

9311254-2

9311254004901

PS-440-242-81

AGENCY FOR INTERNATIONAL DEVELOPMENT  
PROJECT AUTHORIZATION AND REQUEST  
FOR ALLOTMENT OF FUNDS PART I

1. TRANSACTION CODE

A ADD  
 C CHANGE  
 D DELETE

PAF

2. DOCUMENT CODE

COUNTRY ENTITY DS/AGR/FCP RDA-32  
Type g. Research Program Support Grant

4. DOCUMENT REVISION NUMBER  
Original

5. PROJECT NUMBER (7 digits)

[931-1254.11]

6. BUREAU/OFFICE

A SYMBOL B CODE  
DSB [10]

7. PROJECT TITLE (Maximum 40 characters)

[Sorghum/Millet Collaborative Research]

8. PROJECT ACTION TAKEN

APPROVAL  
DECISION

A APPROVED  
 D DISAPPROVED  
 DE DEAUTHORIZED

9. EST. PERIOD OF IMPLEMENTATION

YRS. 0 5 QTRS 0

10. APPROVED BUDGET AID APPROPRIATED FUNDS (\$000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	PRIMARY TECH. CODE		E. 1ST FY 79		M. 2ND FY 80		K. 3RD FY 81	
		C. GRANT	D. LOAN	F. GRANT	G. LOAN	I. GRANT	J. LOAN	L. GRANT	M. LOAN
1) FN	141I	963	-	5,000	-	2,500	-	3,500	-
2)									
3)									
4)									
TOTALS				5,000	-	2,500	-	3,500	-

A. APPROPRIATION	N. 4TH FY 82		O. 5TH FY 83		LIFE OF PROJECT		11. PROJECT FUNDING AUTHORIZED	
	Q. GRANT	P. LOAN	R. GRANT	S. LOAN	T. GRANT	U. LOAN	ENTER APPROPRIATE CODE(S): 1 - LIFE OF PROJECT 2 - INCREMENTAL LIFE OF PROJECT	A. GRANT B. LOAN
1) FN	3,500	-	0	-	14,500	-		Z
2)								
3)								
4)								
TOTALS	3,500	-	0	-	14,500	-	PROJECT FUNDING AUTHORIZED THRU	FY 8 2

12. INITIAL PROJECT FUNDING ALLOTMENT REQUESTED (\$000)

A. APPROPRIATION	B. ALLOTMENT REQUEST NO.	
	C. GRANT	D. LOAN
1)		
2)		
3)		
4)		
TOTALS		

13. FUNDS RESERVED FOR ALLOTMENT

N/A

TYPED NAME (Chw/, SER: FM/FSI)

SIGNATURE

DATE

14. SOURCE ORIGIN OF GOODS AND SERVICES

000  941  LOCAL  OTHER

15. FOR AMENDMENTS, NATURE OF CHANGE PROPOSED

# DS/PO OFFICIAL FILE

FOR PRC/PIAS USE ONLY	16. AUTHORIZING OFFICE SYMBOL	17. ACTION DATE	18. ACTION REFERENCE (Optional)	ACTION REFERENCE DATE
		MM DD YY		MM DD YY

04 216 79

See 2<sup>nd</sup> Page

PROJECT AUTHORIZATION AND REQUEST FOR ALLOTMENT OF FUNDS

PART II

ENTITY : DS Bureau  
PROJECT : Consultative Research Support Program: Grain Sorghum  
and Pearl Millet (CRSP GS/PM)  
PROJECT NUMBER : 931-1254.11

I hereby authorize grant funds totaling \$14,500,000 for a five-year Collaborative Research Support Program (CRSP) on Grain Sorghum and Pearl Millet as described in the action memorandum on the proposed Collaborative Research Support Grant on Sorghum and Millet.

This CRSP will be incrementally funded with \$5,000,000 in FY 79, \$2,500,000 in FY 80, \$3,500,000 in FY 81, and \$3,500,000 in FY 82 depending upon the availability of funds.

*Alexander Shakow*

APR 26 1979

Alexander Shakow  
Acting Deputy Administrator

Clearances:

DS/AGR/FCP, KMByergo	<i>[Signature]</i>	Dated: <i>2/16/79</i>
DS/AGR, DFPeterson	<i>[Signature]</i>	Dated: <i>2/16/79</i>
DS/XII, CEFerguson	<i>[Signature]</i>	Dated: <i>2/16/79</i>
DS/PO, RSimpson	<i>[Signature]</i>	Dated: <i>3/27/79</i>
DAA/DS/FN, TUabb	<i>[Signature]</i>	Dated: <i>4/1/79</i>
AA/ASIA, JHSullivan	<i>[Signature]</i>	Dated: <i>4/1/79</i>
AA/NE, JCWheeler	<i>[Signature]</i>	Dated: <i>2/23/79</i>
AA/AFR, GRDutcher	<i>[Signature]</i>	Dated: <i>4/2/79</i>
AA/LA, ALValdez	<i>[Signature]</i>	Dated: <i>2/24/79</i>
GC, MBall	<i>[Signature]</i>	Dated: <i>3/2/79</i>
GC, RRichstein	<i>[Signature]</i>	Dated: <i>2/27/79</i>
PPC/PDPR, RMalley	<i>[Signature]</i>	Dated: <i>4/1/79</i>
BIFAD, WThomas	<i>[Signature]</i>	Dated: <i>4/21/79</i>
DAA/SER, JFOwens	<i>[Signature]</i>	Dated: <i>4/19/79</i>
AA/LEG, HJolovitz	<i>[Signature]</i>	Dated: <i>4/26</i>
AA/PPC, CPAolillo	<i>[Signature]</i>	Dated: <i>4/26/79</i>

*[Signature]*  
DS/AGR/FCP:RIJackson/c1

APR 17 4 27 PM '79

APR 17 1979

REPORT

ACTION MEMORANDUM FOR THE ACTING ADMINISTRATOR

THRU: ES *[Signature]*  
FROM: AA/DS, *[Signature]* Sandy Levin

Problem: You need to make a decision about whether the Agency should make a Grant for a Collaborative Research Support Program (CRSP) on Grain Sorghum and Pearl Millet.

Background: The two crops selected for this CRSP, grain sorghum and pearl millet, are extremely important food crops for a very large part of the developing world. More than 40 million hectares of sorghum and 34 million of millet are grown in the LDCs. The production from more than 80 per cent of this area is used for food. Most of the producers of these two grains are primarily subsistence families constituting some of the poorest of the rural poor who live in areas of low rainfall and poor soils. Research aimed at alleviating one or more of the principal constraints to production, marketing, and utilization of sorghum and millet of the subsistence farmers of the LDCs can have a significant impact on the well-being of this A.I.D. target group (see pages 10 and 11, Tab A).

JRC, BIFAD, and A.I.D. gave high priority to Grain Sorghum and Pearl Millet (GS/PM) Collaborative Research Support. A contract for the planning phase was entered into with the University of Missouri at Columbia (UMC).

On October 10, 1977, the UMC sent a letter to all U. S. universities and other institutions designated as eligible by BIFAD outlining the major components of the planning process for developing the CRSP-GS/PM. The addressees with a manifest interest in grain sorghum and/or pearl millet research were invited to identify their areas of interest and indicate their desire for possible participation in the CRSP. Twenty-eight institutions responded positively to this request and identified themselves as having manifest interest. Each of these institutions was invited to prepare and submit research proposals addressed to the most urgent research needs.

The next major step in the planning process was the selection and assembling of two groups: one of internal (UMC) resource persons to develop preliminary recommendations, and one with administrative experience including university consortia, A.I.D. related projects, and fiscal management to suggest alternative procedures for a management entity.

77066

A two-day workshop was organized, composed of the internal resource group, additional UMC staff intimately associated with the grain sorghum/pearl millet project, and a panel of experts from outside UMC which included representatives from the USDA and ICRISAT. The workshop was convened to examine the recommendations of the UMC resource group and the proposals for the management entity and to finalize the recommendations to be sent to JPC and BIFAD.

This workshop, after thorough review of all research proposals, determined that the proposals submitted did not cover all of the most urgent research needs satisfactorily. Therefore, it was recognized that it would be necessary for INO to go back to the universities and solicit responses to the identified gaps. This was done and a second workshop was convened to finalize recommendations for proposals for inclusion in the CRSP.

The recommendations of the internal resource scientists on the program and research proposals and the recommendations of the committee on the management entity were presented at the workshop and discussed. As a result of the deliberations, changes were made in some of the projects that had been recommended; others were accepted without change. The final program proposal and the management entity plan are consistent with the composite judgments of the total workshop group.

Final recommendations by the expert panel convened by UMC for university inclusion in the program were based on such criteria as, but not totally restricted to:

- manifest interest in research on the two crops,
- current interest in the production, marketing, transportation, storage, processing, nutritional value, and utilization of the two crops in LDCs,
- identification and qualification of the scientists involved in sorghum/millet research,
- related activities in LDCs,
- scientific soundness-of the research proposal and appropriateness to the more urgent constraints identified,
- institution resources available, such as qualified staff, laboratory and field facilities,
- willingness to form linkages with LDCs and international centers, and

### opportunities to women and minorities to participate.

The total program proposed by UMC was reviewed by JRC and BIFAD who then recommended approval to A.I.D.

In the planning of this program, the project manager and other technical members of DS/ACR worked very closely with the planning contractor, regional bureaus, and JRC at all stages of the planning process. As a result of this close monitoring and coordination, each group involved had adequate opportunity for technical input. The contractor consulted in great detail with the world's leading sorghum and millet scientists. The JRC approved the program in August 1978. The BIFAD approved the JRC's recommendation that the University of Missouri's (UMC) Program Proposal on GS/PM be accepted and recommended that A.I.D. fund the Collaborative Research Program in fiscal year 1978.

Program Goal: The goal is to increase production of GS/PM in those countries where it is a principal crop. This is to be done by developing and testing improved technologies and by enhancing the abilities of developing country scientists to solve problems related to GS/PM production and use. U.S. developing country institutions and international centers will be involved in the research and training. A substantial portion of the research will be done in the developing countries.

Proposed Program: The proposed program is composed of a set of integrated, long-term research projects with related training and technical service capabilities. Its first purpose is to organize and mobilize financial and human resources necessary for mounting a major, multi-institutional U.S.-LDC collaborative effort which in turn is expected to provide the knowledge base necessary to achieve significant advances in alleviating the principal constraints to improved production, marketing, and utilization of GS/PM in LDCs. A second purpose is to improve the capabilities of appropriate LDC institutions to generate, adapt, and apply improved knowledge to local conditions.

Research activities cover a wide range of subject matter categories, all of which are responsive to the most urgent technical needs identified in the planning process as the principal constraints to improved GS/PM production and utilization in LDCs. Constraints and research needs were identified by extensive LDC surveys and analyzed by a panel of internationally recognized sorghum/millet experts. These constraints are:

1. Low fertility of soils,
2. Water-related concerns,

3. Difficulty of stand establishment,
4. Pest problems including weeds, diseases, and insects,
5. Risk-related issues such as yield stability and new technology,
6. Deficiency of genetic, cytological and physiological studies, and germplasm collection and preservation,
7. Lack of seed multiplication and distribution plans,
8. High tannin and reduced nutritional value,
9. Poor communication systems between/among scientists, extension agents, and farmers,
10. Lack of farmers' ability to take risks,
11. Lack of acceptability - considered low status food,
12. Inadequate price and utilization policies,
13. Inadequate market organization and performance, and
14. Lack of trained personnel.

A.I.D.'s regional bureaus identified an additional constraint not included in the Program Proposal prepared by UMC. This involves the lack of technical information on cultivation of sorghum/millet in intercropping systems. The management entity has agreed to include research on this constraint in its detailed program plan.

This program will build on the existing experience and ongoing research and training activities in participating universities. More specifically, A.I.D. has financed research on sorghum and millet at Texas A&M University, Kansas State University, University of Nebraska, and Purdue. The research programs at these four universities will be phased into the CRSP as they terminate. All of this, combined with the development of effective LDC institution linkages, will contribute to cost-effectiveness, social soundness, and technical feasibility of the program.

Twelve universities will participate initially in the GS/PM CRSP. Four of these, mentioned above, have conducted major GS/PM research programs for several years and have made the major contributions to recent advances in production technology such as protein quality and quantity, and in the development of elite breeding populations carrying high levels of multiple disease and insect resistance. Mississippi State University has carried out a

major seed technology program for many years. These five institutions have extensive research experience both in the U. S. and LDCs. In addition, they have provided considerable technical assistance to LDCs in cereal grain improvement over the past several years. Approximately 90 per cent of the CRSP budget for training and research will be utilized by or through these five universities.

Even though their research involvements will not be great, the other seven universities (University of Arizona, University of Florida, Texas Tech University, Colorado State University, University of Georgia, University of Kentucky, and Florida A&M University) will carry out activities that address important constraints not adequately addressed by the five major participating universities. All of the participating universities have a long history of training foreign students. All have staff members who have had experience working in LDCs, in many cases on a long-term basis.

Qualifications of and criteria for selecting the management entity were discussed by DSB with BIFAD, JRC, and Contract Management. This information was communicated to the planning agent at various meetings prior to a formal organizational meeting in Columbia, Missouri, June 28-30, 1978. Participating universities provided three types of representation at this meeting to better represent their institutions and inform their involved departments. This representation included administration, technical agriculture, and the social sciences. Using the criteria provided by the planning agent, discussions were held on selecting the management entity. The criteria used in this selection were past experience in LDCs and with international centers, interest and capability in international research, domestic resources, and suitability to participating universities.

The University of Nebraska was recommended and approved by JRC and BIFAD as the management entity. Subsequently in close coordination with A.I.D. and BIFAD, they have been convening the technical committee and interim board to further plan the program both from administrative and technical considerations and have met with regional bureau representatives to gain their input on technical and administrative measures.

The management entity has submitted a sorghum/millet proposal which we find acceptable. The program proposed has been derived from the planning reports of UHC (Tab A) as developed through discussions with the Joint Research Committee and A.I.D., and as modified by the management entity in response to A.I.D. review and analysis of an earlier proposal by the management entity. To supplement the proposal presented by the management entity, A.I.D. staff have prepared a program framework and strategy (Tab B), a social soundness analysis (Tab C), an economic analysis (Tab D), and an environmental threshold determination (Tab E).

The Grant will provide that in the first stages of the program the management entity will work with the Regional Bureaus, A.I.D. Missions, and host country institutions to develop the portions of the program to be done in the developing countries. The Grant will provide also that the management entity will develop a program plan that displays specific objectives, budget, schedule of expected inputs, outputs, and progress verification indicators of each project (both in the U. S. and with specific institutions in developing countries), and the critical and supporting relationships among projects. The program plan will be submitted to A.I.D. for approval and will be used to assess the progress of the program and its component projects. A.I.D. will retain the right to approve the addition, deletion, or changes in component projects.

One aspect of the program strategy which is of critical importance to CRSP success is the development of collaborative research relationships between universities participating in the CRSP GS/PM, appropriate LDC institutions, closely associated international centers, and organizations such as STRC in Africa and CATIE in Latin America. It is important that these relationships be established and developed on a coordinated basis in order that there be no undue overlap, conflict, or duplication of effort among the universities, missions, and regional bureaus. This will be done as an integral part of the detailed research project and program planning being undertaken under direction of the management entity.

Program Outputs: One of the direct results to be expected from the CRSP is the development of an ongoing, coordinated comprehensive multi-disciplinary and multi-institutional research program. Further, this program will have made significant contributions to the knowledge base required to alleviate many of the principal constraints to improved GS/PM production, marketing, and utilization in LDCs.

Training activities will result in improved capabilities of LDC personnel to carry out appropriate in-country research, training and extension work directly related to GS/PM production, marketing, and utilization. These improved capabilities of LDC personnel will result in improved LDC institutional capabilities.

The technical services component is conceived as providing to requesting countries, bureaus, and missions limited technical services for improving sorghum and millet research. These services would be used predominately to design the adaption of research developed under the CRSPs to site specific situations and assist LDC staff in establishing CRSP related programs in their home countries. Up to thirty person days annually of free consulting time could be provided under CRSP funding to any country (LDC institution or USAID) requesting assistance on problems related to the CRSP. Any consulting time in excess of that would be paid for by the mission, regional bureau, or other donors. The missions and regional bureaus through DSB would request the management entity for these services. Where longer term technical services are required for project implementation, they will be procured under normal contracting procedures.

Proposed Budget: The estimated cost of the total program during the first five-years is \$19,207,000. Of this, the participating U. S. universities will contribute \$4,707,000 or as a minimum 25 per cent of the total program less the management entity cost. A.I.D. plans to make an initial grant of \$5,000,000 to cover the A.I.D. portion of the costs during the first two-years. It is our intention to roll forward both the planning and funding of the program annually.

GRAIN SORGHUM AND PEARL MILLET CRSP COSTS (\$000)

<u>Year</u>	<u>Total Program</u>	<u>Non-Federal Contribution</u>	<u>A.I.D. Contribution</u>
1	2,936	711	2,225
2	3,676	901	2,775
3	3,301	801	2,500
4	4,647	1,147	3,500
5	4,647	1,147	3,500
	<u>19,207</u>	<u>4,707</u>	<u>14,500</u>

Recommendation: I recommend that you approve \$14,500,000 to finance a five-year CRSP on GS/PM by signing the attached PAF Part II. Your approval of this action memorandum will constitute approval of the selected participating institutions and of the selected management entity.

Attachments:

PAFs I & II  
Tabbed Data A thru E a/s

Clearances:

DS/AGR/FCP, KMByergo	<u>8/17/79</u>	Dated: <u>2/27/79</u>
DS/AGR, DFPeterson	<u>8/10</u>	Dated: <u>2/27/79</u>
DS/XII, CEFerguson	<u>8/10</u>	Dated: <u>3/12/79</u>
DS/PO, RSimpson	<u>8/10</u>	Dated: <u>3/27</u>
DAA/DS/FN, TBabb	<u>8/10</u>	Dated: <u>9/11/79</u>
AA/ASIA, JHSullivan	<u>8/10</u>	Dated: <u>          </u>
AA/NF, JCWheeler	<u>8/10</u>	Dated: <u>2/30/79</u>
AA/AFR, GRButcher	<u>8/10</u>	Dated: <u>4/6/79</u>
AA/LA, ALValdez	<u>8/10</u>	Dated: <u>4/24/79</u>
GC, MBall	<u>8/10</u>	Dated: <u>          </u>
GC, RRichstein	<u>8/10</u>	Dated: <u>          </u>
PPG/PPR, RMalley	<u>8/10</u>	Dated: <u>4/9/79</u>
SIFAD, WThomas	<u>8/10</u>	Dated: <u>          </u>
DAA/SER, JOwens	<u>8/10</u>	Dated: <u>4/9/79</u>
AA/LEG, HJolovitz	<u>8/10</u>	Dated: <u>4/15/79</u>
AA/FPC, CPaolillo	<u>8/10</u>	Dated: <u>4/14/79</u>

DS/AGR/FCP RIJackson/cl

Worksheet

35. 1X a)	DEPARTMENT OF STATE AGENCY FOR INTERNATIONAL DEVELOPMENT	Cooperating Country DS Bureau	Page 1 of 4 Pages
	PROJECT IMPLEMENTATION ORDER/TECHNICAL SERVICES	2. PIO/T No. 931-1254- <u>3699302</u>	3. <input checked="" type="checkbox"/> Original or Amendment No. _____
PIO/T		4. Project/Activity No. and Title (931-1254.11) CRSP - Grain Sorghum/Pearl Millet (University of Nebraska)	

TRIBUTION	5. Appropriation Symbol 72-1191021.3	6. Allotment Symbol and Charge 943-36-099-00-20-91
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7. Obligation Status <input checked="" type="checkbox"/> Administrative Reservation <input type="checkbox"/> Implementing Document	8. Project Assistance Completion Date (Mo., Day, Year) 1984
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9. Authorized Agent AID/W	10. This PIO/T is in full conformance with PRO/AG N/A Date _____
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11a. Type of Action and Governing AID Handbook <input type="checkbox"/> AID Contract (HB 14) <input type="checkbox"/> PASA/RSSA (HB 12) <input checked="" type="checkbox"/> AID Grant (HB 13) <input type="checkbox"/> Other	11b. Contract/Grant/PASA/RSSA Reference Number (if this is an Amendment) To be determined
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12. Estimated Financing (A detailed budget in support of column (2) is attached as attachment no. \_\_\_\_\_)

Maximum AID Financing	A. Dollars	(1) Previous Total	(2) Increase	(3) Decrease	(4) Total to Date
				-	\$5,000,000
	B. U.S.-Owned Local Currency				

14a. Instructions to Authorized Agent  
This PIO/T is to fund a Grant Agreement between A.I.D. and the University of Nebraska to provide partial support for the Collaborative Research Support Program (CRSP) on Grain Sorghum/Pearl Millet as described in the attached Research Proposal, dated September 15, 1978 by the University of Nebraska (Attachment 2). The proposal has been accepted by DSB (See Action Memorandum). Incorporated by reference into the proposal is the University of Missouri, Columbia (UMC) report, the final program proposal dated August 1978. This UMC report has been accepted by the Board for International Food and Agricultural Development (BIFAD) and approved by the Acting Deputy Administrator for A.I.D. in the PAF dated April 26, 1979.

14b. Address of Voucher Paying Office  
Office of Financial Management, Agency for International Development,  
Washington, D. C. 20523

9. Clearances—Include typed name, office symbol, telephone number and date for all clearances.

The project officer certifies that the specific AID... in the statement of work are technically and financially sound.	Phone No. 235/8886	B. The statement of work lies within the purview of the initiating and approved agency programs Date: 5/2/79
	Date: 4/30/79	
DS/AGR/FCP: RJackson	Date: 5/12/79	D. Funds for the services requested are available Date: May 16, 1979
DS/AGR/FCP: SEngberg	Date: 5/2/79	
DS/AGR: MBozynski	Date: 5/3/79	POSTED

16. For the cooperating country: The terms and conditions set forth herein are hereby agreed to	17. For the Agency for International Development
Signature _____ Date _____	Signature <u>Kenneth A Milow</u> Date <u>5/3/79</u>
	Title <u>Chief, Program Division</u>

## Worksheet

AID 1350-1X (1-78)	1. Cooperating Country DS Bureau	2. P/O/T No. 931-1254.11	Page 2 of 4 Pages
PIO/T	4. Project Activity No. and Title (931-1254) CRSP - Grain Sorghum/Pearl Millet (University of Nebraska)		

## SCOPE OF WORK

18. THE SCOPE OF TECHNICAL SERVICES REQUIRED FOR THIS PROJECT ARE DESCRIBED IN ATTACHMENT NUMBER 2 HERETO ENTITLED "STATEMENT OF WORK".

## 19. SPECIAL PROVISIONS

- A.  LANGUAGE REQUIREMENTS (SPECIFY) N/A  
(IF MARKED, TESTING MUST BE ACCOMPLISHED BY AID TO ASSURE DESIRED LEVEL OF PROFICIENCY)
- B.  ACCESS TO CLASSIFIED INFORMATION  WILL  WILL NOT BE REQUIRED BY TECHNICIAN(S). N/A
- C.  DUTY POST(S) AND DURATION OF TECHNICIANS' SERVICES AT POST(S) (MONTHS) N/A
- D.  DEPENDENTS  WILL  WILL NOT BE PERMITTED TO ACCOMPANY TECHNICIAN. N/A
- E.  WAIVER(S) HAVE BEEN APPROVED TO ALLOW THE PURCHASE OF THE FOLLOWING ITEM(S) (COPY OF APPROVED WAIVER IS ATTACHED) N/A
- F.  COOPERATING COUNTRY ACCEPTANCE OF THIS PROJECT (APPLICABLE TO A/D/W PROJECTS ONLY)  
 HAS BEEN OBTAINED  HAS NOT BEEN OBTAINED  
 IS NOT APPLICABLE TO SERVICES REQUIRED BY PIO/T
- G.  OTHER (SPECIFY) Travel Clearances: Clearances from USAID Directors/Representatives and A.I.D. Regional Bureaus concerned will be required prior to Grantee/Subgrantee personnel's commencement of travel. All travel, domestic and international, funded under this grant must be approved by the A.I.D. Program Manager (DS/AGR/FCP).

Report Provisions: See attached page 3.

## 20. BACKGROUND INFORMATION (ADDITIONAL INFORMATION USEFUL TO AUTHORIZED AGENT)

PAF authorizing the 5-year CRSP plus attachments.

Final Program Proposal dated August 1978 submitted by University of Missouri, Columbia, Missouri.

## 21. SUMMARY OF ATTACHMENTS ACCOMPANY THE PIO/T (INDICATE ATTACHMENT NUMBER IN BLANK)

- 1 DETAILED BUDGET IN SUPPORT OF INCREASED FUNDING (BLOCK 12)
- \_\_\_\_\_ EVALUATION CRITERIA FOR COMPETITIVE PROCUREMENT (BLOCK 14)
- \_\_\_\_\_ JUSTIFICATION FOR NON-COMPETITIVE PROCUREMENT (BLOCK 14)
- 2 STATEMENT OF WORK (BLOCK 18)
- \_\_\_\_\_ WAIVER(S) (BLOCK 19) (SPECIFY NUMBER)

CONTINUATION SHEET	DEPARTMENT OF STATE AGENCY FOR INTERNATIONAL DEVELOPMENT	<input checked="" type="checkbox"/> Worksheet <input type="checkbox"/> Issuance	PAGE <u>3</u> OF <u>4</u> PAGES
		1. Cooperating County DS Bureau	2.a. Code No.
		2.b. Effective Date	2.c. <input type="checkbox"/> Original OR Amendment No: _____
FORM SYMBOL PIO/T	TITLE OF FORM Project Implementation Order/ Technical Services	3. Project Activity No. and Title CRSP - Grain Sorghum/Pearl Millet (University of Nebraska)	

Indicate block numbers.

Use this form to complete the information required in any block of a PIO or PA, PR form.

14a

The funds provided herein are to cover the A.I.D. contribution for the first two years of this five-year program.

The total approved cost of this five-year program is \$19,207,000 of which the participating U. S. universities will contribute at least \$4,707,000 or as a minimum 25 per cent of the total program less the management entity cost. Total A.I.D. funds initially provided herein are \$5,000,000 for the first two-years of the program. A.I.D. intends to fund incrementally the remaining \$9,500,000 in FY 80 (\$2,500,000); FY 81 (\$3,500,000); FY 82 (\$3,500,000) on a rolling fund basis depending on the availability of funds.

"Article # Voucher Identification. In each instance of voucher (SF1034) submission made by the contractor for payment hereunder, the following identification data will appear on the face of the voucher:

Grant: AID/ To be determined  
 CRSP Project No: 931-1254.11  
 Program Manager: Dr. R. I. Jackson, DS/AGR/FCP.

One copy of each voucher submitted by the Grantee to the Office of Financial Management, A.I.D. for payment will be forwarded to the Program Manager, DS/AGR/FCP.

19g

Report Provisions:

<u>Type of Report</u>	<u>Number of Copies</u>		
	<u>A. I. D.</u>	<u>BIFAD</u>	<u>TOTAL</u>
Subgrant Reports	10	10	20
Technical Publication	200*	100	300
Program Plan and Revisions Thereto	10	10	20

\*Upon specific request by A.I.D., the Grantee will supply up to 200 additional copies of any technical publications resulting from this program, within the availability of the Grant program funds.

CONTINUATION SHEET

DEPARTMENT OF STATE  
AGENCY FOR  
INTERNATIONAL DEVELOPMENT

Worksheet  Issuance

PAGE 4 OF 4 PAGES

FORM SYMBOL

TITLE OF FORM

1. Cooperating Country  
DS Bureau

2.a. Code No.

2.b. Effective Date

2.c.  Original OR  Amendment  
No: \_\_\_\_\_

PIO/T

Project Implementation Order/  
Technical Services

3. Project, Activity No. and Title  
Collaborative Research Support Program - Grain Sorghum/Pearl Millet (University of Nebraska)

indicate block numbers.

Use this form to complete the information required in any block of a PIO or PA/PR form.

19g

Report Provisions: (Cont'd fm page 3)

Minutes of Meetings of the Board of Directors	10	10	20
Summary of Discussions/Minutes of Meetings of Tech Committee	10	10	20
Annual Report from Management Entity	10	10	20
Monthly Report from Program Director	10	10	20
Trip Reports**	10	10	20

\*\*After completion of each Grant-funded trip, a report will be prepared giving details of the itinerary, discussions, people contacted, accomplishments, and suggestions resulting therefrom. Copies of the report should be sent through the Grantee to the Program Manager, DS/AGR/FCP.

The above reports for A.I.D.'s use should be submitted as follows:

1 copy listed as being a product of the Grant (administrative, progress, final, and technical reports) to the Documentation Coordinator, DS/DUI, Agency for International Development, Washington, D. C., 20523, or his designee. Such reports shall include a title page showing the title of the report, project title, program designation, and Grant number. 1 copy of each report shall be clearly typed or printed on white paper so that it may be photographed to produce a microfilm master. Technical reports shall be accompanied by an author-prepared abstract;

The remaining copies for A.I.D. should be sent to: Program Manager, CRSP-GS/PM, DSE/AGR/FCP, Agency for International Development, Washington, D. C., 20523;

The reports intended for BIFAD should be sent directly to the Executive Director, BIFAD, Agency for International Development, Washington, D.C., 20523; and

Reports of project and progress shall be submitted to USDA on appropriate CRIS forms (supplied by USDA) with copies to the Program Manager, DSB/AGR/FCP.

PROPOSED BUDGET - A.I.D. FUNDS (\$000)  
 PROJECT: CRSP-GRAIN SORGHUM/PEARL MILLET  
 PROJECT NO: 931-1254.11  
 GRANT NO: TO BE DETERMINED  
 FUNDING PERIOD: JUNE 1, 1979 to MAY 31, 1981

Univ. of Arizona	Florida A&M U.	Kansas State U.	Univ. of Kentucky	Mississippi State U.	Univ. of Nebraska	Purdue Univ.	Texas A&M U.	Management Entity	Technical Services	LDC Pass- through	Total
121	37	535	130	575	908	672	1286	400	112	224	5,000

PROPOSED BUDGET - NON-FEDERAL (MATCHING) FUNDS (\$000)

PROJECT: CRSP-GRAIN SORGHUM/PEARL MILLET

PROJECT NO. 931-1254.11

GRANT NO. TO BE DETERMINED

FUNDING PERIOD: JUN 1, 1979 TO MAY 31, 1981

Univ. of Arizona	Florida A&M U.	Kansas State U.	Univ. of Kentucky	Mississippi State U.	Univ. of Nebraska	Purdue Univ.	Texas A&M U	Total
36	16	177	66	191	720	241	802	2,249

APPLICATION TO: Agency for International Development, Washington, D.C.

Name and Address of Institution:

Institute of Agriculture and Natural Resources  
University of Nebraska, Lincoln  
Lincoln, Nebraska 68583

II. Title of Proposed Research:

Title XII Grain Sorghum/Pearl Millet Collaborative  
Research Support Program

III. Proposed Starting Date:

October 1, 1978

IV. Total Period for Which Support is Requested:

Five years; October 1, 1978 to September 30, 1983

V. Support Requested for First Year:

Management Entity -	\$ 200,000
Research and Training Projects--U.S. -	LDC 2,798,800
LDC Institutions - THRU Funds	200,000
Technical Services -	300,000
TOTAL	<u>\$3,498,800</u>

VI. Total Support Requested:

Five year total - \$22,838,000

VII: Other Sponsors:

Participating U. S. Universities  
Participating LDC Institutions

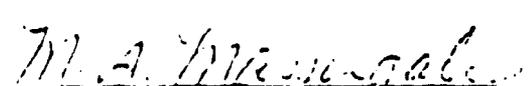
VIII: Checks Should be Made Payable to:

University of Nebraska, Lincoln  
Lincoln, Nebraska 68588  
Attention: James W. Kniseiy, Comptroller

IX. Approvals:



R. W. Riets  
Dean and Director  
International Programs



M. A. Massengale  
Vice Chancellor for  
Agriculture & Natural Resources



Miles Tommeräser  
Vice Chancellor  
Business & Finance

MANAGEMENT AND IMPLEMENTATION OF THE TITLE XII COLLABORATIVE  
RESEARCH SUPPORT PROGRAM (CRSP) GRAIN SORGHUM AND PEARL MILLET

Title XII of the International Development and Food Assistance Act of 1975 has as one of its major objectives bringing together the resources and expertise of universities and other research institutions in the United States with developing country universities and institutions into programs to attack the problems of food production and utilization in developing countries. The proposed Collaborative Support Research Program (CRSP) is comprised initially of 44 component research projects in 12 U.S. universities and research institutions and the planned development of research facilities and programs in the four regions.

The participating institutions in the program are:

1. University of Nebraska - Lincoln
2. University of Arizona - Tucson
3. University of Florida
4. University of Georgia
5. University of Kentucky
6. Colorado State University
7. Kansas State University
8. Purdue University
9. Mississippi State University
10. Florida A & M University
11. Texas A & M University
12. Texas Tech University

The long range goal of the program is to increase efficiently the production of grain sorghum and pearl millet. Immediate goals include:

1. Expand the body of knowledge on sorghum/millet, small holder production systems.
2. Develop and test appropriate technologies and practices to improve productivity of target production systems.
3. Expand the level of competence of scientists to conduct research on grain sorghum/millet production systems.

4. Improve sorghum/millet grain production capability of developing countries.

Program development for the Collaborative Research Support Program for Grain Sorghum and Pearl Millet was undertaken by the University of Missouri-Columbia (UMC) under contract to the U.S. Agency for International Development (AID) and the Joint Research Committee (JRC) of the Board for International Food and Agriculture Development (BIFAD). The detailed program plan is contained in the Program Proposal from UMC in August 1978 and is hereby incorporated by reference in this proposal.

The program proposal developed by UMC included a program management plan in which a management entity would serve as the legal and fiscal institution to receive and administer AID grant funds, suballocating them to the participating U.S. and developing country institutions for their respective project activities in the U.S. and developing countries, and would provide central program direction and technical management. By recommendation of the principal investigators of the component projects and by the institutional representatives of the 12 eligible participating U.S. institutions, the University of Nebraska was selected by BIFAD and AID to serve as the management entity.

The Program: The program plan developed by UMC contains 44 component projects developed by principal investigator scientists at the 12 participating institutions, and integrated in conformance with the objectives of the program. As the designated management entity, the University of Nebraska regards the component project proposals as a preliminary description of the research activities to be carried out. The project proposals describe the problems to be addressed, the research approach to be used and the nature and approximate extent of work in overseas locations. To complete the detailed research plans and procedures

of the component projects in both the US and developing country institutions, and to provide a basis for future evaluations of progress and accomplishments of the program, the management entity will require each principal investigator to provide a detailed research plan and budget before negotiating a subcontract or subgrant with each respective participating institution. While it is recognized that some planning cannot proceed until foreign work sites are identified, more detailed research plans and budgets than those presented in the UMC proposal will be required. These revised project proposals will be prepared in coordination with principal investigators of related projects and under the direction of the program director to assure that the individual projects form an integrated and efficient program. To the extent possible, input of developing country scientists into the research plans will be obtained. Each project proposal will include appropriate management tools for evaluation, such as a schedule of research operations and targets for accomplishment.

Budget: In the light of the preliminary status of the program plans, it is understandable that the project budgets also lack detail and specificity. In part, this is due to the tentative nature of the overseas research activities and the locations and facilities to be involved. An early need will be the selection of overseas locations, which will be undertaken with consultation of AID Regional Bureaus, and the development of facilities and staff for research at these places. It is expected that this work will be undertaken very soon after the selection of the program director.

The budget for each research project will be subject to revision in response to needs and priorities as detailed research plans are formed and revised from time to time. In making needed adjustments in the allocations to the budgets of component projects, the management entity will be advised by the Board of Directors and by the Technical Committee. The individual project budgets presented

in the UMC planning report show the contributions of AID and the participating institution to each budget category, and the overall costs supported by AID and each participating institution. The management entity will assure that the participating institutions jointly contribute cost sharing at the level required for the CRSP, currently 25%. The management entity will also require that all subcontractors and subgrantees establish suitable accounting and reporting procedures to enable federal audit of all costs.

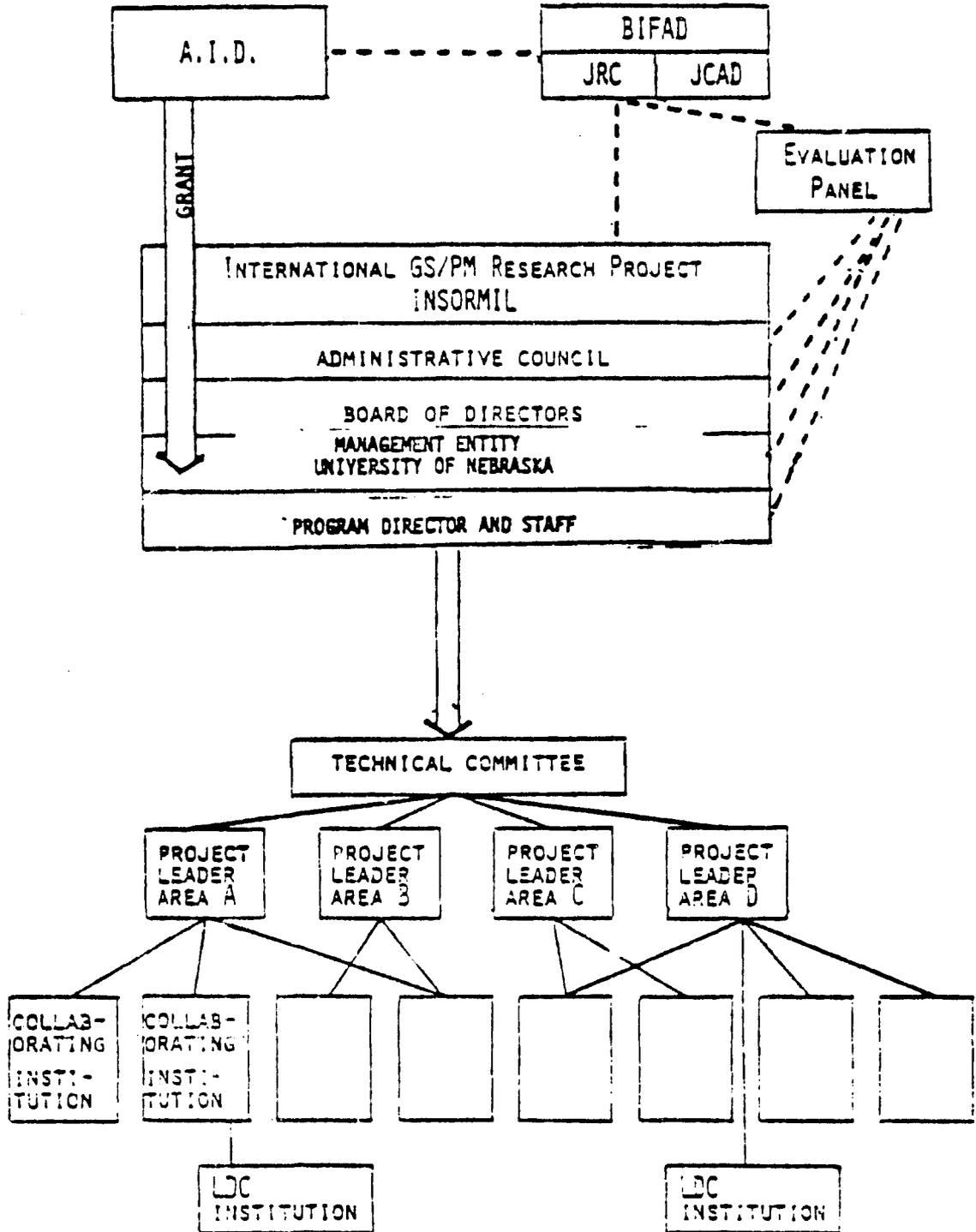
For information purposes, the budget requests for the component projects are summarized by category in the attached Table 1. It is expected that the funds to be granted by AID will provide the aggregate total requested funds as developed by the principal investigators for the UMC planning report.

Program Management: Figure 1 attached to the proposal diagrams the organization relationship of units involved in the management of the program. The following narrative defines the responsibilities and operational procedures contemplated.

Management Entity: The University of Nebraska will receive and administer AID grant funds for the program. Funds will be allocated to the participating institutions in the U.S. and in developing countries for the component projects of the program. The management entity will employ a qualified program director and a fiscal officer and supporting staff for the direct management of the program. The program director will recommend the annual allocation of funds to the participating institutions by procedures which will involve the Technical Committee of Principal Investigators and the Board of Directors as discussed below. The University of Nebraska will be accountable to AID for all project funds, and will negotiate appropriate subcontracts or subgrants with the participating institutions to ensure suitable fiscal reporting by each institution.

FIGURE 1

ORGANIZATIONAL CHART  
GRAIN SORGHUM/PEARL MILLET CRSP



As management entity, the University of Nebraska will be responsible for implementing the program of research and training and will report to AID on the progress and accomplishments of the program. As needed, the University of Nebraska will recommend and negotiate with AID the addition or deletion of program elements and changes in program objectives. Such changes in scope and composition of program will be based on the advice and recommendations of the External Evaluation Committee, the Board of Directors, and the Technical Committee of Principal Investigators described below.

The Institute of Agriculture and Natural Resources at the University of Nebraska will be the administrative unit of the University which will provide reports to AID and to BIFAD/JRC. The program director will be administratively responsible to the University of Nebraska through the Office of International Programs and to the Board of Directors for program management.

Administrative Council: This Council is to be composed of the representative from each of the universities participating in the research program. It will meet at least once annually to review all aspects of the program. The program director and Board of Directors must report of its progress during the preceding year, future plans, and problems encountered in program implementation.

Another function to be performed by the Administrative Council is selection of the university to appoint the replacement member of the Board of Directors each year.

Finally, several additional responsibilities fall to the Administrative Council. These include review of all reports, especially evaluation reports, as well as advising and counseling the Board of Directors. Further, the Administrative Council should maintain liaison with the Technical Committee. Finally and perhaps

The most important power of the Administrative Council is to agree by consensus on any amendments to be made to the initial Memorandum of Understanding.

Board of Directors: In Order to be responsive and act with acceptable speed, the Board is comprised of only five members. In accordance with the terms of the Memorandum of Understanding, the initial Board will be made up of one member appointed by each of the five universities with the largest dollar volume of activities, under the CRSP. Hence, members appointed by the following universities now are serving as an interim Board of Directors and will constitute the Board of Directors during the first year of the program: University of Nebraska, Texas A & M University, Kansas State University, Purdue University, and Mississippi State University. It should be noted that these members do not represent the appointing university, but rather the GS/PM CRSP.

The initial Board is appointed for staggered terms, to be determined by lot, except for a member appointed by the base institution who will serve as long as the base university remains the same. A replacement member of the Board of Directors will be selected annually by the university designated by the Administrative Council. This system provides for an infusion of new ideas and approaches to CRSP administration and management, while simultaneously preserving a substantial element of stability and continuity.

In light of the fact that the small size of the Board prevents all participating universities from appointing members simultaneously, provision has been made for a council of representatives of all participating universities to which the Board will report progress, plans and problems. This component of the

CRSP Administrative and Management structure is referred to as the Administrative Council.

The Board will recommend general program policy, taking into consideration the changing technical requirements of the program and the recommendations of the Evaluation Panel. The Board will recommend approximate funding levels of the component projects including the addition or termination of component projects.

Technical Committee: This Committee is to be composed of five of the principal investigators. Membership will be selected by the principal investigators by a procedure agreed upon by the Board of Directors and the Interim Technical Committee. The Interim Technical Committee has been selected and has the following membership:

<u>Committee Member</u>	<u>Institution</u>
Lawrence Busch	University of Kentucky
Jerry Eastin	University of Nebraska
Mary Futrell	Mississippi State University
Darrell Rosenow	Texas A&M University
Richard Vanderlip	Kansas State University
John Axtell	Purdue University

The Technical Committee performs a number of valuable functions. At the outset, it will participate in the preparation of the position description for the Program Director. It will also assist the Board of Directors in the search and selection process. Specifically the interim Technical Committee will select from the applicants, three persons to be recommended for consideration by the Board of Directors. Jointly, the Board of Directors and the interim Technical Committee will interview the three final candidates. The Board of Directors will make the final selection. The Technical Committee will serve as the principal advisory panel to the Program Director for operational matters. In this capacity, the

Committee will play a major role in facilitating the coordination of the CRSP.

Evaluation Panel: A permanent Evaluation Panel will be appointed by the Board of Directors from a list proposed by the Technical Committee. It will be composed of eminent scientists selected on a world-wide basis. The panel will: (1) carry out annual evaluations of progress, and (2) conduct a comprehensive evaluation of each research activity at least every three years. The Panel will officially report to the Board of Directors. In addition, it will maintain close liaison with the Technical Committee, the Program Director, A.I.D., and the JRC.

## BASE LINE DATA FOR SORGHUM IN SELECTED LDCs

<u>Country</u>	<u>Area</u> (1000's Ha)	<u>Yield</u> (Kg/Ha)	<u>Production</u> (1000's Mt)	<u>Population</u>	
				<u>in Agr</u> (1000's)	<u>Per</u> (in
Botswana	100	555	56	282	8
Burindi	110	1136	125	1608	8
Ethiopia	770	1120	863	9862	8
Ghana	210	386	81	2042	5
Malawi	120	875	105	1972	8
Niger	633	486	308	1338	9
Nigeria	5940	620	3680	14326	5
Rwanda	135	1037	140	2110	9
Somalia	250	480	120	1054	8
Sudan	2600	692	1800	4678	7
Tanzania	600	767	460	5516	8
Upper Volta	1138	630	717	2792	8
El Salvador	125	1314	164	694	5
Haiti	223	1009	225	1647	6
Colombia	174	2464	428	2469	31
India	16000	544	8700	161683	66
Pakistan	523	621	325	11185	55
Saudi Arabia	140	1429	200	1523	62
Thailand	130	1777	231	15266	77
Yemen, A.R.	2040	788	1608	1482	76

BASE LINE DATA FOR MILLET IN SELECTED LDCs

Country	Area (1000's Ha)	Yield (kg/ha)	Production (1000's Mt)	Population	
				In Agr (1000's)	Per Cent (In Agr)
Cameroon	430	907	390	2574	82.3
Chad	900	592	533	1342	86.6
Egypt	206	3883	800	5605	52.0
Ethiopia	336	980	329	9862	81.2
Ghana	215	330	71	2042	53.8
Kenya	360	1000	360	4224	79.5
Mali	1244	646	804	2838	88.7
Mauritania	180	333	60	343	84.8
Niger	2532	472	1195	1338	90.1
Nigeria	5000	640	3200	14326	55.9
Senegal	955	581	555	1472	76.6
Sudan	1200	375	450	4678	79.0
Tanzania	200	650	130	5516	83.1
Togo	199	595	119	681	70.2
Upper Volta	911	406	370	2792	83.8
India	20500	468	9600	161683	66.0
Nepal	125	1144	143	5771	93.1
Pakistan	696	503	350	11185	55.5
Saudi Arabia	135	1111	150	1523	62.5

The data presented in the two preceding tables will serve as a base line for conducting part of the program evaluation in future years. At the end of the fifth year of the program, only small increases in total average yields on a regional or worldwide basis can be expected as a result of the research information generated by that time. The weather, and more specifically rainfall, could no doubt have a greater influence on yield variations. As more research results are made available to the LDCs, it is anticipated that in those countries with ongoing research and extension programs average yields increase of 10 per cent could be expected. In those countries which do not have well developed national research and extension programs, they could expect a five percent increase in yields based on the information flow from the CRSP. Individual farmers who make full use of an improved package of practices will realize a 50 to 100 per cent increase in production. However in five to ten years widespread adoption of these improved packages of practices is not expected without a concerted program for providing inputs, markets, storage, and transportation. As an example, a lack of incentive price to the farmer will negate any improved crop production technology. These factors must be taken into consideration when evaluating the program's effect on increasing farmer production. Developing research staff and institutions, training LDC scientists, providing improved packages of practices and technical services' consultants are more readily controlled by the program staff and can be directly evaluated. The effect on farm populations is a much more indirect relationship.

Another factor relating to a specific LDC program progress and evaluation is the local mission staff. Where a mission has an adequate and well qualified agricultural staff, accomplishment of commodity production goals will be greatly facilitated. When LDC scientists and newly returned participants can work on a regular basis with a mission agronomist their potential is greatly enhanced. Their efforts will be much more fruitful than if they must depend wholly on the semi-annual or quarterly visits of U. S. based scientists. Some LDC and middle income countries now have competent research scientists who do not require the close cooperation of a developed country scientist. This is not generally the case with countries heavily dependent on sorghum and millet as their basic food. These countries, in most cases, represent the most disadvantaged and have the smallest number of university educated agricultural staff. Their paramount needs are for regular consultation on a research and extension infrastructure development, input provision, and marketing and processing institution development if farm-level production goals are to be achieved.

Management Budget: The proposed budget for the management entity is separately reported in Table 1. Among other things, it provides for: (1) program staff, (2) travel by program staff, (3) operating expenses of program staff, and (4) the travel and meetings of the various units of the management structure of the project described above.

Consolidated Budget Request: The consolidated budget for the first year of the program is presented in Table 2, showing direct, indirect, and total funds requested for each component project and the management entity. As stated above in the sections on Program and Budget, the requests for the

component projects are considered preliminary. The funds to be provided by each institution, especially for training and technical assistance services, will be negotiated on the basis of more specific plans to be developed by each principal investigator.

#### Request for Subsequent Years

<u>Year</u>	<u>AID Funds</u>
1. (1979-80)	\$3,500,000
2. (1980-81)	3,500,000
3. (1981-82)	3,500,000
4. (1982-83)	4,000,000
5. (1983-84)	4,500,000
	<u>\$19,000,000</u>

## PROJECT REVIEW SUMMARY

9311254-③  
PD-AAE-242-EI

Prog. files

DATE OF REVIEW March 18, 1980PROJECT TITLE: Collaborative Research on Sorghum  
and Millet, CRSP-GS/PMPROJECT NO. 931-1254.11DSB OFFICE/DIV. AGR/FCP

List actions to be taken (or issues to be resolved) as a result of Project Review Meeting	Action Officer	Date Action to be Completed
1. Obtain RC/BIFAD & AID/W approval of Evaluation Panel Members	R.I. Jackson	June 30, 1980
2. Forward fund project for 10½ months of the third year of the project	R.I. Jackson	April 30, 1980
3. Establish linkages with LDCs and submit program plan to AID/W.	Earl Leng	November 1, 1980

DS/AGR/FCP, RI Jackson  
Project ManagerDS/AGR, M Mozynski151  
Keith M. ByergoActing Deputy Office Director,  
DS/AGRAttachments: AEB Project Data Sheet  
Project Review Report  
Other

Distribution: Project Files

DS/PO OFFICIAL FILE

PROJECT TITLE Collaborative Research on Sorghum  
and Millet, CRSP-CS/PM

PROJECT NO. 931-1254.11

DATE OF  
REVIEW March 18, 1980

1. Briefly state principal subject(s) to be discussed during the review.

**The formation and approval of the evaluation panel, establishment of linkages with LDCs and forward funding.**

11. Please respond to the following questions. Additional detail can be given below if warranted or necessary.

- a. Is project implementation on schedule as planned in the PP or implementation plan? Yes
- b. Are there any short falls or delays of project inputs? No
- c. Are project assumptions holding up? Yes
- d. Are progress/annual reports being submitted in a timely fashion? Yes  
Are such reports informative? Yes
- e. Is there any monitoring/progress information being received from other than project or contractor personnel (e.g., project manager site visits, USAID reports etc.)? Yes
- f. Has an evaluation been carried out? No, but planned for September 1980
- g. Are there any audit or evaluation recommendations outstanding? No
- h. Are there any special or restrictive requirements imposed by RAC or stipulated in the PP? No

## PROGRAM CENTRALLY FUNDED

## ACTIVITY DATA SHEET

CP 0800

TITLE Collaborative Research on Sorghum and Millet		FUNDS Agriculture, Rural Development and Nutrition	PROPOSED OBLIGATION (in thousands of dollars)		EFF. OF PROJECT 14,500
NUMBER 931-1254	NEW <input type="checkbox"/>	PROJECT REFERENCE FY 1980, Annex V, Centrally Funded, p. 24	FY 80 2,000	INITIAL OBLIGATION FY 79	ESTIMATED FINAL OBLIGATION FY 82
CHAIRMAN LUAN [ ]	CONTRIBUTING [ ]			ESTIMATED COMPLETION DATE OF PROJECT FY 84	

**Purpose:** To increase sorghum/millet production, utilization and improve research capability in LDCs through collaborative research between U.S. and LDC institutions.

**Background and Progress to Date:** Sorghum/millet is a basic food consumed by the poorest segment of the populations in much of Africa, the Indian subcontinent and parts of Latin America. This project will develop collaborative relationships between U.S. and LDC institutions to attack constraints to increased production and utilization of sorghum/millet in LDCs. The immediate objectives are to: 1) expand the body of knowledge in sorghum/millet as part of small farmer production systems; 2) develop and test appropriate technologies and practices to improve productivity of target production systems; 3) expand the level of competence of LDC scientists to conduct research on grain sorghum/millet production systems, and to 4) improve sorghum/millet grain production capability of developing countries. This Sorghum/Millet Collaborative Research Support Program (CRSP) was authorized by A.I.D. effective July 1, 1979. Subgrants to the eight participating U.S. Land Grant Institutions have been made based upon the program plan as set forth in the Basic Grant Document. Efforts are currently being made to identify and to develop the specific plans for collaborative activities with LDC collaborators in the overseas operations. Close coordination of CRSP activities with the International Center for Research in the Semi-Arid Tropics (ICRISAT) is being maintained. ICRISAT has been involved in all stages of program planning to avoid duplication and overlap of activities.

**Host Countries and Other Donors:** All LDC collaborative LDC institutions will provide personnel and facilities for conducting research in their respective countries. The eight U.S. universities will provide a minimum of 25% of the A.I.D. budget in matching funds.

**Beneficiaries:** LDC sorghum/millet research and production programs initially and the LDC small farmer and urban poor will be the ultimate beneficiaries worldwide.

**FY 1981 Program:** Activities will continue on applied research problems as approved by A.I.D. in FY 1979 dealing with solving constraints to increased production and utilization of sorghum/millet, i.e., cropping systems on small LDC farms, development of improved varieties, etc. The U.S. institutions will become more deeply involved in collaborative research with LDC institutions.

Major Outputs (and A.I.D. Unit Cost):	(\$thousands)	
	All Years	
	Unit	Cost
Sorghum/millet breeding and research programs in LDCs	10	(400)
High yielding varieties	200	(15.8)
Multiple disease and insect resistant varieties	40	( 50)
Cropping systems and packages of management practices	20	( 75)
Improved village cooking methods and family nutrition programs	50	( 20)
Communication strategies for technology transfer	10	( 65)
New selection criteria for crop breeding programs	10	(145)
New germplasm sources for disease and insect resistance in sorghum/millet	20	( 37)
<b>A.I.D. Financed Inputs:</b>		<b>FY 81</b>
Personnel (475 person months)		1,429,225
Logistic Support		332,925
Training (120 person months)		100,000
Equipment and facilities		137,850
<b>TOTAL</b>		<b>2,000,000</b>

	U.S. FINANCING (in thousands of dollars)			PRINCIPAL CONTRACTORS OR AGENCIES
	Obligations	Expenditures	Unliquidated	
Through September 30, 1979	5,000	750	4,250	Universities of Nebraska, Purdue, Kentucky, Texas A&M, Arizona State, Mississippi State, Florida A&M and Kansas State
Estimated Fiscal Year 1980	2,500	3,000		
Estimated through September 30, 1980	7,500	3,750	3,750	
Proposed Fiscal Year 1981	2,000	5,000	14,500	
		Future Year Obligations	Estimated Total Cost	

Worksheet

AID 1350-1X (1-78)	DEPARTMENT OF STATE AGENCY FOR INTERNATIONAL DEVELOPMENT	1. Cooperating Country DS Bureau	Page 1 of 2 Pages
		2. PIO/T No. 931-1254-3006478	3. <input checked="" type="checkbox"/> Original or Amendment No. _____
		4. Project/Activity No. and Title (931-1254.11) CRSP-Grain Sorghum/Pearl Millet (University of Nebraska)	

DISTRIBUTION	5. Appropriation Symbol 72-1101021.3	6. Allotment Symbol and Charge 043-36-099-00-20-01
	7. Obligation Status <input checked="" type="checkbox"/> Administrative Reservation <input type="checkbox"/> Implementing Document	8. Project Assistance Completion Date (Mo., Day, Yr.) 9/30/84
	9. Authorized Agent AID/W	10. This PIO/T is in full conformance with PRO/AG N/A Date _____

11a. Type of Action and Governing AID Handbook <input type="checkbox"/> AID Contract (HB 14) <input type="checkbox"/> PASA/RSSA (HB 12) <input checked="" type="checkbox"/> AID Grant (HB 13) <input type="checkbox"/> Other	11b. Contract/Grant/PASA/RSSA Reference Number (If this is an Amendment) AID/DSAN/XII-G-0149
---	---

12. Estimated Financing (A detailed budget in support of column (2) is attached as attachment no. 1)

Maximum AID Financing	A. Dollars	(1) Previous Total	(2) Increase	(3) Decrease	(4) Total to Date
				---	\$2,300,000
	B. U.S.-Owned Local Currency				

13. Mission References

14a. Instructions to Authorized Agent This PIO/T authorizes SER/CM/COD/AN to provide incremental funds totaling \$2,300,000 to grant AID/DSAN/XII-G-0149 with the University of Nebraska which as the grantee acts as the Management Entity for the Collaborative Research Support Program (CRSP) on "Grain Sorghum/Pearl Millet". The funds herein are provided on a "rolling fund basis" for the 10½ month grant period from July 1, 1981 to May 15, 1982. (See the attached Budget - Attachment 1). All other conditions of the grant remain the same.

The approved AID funding level for this project/grant is \$14,500,000. The total amount of AID funds provided to this grant, including this PIO/T, is \$7,300,000.

(Cont'd)

14b. Address of Voucher Paying Office Office of Financial Management  
Agency for International Development, Washington, D.C. 20523

15. Clearances—Include typed name, office symbol, telephone number and date for all clearances.

A. The project officer certifies that the specifications in the statement of work are technically adequate	Phone No. 235-2318	B. The statement of work lies within the purview of the initiating and approved agency programs	Date 2/26/80
DS/AGR/FCP:RI Jackson	Date 1/20/80	DS/AGR:RSO1 [Signature]	
DS/AGR/FCP:JMYoh	Date 2/23/80		
DS/AGR/FCP:Sengberg	Date 3/25/80	D. Funds for the services requested are available	
DS/AGR:MMozynski	Date 4/15/80		
E.	Date		
DS/PO:ASilver	Date 4/15/80		

16. For the cooperating country: The terms and conditions set forth herein are hereby agreed to	17. For the Agency for International Development
Signature _____ Date _____	Signature <u>Kenneth A Milow</u> Date <u>4/17/80</u>
Title _____	Title <u>Kenneth Milow, DS/PO Chief, Program Division</u>

DS/NO OFFICIAL FILE

CONTINUATION SHEET

AGENCY FOR INTERMEDIATE DEVELOPMENT

- PIO/C
- PIO/P
- PIO/T
- PA/PR

1. Cooperating Country  
NS Bureau

2a. PIO Number  
931-1254

2b. Amendment  
 Original OR No.

3. Project Number and Title (931 - 1254.11) CRSP - Grain Sorghum/Pearl Millet (University of Nebraska)

Indicate block numbers

Use this form to complete the information required in any block of a PIO/P, PIO/T or PA/PR. For PIO/C, furnish the item number, quantity, description/specifications, including catalog stock number and price when available.

14a

Article # Voucher Identification: In each instance of voucher (SF-1034) submission made by the contractor for payment hereunder, the following identification data will appear on the face of the voucher:  
 Grant: AID/DSAN/XII-G-0149; Project 931-1254; Project Office: DS/AGR/FCP, RI Jackson

PROJECT NAME: CRSP Grain Sorghum/Pearl Millet  
 PROJECT NO : 931-1254.11  
 GRANT : AID/DSAN - XII-G-0149

<u>Cost Category</u>	<u>First Increment</u> (Obligated)	<u>Second Increment</u> (Provided by this PIO/T)
	<u>FR: July 1, 1979</u> <u>TO: June 30, 1981</u>	<u>FR: July 1, 1980</u> <u>TO: May 15, 1982</u>
<b>A. Program Costs</b>		
1. Personnel	\$ 1,966,200	\$ 904,500
2. Equipment & Facilities	397,800	183,000
3. Travel & Per Diem	486,200	223,600
4. Other Direct Costs	403,600	185,600
5. Technical Assistance	112,000	51,500
6. LDC Subagreements	224,000	103,000
7. Indirect Costs	<u>1,010,200</u>	<u>464,800</u>
SUBTOTAL PROGRAM COSTS	\$ 4,600,000	\$2,116,000
<b>B. Management Entity</b>		
1. Personnel	\$ 186,400	\$ 85,700
2. Equipment & Facilities	7,500	3,400
3. Travel & Per Diem	92,800	42,700
4. Consultant Fees	6,000	2,800
5. Other Direct Costs	14,600	6,700
6. Indirect Costs	<u>92,700</u>	<u>42,700</u>
SUBTOTAL MANAGEMENT ENTITY COSTS	\$ 400,000	\$ 184,000
GRAND TOTAL	\$5, 000,000	\$2,300,000