THE PROPOSED AMENDMENT SHOULD INCLUDE A COMPREHENSIVE PROJECT DATA COLLECTION, MONITORING AND EVALUATION PLAN FOR ASSESSING PROJECT PROGRESS AND IMPACT. MISSION SHOULD REVIEW ASIA BUREAU'S -GUIDELINES FOR DATA COLLECTION, MONITORING AND EVALUATION- PRIOR TO PREPARING PLAN. THIS PAPER WAS POUCHED TO MISSION DIRECTOR THE WEEK OF MARCH 4. SHULTZ

BT
#3594

EFAG

ACTION TO:	
REPLY DUE:	5/7
INFO	
DIR	<input checked="" type="checkbox"/>
DD	<input checked="" type="checkbox"/>
PRO	<input checked="" type="checkbox"/>
AID/EC	<input checked="" type="checkbox"/>
PDE	<input type="checkbox"/>
F&AGF	<input type="checkbox"/>
P&H	<input type="checkbox"/>
TRG	<input type="checkbox"/>
CONT	<input checked="" type="checkbox"/>
MGT	<input checked="" type="checkbox"/>
PEI	<input type="checkbox"/>
TR	<input type="checkbox"/>
RL	<input checked="" type="checkbox"/>
GSL	<input type="checkbox"/>
RELY/NAN	<input type="checkbox"/>
Int'l	<input type="checkbox"/>
Dac	<input type="checkbox"/>
PLC	<input type="checkbox"/>



LOGICAL FRAME WORK
FOR
SUMMARIZING ARP-II SUPPLEMENT

<u>NARRATIVE SUMMARY</u>	<u>OBJECTIVELY VARIFIABLE INDICATORS</u>	<u>MEANS OF VERIFICATION</u>	<u>IMPORTANT ASSUMPTION</u>
<u>Program Goal:</u>	<u>Goal:</u>	<u>Goal:</u>	<u>Goal:</u>
Increase domestic food production, small farm income, and rural employment	<ol style="list-style-type: none"> 1. Decreased food imports along with increased availability of food supplies at stable prices 2. Increased rural per capita incomes 3. More employment at stable wages 	<ol style="list-style-type: none"> 1. National agricultural production statistics 2. National economic development reports 3. Regular monitoring and evaluating 4. Annual project evaluations 	<ol style="list-style-type: none"> 1. Favorable weather conditions. 2. Stable domestic and international supplies of agricultural imports
<u>Project Purpose:</u>	<u>End of Project Status:</u>	<u>Purpose:</u>	<u>Purpose:</u>
To strengthen the capacity of the National Agricultural Research System to develop appropriate technologies for farmers through improved planning, integration, allocation, and utilization of resources	<ol style="list-style-type: none"> 1. Over the life of the project, the productivity of food, fibre, and fodder crops, livestock, and fisheries is increased by an average annual rate of at least 4 percent 2. The nation's agricultural research related institutions are annually fulfilling their mandated responsibilities. 3. The nation's research manpower base is implementing the National Agricultural Research Plan 	<ol style="list-style-type: none"> 1. Contractor records and reports 2. BARC project reports, records and evaluations 3. Scientific research publications 4. Monitoring and evaluation reports 	<ol style="list-style-type: none"> 1. BARC mandate and authority maintained 2. Research and extension linkages developed and maintained

dp

NARRATIVE SUMMARY

OBJECTIVELY VARIFIABLE INDICATORS

MEANS OF VERIFICATION

IMPORTANT ASSUMPTION

Outputs:

1. BARC's management of and support services to the nation's agricultural research system are improved

Magnitude of Outputs to achieve Purpose:

1.a. Research is annually identified (through planning and focusing on national development priorities), conducted (on-station and on-farm), and designed to avoid costly overlap

1.b. BARC annually coordinates the development of the National Agricultural Research Plan (NARP)

1.c. The NARP identifies critical agricultural problems and sets research priorities with related staff and budget requirements

1.d. BARC's Planning and Evaluation Division has (i) a clear mandate for planning research, results as well as for assisting research institutes and other BARC divisions in the same activities; (ii) trained institute and BARC personnel in research planning and evaluation methodology; (iii) developed and standardized a document format which is being used in the preparation of all research proposals/plans; (iv) developed and continuously monitored annual calendars of BARC and institute research planning, execution, and evaluation activities; (v) developed and maintained a data base and reference facility which is being used by the nation's agricultural research system for planning, evaluating and determining research priorities.

Outputs

1. Project evaluations
2. BDG reports
3. Consultant reports
4. Mission staff field trip reports
5. Origin, format, and content research proposals and plans
6. Annual activity calendars of BARC and research institutes
7. Reports on research findings

Outputs:

1. Project supplement implemented as planned
2. Contractor services of high caliber; appropriately selected as provided in a timely manner.
3. USAID/Dhaka's Homestead Agroforestry Research and Extension Project (388-0062) implemented as planned

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NARRATIVE SUMMARY

OBJECTIVELY VARIIFIABLE INDICATORS

MEANS OF VERIFICATION

IMPORTANT ASSUMPTION

Outputs:

1. BARC's management of and support service to the nation's agricultural research system are improved

Magnitude of Outputs to achieve Purpose:

1.e. BARC, the research institutes, and farming systems research sites are staffed with sanctioned number of employees and with quality personnel selected on a competitive basis

1.f. BARC is fulfilling its responsibilities of career and human resources development through long - and short-term training; workshops, seminars, study tours, on-the-job training, sabbatical studies, and readily available communication, information and library services

1.g. Recommendations from project evaluations are implemented in a timely fashion

1.h. BARC's Contract Research Program finances needed research which is not included in the plans of any of the nation's research institutes

1.i. External projects and programs are integrated by BARC into the National Agricultural Research System

1.j. The use of research stations, equipment, and farming systems research sites is optimized by BARC's support service programs e.g., training of support personnel in facilities maintenance programs, phased equipment replacement, inventory control, and spare parts management.

Outputs

1. Project evaluations
2. BIDG reports
3. Consultant reports
4. Mission staff field trip reports
5. Origin, format, and content of research proposals and plans
6. Annual activity calendars of BARC and research institutes
7. Reports on research findings

Outputs:

1. Project supplement implemented as planned
2. Contractor services of high caliber; appropriately selected as provided in a timely manner
3. USAID/Dhaka's Homestead Agroforestry Research and Extension Project (388-0062) implemented as planned

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NARRATIVE SUMMARY

OBJECTIVELY VARIFIABLE INDICATORS

MEANS OF VERIFICATION

IMPORTANT ASSUMPTION

Outputs:

1. BARC's management of and support services to the nation's agricultural system are improved
2. In core disciplines, appropriate farmer technologies are developed at regional level research stations

Magnitude of Outputs to achieve Purpose:

- 1.k. BARC provides agricultural research system users with essential information for managing their research related activities.
- 2.a. Socio-economic studies of research improve allocation of resources by policymakers, researchers, and farmers
- 2.b. Research Institutes are disseminating research findings through publications and farmer field days
- 2.c. Research stations and farming systems research sites make available to extension agents and producers of agronomic, cash, and horticultural crops, new improved agricultural practices and varieties.
- 2.d. Improved feed, breeding stock and support services for livestock and aquaculture production are generated
- 2.e. Improved soil, water, and pest management practices are generated
- 2.f. Increased number of research projects designed and managed from regional and sub-stations

Outputs

1. Project evaluations
2. BDG reports
3. Consultant reports
4. Mission staff field trip reports
5. Origin, format, and content of research proposals and plans
6. Annual activity calendars of BARC and research institutes
7. Reports on research findings

Outputs:

1. Project Supplement implemented as planned
2. Contractor services of high caliber; appropriately selected as provided in a timely manner
3. USAID/Dhaka's Homestead Agroforestry Research and Extension Project (388-0062) implemented as planned

27

NARRATIVE SUMMARY

OBJECTIVELY VARIFIABLE INDICATORS

MEANS OF VERIFICATION

IMPORTANT ASSUMPTION

Outputs:

2. In core disciplines, appropriate farmer technologies are developed at regional level research stations

3. Through the nation's farming systems research program, appropriate farmer technologies are developed in farmer's fields (i.e., farming system sites operational)

4. Number and quality of the human resource pool for the agricultural research systems is increased

Magnitude of Outputs to achieve Purpose:

2.g. Socio-economic studies (1) integrated with the development of new technologies; (2) disseminated; and (3) include the role of women

3.a Farming system researcher regularly design, analyze and widely report research activities in collaboration with extension workers, farmers, and research stations

3.b. During each year of the PP Supplement, one of the nation's active cropping systems sites is upgraded to a full interdisciplinary testing site, i.e., a farming systems research site

4.a. A national manpower survey and skills need assessment is completed

4.b. Agricultural research system personnel information computerized.

4.c. Identified skill needs addressed by training

Outputs

1. Project evaluations

2. BDG reports

3. Consultant reports

4. Mission staff field trip reports

5. Origin, format, and content of research proposals and plans

6. Annual activity calendars of BARC and research institutes

7. Reports on research findings

Outputs:

1. Project Supplement implemented as planned

2. Contractor services of high caliber; appropriately selected as provided in a timely manner

3. USAID/Dhaka's Homestead Agroforestry Research and Extension Project (388-0062) implemented as planned

<u>NARRATIVE SUMMARY</u>	<u>OBJECTIVELY VARIABLE INDICATORS</u>	<u>MEANS OF VERIFICATION</u>	<u>IMPORTANT ASSUMPTION</u>
<u>Inputs Activities:</u>	<u>Level of Expenditure</u>	<u>Inputs:</u>	<u>Inputs:</u>
<u>AID Provided</u>	<u>AID Provided</u>		
1. Provide resident and short-term technical assistance	1. Technical assistance \$ 19.1 million	1. Internal reviews	1. Procurement, training, & services delivered on a timely basis
2. Provide training in-country and abroad	2. Training 5.5 million	2. External reviews	
3. Provide commodities & minor construction	3. Commodities/construction 3.7 million	3. Project disbursement reports	2. Project plan implemented as scheduled
4. Provide funds for publications and reproductions	4. Publications/reproductions 0.5 million	4. Audit reports	
5. Carry-out evaluation of project progress	5. Evaluations 0.5 million		3. AID and BDG funds disbursed
6. Carry-out Financial Compliance Audits	6. Audits 0.2 million		
7. Provide funds for contract research	7. Contract research 1.7 million		
8. Support for external projects/programs	8. External Involvement 0.4 million		
9. Support for BARI and BARI	9. BARI/BARI 7.6 million		
10. Funds for contingencies/inflation	10. Contingencies/inflation 7.3 million		
<u>BDG Provided:</u>	<u>BDG Provided:</u>		
1. Provide requisite research staff and facilities	1. Staff and facilities 8.6 million		
2. Provide local cost financing including research system's costs	2. Local costs 31.4 million		

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Data Collection, Monitoring and Evaluation Plan

The Agriculture Research Project is now in its second phase and has been in implementation for the last ten years, since 1976. Phase II of this Project started in 1981. At this time the inputs (commodities, technical assistance and training) of the Project were refocused towards strengthening the Bangladesh Agricultural Research Council (BARC). In 1982, Phase II was amended to support expansion of the country's water management program and to develop the Bangladesh Rice Research Institute.

In 1985, at the time of the 1985 External Evaluation, the lack of an ongoing comprehensive data collection and monitoring system became evident as the team performed its' evaluation. To more clearly demonstrate the progress and achievements of this Project over time and the need to continue implementation, this Supplement will include the creation of a data collection, monitoring and evaluation system for the duration of the Project. While a great deal of information is available in reports, the Supplement will provide for a more focused and structured means for collecting, assessing and utilizing information required to measure progress, achievements, and financial requirements.

User Identification

The many potential users of Project information include individuals at many levels, in many organizations and in various functional capacities. Identified users include:

- Bangladesh Agricultural Research Council (BARC)
- Ministry of Agriculture
- Nation's research institutes: BARI; BRRI; BJRI; BINA; FRI;
- NIFR; LRI; SETI; and BTRI
- Ministry of Agriculture Department of Extension (DAE)
- Ministry of Industries and Commerce (sugarcane and tea)
- Nation's Cooperatives
- Bangladesh Agricultural University (BAU)
- Planning Commission, Agriculture Division
- Implementing Contractors
- Ministry of Planning, Office of Evaluation
- USAID Project and Program Officers and Senior Management
- Other Donors
- AID/W.

Outputs to be Achieved

The goal of this Project is to increase domestic food production, small farm income, and rural employment. The purpose is to strengthen the capacity of the National Agricultural Research System to develop appropriate technologies for farmers through improved planning, integration, allocation, and utilization of resources.

The outputs of the Project reflect the activities being undertaken to achieve the purpose and then goal of the Project. By measuring progress and the effect or impact of those activities or outputs, information users will be able to monitor and evaluate this Project. The outputs are the following:

- BARC's management of and support services to the National Agricultural Research System are improved;
- In core disciplines, the appropriate farmer technologies are developed at regional level research stations;
- Through the national farming systems research program, appropriate farmer technologies are developed in farmer's fields (i.e. farming system sites operational);
- Number and quality of the human resource pool for the National Agricultural Research System is increased.

Priority Evaluation Questions

The design of the data collection, monitoring and evaluation system for this Project will attempt a simple, low cost and very focused system to achieve a generation of only essential information. The data collection will be centered around the outputs listed above and following questions asked by program decision makers:

1. Is the agricultural research system, through BARC, effectively planning and prioritizing agricultural research?
2. Are the agricultural research institutions increasing their capacity to conduct relevant research and facilitating the delivery of research results to farmers?
3. Can and are the research institutes effectively coordinating, integrating and cooperating at single farming system sites, and are they effectively conducting farming systems research?
4. Annually, during the LOP, is the BDG increasingly meeting the operating budget requirements of the agricultural research system?

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5. Are all required staff positions filled 90 percent of the time, are personnel at every level appropriately assigned to tasks matching their abilities, and are they appropriately trained?
6. Are research ideas and proposals increasing from research stations and farming system sites or from the national level research institutes?
7. Are research findings efficiently disseminated to all potential users of the information?
8. Are the support services of the National Agricultural Research System improving and functioning at every level of the system?

Key Indicators* and Administrative Data

BARC, the three Project contractors and USAID will develop mutually agreed indicators for measuring Project progress, performance and achievements. The indicators will answer the questions of how, why and what is happening. They provide the basis for determining what data to collect and monitor and they will provide the basis for conducting Project evaluations. An illustrative set of indicators is listed below for consideration (from the Log Frame "Objectively Verifiable Indicators").

- I. BARC's National Agricultural Research Program Management
 - A. Annual BARC coordination and development of a relevant National Agricultural Research Plan (NARP).
 - B. The NARP identifies critical agricultural problems and constraints and establishes research priorities with the required staff and budget levels.
 - C. The NARP leads to some program cost reductions by reducing costly research duplication and unfocused or low priority research.
 - D. Established and functionally operating system of system-wide research monitoring and evaluation.
 - E. Accepted evaluation recommendations are implemented.
 - F. Research findings are efficiently disseminated to potential users at all levels of the research system and to non-agricultural decision makers.
 - G. Increased research needs identified and proposals prepared at the station and farming system sites and reflected in the NARP.

* An indicator is a measure of a problem or condition.

- H. Standardized format for research proposals developed and widely used.

II. Human Resource Development

- A. A national agriculture research system manpower survey and skills need assessment is completed.
- B. Agriculture research system personnel information computerized for personnel planning.
- C. Required staff positions authorized and filled by BDG.
- D. Regularly scheduled in-country, in-service training institutionalized.
- E. Selective research institute and BARC personnel trained in agricultural research planning and evaluation.
- F. Requirements for overseas long-term and sabbatical studies met.
- G. Support service personnel trained.

III. Support Services Development

- A. Library and information dissemination services established at each level and within each participating entity.
- B. Facilities maintenance programs established and on-going.
- C. Phased and timely equipment procurement, repair, maintenance, and replacement.
- D. Inventory control system established and functioning.
- E. Spare parts readily available and managed efficiently.

IV. Core Discipline Development

- A. New, improved agricultural practices and varieties developed and made available to extension agents and farmers (of agronomic, cash and horticultural crops).
- B. Improved feed and breeding stock for livestock and aquaculture production generated.
- C. Improved soil, water and pest management practices generated.
- D. Socio-economic studies integrated with the development of new technologies, disseminated, and include consideration and treatment of the role of women.
- E. Research institute research findings disseminated through publications and farmer field days.

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V. Farming systems Research Development and Management

- A. Annually, at a minimum, one active cropping systems site is upgraded to a full inter-disciplinary testing site, i.e., a farming systems research site.
- B. Production constraints and research needs regularly identified and reflected in the NARP.
- C. Farming system researchers regularly design, analyze and report research activities to research stations, extension workers and farmers.
- D. Inter-disciplinary research takes place and includes the socio-economic aspects agriculture including the involvement of women.
- E. Type and number of technologies tested through farmer field days.

Appropriate Methodologies for Monitoring and Evaluation

A combination of quantitative and qualitative methods of assessment will be used to answer the "what is happening" and "why" and "how" questions. As suggested in the Bureau Guidance, a combination of administrative record keeping and small studies will be used to answer "what is happening.?" These methods will facilitate Project monitoring. For the broader question's "why" and "how", traditional evaluations, case studies and rapid low-cost evaluation methodologies will be employed.

During the implementation of the Project Supplement from June 1987 to June 1991 (16 quarters) the following will be carried out:

Quarters 1-4:

- Methods of administrative record keeping will be designed and implemented to include, training information, manpower allocations, operating fund expenditures by use, allocation of research activities, support services performance, etc.
- The administrative records data will be monitored quarterly and selectively reviewed as part of the QIR (Quarterly Implementation Review) process in USAID.
- Contract, organize and collect baseline data to measure the socio-economic impact of the Project. Data collection will include, inter-alia, per capita incomes, employment levels, food availability and price, productivity levels of fiber, fodder crops, livestock, and fisheries, and export levels of agricultural products and produce.

- Second quarter (mid-1987) conduct an External Evaluation of the Project to:
 - (1) Determine accomplishments since the last 1986 Evaluation and progress in meeting 1985 Evaluation recommendations;
 - (2) Refine the Project Supplement Implementation Plan; and,
 - (3) Establish a baseline from which the impact evaluation can be conducted at the end of the Project (Quarter- 16).

Quarters 5-8:

- Continue administrative record keeping and monitoring Project by integrating the selective data into USAID's QIR's. Identify and conduct analyses of this data as required to address evaluation questions outlined above.
- Design and conduct a series of case studies, institutional strengthening of BARC, research decision making, farming system development and technology diffusion.
- In the eighth quarter, contractors submit second annual internal and self-evaluations.

Quarters 9-12:

Continue administrative record keeping and use as indicated above.

In 10th quarter conduct second External Evaluation.

Continue case studies if still in progress, integrate findings into the Project's implementation plan, and adjust plan accordingly.

Contractors submit third annual Internal Evaluation in Quarter 12 of project implementation.

Quarter 13-16:

- Continue administrative record keeping, compile data, and conduct final summary analyses.
- Conduct second and final socio-economic impact study.
- End of Project final contractor Internal Evaluation Report.
- Immediately post Project, using the administrative records, case studies, and socio-economic impact studies, conduct an end of Project Impact Evaluation.

Counterpart Support and Involvement

The effectiveness of the information system will, in large measure, be dependent upon counterpart support as well as that of USAID and the contractors. While the information is useful to both the contractors and USAID, its potential usefulness to the BDG is significant. During implementation of the Supplement, the contractors will work closely with BARC, as the lead institution, to develop data collection systems within BARC related to agricultural research and the outputs of this Project. The system for data collection will be designed to address the indicators developed by BARC, the contractors, and USAID will center primarily around administrative record keeping.

Because the information required will include operating and research program costs, manpower allocation, training, and performance, a data collection and analysis system will involve many offices and individuals at the central research institutes, research stations, and farming system sites. Working with the contractors, the BARC Member Director of Planning and Evaluation will coordinate implementation of the system at BARC in Dhaka and the various research institutions and sites. The contractor and the BARC Member Director of Planning and Evaluation will jointly identify the information required, sources of information, and methods of retrieval, collection, and analysis. The system will be implemented within the operational framework of BARC, the national research institutes, the research stations and the farming system sites, and the information is to be shared with the contractors and USAID for reporting, project monitoring and evaluation purposes.

To support data collection activities, the Project's in-country training component will incorporate some data collection training into every training program. The training will be adapted to the level and responsibilities of the trainees vis-a-vis data collection, monitoring and evaluation within the National Agricultural Research System.

Feedback Procedures

In order to ensure dissemination of data collected and analysed to the identified users of the information, a quarterly report will be prepared by the Member Director of Planning and Evaluation at BARC with the assistance of the prime contractor's Chief of Party or his designee. This report will include the following:

- 1) Findings of on-going administrative record keeping data that responds to the indicators of project progress and performance;
- 2) Findings of the socio-economic impact and case studies; and
- 3) Findings and recommendations of special analytical studies that may be conducted during project implementation.

SV

Information generated from research institutes, research stations and farming system sites will be collated and analyzed at BARC for dissemination. At BARC, information will be computerized for storage, retrieval and analysis. Periodic short-term assistance will help to install the computer, design the system for data collection (based on the indicators) and then, assist in initiating basic analysis of the data. Additional computer equipment and training of existing staff, through short-term T.A. will facilitate adding data collection and analysis responsibilities to this Office. The BARC Member Director of Planning and Evaluation will be responsible for preparation and distribution of the quarterly report to the identified information users.

Data Collection, Monitoring and Evaluation Budget

I.	Socio-economic Impact Studies	\$200,000
II.	Three Case Studies	\$ 30,000
III.	External Evaluation	\$ 50,000
IV.	Impact Evaluation	\$ 50,000
VI.	Short-Term Technical Assistance:	
(A)	Design and implementation of administrative record keeping - 4 person months	\$ 40,000
(b)	Administrative record keeping and data analysis - 3 person months	\$ 30,000
	TOTAL:	<u>\$400,000</u>

AGRICULTURE RESEARCH II SUPPLEMENT
Data Collection, Monitoring and Evaluation Plan

<u>Methodology</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>	<u>11</u>	<u>12</u>	<u>13</u>	<u>14</u>	<u>15</u>	<u>16</u>	<u>Post Project</u>
Administrative Record Keeping	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
QIR's (Monitoring)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Socio-economic Impact Studies		X	X												X	X	
External Evaluations	X								X								
Contractor Internal Evaluations				X				X				X					X
Case Studies					X	X	X										
Impact Evaluation																	X

UNITED STATES OF AMERICA

AGENCY FOR INTERNATIONAL DEVELOPMENT

Dhaka, Bangladesh

ANNEX D

Page 1 of 7

November 12, 1986

ACTION MEMORANDUM FOR THE ADMINISTRATOR

FROM : Kevin A. Rushing, Agricultural Development Officer/Research
Office of Food & Agriculture, USAID/Bangladesh

THROUGH : H. Patrick Peterson, Director, Office of Food & Agriculture
USAID/Bangladesh

SUBJECT : Waiver of Competition to permit Single Source Negotiation

Problem:

To approve a waiver of competition to permit single source negotiation with an incumbent host country contractor, involved in the Agricultural Research II Project (388-0051) in Bangladesh. The International Rice Research Institute (IRRI), involves continued USAID support by host country contract with an informal consortium of other donors. The waiver is justified on the grounds of the contractors' special capability by virtue of previous experience. You are requested to approve this waiver explained separately at Tab I by signing the Project Authorization Amendment No.3.

Project Background and Detailed Justifications:

USAID has been assisting the Bangladesh Government to strengthen the capacity of the National Agricultural Research System and to develop appropriate technologies for small farmers, first in the agricultural Research I Project (FY 77-80) and currently under the Agricultural Research II Project (FY 81-87). USAID/Bangladesh is requesting a Project Authorization Amendment (FY 87-91) bringing the total life of project funding to \$46.5 million, and continuing the project in three areas:

- (a) A rice production research program component (\$2 million), currently funded by AID and consortium of other donors;
- (b) A technical assistance component (\$13.0 million) directed at strengthening BARC and the National Agricultural Research System; and

(c) A vertebrate pest management component (\$1.3 million) directed at developing simple and effective management systems for control of vertebrate pest damage.

Attachments:

Tab I Rice Production Research Component (IRRI/BIRRI Waiver)

I. IRRI/BRRI: Rice Production Research Component

A. Description

The Bangladesh Rice Research Institute (BRRI) is nearing the end of the second phase of an important production research program. Phase I (1976-1980) and Phase II (1981-1987) have been supported by AID and an informal consortium of donors consisting of the Governments of Canada and Australia and the Ford Foundation. Technical services for both phases have been provided by the International Rice Research Institute (IRRI). The Project Supplement will continue to support BRRI through AID and the donor consortium. Without AID's participation in Phase III, it is unlikely the program will meet the need for continued rapid improvement in varieties, technologies and research management for the crop of greatest significance to small farmers, i.e. rice. The Mission proposes an extension of the AID-financed host-country contract of approximately \$2 million between BRRI and IRRI.

B. Justification:

The success of Bangladesh's rice production research program since 1977 is largely attributable to the excellent performance of IRRI. The same type of technical and managerial services continue to be required. By virtue of IRRI's past experience in Bangladesh for 21 years and its continued preeminence in rice research, the Institute clearly has developed a special capability to perform the services required. Furthermore the cumulative, extensive experience of the four-person IRRI team in subcontinent rice production techniques is unique. For these reasons the Government of Bangladesh wishes to continue IRRI's services. In addition to IRRI's special capability to perform the required services, the Bangladesh Government, donor consortium, and the Mission agree that it would be managerially inefficient, if not counter-productive, if competitive procurement were to result in two or more consultant organizations advising the BRRI at the same time on what is intended to be a single, integrated national rice production research program. Program direction as well as program standards would suffer.

Other donor interest in the program also argues for retention of IRRI. The Phase III rice production research program will include financing from the Canadian Government and the Ford Foundation. To facilitate program direction and to avoid duplication of technical assistance efforts, donors have agreed that one source of technical assistance should provide the

services for the entire program. IRRI is currently providing that service, and USAID wishes to continue our mutual collaboration with the consortium to support Phase III. USAID agrees that it is in the best interest of the program and the U.S. Government that IRRI should continue to provide this support.

C. Authority:

Handbook 11, Chapter 1, Section 2.4.2 a. and c. state that: "competition in the procurement of services may be waived and negotiation with a single source authorized... Only by the Administrator if the value of the procurement exceeds \$1,000,000. Such waiver may be sought only in one of the following situations and must be supported by a written record of the reasons for negotiating with a single source..." (4) The borrower/grantee desires to utilize a contractor previously engaged in the project for follow-on work and the contractor clearly has special capability by virtue of previous experience in the work but the contractor was either not initially selected on a competitive basis or the contracting agency did not advise all competing firms that a follow-on contract might result..." Since neither of these conditions were met when IRRI was selected for the initial contract, a waiver is required. The Bangladesh Government has requested extension of the IRRI/BIRRI Contract, and IRRI has clearly demonstrated special capability to perform the work.

Recommendation: That you approve a waiver of formal competitive procurement procedures to permit the Bangladesh Rice Research Institute to negotiate a contract amendment for up to \$2.0 million with IRRI for the required technical and managerial services for the rice production research component of the Supplemental Agricultural Research II Project.

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UNITED STATES OF AMERICA
AGENCY FOR INTERNATIONAL DEVELOPMENT
Dhaka, Bangladesh

ACTION MEMORANDUM FOR THE DIRECTOR, USAID/DHAKA

Date : November 20, 1986

From : Kevin A. Rushing, F&AGR

Through: H. Patrick Peterson, Director, F&AGR

Subject: Justification of PASA with the Denver Wildlife Research Center (DWRC) for Technical Assistance Under the Agricultural Research II Project Supplement (388-0051) Pursuant to Section 621(a) of the Foreign Assistance Act (FAA).

Problem:

Your certification is required to justify procurement of the technical services described in the draft Project Paper Supplement for the Agricultural Research II Project through a Participating Agency Service Agreement (PASA) under the FAA Section 621(a).

Statutory Criteria for Justification of PASA

FAA Section 621(a) provides: "In such fields as education, health, housing, or agriculture, the facilities and resources of other Federal agencies shall be utilized when such facilities are particularly or uniquely suitable for technical assistance, are not competitive with private enterprise, and can be made available without interfering unduly with domestic programs."

According to the RSSA/PASA Guidance Manual, December 1984, page 4, to demonstrate particular suitability "what is required is that the Federal agency must have a clear and substantial superiority to private enterprise either on technical or cost grounds to the extent that private enterprise is not in the competitive range when compared to the Federal Agency." "Unique suitability" requires a finding of "an absence of expertise in the entire field outside of the Participating Agency" (page 5). The Guidelines, page 13, and 85 State 123571 further provide that "in approving PASAs under Section 621(a), the Mission Director must determine the unique suitability or particular suitability of the proposed participating agency. Each request for approval should therefore include a list of factors which have led the AID Officer requesting the PASA to conclude that the proposed Participating Agency has either unique suitability or particular suitability to carry out the technical assistance. The justification shall include the steps taken by AID to determine the capabilities of the private sector and other Federal agencies in the field."

Background:

The purpose of the Project is to increase the effectiveness of agricultural research necessary for the development of appropriate technologies for farmers. Presently, the Agricultural Research II Project consists of strengthening the support services to agricultural research management and planning activities and the management of core disciplines that address specific farming system improvements.

The success of this Project depends crucially on the technical assistance inputs provided to the Bangladesh Agricultural Research Council. The Project integrates core research programs through a Farming Systems Research approach. One component of the technical assistance package is provided by the Denver Wildlife Research Center (DWRC). An extension of the DWRC PASA until 1991 will retain its original objectives and retain contract agreements. Efforts under the PASA extension will be concentrated on coordinated research through the integrated pest management approach on research stations and with emphasis on Farming Systems Research.

Justification

The facilities and resources of the DWRC are particularly and uniquely suited for the technical assistance to be provided under the PASA and are not competitive with those of private enterprise. Since 1978, DWRC through a PASA arrangement has provided technical assistance to the Vertebrate Pest Component of the Agricultural Research Project, Phases I and II. The DWRC is a major research facility of the U.S. Fish and Wildlife Service. Established in 1940, it employs 100 scientists in ecology, physiology, wildlife biology, pharmacology, toxicology, animal behavior, statistics, taxonomy and chemistry. The vertebrate pest control specialists of the DWRC staff represent a multi-disciplinary effort to reduce pre-harvest and post-harvest food losses throughout the world. Current field programs are located in Haiti, Bangladesh, Pakistan and the Dominican Republic. Well-equipped laboratories, a broad-based technical library and computer systems are available to the scientists and provide a broad spectrum of support for the international programs.

DWRC's leadership in animal damage control research is recognized throughout the world where local scientists are trained in this specialized type of research and management. For forty years, DWRC has pioneered the way in the development of appropriate technology for crop protection from vertebrate pests. In collaboration with host countries and USAID Missions, DWRC scientists work in outreach activities for project design, implementation, and evaluation. Services include: damage assessments to crops, detailed behavioral and biological studies, laboratory and field trials, technology transfer, extension and personnel training. Techniques are tested for their usefulness to traditional farmers who have limited resources.

The research designs and methodologies developed and already in place in the Agricultural Research II Project rely heavily on the research techniques which DWRC initiated and is pre-eminently qualified to continue to support. They have developed specific monitoring and evaluation instruments for vertebrate pest control field-oriented projects and are training host country nationals to implement these techniques. Project continuation and direction would be jeopardized by not continuing with the present plan and source of technical assistance.

The Office of Food and Agriculture firmly believes that the DWRC is uniquely qualified to provide the vertebrate pest control services to the Agricultural Research II Project Supplement. Any private sector institution, firm or individual offering similar services would actually rely heavily on DWRC resources. Therefore, we believe that it is in the best interests of the Project that DWRC continue to provide technical services to the Agricultural Research II Project Supplement.

Authority

The December, 1984 RSSA and PASA Manual states on page 13 that "all requests for PASAs must be approved by the Mission Director." The Mission Director must certify that the facilities of the Participating Agency are either particularly or uniquely suitable for technical assistance, are not competitive with private enterprise, and can be made available without interfering unduly with domestic programs. If the Mission Director so certifies, AID may enter into a PASA with the participating agency without regard to OMB Circular A-76.

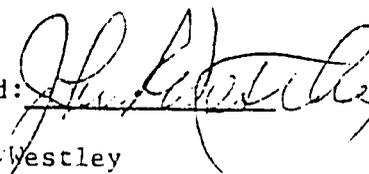
Recommendation

That you approve this justification of the use of a PASA with the Denver Wildlife Research Center and approve a waiver of formal competitive procurement procedures to permit the Bangladesh Agricultural Research Council to negotiate a PASA amendment for up to \$1.3 million with the Denver Wildlife Research Center for the required technical services for the vertebrate pest management component of the Supplemental Agricultural Research II Project.

Disapproved: _____

John R. Westley
Mission Director
USAID/Dhaka, Bangladesh

Date: _____

Approved: 

John R. Westley
Mission Director
USAID/Dhaka, Bangladesh

Date: 11/28/80

Link with Other Donors

USAID's Agricultural Research II Project is not conducted in isolation but is and will continue to be integrated in Bangladesh's overall agricultural research program. This program is financed by many donors and lenders as well as the Bangladesh Government. Pages 21-24 of the original Project Paper (December 1980) and Annex H of the Project Paper Amendment (July 1982) describe the activities of other donors and how ARP-II is integrated with those activities. Donor activities were more recently (August 1983) described in BARC's publication entitled, "Inventory on Donor Support in Agricultural and Related Research." This report identifies 18 donors supporting 41 on-going or planned projects.

As an update to this report, there are two new Agricultural Research Projects which should be noted. First, the World Bank's (IDA) Agricultural Research Phase II Project (Appraisal Report No. 4520-BD, February 10, 1984) which began in April 1985 and provides \$32.18 million over 5 1/2 years. The principal components of this Project consist of (i) supplying machinery, equipment, furniture, and vehicles as well as developing the physical facilities of the Bangladesh Agricultural Research Council (BARC), the Bangladesh Agricultural Research Institute (BARI), the Bangladesh Livestock Research Institute (BLRI), the National Institute for Fisheries Research (NIFR), and the Forestry Research Institute (FRI); (ii) Contract Research funds; and (iii) training funds for researchers. To make efficient use of research resources and to avoid wasteful duplication of effort, the activities under USAID's ARP-II Supplement were developed in consultation with the World Bank. This close linkage will be maintained throughout the period of the Supplement so that the World Bank and USAID Agricultural Research Projects remain fully complementary.

Secondly, the Canadian International Development Agency (CIDA) is about to embark upon a major crop diversification program which will involve the promotion and development of potatoes, pulses, and oilseeds. This program will have many elements which will include crop research and training of researchers. The final design of this program has yet to be determined. However, USAID and CIDA have discussed mechanisms that will allow complementarity between both donor supported efforts. CIDA is expecting to contribute \$50 to 60 million over ten years to the crop diversification program. Since this is not likely to be sufficient financing, USAID's ARP-II Supplement may contribute to this program, particularly in the area of training.

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The genesis and mutual understandings of the informal multi-donor BRRRI consortium are described in Annex D of the ARP-II Project Paper Amendment. Presently, this consortium has committed \$6.4 million to the BRRRI/IRRI contract as follows: (1) USAID -- \$3.0 million, (2) CIDA -- \$2.5 million, (3) Australian Government -- \$0.7 million, and (4) Ford Foundation -- \$0.2 million. This funding was originally expected to cover five years of operations. However, it appears that it may be sufficient for 6 years of activities. Once this funding is exhausted, the Ford Foundation (which has been contributing 3 percent to the consortium's total commitment) is expected to withdraw from the consortium while the Canadian and Australian Governments are expected to continue their present levels of support. As a consequence, the Supplement for USAID's ARP-II reserves funding to continue USAID's support for BRRRI. To reinforce the coordinating role of BARC, this support and the consortium arrangement will be channeled through BARC under this PP Supplement.

Primary Technical Assistance: Composition and Activities

Presently, ARP-II's prime contract provides most of the Project's advisory assistance, commodities, and training activities (approximately 80 percent of AID's financial contribution to the Project). The current prime contract explicitly notes (Appendix A, p.2) that ARP-II will:

- (a) build capabilities to move agricultural research activities into farmers' fields where production problems can be identified and solutions tested;
- (b) build strong, responsive core discipline research programs within a "farming systems research framework" to develop the new technologies that can address these production problems; and
- (c) concentrate efforts to link different agricultural institutions into a research system relevant to achieving the country's agricultural development objectives.

To do this, ARP-II provides equipment, training, program development support, and high-level technical advisory assistance. It is expected that this will lead to "some re-organization of institutes and re-orientation of scientists involved in agricultural research."

The organization of ARP-II is as follows:

- (1) The BARC Executive Vice-Chairman has overall responsibility for implementation of ARP-II. He is assisted by the prime contractor's Chief of Party.
- (2) The Project Specialists work closely with BARC Member Directors in their inter-institutional coordinating roles, and with institute directors and scientists in the institutions that carry out the research programs.
- (3) Supervision of the Specialists is the function of the Chief of Party. He also provides the communication link between the prime contractor's consultants and BARC.

For this proposed PP Supplement, the prime technical assistance contract will contain the detailed scope of work for each of the proposed 13 resident advisory consultants. However, in brief, their activities and responsibilities will include the following:

- 1) Senior Research System Management Specialist and Chief of Party, will be the principal representative of the prime contractor and will have responsibility for overall supervision of the work of the other resident and short-term Specialists. He must work closely with and be responsible to BARC's Executive Vice-Chairman. He must not only be a dynamic administrator but a "visionary" who can provide fresh ideas and assistance for improving the evolution of Bangladesh's National Agricultural Research System;

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- 2) Recurrent Costs/Contract Accounting Specialist, a Certified Public Accountant with a Masters degree in Business Administration (or equivalent experience), will assist BARC's Member-Directors of Administration and Finance, Contract Research (if appointed), and Recurrent Costs (if appointed) with accounting, financial control, budgeting, and management of the funds (1) received for the prime contract and (2) received from donor agencies and the Government, for recurrent costs and BARC's Contract Research Program;
- 3) Planning and Monitoring Specialist, will assist the Member-Director of Planning and Evaluations with the execution of BARC's planning functions. This Specialist should be located in the Planning and Evaluation Division. One of his/her assignment should be to assist in developing a clear mandate for the Division, and corresponding revised terms of reference for the Member-Director and his professional staff. In-service training in planning methodology should be one of his/her major responsibilities. This Specialist will also assist the Member Director of Contract Research (or his equivalent) with planning, selection, monitoring, and evaluation of the research projects funded by the contract research program;
- 4) Communications Specialist, working with the Director for Communications and Publications (or his equivalent) as well as the Heads of BRRRI's Publication Production Unit and NALDOC, will assist with production and dissemination of information which will contribute to accomplishing the objectives of BARC and other units of the National Agricultural Research System. This person will advise key officials on the most effective ways to communicate desired information and communication products and on the content of those products as they relate to reaching their intended audiences;

- 5) Research Facilities/Support Services Specialist will assist both the Director of Recurrent Costs (or his equivalent) and BARC's Director of Research Facilities/Support Services (or his equivalent) with insuring that there are continuous improvements and maintenance of (i) experiment station farm management, (ii) research station structures, e.g. buildings and irrigation systems, and (iii) experiment station support services to include field laborers and agricultural inputs. Regarding commodities, this Specialist will help to insure that throughout the research system, there is coordination of research equipment (to include vehicles and spare parts) procurement, distribution, and maintenance. To be effective, this Specialist will also be responsible for in-service training courses for experiment station farm managers and their staffs;
- 6) Manpower Development Specialist, will assist BARC's Member-Director of Manpower Development (or his equivalent) with development and updating of the National Agricultural Research System's Master Plan for personnel requirements and with coordination of the national distribution of agricultural research personnel. This Specialist also will be deeply involved with assisting BARC in its personnel training and career development activities;
- 7) Farming Systems Research Specialist and Coordinator of the Field Specialist Team (defined below), an eminent agricultural scientist who must be as innovative and dynamic as the prime contractor's Research System Management Specialist/Chief of Party. The Specialist will assist BARC's Director of Farming Systems (or his equivalent), the Director-General of Agricultural Extension, and the Chairman of the Bangladesh Space Research and Remote Sensing Organization, with coordinating and upgrading the nation's farming systems research activities. These activities are discussed in the body of this PP Supplement, under the Farming Systems Research section. To effectively accomplish his responsibilities, this Specialist will coordinate and lead a six-member team of discipline-specific scientists who will reside at Research Institutes, Stations and field stations located throughout the country with each station belonging to a different research organization;
- 8) The Field Specialist Team: This Team of scientists will consist of : (1) Horticulturalist/Agronomist, (2) Livestock/ Animal Health Specialist (3) Aquaculture Specialist, (4) Economist/Social Scientist, (5) Water Management/ Agricultural Engineering Specialist

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and (6) An Integrated Pest Management Specialist. For each of these Specialists, the attached table and map indicate their office locations. The table also indicates their counter-parts and the counterpart agencies for which these scientists will function as BARC's liaison Specialists.

This multi-disciplinary team will actively incorporate the technical assistance of IRRI/Bangladesh, DWRC/Bangladesh, and USAID/Dhaka's new Homestead Agroforestry Research and Extension Project. This team will hold monthly meetings, chaired by the above mentioned Coordinator of the Field Specialist Team. Key Government officials may be invited to attend these meetings. This team will nurture strong linkages with DAE and SPARRSO. Working out from their office locations, each team member will be assigned responsibility for a geographical region. This team will be mobile and will divide their attention between two general types of research activities: on-station research and farming systems research.

Since each team member is regionally/strategically located, each will have responsibilities for developing possible improvements and reviewing progress of on-station research activities at all stations within his assigned region, regardless of the station's parent organization. This will be aimed at the smooth functioning of the field stations and the stations' interactions with the agricultural extension service and should provide improved technology components for use in farming systems research. Each team member will assist in identifying the training activities needed by their respective field stations and will assist in promoting and disseminating their assigned stations' research findings through farmer field days and publications. Regarding the farming systems research program, in a step-wise manner over the four-year extension, this field team will focus-on and upgrade at least four of the nation's farming systems sites. The first year's activities will be aimed at only one site. During each year of the Supplement, at least one additional site will be incorporated by this mobile team. With assistance from the Communications Specialist and adequate financial support, this team will use the expertise of the Ministry of Agriculture's Extension Service and Agricultural Information Service to produce slide shows, radio broadcasts, and short television and cinema hall films, as well as training in basic communication skills for local personnel. The publication of a monthly Bengali Extension and Research Bulletin, modeled after BARI'/Ishurdi's publication, which began in October 1984, will be established at regional stations throughout BARC's complex of institutes.

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TABLE A. COMPOSITION OF PRIME CONTRACTOR'S TECHNICAL ASSISTANCE TEAM
(June 87 through June 91)*

<u>Resident Consultants</u>	<u>Consultants' Counterparts</u>	
	<u>Individual</u>	<u>Agency(ies)</u>
1. Senior Research System Management Specialist and Chief of Party	Executive Vice Chairman and Member-Director of Planning and Evaluations	BARC
2. Recurrent Costs/Contract Accounting Specialist	Member-Director of Administration and Finance, Director of Contract Research, and Director of Recurrent Costs	BARC
3. Planning and Monitoring Specialist	Member-Director of Planning and Evaluations, and Director of Contract Research	BARC
4. Communications Specialist	Director of Communications and Publications and Heads of BRRI's Publication Production Unit and of BARC's NALDOC	BARC, BRRI, and NALDOC
5. Research Facilities/Support Services Specialist	Administrative Research Facilities/Support Services Cell	BARC
6. Manpower Development Specialist	Director of Manpower Training	BARC
7. Farming Systems Research Specialist and Coordinator/Leader of the Field Specialist Team	Director of Farming Systems, Director-General of Extension, and Chairman of SPARRSO	BARC, DAE, and SPARRSO
The Field Specialist Team:**		
8. Horticulturalist/Agronomist (Office at BARI/Ishurdi)	Directors of Counterpart Agencies	BARC, SRTI, BINA, BJRI, BRRI, BARI, BTRI, FRI, DAE, SPARRSO, and (IRRI/Bangladesh)

9. Livestock/Animal Health Specialist(Office at LRI/Savar)	Directors of Counter-part Agencies	BARC,LRI,BAU, DAE, and SPARSSO
10. Aquaculture Specialist (Office at NIFR/Mymensingh)	Directors of Counter-part Agencies	BARC,NIFR,BAU, DAE,and SPARSSO
11. Economist/Social Scientist (Office at BAU/Mymensingh)	Directors of Counter-part Agencies	BARC,BAU,B INA, DAE,B IDS ,IPSA, CERDI,Rajshahi University, BARD (at both Comilla and Bogra) and SPARSSO
12. Water Management/Agricultural Engineering Specialist (Office at BARI/Jamalpur)	Directors of Counter-part Agencies	BARC,BJRI,BWDB, BUET,MPO,B ILIA, DAE,and SPARSSO
13. Integrated Pest Management Specialist (Office at BJRI/Dinajpur)	Directors of Counter-part Agencies	BARC,BARI,BRRI, BJRI,SRTI, FRI,BTRI,DAE,

*Abbreviations used in this table are as follows:

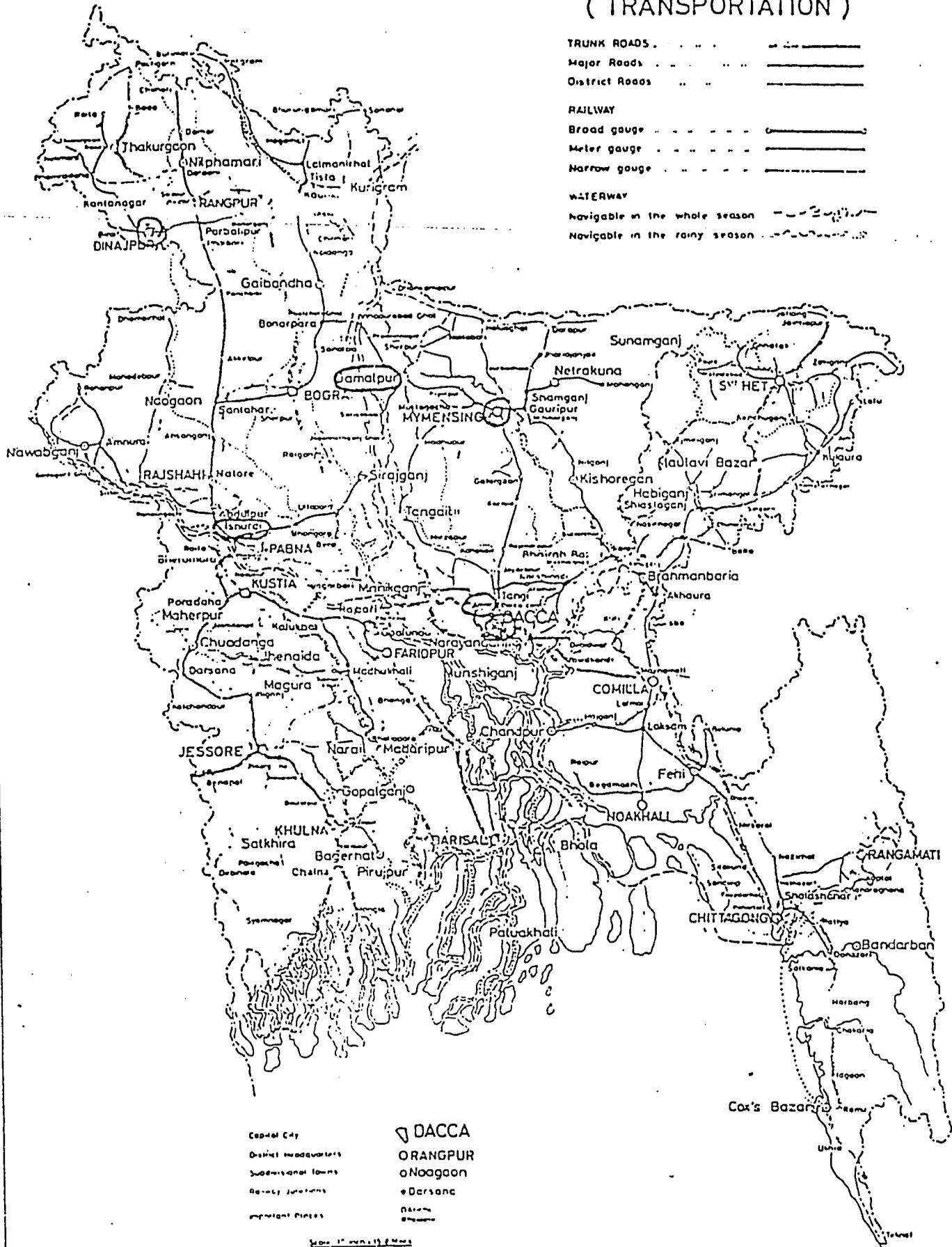
AEC	-Atomic Energy Commission	SPARSSO,
BARC	-Bangladesh Agricultural Research Council	DAE's Plant
BARD	-Bangladesh Academy of Rural Development	Protection
BARI	-Bangladesh Agricultural Research Institute	Division,
BAU	-Bangladesh Agricultural University	AEC's Irra-
BIDS	-Bangladesh Institute of Development Studies	diation and
BINA	-Bangladesh Institute of Nuclear Agriculture	Pest Control
BILIA	-Bangladesh Institute of Law and International Affairs	Institute,
BJRI	-Bangladesh Jute Research Institute of Bangladesh	Pesticide Asso-
BRRI	-Bangladesh Rice Research Institute	ciation
BTRI	-Bangladesh Tea Research Institute Bangladesh	
BUET	-Bangladesh University of Engineering and Technology	
BWDB	-Bangladesh Water Development Board	
CERDI	-Central Extension Resources Development Institute	
DAE	-Department of Agricultural Extension	
DWRC	-Denver Wildlife Research Center	
FRI	-Forestry Research Institute	
IPSA	-Institute of Post-graduate Studies in Agriculture	
IRRI	-International Rice Research Institute	
LRI	-Livestock Research Institute	
MPO	-Master Planning Organization	
NALDOC	-National Agricultural Library and Documentation Center	
NIFR	-National Institute of Fisheries Research	
SPARSSO	-Bangladesh Space Research and Remote Sensing Organization	
SRTI	-Sugarcane Research and Training Institute	

**USAID/Dhaka's new Homestead Agroforestry Research and Extension Project (No.388-0062), may be providing a Forestry Specialist who will be incorporated as a member of this team.

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BANGLADESH (TRANSPORTATION)

- TRUNK ROADS
- Major Roads
- District Roads
- RAILWAY
- Broad gauge
- Meter gauge
- Narrow gauge
- WATERWAY
- Navigable in the whole season
- Navigable in the rainy season



- Capital City
- District Headquarters
- Subdivisional Towns
- Revenue Towns
- Important Places
- DACCA
- ORANPUR
- o Naogaon
- Darsana
- o Rajshahi
- o Mymensingh

Scale: 1" = 100 Miles

Posts - 7
 1 x Chairman
 1 x Private Secretary
 1 x Stenographer/PA
 2 x LDI-cum-Typist
 2 x MLSS

ADMINISTRATIVE AND FINANCE 189
 Posts - 4
 1 x MD
 1 x Protocol Officer
 1 x Stenographer
 1 x MLSS

CROPS 73
 Posts - 13
 1 x MD
 1 x Stenographer
 1 x MLSS
 2 x JSO
 4 x SSO
 1 x UDA
 2 x LDI-cum-Typist
 1 x MLSS

LIVESTOCK 101
 Posts - 11
 1 x MD
 1 x Stenographer
 1 x MLSS
 1 x JSO
 3 x SSO
 1 x UDA
 2 x LDI-cum-Typist
 1 x MLSS

NUTRITION
 Posts - 8
 1 x Director
 2 x SSO
 1 x Stenographer
 1 x LDI-cum-Typist
 3 x MLSS

TRAINING
 Posts - 13
 1 x Director
 2 x SSO
 2 x Sr. Officer
 1 x Stenographer
 2 x LDI-cum-Typist
 1 x PM Operator
 1 x Dup. Mach. Operator
 3 x MLSS

ADMINISTRATION 138
 Posts - 3
 1 x Director
 1 x Stenographer
 1 x MLSS

FINANCE 47
 Posts - 3
 1 x Director
 1 x Stenographer
 1 x MLSS

SOIL & IRRIG
 Posts - 14
 1 x MD
 1 x Stenographer
 1 x MLSS
 2 x JSO
 5 x SSO
 1 x UDA
 2 x LDI-cum-Typist
 1 x MLSS

PLANNING & EVALUATION
 Posts - 12
 1 x MD
 1 x Stenographer
 1 x MLSS
 2 x JSO
 3 x SSO
 1 x UDA
 2 x LDI-cum-Typist
 1 x MLSS

LIBRARIAN
 Posts - 17
 1 x Director
 1 x SSO
 1 x Stenographer
 5 x JSO
 5 x SO
 1 x Technician
 1 x Stenographer
 1 x Driver
 2 x Attendant

LIBRARY AND EDUCATION CENTRE
 Posts - 12
 1 x Director
 1 x Asstt. Director
 1 x Stenographer
 1 x UDA
 1 x Cataloguer
 1 x Photographer
 1 x Proof Reader
 1 x LDI-cum-Typist
 1 x Sorter
 3 x MLSS

ESTABLISHMENT
 Posts - 19
 1 x Dy. Director
 2 x Asstt. Director
 2 x UDA/PA
 4 x UDA
 8 x LDI-cum-Typist
 2 x MLSS

TRAINING & MONITORING SUPPORT UNIT
 Posts - 5
 1 x Asstt. Director
 1 x UDA
 1 x MLSS
 2 x PA System Opr.

FINANCE
 Posts - 10
 1 x Dy. Director
 2 x Asstt. Director
 2 x UDA/Accountant
 3 x Asstt. Asstt.
 1 x LDI-cum-Typist
 1 x MLSS

ACCOUNTS
 Posts - 14
 1 x Dy. Director
 2 x Asstt. Director
 2 x UDA/Accountant
 2 x UDA/Cashier
 4 x Asstt. Asstt.
 1 x Cashier
 1 x LDI-cum-Typist
 1 x Entry
 1 x MLSS

FINANCIALS
 Posts - 11
 1 x MD
 1 x Stenographer
 1 x MLSS
 1 x JSO
 3 x SSO
 1 x UDA
 2 x LDI-cum-Typist
 1 x MLSS

FORESTRY
 Posts - 12
 1 x MD
 1 x Stenographer
 1 x MLSS
 2 x JSO
 3 x SSO
 1 x UDA
 2 x LDI-cum-Typist
 1 x MLSS

AGRICULTURE & ECO. SCIENCE
 Posts - 19
 1 x MD
 1 x Stenographer
 1 x MLSS
 2 x JSO
 4 x SSO
 1 x Cartographer
 2 x Stat. Asstt.
 1 x Data Sorter
 2 x Steno-Typist
 1 x UDA
 2 x LDI-cum-Typist
 1 x MLSS

AGRI. MFGG.
 Posts - 11
 1 x MD
 1 x Stenographer
 1 x MLSS
 2 x JSO
 2 x SSO
 1 x Steno-Typist
 1 x UDA
 1 x LDI-cum-Typist
 1 x MLSS

CONTR. SERVICE
 Posts - 69
 1 x Asstt. Director
 2 x UDA/PA
 6 x UDA
 6 x LDI-cum-Typist
 2 x Despatch Rider
 1 x Transport Supp.
 14 x Driver
 1 x Mechanic
 1 x Pump Operator
 4 x Telephone Opr.
 1 x Receptionist
 10 x MLSS/Farash
 12 x Guard
 4 x Mali
 6 x Sweeper

PUBLICATIONS
 Posts - 6
 1 x Dy. Director
 1 x Sub. Editor
 2 x Proof Reader
 1 x UDA
 1 x LDI-cum-Typist
 1 x Entry
 1 x MLSS

AUDIT
 Posts - 9
 1 x Dy. Director
 2 x Asstt. Director
 4 x Auditor
 1 x LDI-cum-Typist
 1 x MLSS

CONSTRUCTION AND MAINTENANCE CELL
 Posts - 11
 1 x Chief Engr.
 1 x Executive Engr.
 1 x Site Engineer
 2 x Electrician
 2 x Plumber
 1 x Air Cond. Opr.
 1 x UDA
 4 x LDI-cum-Typist
 1 x MLSS

EMPLOYEES OF KASAPETA

Sr. No.	Name of post	Sanctioned	Existing	Revised
1.	Executive Vice-Chairman/Chairman	1	1	1
2.	Member Director	8	5	9
3.	Secretary	1	1	1
4.	Associate Director/Director	6	3	1
5.	System Analyst	1	-	1
6.	Deputy Director (Training)	1	1	1
7.	Principal Scientific Officer/Agricultural Economist	10	10	13
8.	Chief Accountant/Asso. Director	1	1	-
9.	Senior Programmer	1	-	1
10.	Senior Scientific Officer	21	21	34
11.	Sr. Accounts Officer/Dy. Director	2	2	4
12.	Publication Officer/Dy. Director	1	1	1
13.	Tech. Miltor	-	-	1
14.	Public Relation Officer/Protocol Officer	1	1	1
15.	Librarian	1	1	1
16.	Procurement Officer/Asstt. Dir.	1	1	1
17.	Chief Engineer (EE)	-	-	1
18.	Executive Engineer	1	1	1
19.	Cartographer	1	1	1
20.	Private Secretary	1	1	1
21.	Acn. Officer/Asstt. Director	2	2	5
22.	Acnt. Officer/Asstt. Director	1	1	2
23.	Budget Officer/Asstt. Director	1	1	2
24.	Accounts Officer/Asstt. Director	4	4	4
25.	Assistant Librarian	1	1	3
26.	Photographer	1	1	1
27.	Programmer	2	-	2
28.	Computer Operator	2	-	2
29.	Training Officer/SO	2	-	2
30.	Scientific Officer	5	-	5
31.	Data Encoder	4	-	4
Total		85	61	113
Class - I		16	14	4
Class - II		205	95	169
Class - III		129	54	87
Class - IV		4	-	4
Grand Total		449	224	373

DATA PROCESSING CENTRE
 Posts - 18
 1 x System Analyst
 1 x Sr. Programmer
 2 x Programmer
 2 x Computer Opr.
 4 x Data Encoder
 2 x Stenographer
 1 x UDA
 2 x LDI-cum-Typist
 3 x MLSS

AIRC CELL
 Posts - 6
 1 x Director
 2 x SSO
 1 x Stenographer
 1 x LDI-cum-Typist
 1 x MLSS

The World Bank / Resident Mission in Bangladesh
222 New Eskaton Road
G. P. O. Box 97, Dhaka, Bangladesh
Telephone : 400003-5, 402810, 402841
Cable Address : INTBAFRAD, Dhaka

Mr. Mahbub-uz-Zaman
Secretary
Cabinet Division
Room No. 301
Bhaban No. 1
Bangladesh Secretariat

October 28, 1985

Dear Mr. Zaman:

Second Agricultural Research Project (Cr.1455-BD)

I am writing you this letter since I have been informed that you are the Chairman of an Interministerial Committee that is re-examining the role of the Bangladesh Agricultural Research Council. The World Bank's interest in this subject is vested in its financing of four projects connected with BARC; the First and Second Agricultural Research Projects and the First and Second Agricultural Extension and Research Projects. IDA Credits totalling US\$62 million have been made in support of these four projects.

In the course of preparing, appraising and supervising these four projects we, your Government and other donors, notably USAID, have developed and agreed on an operational concept for BARC that follows basically systems employed by India and Pakistan to coordinate their national agricultural research efforts. The systems are designed to avoid costly overlaps of research and to ensure that research is focused on national development priorities rather than the independent ambitions of research workers in the various research agencies. In short BARC is envisaged as a coordinating and guiding body; so far we have been satisfied generally with the way in which BARC has implemented this function but it has become increasingly clear that BARC is finding it more and more difficult to maintain this role.

Since our collaboration with BARC started the organization of your Government's agricultural agencies has changed somewhat. As a consequence the BARC coordinating effort now involves three Ministries, i.e. Agriculture, Livestock and Fisheries, and Irrigation, Water Development and Flood Control, in a significant way and to a lesser extent the program of the Ministry of Local Government, Rural Development and Cooperatives (the two Rural Development Academies conduct research which is eligible for funding under the BARC contract research scheme, which in turn is financed by IDA).

As you know the Chairman of BARC is responsible to the Secretary of Agriculture and Forests. In this subordinate role, the Chairman must, and does, face difficulties in his dealings with other Ministries, such as the Livestock and Fisheries Ministry to which the newly established Livestock Research Institute and Fisheries Research Institute are administratively

Mr. Zamaa

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October 28, 1985

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✓
responsible. In a recent discussion with the Minister of Agriculture on this issue, our Projects Director for South Asia, Mr. E. Lerdaa, suggested that there was merit in considering the arrangements employed in India and Pakistan, where the equivalent position of the Chairman BARC had the status and powers of a Secretary to Government. As the Minister showed interest in the proposal and suggested that the Bank should raise this question at an appropriate level in the Government, this letter has been written.

We would not consider suggesting a change in the status and powers of Chairman BARC had the present arrangements worked better than they have and had progress in implementing the current second agricultural research project been satisfactory. In fact implementation progress with this project has been so poor - no disbursements whatsoever since Credit 1455-BD was signed on May 16, 1984 and such a range of administrative problems remain still unresolved - that there is a strong body of opinion at the Bank's headquarters that feels that the Government of Bangladesh is not committed to the establishment of a strong and effective agricultural research system. In this office we know this not to be so, but convincing others of the point is difficult given the continuing non-performance of the second agricultural research project. The fact that the basic problems appear administrative in nature causes us to suggest that your Government consider solutions tried and proven in other countries - the India model seems particularly appropriate given similarities in the administrative structure.

With best wishes,

Yours sincerely,

Roger Rowe
Chief of Mission

cc: Mr. S. A. Mahmood, Secretary, MOA
Mr. M. A. Sayeed, Secretary Livestock and Fisheries
Mr. M. Ali, Secretary, IWD & FC
Mr. A. Awal, Additional Secretary, RD Division
Dr. S. K. Eusufzai, Member, Planning Commission
Mr. Q. S. Alam, Joint Secretary, ERD
Mr. E. Ahsan, Acting Chairman, BARC

bcc : Messrs. E. Lerdaa, ASPDR Room # H4049
R. Cheetham, ASADR Room # H5049
D. Haynes, ASPDR Room # H4037
K. Berg, ASPAD Room # H4061
A.J. Clift, ASABA Room # H5143

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BANGLADESH AGRICULTURAL RESEARCH COUNCIL

Farm Gate, New Airport Road, Dacca-15
Bangladesh.

ANNEX I
PAGE 3 of 4
TELEGRAM : AGRESCARG
G. P. O. BOX : 3041
PHONE : 31 47 95
31 65 87
32 50 61-8

Ref : No.EVC/BARC/146

Date : 30 Aug.198

Mr.A.M.Anisuzzaman,
Secretary,
Agriculture & Forests Division,
Ministry of Agriculture,
Bangladesh Secretariat,

D a c c a

Subject: Conversion of BARC into a Division of the Ministry of
Agriculture.

You may kindly recall that on 30 April,1982. I had submitted a proposal to you for consideration of the Chief Martial Law Administrator for the integration of important agricultural research institutes and placement of same under the Ministry of Agriculture. The main objectives were to bring them in the mainstream of agricultural research activities, ensure coordinated programmes and actions, and to overcome other operational difficulties arising out of isolation and duplication. You and the Minister were good enough to recommend this proposal to CMLA, who promptly approved the same.

The first part of the proposal has already been given effect but the second part, namely, the creation of a Division for Research within the Ministry of Agriculture and Forests has not yet been implemented to strengthen supervising and administrative capacity of the Council, although the matter was forwarded long ago to the Cabinet Division for necessary action on the decision of CMLA. I understand there is some confusion as to how the Agricultural Research Council, as an autonomous body, could be converted into a Division of the Ministry. I had already mentioned in my proposal that the creation of a Research Division would merely be a slight structural modification involving no extra expenditure. All that is required, is to give the Executive Vice-Chairman of Bangladesh Agricultural Research Council the status and rank of a Secretary and provide him with one Deputy Secretary to assist in functional responsibilities. Rest of the support services, mainly on technical matters, would be rendered by the existing autonomous secretariat and technical personnel of BARC. This is essentially how Pakistan has established a Research

Division following Indian pattern of the Council within the Ministry of Agriculture. Similar structure operates in India where the Director-General of Indian Council of Agricultural Research has the status of a Secretary to the Government; he is assisted by a Joint Secretary and a few under secretaries deputed from the government. I am enclosing herewith a copy of the letter from the Chairman of Pakistan Agricultural Research Council, which is self-explanatory. I do not have at the moment a letter from the Director-General of ICAR giving description of such structure but the title on the enclosed letter, which I received some time ago, indicates the operational structure in India. In Bangladesh, we can begin on a smaller scale. It was not my intention to suggest turning the whole Council into a Division which is neither practical nor desirable.

In the process of developing a strong national agricultural research system, we have already integrated the research institutes under the umbrella of the Council. Mere integration, however, will not be effective unless a Research Division, as envisaged in my proposal, and approved by CIA is created simultaneously following the pattern as indicated at para 2 above.

(Kazi M. Badruddoza ,
Executive Vice-Chairman,
PARC

Government of the People's Republic of Bangladesh
Ministry of Agriculture

No. PMU(E&R)-ARP-16/86/180 : Dhaka, the 30th August, 1986.

Office Memorandum

Subject: Draft Project Supplement Paper for Agricultural Research Project II under USAID Assistance (No. 388-0051).

This is to inform that USAID supported on-going Agricultural Research Project II (No. 388-0051) under implementation by BARC expires on June 1987. The main purpose of this Project is to establish a functional agricultural research system that will develop appropriate technology for the farmers of Bangladesh. During the preceding years this Project has contributed to strengthening BARC's ability to manage and coordinate national agricultural research system, developing on-farm research in core disciplines and establishing farming system research programmes. The 1985 External Evaluation Report has recorded satisfactory performance of the Project and recommended for its extension for achieving overall objectives. USAID has, therefore, come up with a Project Supplement Paper in order to refocus efforts to achieve original objectives of the Project. The main purpose of this Supplement is to:

- i) extend the project agreement completion date by four years, i.e., from July 1987 to June 1991; and
- ii) increase the project funding by additional \$ 19.5 million (original allocation is \$ 27.0 million).

2. Technical discussions between USAID and BARC took place for a long period on the conceptual framework and project design and provisions. The draft Supplement Project Paper was then discussed in the Ministry of Agriculture in a meeting held on 7.7.86 under the chairmanship of Secretary, Agriculture. A copy of the recorded note of discussions held between MOA and USAID is also enclosed herewith for perusal. The Ministry of Agriculture has accepted the Project Supplement Paper in principle.

-:(2):-

3. The reason for this letter is that USAID local office has informally intimated this Ministry that its headquarters will not be able to protect the indicative allocation for this Project beyond June 1987 unless a formal request is made to USAID immediately.

4. Ministry of Agriculture, therefore, requests EED to take up this matter with USAID for the purpose and Planning Commission for according clearance to the Project Supplement Paper at the earliest convenience.

Enc: 1. Copy of Project Supplement Paper.
2. Copy of Recorded Note of Discussions.

Shamsur Rahman
(Dr. Shamsur Rahman)
Joint Secretary.

Prof. S.H.K. Eusufzai
Member(Agriculture)
Planning Commission
(Attn: Dr. Nurul Islam, Joint Chief)

Mr. M.K. Anwar
Secretary
External Resources Division
(Attn: Mr. M. Akhtar Ali, Joint Secretary)

c c:-Chairman, BARC, Farmgate Dhaka

-Joint Secretary(PFC), MOA

✓-Director, USAID(F&A), Dhaka
(Attn: Mr. Alan Kurdus).

11



1712 36.1

BANGLADESH AGRICULTURAL RESEARCH COUNCIL

Farm Gate, New Airport Road, Dhaka-15

Bangladesh.

Annex J
Page 3 of 15
TELEGRAM : AGRESEARCH
TELEX NO : 642401 HID B J
: ATTN. BARC
G.P.O. BOX : 3 0 4 1
PHONE : 31 42 95
31 65 87
32 50 61-5

Ref : No.PS/BARC/4-86:

Date :

10 April, 1986

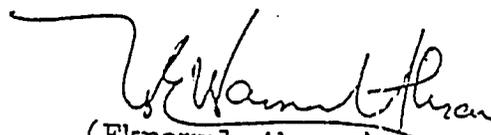
Mr. Kevin Rushing
USAID/Dhaka
Jiban Bima Bhaban
10 Dilkusha C/A
Dhaka

Subject: Agricultural Research Project II
Supplement (388 - 0051)

Please refer to the draft supplement to the Agricultural Research Project (388 - 0051) and subsequent discussion with you on April 9, 1986 at BARC.

As revealed in the discussion of Member Directors of BARC with you I would like to inform you that BARC would prefer competitive bid. As discussed with you we prefer that the project implementation may follow USAID-BARC direct contract system.

I am looking forward to receiving some more copies of the project supplement and we hope to arrange a discussion with you on other issues in supplement with two weeks.


(Ekramul Ahsan)
Chairman, BARC

Cable : RESAGRI
G. P. O. Box : 2235
Telex No. : 642101 SHER BJ



বাংলাদেশ কৃষি গবেষণা ইনস্টিটিউট
BANGLADESH AGRICULTURAL RESEARCH INSTITUTE
JOYDEBPUR, GAZIPUR.

Office Ph. : 391474
401013
391270
390241
390231

Ref. PS-BARI-FO-33

Date 19 April, 1986.

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The Director
USAID Mission to Bangladesh
Jiban Bima Dhaban
10, Dilkusha Commercial Area
Dhaka-2.

Sub : Extension of vertebrate pest management
component of ARP II.

The USAID support to our vertebrate pest research program through Denver Wildlife Research Centre has produced visible results. Not only a distinct vertebrate pest research unit with clearly defined program has been established, but also an excellent team of committed trained researchers has emerged. The research program has already yielded practical solutions to some of the vertebrate pest problems, particularly of field rats and house mice. The program has certainly gained momentum due to continued support provided by AID. I as well as my colleagues feel that to sustain this momentum, particularly when the program is nearing a take-off stage, additional support for another couple of years will be essential.

So far our research efforts have been limited to address the rat problems only. We have not been able to do any work on pest birds, jackals and other minor vertebrate pests, such as squirrels, porcupines, mongoose and wild pig. Research activities in these important areas will not only require additional facilities but also a reasonable time frame. We strongly feel that two years extended support to this program through ARP-III will not be enough. It would surely help the rat management program, but not the programmes on other vertebrate pests, that we wish to initiate now.

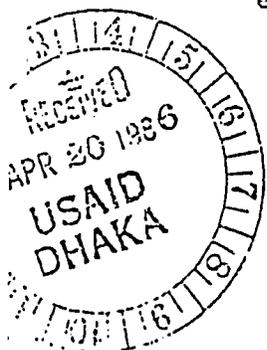
I would, therefore, request you to consider if it is possible to extend the support for the entire 4-year period of the ARP-III,

With best regards,

sincerely,

(M. Motlubor Rahman)
Director General

FUNCTION TO:	
REF	6/10
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CI	
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REPLY/NAN	
Int'l	
Date	
File:	



M

BANGLADESH RICE RESEARCH INSTITUTE
OYDEBPUR, ~~DHAKA~~ GAZIPUR
Bangladesh

Ref: F-47/1755

Date: 23.4.86.

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To
Mr. John R. Westley
Director, USAID
Motijheel, Dhaka.

ACTION TO:	
REPLY DUE:	6/10
INFO	
DIR	-
DD	-
PRO	-
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TRV	
RLA	
CSO	
REPLY/NAN	
Incl	
Date	
File:	

Dear Mr. Westley :

The Bangladesh Rice Research Institute desires to continue the present Rice Research and Training Project, Phase II, 1 May 1981 to 30 June 1987 to a Phase III period to be effective 1 July 1987 through 30 June 1991. It is expected that the present informal donor consortium made up of Ford Foundation, and the Australian, Canadian and United States Government will continue to function during this period making contributions to the funding through respective foreign aid programs.

BIRRI proposes to continue receiving project assistance from the International Rice Research Institute during this Phase III period. Recently, the Memorandum of Understanding between BIRRI and IRRI was extended so that it is effective through 30 June 1991. A copy of which is attached.

Sincerely yours,

M. A. Mannan
23-4-86
(M. A. Mannan)
Director General.



Attachment : BIRRI-IRRI Memorandum of Understanding Effective to 30 June 1991.

MEMORANDUM OF UNDERSTANDING
BETWEEN
THE BANGLADESH RICE RESEARCH INSTITUTE, JOYDEBPUR, DHAKA, BANGLADESH
AND
THE INTERNATIONAL RICE RESEARCH INSTITUTE, LOS BAÑOS, PHILIPPINES
FOR SCIENTIFIC AND TECHNICAL COOPERATION IN RESEARCH
ON RICE AND CROPPING SYSTEMS INVOLVING RICE

This MEMORANDUM OF UNDERSTANDING is between the Bangladesh Rice Research Institute (BRRI) and the International Rice Research Institute (IRRI) with the concurrence of the Government of the People's Republic of Bangladesh (Government).

SECTION I - PREAMBLE

The following paragraphs state the factual background of this Memorandum of Understanding:

BRRI is an instrumentality of Government established by Act No. X of the Parliament of Bangladesh on 30th June 1973. It has its own Board of Governors chaired by the Minister for Agriculture, ex-officio. IRRI is represented on BRRI's Board of Governors. BRRI is responsible to the Ministry of Agriculture, and is dependent upon Government for the bulk of its funding. It presents its budgetary requests to Government through the Ministry and is subject to the Ministry's approval.

IRRI is a private, nonprofit international organization with headquarters in Los Baños, Republic of the Philippines. It receives its financial support from the Consultative Group on International Agricultural Research composed of numerous national governments, international organizations and private foundations. Its program has two broad categories; its "core program" consists of research and training on all phases of rice including cropping systems carried out at Los Baños or elsewhere in support of its Los Baños activities;

its "outreach program" consists of technical assistance to and professional cooperation with national programs in several countries. The financial support received by IRRI for its core program is restricted by the donors so that such funds are not available for direct support of outreach programs. Therefore, each of the national outreach programs involving IRRI is dependent on separate funding for support.

IRRI has maintained a technical assistance and professional cooperation relationship with BRRI since it was established. There is an increasing amount of research collaboration between BRRI and IRRI and this is expected to continue expanding in the future. Initially, the donor financial support was provided almost entirely by grants from the Ford Foundation to IRRI on behalf of BRRI, pursuant to arrangements between the Ford Foundation and the Bangladesh Government. Other donor agencies subsequently joined the Ford Foundation providing additional financial support for the benefit of BRRI. Current donors include the Australian Government through ADAB (the Australian Development Assistance Bureau), the Canadian Government through CIDA (Canadian International Development Agency), the United States Government through USAID (United States Agency for International Development) and the Ford Foundation. Other donors may join in the future.

SECTION II - UNDERSTANDING

The following paragraphs set forth the understandings between BRRI and IRRI and the mechanisms by which particular issues not covered by such understanding will be resolved between the parties in the future.

Term

The term of this understanding will be six years beginning 1 December 1985 and ending 30 November 1991. Extension, if any, will be considered six months before the expiration of this term.

Overall Objectives

(a) It is the overall objective of BARRI and the Bangladesh Government that BARRI should contribute towards greater rice production in Bangladesh with increasing effectiveness.

(b) It is the overall objective of IRRI to participate in collaborative research with BARRI and provide BARRI with technical assistance, professional cooperation, jointly planned training and other services in a manner and of a quality that will substantially help BARRI to be a collegial member of the international network of rice research institutions and contribute with increasing effectiveness toward greater rice production in Bangladesh. Through its work with BARRI in support of this overall objective, IRRI expects to also enhance its program goals of securing increased rice production on a global basis.

(c) BARRI is implementing a five-year plan for rice and rice-based cropping systems research in order to generate technology to meet the national goals for increased rice and food production.

Crop season work plans are reviewed and approved by appropriate BARRI multidisciplinary research task forces and a comprehensive annual internal review evaluates progress and reconfirms overall research plans for the next year. The current assessment of BARRI's need for assistance and cooperation from IRRI during the six years of the Understanding calls for the assignment to BARRI of a rice farming systems specialist, and a research systems specialist and other scientists of different areas and periods of service jointly determined by BARRI and IRRI. BARRI and IRRI will jointly develop schedule for these services. Also BARRI and IRRI scientists will arrange special collaborative activities as appropriate. It is agreed that IRRI's cooperation will focus on enhancing the research and training capability of BARRI in the areas of increased per-acre rice production, rice-based cropping systems, and local manufacture of small-scale agricultural machinery.

(d) For financial support of the above activities BARRI will, in cooperation and consultation with IIRRI, develop detailed project proposals for the consideration of donor agencies. The parties will agree upon plans of work for attaining agreed overall objectives.

(e) The scale of cooperative work between BARRI and IIRRI will be determined by joint evaluation from time to time of BARRI's need, IIRRI's capacity and effectiveness in meeting agreed needs and available financial support. BARRI and IIRRI will continue to collaborate in mutually beneficial research through cooperative experiments, exchange of genetic materials and research information and short visits by scientists in addition to the contribution of IIRRI scientists assigned to BARRI.

(f) IIRRI may assist in seeking funds from donor agencies to support the cooperative activities but the terms of this support should be mutually agreed upon among Bangladesh Government, BARRI, IIRRI and donors concerned.

Relationships between the Parties

The relationship between BARRI and IIRRI will be collegial with each recognizing and respecting the responsibilities and roles of the other.

Status, Privileges and Responsibilities of IIRRI and its Expatriate Employees in Bangladesh

During the term of understanding:

(a) Such IIRRI personnel as are attached to BARRI from time to time will be entitled to the concessions as admissible under Customs Notification Nos. SEOs 131/D/CUs/74 and 132/D/CUs/74, dated 14 March 1974 as amended from time to time and subject to the conditions as laid down therein.

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(b) The salaries and other emoluments drawn from outside Bangladesh by foreign staff members of the International Rice Research Institute shall be exempt from the payment of income-tax in Bangladesh.

(c) The Bangladesh Government will provide exemption from customs duties and sales tax leviable for goods, equipment and transport required for official use by IRRI having its office in Bangladesh on condition that these goods will not be disposed of without payment of duty and sales tax and without approval of the National Board of Revenue.

(d) The Government of the People's Republic of Bangladesh will grant the extension of visas on a yearly basis with previous of multiple journeys to the resident expatriate staff members of IRRI and their family members as and when necessary.

(e) BARI will provide IRRI with suitable office space in Dhaka for the Management of its Bangladesh work and the provision of logistic support to its resident employees and short-term consultants. The operations of this office will be funded by a line item in the budget placed at IRRI's disposal.

(f) IRRI and its employees, both resident and short-term, will comply with all applicable Bangladesh laws, rules and regulations and will devote themselves diligently and collegially to the provision of services to BARI and attainment of the objective of BARI and IRRI as described in this Memorandum of Understanding.

(g) To assist in the implementation of this understanding IRRI will provide services as mutually agreed upon:

(i) Resident expatriate scientists and short-term specialists for the development and implementation of research and training programs at BARI. IRRI will designate one resident scientist as IRRI Representative and Team Leader in Bangladesh who will provide IRRI team leadership and will work closely with the BARI Director-General in the overall planning and implementation of the research and training program under this Understanding;

(ii) Consultants from the IRRI staff or other research/technical organizations to assist and advise in the development of an improved research and training program at BRRI;

(iii) Travel funds to enable BRRI scientists and other appropriate officials to undertake study tours and participate in conferences, symposia, etc. at IRRI and other selected places;

(iv) Scholarships and fellowships for training and post-graduate studies;

(v) Seed materials in quantities needed for experiments;

(vi) Research equipment and supplies needed for the BRRI program but which are not readily available in Bangladesh; and

(vii) Other forms of technical assistance and professional cooperation.

BRRI's Responsibilities

BRRI will provide or undertake the following subject to personnel and budgetary limitations:

(a) Facilities, supplies, equipment and staff for implementing agreed cooperative and collaborative research and training activities in Bangladesh, including office, laboratory, greenhouse/screenhouse and farm support;

(b) Collaborating scientists and supporting staff to permit timely implementation of agreed program and activities involving IRRI scientists and consultants;

(c) Supplies and equipment available in Bangladesh;

(d) Request Government to permit duty- and customs-free entry of agreed items of equipment, instruments and supplies purchased by IRRI and imported for use of BRRI to support implementation of cooperative programs in Bangladesh and if Government does not approve then obtain permission to import, secure timely customs clearance and arrange payment of duties to secure delivery of such equipment;

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(e) Secure Government clearance for Bangladesh scientists to undertake study tours and participate in conferences and symposia, etc. and other travel related to program activities;

(f) Secure Bangladesh Government clearance for resident scientists and short-term consultants provided by IRRI;

(g) Identify and make available suitable candidates for various agreed overseas training and secure their timely clearance by Government; and

(h) Any other steps necessary to secure support by Government for the successful implementation of this Understanding.

Guidelines for Operational Procedures

(a) Selection and recruitment of IRRI resident scientists for service under this Understanding will be by IRRI subject to prior consultation with concurrence by BARI. Concurrence and clearance required from Government will be obtained by BARI.

(b) The day-to-day operational activities of IRRI scientists stationed at BARI will be performed as if they were staff members of BARI. They will help plan and implement specific research and training activities as an integral part of BARI's overall program.

(c) IRRI's Representative and Team Leader will be in charge of IRRI's Office in Bangladesh and will, with the Director-General of BARI, discharge supervisory responsibility for the performance and activities of IRRI's scientists and consultants.

(d) The terms and conditions of employment for resident scientists provided by IRRI to BARI under this Understanding will follow the usual terms and conditions of employment in effect for IRRI outreach staff from time to time, but the Director-General of BARI will be confidentially shown proposed terms and conditions of employment for a resident scientist before BARI is requested to concur in his or her appointment.

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(e) No short-term scientist or technician will be provided by IIRI or received by BARRI without prior consultation and approval.

(f) The terms and conditions of BARRI staff members receiving training abroad will be as mutually agreed upon.

(g) The performance of resident scientists and consultants provided by IIRI to BARRI under this Understanding will be jointly appraised by the Director-General of BARRI and the IIRI Team Leader and submitted to the Director-General of IIRI. This appraisal will be discussed with the individuals concerned. Also the Director-General of IIRI will consult with the Director-General of BARRI regarding the performance of the IIRI Team Leader. If the services of a resident scientist are judged unsatisfactory BARRI will advise IIRI to withdraw the scientist and consider replacing him with a new resident scientist.

(h) With the concurrence of the BARRI Director-General the IIRI Team Leader will approve or recommend for approval to the IIRI Director-General business travel and leave of resident IIRI scientists.

(i) IIRI resident scientists and consultants will keep the Director-General of BARRI informed of their communications about BARRI with Government and all other agencies.

Finance

(a) For financial assistance to BARRI, bilateral agreements will be developed directly between the Government of Bangladesh and the donors. IIRI will participate in developing financial arrangements for implementing those activities under this Understanding that involve IIRI. The financial assistance from the donor agencies may be in Bangladesh Taka and foreign currency. The Taka part of the assistance will be placed directly with BARRI, for which IIRI will maintain a separate account. The foreign currency part of the

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assistance directly involving IIRI will be placed with IIRI for providing services as mutually agreed upon. The donors will make payments to IIRI accordingly to payment schedules agreed upon between BIRI, IIRI and the donor agencies. IIRI will be entitled to receive and deduct an overhead charge at the standard rate (currently at 9.5%) on all amounts spent by IIRI under this Understanding except for the budget line items placed at IIRI's disposal for operation of its Dhaka Office.

(b) BIRI and IIRI will cooperate in using their best efforts to ensure full and cost-effective utilization of the funds received from donors for the activities under this Understanding.

(c) The fiscal year of BIRI ends 30 June. Not later than 31 August in each year IIRI will provide BIRI with a financial statement of all funds actually expended or committed by IIRI under this Understanding during the preceding year. In addition, not later than 28 February in each year, IIRI will provide BIRI with an interim half-yearly financial statement as of the preceding 31 December. Each annual financial statement and interim half-yearly financial statement will include as much information as possible concerning foreseeable future charges, as well as actual expenditures and commitments as of the date of a particular financial statement.

Writing of Narrative Reports

Once a year at the time of the preparation of the annual financial statement IIRI and BIRI will prepare a narrative progress report.

Work Products of IIRI Scientists

The work products of IIRI scientists at BIRI will be the property of BIRI. However, with prior approval and due acknowledgement IIRI or the scientists concerned, or both, may publish their work in recognized journals.

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Provision for Termination

Either party may terminate this Memorandum of Understanding by written notice to the other in which event this Understanding will stand terminated at the end of 180 days from the date of issue of such notice.

Procedures for Disposing of IIRI Property

Subject to any limitation imposed by donors or any other agreement all the materials procured for the use of IIRI's Dhaka Office and resident scientists in Bangladesh will revert to BIRRI upon payment of duties/taxes, if any, by BIRRI when the Understanding terminates. The balance of unutilized funds with IIRI, if any, will revert to BIRRI at the termination of this Memorandum of Understanding.

Amendment Procedures

The parties to this Memorandum of Understanding may by mutual consent in writing add, amend, or delete any words, phrases, sentences or articles.

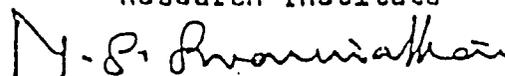
In witness whereof, the parties hereunto have signed on the dates stated along with their respective signatures.

For the Bangladesh Rice
Research Institute:



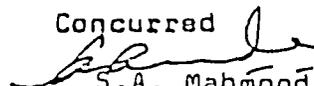
M.A. Mannan
Director-General
October 31, 1985

For the International Rice
Research Institute:



M.S. Swaminathan
Director-General
October 15 1985

Concurred



S.A. Mahmood
Secretary of the Government of
the People's Republic of Bangladesh
Ministry of Agriculture and Forests
4 December 1985

Saiyid Ahmad Mahmood
Secretary,
Agriculture & Forest Division,
Ministry of Agriculture
Govt. of the People's Republic
of Bangladesh.

90