

661 P.P.

9310203 (3)  
 93-111-115-A1

**I. PROJECT IDENTIFICATION**

1. PROJECT TITLE: **Seed Program and Industry Development**

2. PROJECT NO. (M.O. 1093.2): **93-130-203**

3. RECIPIENT (specify):  
 COUNTRY **World-wide**  
 REGIONAL  INTERREGIONAL **AA/TA**

4. LIFE OF PROJECT  
 BEGINS FY **58**  
 ENDS FY **77**

5. SUBMISSION  
 ORIGINAL  
 REV. NO. **DATE**  
 CONTR./PASA NO. **ATD/csd-2976**

**II. FUNDING (\$000) AND MAN MONTHS (MM) REQUIREMENTS**

A. FUNDING BY FISCAL YEAR	B. TOTAL \$	C. PERSONNEL		D. PARTICIPANTS		E. COMMODITIES \$	F. OTHER COSTS \$	G. PASA/CONTR.		H. LOCAL EXCHANGE CURRENCY RATE: \$ US (U.S. OWNED)		
		(1) \$	(2) MM	(1) \$	(2) MM			(1) \$	(2) MM	(1) U.S. GRANT LOAN	(2) COOP COUNTRY	
										(A) JOINT	(B) BUDGET	
1. PRIOR THRU ACTUAL FY	908							908	807			
2. OPFH 72	135							135	120			
3. BUDGET FY	145							145	130			
4. BUDGET +1 FY	145							145	130			
5. BUDGET +2 FY	145							145	130			
6. BUDGET +3 FY	145							145	130			
7. ALL SUBG. FY												
8. GRAND TOTAL	1623							1623				

**9. OTHER DONOR CONTRIBUTIONS**

(A) NAME OF DONOR	(B) KIND OF GOODS/SERVICES	(C) AMOUNT
NA	NA	NA

**III. ORIGINATING OFFICE CLEARANCE**

1. DRAFTER: **Theodore V. Tibbutt** TITLE: **Project Manager** DATE: **12/10/71**

2. CLEARANCE OFFICER: **Omer J. Kelley** TITLE: **Director, TA/AGR** DATE: **12/15/71**

**IV. PROJECT AUTHORIZATION**

Funding approved for FY 72 only.

**2. CLEARANCES**

BUR/OFF.	SIGNATURE	DATE	BUR/OFF.	SIGNATURE	DATE
AER/TAC	<i>[Signature]</i>	12/10/71	NESA/TECH	<i>[Signature]</i>	1/26/72
SA/IR/TECH	<i>[Signature]</i>	12/1/72	LA/DR	<i>[Signature]</i>	12-13-71
VN/ND	<i>[Signature]</i>	12/15/71	LA/DP	<i>[Signature]</i>	12/10/72

3. APPROVAL AAS OF OFFICE DIRECTORS  
 SIGNATURE: *[Signature]* DATE: *[Date]*

4. APPROVAL AID (See M.O. 1023.1 VI C)  
 SIGNATURE: *[Signature]* DATE: *[Date]*

ADMINISTRATOR, AGENCY FOR INTERNATIONAL DEVELOPMENT

*[Handwritten note: Clearance limited to 6 mos. funding]*

## A. Statement of the Goal

1. To foster the adoption of policies; the growth of institutions and the training of manpower necessary for development of an agribusiness sector in LDCs, which will contribute to greater efficiency in the delivery of inputs to farmers and of products to consumers so that the welfare of both will be enhanced and the development of the overall economy strengthened at an accelerated rate of growth.

### 2. Measures of Goal Achievement

a. A high and/or increasing proportion of farmers including small operators able to participate efficiently in the market economy in assisted LDCs;

b. Increased profitability of farm operations attributable to reduced cost of production and marketing derived from greater efficiency of agribusiness sector;

c. Better quality farm products delivered to consumers at lower cost;

d. A significant improvement in the marginal efficiency of productive factors employed in agriculture;

e. A discernible increase in farm commodities produced and marketed for urban consumption including food crops of enhanced nutritional value.

### 3. Assumptions Essential to Goal Achievement

a. LDCs give high priority to overall economic (including agriculture) and social development;

b. LDCs working to obtain and/or develop HYVs and locally adopted cultural practices;

c. Social goals include development of policies and institutions designed to enhance welfare of small as well as large farmers, consumers, and higher employment in urban as well as rural areas.

## B. The Project Purpose

### 1. Statement of the Purpose

The purpose of this project is to respond to mission and host government requests for technical assistance in seed program planning, implementation and evaluation; and to develop an indigenous capability, institutionally, organizationally, and financially, to supply the farmers' need for improved seed.

## 2. Conditions Expected at the End of the Project

At the termination date established for this project, it is expected that LDCs will have the capacity (technological, organizational, financial and managerial) to harvest, assemble, process, certify, store and distribute high quality seed of improved crop varieties to commercial crop producers, as evidenced by:

- a. official adoption of a national seed and crop improvement policy;
- b. effective implementation of seed laws and system of seed certification, including seed testing laboratory facilities and personnel trained in the required disciplines;
- c. accelerated rate of investment in seed production, processing and distribution facilities;
- d. a majority of farmers having access to improved crop varieties.

## 3. Basic Assumptions

Achievement of the project purpose(s) is predicated upon the willingness of LDCs to request AID assistance in the several disciplines required for the establishment of viable seed multiplication-supply systems. Correlative to this willingness are three interdependent basic assumptions:

- a. The government has recognized the need for and committed the necessary capital and manpower resources to programs of varietal development research and extensive testing for adaptation and farm demonstration.
- b. That a "package of inputs" (fertilizer, pesticides, and improved cultural methods) for crop production are known and being taught to a rapidly increasing number of farmers.
- c. That government food price and crop marketing policies provide an economic incentive for farmers to purchase improved seed and other modern technological farm inputs.

## C. Project Outputs

### 1. Outputs

It is expected that this project will produce the following kinds of results:

- a. newly developed and adapted equipment for seed processing, drying, storage and packaging of improved seed;

b. a capability to design, construct, operate and maintain facilities, equipment, and systems related to seed quality improvement;

c. the provision of advisory and technical assistance services directed toward analyzing the requirements of integrated seed industry systems;

d. the identification and assessment of agriculture-government-industry linkages and their respective roles and functions in seed program and industry development.

## 2. Output Indicators

### a. Kind of Outputs

#### U.S.

(1) Extent and nature of Regional Bureau, USAID and LDC use of project as expressed in number, type, and duration of contract services provided in the following areas:

(a) Advisory Services and Technical Assistance

(b) Manpower, Education and Information Resources Developmental Research.

(2) Number of comprehensive manuals or handbooks prepared, edited, published, and distributed to LDCs.

(3) Development of an educational informational resource center and its use by AID, its contractors and other agencies involved in agricultural development.

### b. Output Indicators

1a. Man-days of contractor services employed at the request of Regional Bureau(s), USAIDs and LDCs, in project related subject matter areas.

1b. Contractor reports on services rendered to requesting entities.

2a. Comprehensive Handbook on Seed Business Management.

3a. Existent library comprised of technical books, circulars, manuals, films, etc.

3b. Records of AID, USAID, and LDC use of library

## 2. Conditions Expected at the End of the Project

At the termination date established for this project, it is expected that LDCs will have the capacity (technological, organizational, financial and managerial) to harvest, assemble, process, certify, store and distribute high quality seed of improved crop varieties to commercial crop producers, as evidenced by:

- a. official adoption of a national seed and crop improvement policy;
- b. effective implementation of seed laws and system of seed certification, including seed testing laboratory facilities and personnel trained in the required disciplines;
- c. accelerated rate of investment in seed production, processing and distribution facilities;
- d. a majority of farmers having access to improved crop varieties.

## 3. Basic Assumptions

Achievement of the project purpose(s) is predicated upon the willingness of IDCs to request AID assistance in the several disciplines required for the establishment of viable seed multiplication-supply systems. Correlative to this willingness are three interdependent basic assumptions:

- a. The government has recognized the need for and committed the necessary capital and manpower resources to programs of varietal development research and extensive testing for adaptation and farm demonstration.
- b. That a "package of inputs" (fertilizer, pesticides, and improved cultural methods) for crop production are known and being taught to a rapidly increasing number of farmers.
- c. That government food price and crop marketing policies provide an economic incentive for farmers to purchase improved seed and other modern technological farm inputs.

## G. Project Outputs

### 1. Outputs

It is expected that this project will produce the following kinds of results:

- a. newly developed and adapted equipment for seed processing, drying, storage and packaging of improved seed;

b. a capability to design, construct, operate and maintain facilities, equipment, and systems related to seed quality improvement;

c. the provision of advisory and technical assistance services directed toward analyzing the requirements of integrated seed industry systems;

d. the identification and assessment of agriculture-government-industry linkages and their respective roles and functions in seed program and industry development.

2. Output Indicators

a. Kind of Outputs

U.S.

(1) Extent and nature of Regional Bureau, USAID and LDC use of project as expressed in number, type, and duration of contract services provided in the following areas:

(a) Advisory Services and Technical Assistance

(b) Manpower, Education and Information Resources Developmental Research.

(2) Number of comprehensive manuals or handbooks prepared, edited, published, and distributed to IDCs.

(3) Development of an educational informational resource center and its use by AID, its contractors and other agencies involved in agricultural development.

b. Output Indicators

1a. Man-days of contractor services employed at the request of Regional Bureau(s), USAIDs and LDCs, in project related subject matter areas.

1b. Contractor reports on services rendered to requesting entities.

2a. Comprehensive Handbook on Seed Business Management.

3a. Existent library comprised of technical books, circulars, manuals, films, etc.

3b. Records of AID, USAID, and LDC use of library

**b. Cooperating Countries**

- |   |   |
|---|---|
| <p>(1) Trained indigenous personnel for key posts in seed program development and its administration.</p> | <p>1a. Personnel trained for key posts in organization and administration of seed testing laboratories, administration and implementation of seed certification programs.</p>                               |
| <p>(2) Seed related enterprises established and supplying improved seed to farmers.</p>                   | <p>2a. An accelerated rate of investment in seed production, processing, drying, storage and distribution enterprises.</p> <p>2b. Measurable improvement in the quality of improved varieties marketed.</p> |
| <p>(3) Indigenous personnel trained by contractor to extend training within country</p>                   | <p>3a. Number of training courses conducted by nationals, and the number of trainees.</p>   |
| <p>(4) Annual percentage rate of growth in the use of improved seed by farmers</p>                        | <p>4a. Reports of Ministries of Agriculture expressed in both acreage sown and in the number of farmers using improved varieties.</p>   |

**3. Basic Assumptions (Outputs)**

In order to produce the foregoing outputs, it is assumed that AID, Regional Bureaus and USAIDs will recognize LDC need for Contractor and, will request contractor assistance, and that project funds are obligated to meet mission funded costs for contract services, i.e., international travel, per-diem in lieu of subsistence, and in country support costs. It is also assumed that LDCs, having need for intensive and long-term assistance will develop Task Orders, under the provisions of the Basic Ordering Agreement, utilizing Mission funds for contractor services. It is also assumed that LDCs will enact and implement regulations concerning seed.

D. Project Inputs.

1. Kind of Inputs

a. Advisory Services and Technical Assistance on:

- (1) Feasibility studies/survey
- (2) Design and installation of processing and drying facilities
- (3) Seed program planning implementation
- (4) Seed certification and regulatory programs
- (5) Seed laboratory facilities, design and operations

b. Manpower training and information resources on:

- (1) Planning and executing of seed training courses
- (2) Planning and establishment of seed-related training centers
- (3) Development of basic system of accounts and records for seed operations
- (4) Preparation and publication of tropical bulletins and handbooks
- (5) Maintenance of technical information center.

c. Adaptive and Developmental Research on:

- (1) Adapt methodology and design systems practical to indigenous capabilities, e.g., available financial resources, level of skills and technology (ies) available
- (2) Development of seed quality control procedures and techniques suitable to "back-country" use.

2. Magnitude of Inputs <sup>a/</sup>

a. Professional Staff  
(\$84,750)

	Man Months
Assoc. Agronomist	6.0
Engr. Technician	9.0
Assoc. Agr. Engr.	6.0
Asst. Agronomist	6.0
Agronomist	7.0
Assoc. Agronomist	9.0
Assoc. Agronomist	9.0
Assoc. Agronomist	6.0
Econ. Specialist	3.0
	61.0 MM

b. Technicians-Aides  
(\$14,550)

Lab. Technician	9.0
Craftsman	7.0
Aide	9.0
Hrly. Labor	6.0
	31.0 MM

c. Sec. Staff (\$7,600)

3 persons 17.0 MM

d. Grad. Assts. (\$6,600)

2 persons 8.0 MM

Summary

Salaries	\$113,500
Travel	1,500
Other Dir. Costs	6,000
Equip, Supplies & Maintenance	4,000
	125,000

a/ Expenditures/category each year during life of project

It is assumed that the cooperating countries will provide on a timely basis the necessary manpower, policy and budget support for implementation of project objectives in the LDCs.

## E. Rationale

LDCs seeking to increase agriculture production and productivity are enormously concerned with the need to develop an indigenous capability to supply their farmers' needs for high quality seed for crops of known high-yield potential. Additionally, such increases facilitate LDC efforts to diversify use of marginal and sub-marginal land resources which affect the re-distribution of national income between the rural and urban sectors of their agrarian based economies.

Historically, farmers have relied upon the saving of grain of traditional varieties, with low-yield characteristics and often of low physical quality and un-known viability, as a source of seed for the next year's crop. To overcome the handicaps of this traditional system and to assure the availability of "improved seed", it is essential that LDC governments develop policies and programs supportive to seed industry development. To develop an indigenous capability, i.e., technological, organizational, financial, and managerial, the LDCs require technical assistance in subjects related to harvest, assembly, processing, certification, storage, and distribution of high quality seed.

The enormity of economic benefits to be derived from an indigenous capability to meet a commercialized agriculture's need for improved seed is yet to be obtained in most aid recipient countries. It has been estimated that if 50% of the cropland in any given area is properly planted with improved seed, it is reasonable to expect a 100% increase in yield for the entire area. It must be emphasized that this yield improvement does not result solely from use of improved seed, but is dependent upon the adoption of a "package of technological inputs".

The production and distribution of good seed requires technical manpower. It is estimated that an additional 10,000 trained individuals will be required by the construction of the 1,000 additional seed processing plants to be required by LDCs by 1985. (At an individual cost of \$200,000, financing for these plants would total \$200,000,000; the average capacity of each plant would be 3,000 metric tons, and the annual value of seed processed by these plants is estimated to exceed \$1 billion). The availability of technical and administrative manpower is critical, if the required magnitude of capital is to be attracted into seed processing, storage, and distribution enterprises. (Statistics taken from the World Food Problem, Vol. II, pp. 390-391).

Mississippi State University's Seed Technology Laboratory (MSU) was instituted in 1948 with the support of the U.S. seed industry for the purpose of developing seed technologists required by that industry. This institution has become a nationally and internationally recognized "center of excellence" in subject-matter relevant to seed program and industry development and training personnel in related disciplines. MSU, over the past twelve years, has very effectively responded to USAID and (their) host government requests for technical assistance in seed processing, drying, storage; and the development of seed certification programs, laboratory testing facilities and training of indigenous personnel in seed program related disciplines.

During the last nine months of FY71, over 91 man-months of services were extended by MSU. Of this total, 9MM were in answer to requests for direct overseas services from Bureaus and USAIDs, and three MM were used to prepare reports on those services. Fifty-two MM were used to prepare special reports manuals, training materials, local studies etc, 9.5 MM were used for carrying out short courses, seminars, and training under contract and 18 MM were used for administration, backstopping and support.

As seed program and industry development related problems are satisfactorily resolved in certain countries that have already utilized the services of MSU, other countries are just approaching the time when problems in this area develop. This project will continue for the purpose of extending the services of MSU to those countries which are just approaching this stage. It is expected that these services will be extended to 12 to 15 LDCs in both FY72 and 73. This estimate is based on recent past experiences (10 countries during 1970 and the first half of 1971). Recent project experience has shown an increasing level of field support requests by Regional Bureaus and USAIDs.

#### F. Course of Action

##### I. Implementation Plan

Actions to implement this project must be taken in two broad areas of identifiable responsibilities: project administration and project operations. Within each of these areas, important actions to be undertaken by participating and/or contributory entity are as follows:

Project administration, key aspects by entity:

- a. Project Documentation
- b. Notification of USAID of (1) nature and scope of contract services, (2) terms and conditions for obtaining contract services
- c. Coordination of USAID requests and facilitating the provision of contract services
- d. Notify contractor of approval to send individuals outside the United States to perform work under the contract
- e. Monitor the contractor's performance and compliance with reporting requirements, as provided in the contract
- f. Conduct on-site project evaluations at contractor location and abroad.
- g. Assist USAIDs to prepare Mission funded Task Orders for contract services required for an extended period. This may include TA/AGR evaluations of USAID seed program requirements, when requested by USAIDs and concurred by Regional Bureau(s).

## 2. Project Operations

Services to be performed for LDCs and USAIDs under the Basic Ordering Agreement with Mississippi State University will be limited to one or two visits per country for a period up to one month in each year. Transportation and per diem costs for these services will normally be borne by the requesting Missions. Services required beyond these limitations may be provided under Task Order Number 1 which will be initiated and funded by the Missions.