AID 1020-25 (10-70)

931057 (8) REPORT U-446

AA-AAE-ROP-D1

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PROJECT APPRAISAL REPORT (PAR)

1. PROJECT NO.	2. PAR FOR PERIOD:	3. COUNTRY	4. PAR SERIAL NO.
931-17-130-578	June 1, 1974 TO Sept.1,1975	TA/BUREAU	4

5. PROJECT TITLE

Development of Improved High Yielding Sorghum Cultivars with Disease and Insect Resistance

6. PROJECT DURATION: Began FY 74 Ends FY 76*	7. DATE LATEST PROP	8. DATE LATEST PIP	9. DATE PRIOR PAR
	N.A.	N.A.	-

10. U.S. FUNDING	a. Cumulative Obligation Thru Prior FY: $150,000	b. Current FY Estimated Budget: $ -	c. Estimated Budget to completion After Current FY: $165,000

11. KEY ACTION AGENTS (*Contractor, Participating Agency or Voluntary Agency*)

a. NAME	b. CONTRACT, PASA OR VOL. AG. NO.
Richard A. Frederiksen	AID/ta-C-1092
Darrell T. Rosenow	AID/ta-C-1092

I. NEW ACTIONS PROPOSED AND REQUESTED AS A RESULT OF THIS EVALUATION

A. ACTION (X) AA	A. ACTION (X) AID/W	A. ACTION (X) Other	B. LIST OF ACTIONS	C. PROPOSED ACTION COMPLETION DATE
X			1) Promote the involvement in LDC professionals or graduate students in the University activities under this project.	Continuous
X			2) Prepare new research proposal for project continuation.	April 1976
	X		3) Prepare project paper and obtain RAC approval.	October 1976

* RAC approval is through FY 1977.

D. REPLANNING REQUIRES REVISED OR NEW: [X] PP [ ] PIP [ ] PRO AG [X] PIO/T [ ] PIO/C [ ] PIO/P

E. DATE OF MISSION REVIEW: Sept. 2-3, 19[illegible]

PROJECT MANAGER: TYPED NAME, SIGNED INITIALS AND DATE: Earl R. Leng ERL 10/24/75

MISSION DIRECTOR: TYPED NAME, SIGNED INITIALS AND DATE: Leon F. Hesser [signature] 11/4/75

II. 4 x 4 Matrix

III. Narrative

A. Utilization and Impact to Date-

This contract is part of an overall AID effort to make improved sorghum varieties available to farmers in the LDCs. The Texas A&M research component is primarily concerned with the collection, breeding and identification of sorghum cultivars with demonstrated resistance to the most common disease and insect attacks. This work necessarily dovetails with other AID-supported research for developing and distributing more reliable sorghum lines for LDC use. Texas A&M has long been concerned with pest resistance in sorghum for temperate zones and is able to accommodate the interests of tropical and subtropical areas through AID's support.

Field trials are being conducted in Puerto Rico, Brazil, Mexico and India. Professional linkages have been established with ICRISAT, ALAD, OAU/STRC (formerly JP-26), and country operations in Senegal and India. International breeding selections have been incorporated in the trials at Texas, and promising lines are included in the planting materials selections which are distributed for worldwide testing. Data recording sheets are supplied by the Contractor to ensure uniformity of result tabulation.

A continuous system is in operation for the preliminary screening, multiplication, advanced screening and distribution for field testing of promising cultivars as they are identified. Collaboration with sorghum specialists in other AID-supported research at Purdue, Nebraska, and Puerto Rico is frequent and close.

B. Potentialities for LDCs-

The broad spectrum investigations at four U.S. universities should permit the cataloguing of thousands of cultivars into categories of salient attributes. On-going breeding programs will combine desirable traits. The end result will be a reserve of plant materials with proven characteristics which will be available for individual country or regional multiplication or cross-breeding into indigenous lines. In essence, the combined efforts of this AID thrust eliminates the duplication of these exacting and time-consuming efforts by each LDC seeking an improvement in sorghum production. Nonetheless, each beneficiary country will need to conduct the final phase of field trials in its own environments. Such testing is already underway in several countries which are cooperating in the evaluations.

Expected results should lead to increased food productivity in LDCs, more reliable harvests, and less dependence upon chemical pesticides.

C. Plan for Utilization-

The present channels for dissemination of the findings of this project seem rational and adequate. They utilize the established information centers, particularly ICRISAT, ALAD, OAU/STRC in Nigeria, a regional center in Senegal, and the Indian Agricultural Research Institute. The rapidity with which findings are utilized in an individual country depends upon the interest and professional capability of the country. In this regard, it would be advantageous to involve LDC students in the various aspects of sorghum breeding and testing at Texas A&M. This might be accomplished by involving foreign advanced degree candidates in the operations, or by holding special short courses or workshops for visiting groups. The highly organized system in operation by the Contractor would be exemplary for LDC plant breeders.

D. General Management Considerations-

There have been no problems in the implementation of this project. The annual report of the Contractor (attached) is more than satisfactory for Agency purposes.

AID 1020-28 (1-72)

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project:
From FY 74 to FY 77
Total U. S. Funding 315,000
Date Prepared: 10/30/75

Project Title & Number: Development of High-Yielding Sorghum Cultivars with Disease & Insect Resistance AID/ta-C-1092

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
Program or Sector Goal: The broader objective to which this project contributes: To increase quantity and nutritional value of food crops in developing countries.	Measures of Goal Achievement: 1. Significant increase in per capita production of major food crops in LDCs. 2. Improvement in nutritional quality of major LDC food crops.	1. Official production and population statistics (FAO, Foreign Agricultural Service estimates). 2. Nutritional quality surveys in LDCs.	Assumptions for achieving goal targets: 1. LDCs will actively attempt to expand food crop production. 2. Nutritional quality can be improved without major constraints on yield.
Project Purpose: To make available to LDCs high-yielding, nutritious varieties of sorghum with multiple resistance to moisture and temperature stresses, diseases and insects, together with improved practices for their cultivation.	Conditions that will indicate purpose has been achieved: End of project status. 1. New, superior varieties available to farmers in LDCs. 2. Research and development activities in sorghum effectively assumed by LDC agencies and international institutions and linked by communications network.	1. Publication and reports of LDC governmental agencies; on-site inspections of seed supply. 2. On-site inspection and review by AID/W personnel and consultants.	Assumptions for achieving purpose: 1. Solutions can be found to major constraints. 2. Agriculture extension services are able and willing to promote proven practices. 3. LDC research institutions develop adequate capabilities.
Outputs: 1. Identification of superior germ plasm. 2. Incorporation of desirable traits into broadly-adapted varieties suitable for LDC use. 3. Evaluation of improved varieties and practices in LDCs. 4. Training of LDC personnel in sorghum research. 5. Establishment of effective linkages with LDC agencies.	Magnitude of Outputs: 1. Not quantifiable. 2. At least 2 superior varieties for each major agroclimatic region. 3. At least 1 test location in each major sorghum-growing zone. 4. Total of 10 LDC trainees completing training. 5. Linkages with 3 international centers and at least 10 LDC institutions.	1. Reports by contractor. 2. Reports by contractor, USAIDs, LDC cooperators, and international agencies. 3. Same. 4. Contractor reports. 5. Contractor reports, communications and reports from LDCs and international agencies.	Assumptions for achieving outputs: 1. LDCs and USAIDs will request technical assistance; research findings will be available. 2. Cooperation of LDCs. 3. Interest and resources exist in LDCs. 4. Collaboration of international institutions. 5. Sufficient interest among LDCs and qualified personnel.
Inputs: 1. AID/W provides financial support and project guidance. 2. Contractor provides qualified personnel and backstopping facilities. 3. Participating personnel and cooperation provided by 1) LDCs, 2) USAIDs, and 3) international organizations.	Implementation Target (Type and Quantity) 1. AID/W funding at approximately $165,000. 2. 70 man months/year technical personnel; adequate laboratory facilities; 5 or more acres field research area. 3. Not directly quantifiable.	1. AID/W records. 2. Contractor reports, on-site inspections. 3. USAID reports, on-site verification.	Assumptions for providing inputs: 1. AID/W funding will be available on schedule and in quantity agreed upon. 2. Contractor will have necessary qualified personnel; university facilities will be available to project. 3. International organizations, USAIDs, and LDCs will have personnel and resources to support this activity.