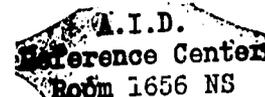


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Project Title - Technical Assistance in Seed Processing and Testing

Project Number - 931-11-130-203, Contract No. MSU-AID/W-607

Contractor - Mississippi State University - Name of Contract Representative Mr. Curt Delouche

Project Monitor - John E. Osguthorpe, Extension 21758 - 59

Project Goal and Justification - To advise and assist AID in determining the nature of research needed in seed technology, to furnish personnel and facilities and to make analysis and reports on problems studied. To provide, upon request, technical assistance to AID and cooperating countries, in matters pertaining to seed improvement, including but not limited to seed technology, multiplication, processing, certification, storage and utilization. Quality seeds used in most of the developing countries range from 0 - 10 percent.

Major Issues to be Resolved - The project is rendering outstanding service in the countries in which they are assisting, which at present is strongly towards Latin America. More effort should be made by AID to encourage greater use of this service in other areas of the world, especially Asia and Africa.

Several countries in Latin America have asked that a regional seed technologist be stationed in the region to assist the program in its developing phases and until such time as a full time specialist is needed. The separate contract between MSU and ROCAF for the same services, should be included under W-607 when the present ROCAF contract expires. Funding should also be higher so that expected participation in Asia and Africa could be carried out.

Evaluation of the Contractor Performance - As this is a service type technical assistance project with no set methodology, as requests for different services, plans, specifications, technical data, training courses or technicians are requested, the requests are reviewed in cooperation with AID/.. and implemented by the contractor. In terms of responding to specific requests, the response has been relevant, effective, efficient and on time.

Support from the host country and USAID has been excellent as a result the program has been very successful where ever it was used.

TA/AGF:John E. Osguthorpe
January 14, 1970

MSU/AID-1-607 Contract

Project Man - days for Periods (a) July 1, 1968 - June 30, 1969

(b) July 1, 1968 - January 1, 1970

I. Specific Technical Assistance Projects

	Man Days			
	<u>7/1/68 - 6/30/69</u>		<u>7/1/69 - 1/1/70</u>	
	<u>Overseas</u>	<u>Home</u>	<u>Overseas</u>	<u>Home</u>
A. <u>East Pakistan(7/1/68-3/69)</u> Seed Feasibility Study, Bunch, Johnston, Mathes, Dougherty	0	81	0	15
B. <u>Morocco - Fellowship(6/68)</u> Seed Processing	0	11	0	3
C. <u>Indonesia(8/5/68-9/14/68)</u> Rice Seed Drying & Storage Welch and Delouche	41	13	0	6
D. <u>Laos(9/15/68-9/14/68)</u> Rice Seed Drying & Storage Welch and Delouche	14	18	0	12
E. <u>El Salvador(9/19/68-9/21/68)</u> Seed Processing & Storage	6	33	3	28
F. <u>Honduras (Seed Plant)</u> (10/11/68 - 10/12/68) Boyd	2	15	3	0
G. <u>Honduras (Seed Plant)</u> (5/12/69 - 5/18/69) Dougherty	7	17	2	15
H. <u>Colombia (10/21/68-11/1/68)</u> Corn Seed Drying & Proc. Dougherty; Colombia Seed School (10/7/69 - 10/30/69) Dougherty & Andrews	19	46	65	52
I. <u>Colombia (1/21/69-2/6/69)</u> Grass Seed Harvesting Andrews, Sharp	34	15	0	5

	Man Days			
	7/1/68 - 6/30/69		7/1/69 - 1/1/70	
	<u>Overseas</u>	<u>Home</u>	<u>Overseas</u>	<u>Home</u>
J. <u>Panama</u> (3/23/69-4/13/69) Seed Improvement Program	22	21	3	18
K. <u>Ecuador</u> (4/28/69-5/11/69)	14	22	65	38
L. <u>Peru</u>	0	0	32	15
M. <u>Philippines</u>	0	0	0	13
(MISCELLANEOUS)				
<u>Bolivia</u>	0	8	3	11
<u>Paraguay</u>	0	0	0	3
<u>Vietnam</u>	0	0	0	15
<u>India</u>	0	6	0	6
<u>Thailand</u>	0	13	0	7
<u>Stanford Research Institute</u>				
(Ethiopia Project)	<u>159</u>	<u>325</u>	<u>176</u>	<u>290</u>
II. Individual & Group Training		280		100
III. Preparation of Educational Materials (2 publications) and 3 in preparation		330		200
IV. Research (Drying & Storage)		650		400
V. Misc. (problem solving and informal services released through correspondence		280		250
		<u>1,540</u>		<u>950</u>

Activities Currently Underway
or Anticipated 1970 - 1971

I. Bolivia

(a) During visit November 12-19, 1969, interest expressed in scheduling a seed training school in late 1970 or early 1971. Discussed with Dr. Austin Haws, Chief, Utah Contract Team, Dr. Thomas - Seed Advisor and Mr. J.E. Morris, Rural Development Officer.

II. Colombia

(a) Presently working with Colombian architects on design of drying, processing, storage facility in Fubenza. This facility designed by MSU in 1968, to be constructed in 1970. Assistance will be required in late 1970 or early 1971 to advise on installation of equipment and shake-down.

(b) Presently working with Colombian architects on plans for seed drying facility in Cerete.

(c) Presently working with Colombian architects on plans for seed drying facility in Palmira.

(d) Presently working on modification of drying system at Cerete and modification of storage facility.

(e) Presently working on modification of drying - storage processing facility in Valledupor.

(f) Presently working with solving seed harvesting problem (native grasses)

(g) Obligated to review architects plans for the Fubenza facility.

(h) Obligated to review architects plans for Tonja facility.

(i) Obligated to review architects plans for Pasto facility.

(j) Presently, conducting testing on seed bags (for moisture migration).

III. Peru

(a) Obligated to supply teaching-aids material to Sr. Carlos Herrera.

(b) Anticipate being requested to install equipment and train operators of La Molina facility (early 1971).

(c) Interest expressed in conducting a training course at La Molina (early 1971).

- IV. Bolivia
- (a) Interest expressed in holding training course (possibly early 1971).
- V. Ecuador
- (a) Anticipate request to assist in installation of equipment in testing labs in Quito and Guayaquil.
- (b) Presently working on equipment layout scheme and equipment specification list for plant in Guayaquil.
- (c) Anticipate requests for periodic assistance in one of field inspection, processing and testing.
- VI. East Pakistan
- (a) Presently working on seed dormancy problem. Emergency assistance requested by TA and NESA.
- VII. Philippines
- (a) Presently working on design for processing plant.
- (b) Request on file for consultation visit in Spring-Summer 1970.
- VIII. Nicaragua
- (a) Anticipate receiving request for consultation visit to assist in developing certification standards and resolve storage problems.
- IX. Laos
- (a) Request on file for assistance in 1970 - but they need to get some program started before visit.
- X. Congo
- (a) Request for assistance in February 1970. PIO/T issued by mission and program being drafted.
- XI. Nigeria
- (a) Requires stop-over visit to review storage - drying set-up designs prepared by AID (probably in 1970).
- XII. India
- (a) Anticipate receiving request for specialist assistance by MSU/Contract. Assistance would be provided under W-607 (probably in 1970).

Supplement to List of Reports and Publications
Submitted to AID on August 28, 1968

Chronological Listing for
Period July 1, 1968 - December 31, 1969

1. A. H. Boyd, Report to AID on Brief Consultation Visit with USAID/Honduras. October 1968. 7 pp. mimeo
2. A. H. Boyd and J. M. Beck. Report to AID/W on Consultation Assignment with USAID/El Salvador. October 1968. 5 pp. mimeo.
3. G. B. Welch. Report to AID/W on Consultation Assignment with USAID/Indonesia; Rice Seed Drying and Processing. October 1968. 9 pp. mimeo.
4. G. B. Welch. Report to AID/W on Consultation Assignment with USAID/Laos. October 1968. 8pp. mimeo.
5. G. M. Dougherty. Report to AID/Colombia on Consultation Visit with Caja Agraria. November 1968. 18 pp. mimeo.
6. Staff. Considerations, Recommendations and Specifications for Basic Seed Corn Facilities, at Cerete, Palmira and Fubenza, Colombia. December 1968. 54 pp. mimeo. 10 blueprints.
7. P. K. Matthes, J. C. Delouche and G. B. Welch. Seed Conditioning for Tropical Environments. Presented at SE Section, ASAB, Mobile. February 1969. 23 pp. Illustrated.
8. G. W. Sharp and C. H. Andrews. Report to AID/Colombia on Consultation Visit with Caja Agraria on Grass Seed Harvesting-Processing Problems. February 1969. 25 pp. mimeo.
9. H. D. Bunch, B. B. Johnson and E. H. Mathes. Report to AID: Farm Improvement, Seed Processing; Drying and Storage Facilities for East Pakistan, February 1969. Printed. 71 pages. Illustrated.
10. G. M. Dougherty. Report to AID/Panama on Consultation Visit with Panama's Seed Improvement Program. April 1969. 31 pp. mimeo.
11. G. M. Dougherty. Report to Ministerio Agricultura, Comercio, Industriales on Panama Seed Improvement Program. April 1969. 12 pp. Mimeo.
12. G. M. Dougherty. Report to AID/Ecuador on Consultation visit with the Ecuador Seed Certification Department. June 1969. 13 pp. mimeo.
13. G. M. Dougherty. Report to AID/Honduras in Consultation visit with Honduran Seed Improvement Program. June 1969. 9 pp. mimeo.

14. Staff. Revised Requirements, Considerations, Specifications and Equipment Price List for the San Andres Experiment Station Seed Facilities, San Andres, El Salvador. June 1969. 47 pp. 5 blueprints.
15. Staff. Revised Seed Processing and Rice Drying Facility for Honduran Seed Program, San Pedro Sula. August 1969. 19 pp. mimeo. 5 blueprints.
16. G. B. Welch. Report on Consultation Assignment with USAID/Peru. 8 pp. 3 blueprints.
17. Staff. Specifications for Seed Testing and Sampling Equipment for the Guayaquil and Quito Seed Testing Laboratories. September 1969. 9 pp. mimeo.
18. C. H. Andrews and G. M. Dougherty. Report to AID/W and USAID/Colombia on the First Colombian Seed Technology Training Course. December 1969. 17 pp. mimeo.
19. G. M. Dougherty. Report on Project Review Visits to Colombia, Peru, Bolivia, Ecuador, Panama, and Honduras. December 1969. 17 pp. mimeo.
20. Staff. Equipment Specifications for the Chirqui, Divisa and Panama City Seed Facilities (Panama). December 1969. 15 pp. mimeo.
21. A. H. Boyd and J. H. Beck. Report to AID/Honduras on Consultation Visit with Honduran Seed Program. December 1970. 6 pp. mimeo.
22. A. H. Boyd and J. H. Beck. Report to USAID/El Salvador on ES Seed Improvement Program. December 1969. 4 pp. mimeo.
23. K. S. Chien, R. K. Matthes, and B. P. Verna. Dimensional Analysis of Seed Moisture Movement in Deep - Pod Drying. ASAE Paper No. 69-833. ASAE Meeting Chicago., December 1969 24 pp.
24. R. K. Matthes, G. B. Welch, J. C. Delouche and G. M. Dougherty. Drying, Processing and Storage of Corn Seed in Tropical and Subtropical Environments. ASAE Paper No. 69-577. ASAE Meeting, Chicago. December 1969. 27 pp. Illustrated

Accomplishments of the Contract

It is not possible to accurately evaluate what has been accomplished as a result of the MSU-AID/W-607 contract. It is known, however, that many developing countries place increasing emphasis on seed improvement as one of the most rapid, effective, and cost expensive means of increasing food production. In concert with increasing emphasis on seed improvement there has been a great increase in the quantity and quality of seed testing laboratories, seed processing plants, seed storage facilities and foundation and certified seed programs.

The influence and effect of the contract is evident in many ways - in concrete items such as testing laboratories, processing plants, certification programs, and in the less tangible but highly important qualities of initiative and leadership.

Examples follow:

(a) Four Brazilian specialists, who received major share of training under W-607, are conducting several three-week courses in seed improvement each year for workers in their country.

(b) Participants who have received training under this contract, now occupy positions of responsibility in home country seed programs.

1. Carlos Herrera - (M.S. 1966) currently in charge of Seed Technology Department of the La Molina Experiment Station in Lima, Peru. Sr. Herrera will teach a course this year at the University in La Molina. The course will be entitled "Seed Technology".

2. Stanisl Vierra (B.S. 1968) currently in charge of Seed Program in Honduras.

3. Roberto Jarcia (Summer Short Course 1968) currently in charge of drying, processing, storage facility in Tegucigalpa, Honduras.

4. Eduardo Flores (Summer Short Course 1967) currently in charge of drying, processing, storage facility in San Pedro Lula.

5. Luis Lopez (Summer Short Course, 1967) currently Chief, Seed Program in Panama.

6. Sr. Vejaranno (Summer Short Course, 1967) in charge, Seed processing, storage facility in Panama City, Panama.

7. Hernan Orellana (Summer Short Course 1956) currently Chief, Seed Certification Program in Ecuador.

8. Sr. Spigge (Summer Short Course 1957) currently Chief, Seed Program in Bolivia.

9. Jamie Flores (Summer Short Course 1969) currently assistant to Chief, Seed Certification Program in Ecuador.

10. Hamid Benhalima (B.S. 1968) currently in charge processing plant in Morocco.

11. Tsoy Yen Song (M. Agr. 1962) currently Seed Advisor with FAO in Iran.

(c) Since 1960, it is significant that Peru, Chile, the Philippines, Taiwan, Mexico have been admitted to the International Seed Testing Association.

MSU--Seed Processing and Testing

	Actual Cum. Exp. 3/18/58- 12/31/69	Estimated Exp. 1/1/70- 3/31/70	Total	Total Budget 3/18/58- 3/31/70	Estimated Unexp. Bal. 4/1/70- 3/31/70	Proj. Budget 3/18/58- 12/31/70	Total Budget 3/18/58- 12/31/70	Proj. Budget 4/1/70 3/31/70	Total Budget 3/18/58- 3/31/71
Salary	629,479	32,000	661,479	662,450	971	93,132	754,611	124,175	785,654
Travel, Dom. & Int'l	18,717	1,000	19,717	23,054	3,337	2,100	21,817	2,800	22,517
Other Direct Cost	21,863	4,500	26,363	29,506	3,143	4,500	30,863	6,000	32,363
Equip. Supplies & Maint.	40,422	3,000	43,422	51,848	8,426	5,625	49,047	7,500	50,922
Consultant Fees	<u>10,451</u>	<u>-</u>	<u>10,451</u>	<u>15,400</u>	<u>4,949</u>	<u>2,250</u>	<u>12,701</u>	<u>3,000</u>	<u>13,451</u>
TOTAL	720,932	40,500	761,432	782,258	20,826	107,607	869,039	143,475	907,907