

187

The above-named activity is a project of the Government of the Republic of Cuba and the Government of the United States of America, as indicated below.

1. PROJECT DESCRIPTION: [] FEDERAL AGENCY: [] PROJECT TITLE: []

2. PROJECT PERIOD: [] START DATE: [] END DATE: []

3. PROJECT AGREEMENT: [] PROJECT AGREEMENT: [] PROJECT AGREEMENT: []

4. PROJECT AGREEMENT: [] PROJECT AGREEMENT: [] PROJECT AGREEMENT: []

5. PROJECT AGREEMENT: [] PROJECT AGREEMENT: [] PROJECT AGREEMENT: []

6. PROJECT AGREEMENT: [] PROJECT AGREEMENT: [] PROJECT AGREEMENT: []

7. PROJECT AGREEMENT: [] PROJECT AGREEMENT: [] PROJECT AGREEMENT: []

8. PROJECT AGREEMENT: [] PROJECT AGREEMENT: [] PROJECT AGREEMENT: []

9. PROJECT AGREEMENT: [] PROJECT AGREEMENT: [] PROJECT AGREEMENT: []

10. PROJECT AGREEMENT: [] PROJECT AGREEMENT: [] PROJECT AGREEMENT: []

11. PROJECT AGREEMENT: [] PROJECT AGREEMENT: [] PROJECT AGREEMENT: []

12. PROJECT AGREEMENT: [] PROJECT AGREEMENT: [] PROJECT AGREEMENT: []

13. PROJECT AGREEMENT: [] PROJECT AGREEMENT: [] PROJECT AGREEMENT: []

14. PROJECT AGREEMENT: [] PROJECT AGREEMENT: [] PROJECT AGREEMENT: []

15. PROJECT AGREEMENT: [] PROJECT AGREEMENT: [] PROJECT AGREEMENT: []

16. PROJECT AGREEMENT: [] PROJECT AGREEMENT: [] PROJECT AGREEMENT: []

17. PROJECT AGREEMENT: [] PROJECT AGREEMENT: [] PROJECT AGREEMENT: []

18. PROJECT AGREEMENT: [] PROJECT AGREEMENT: [] PROJECT AGREEMENT: []

19. PROJECT AGREEMENT: [] PROJECT AGREEMENT: [] PROJECT AGREEMENT: []

20. PROJECT AGREEMENT: [] PROJECT AGREEMENT: [] PROJECT AGREEMENT: []

21. PROJECT AGREEMENT: [] PROJECT AGREEMENT: [] PROJECT AGREEMENT: []

22. PROJECT AGREEMENT: [] PROJECT AGREEMENT: [] PROJECT AGREEMENT: []

23. PROJECT AGREEMENT: [] PROJECT AGREEMENT: [] PROJECT AGREEMENT: []

24. PROJECT AGREEMENT: [] PROJECT AGREEMENT: [] PROJECT AGREEMENT: []

25. PROJECT AGREEMENT: [] PROJECT AGREEMENT: [] PROJECT AGREEMENT: []

26. PROJECT AGREEMENT: [] PROJECT AGREEMENT: [] PROJECT AGREEMENT: []

1. PROJECT TITLE: [] PROJECT TITLE: [] PROJECT TITLE: []

2. PROJECT TITLE: [] PROJECT TITLE: [] PROJECT TITLE: []

3. PROJECT TITLE: [] PROJECT TITLE: [] PROJECT TITLE: []

4. PROJECT TITLE: [] PROJECT TITLE: [] PROJECT TITLE: []

5. PROJECT TITLE: [] PROJECT TITLE: [] PROJECT TITLE: []

6. PROJECT TITLE: [] PROJECT TITLE: [] PROJECT TITLE: []

7. PROJECT TITLE: [] PROJECT TITLE: [] PROJECT TITLE: []

8. PROJECT TITLE: [] PROJECT TITLE: [] PROJECT TITLE: []

9. PROJECT TITLE: [] PROJECT TITLE: [] PROJECT TITLE: []

10. PROJECT TITLE: [] PROJECT TITLE: [] PROJECT TITLE: []

11. PROJECT TITLE: [] PROJECT TITLE: [] PROJECT TITLE: []

12. PROJECT TITLE: [] PROJECT TITLE: [] PROJECT TITLE: []

13. PROJECT TITLE: [] PROJECT TITLE: [] PROJECT TITLE: []

14. PROJECT TITLE: [] PROJECT TITLE: [] PROJECT TITLE: []

15. PROJECT TITLE: [] PROJECT TITLE: [] PROJECT TITLE: []

16. PROJECT TITLE: [] PROJECT TITLE: [] PROJECT TITLE: []

17. PROJECT TITLE: [] PROJECT TITLE: [] PROJECT TITLE: []

18. PROJECT TITLE: [] PROJECT TITLE: [] PROJECT TITLE: []

19. PROJECT TITLE: [] PROJECT TITLE: [] PROJECT TITLE: []

20. PROJECT TITLE: [] PROJECT TITLE: [] PROJECT TITLE: []

21. PROJECT TITLE: [] PROJECT TITLE: [] PROJECT TITLE: []

22. PROJECT TITLE: [] PROJECT TITLE: [] PROJECT TITLE: []

23. PROJECT TITLE: [] PROJECT TITLE: [] PROJECT TITLE: []

24. PROJECT TITLE: [] PROJECT TITLE: [] PROJECT TITLE: []

25. PROJECT TITLE: [] PROJECT TITLE: [] PROJECT TITLE: []

26. PROJECT TITLE: [] PROJECT TITLE: [] PROJECT TITLE: []

27. PROJECT TITLE: [] PROJECT TITLE: [] PROJECT TITLE: []

28. PROJECT TITLE: [] PROJECT TITLE: [] PROJECT TITLE: []

BEST AVAILABLE DOCUMENT

The Government of the United States of America, through the contributions of the Government of the United States of America for operating and equipment costs of Mark G. are for agricultural credit, and fund for the expansion of the research farm.

of the Trust Fund in the amount of \$13,800,000 (13,800,000) Title IV funds of the dercheuch

11. DATE OF ORIGINAL REPORT: [] DATE OF THIS REPORT: []

12. FOR THE PROJECT: [] FOR THE PROJECT: []

13. FOR THE PROJECT: [] FOR THE PROJECT: []

14. FOR THE PROJECT: [] FOR THE PROJECT: []

15. DATE OF ORIGINAL CONTRIBUTION DATE: [] DATE OF ORIGINAL CONTRIBUTION DATE: []

16. FOR THE PROJECT: [] FOR THE PROJECT: []

17. FOR THE PROJECT: [] FOR THE PROJECT: []

18. FOR THE PROJECT: [] FOR THE PROJECT: []

A. Cherkov: [Signature] 10/5/68

Summit C. [Signature] May 10, 1968

DEPARTMENT OF STATE
 AGENCY FOR
 INTERNATIONAL DEVELOPMENT
 Worksheet Issued

PAGE 2 OF 6 PAGES

CONTINUATION
SHEET1. Cooperating Country
Morocco

2.a. Code No.

2.b. Effective Date

2.c.

Amendment

 Original OR No.

3. Project/Activity No. and Title

608-11-130-058
INCREASE IN CEREALS PRODUCTION

FORM SYMBOL

TITLE OF FORM

ProAg

PROJECT AGREEMENT BETWEEN
AID AND THE GOVERNMENT OF
MOROCCO

Annex A

Indicate block
numbers.

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

I. Objectives

The purpose of this project is to help Morocco achieve a gradual increase in annual production of wheat. The project is intended to increase the annual production by 50% from its present average of 1,230,000 metric tons to a production of approximately 1,800,000 metric tons by 1974. The principal elements required to bring about this increase are:

- A. Increased use of fertilizers.
- B. Introduction and development of high-yielding varieties.
- C. Expansion of production and use of high-quality seed.
- D. Training of Moroccan wheat scientists, extension technicians, and extension agents.
- E. Training of farmers through an agricultural extension program.
- F. Expansion of the agricultural credit program to private farmers who can effectively use the fertilizers, high quality seed and follow the required farm practices.

II. Implementation

In order to implement this project the Government of Morocco, in cooperation with USAID, has initiated a program which will:

- A. Make available sufficient seed, fertilizer and equipment to Moroccan private farmers under a credit arrangement to carry out a wheat improvement program, covering 345,000 hectares in 1967-68, with projected annual increments of approximately 40,000 hectares per year with a target of approximately 500,000 hectares in 1972-73.
- B. Provide above mentioned credits as loans to the farmers through a revolving fund channeled through the National Bank for Agricultural Credit (CNCA) to enable the participating farmers to purchase the necessary seed, fertilizer, and equipment.
- C. Multiply semi-dwarf and other adapted wheat varieties for future campaigns.

DEPARTMENT OF STATE
AGENCY FOR
INTERNATIONAL DEVELOPMENT

Worksheet Form

PAGE 3 OF 6 PAGES

CONTINUATION
SHEET

1. Cooperating Country
MOROCCO

2.a. Code No.

2.b. Effective Date

2.c. Amendment
 Original CR No.

FORM SYMBOL

TITLE OF FORM

ProAg

PROJECT AGREEMENT BETWEEN
AID AND THE GOVERNMENT OF
MOROCCO

3. Project/Activity No. and Title

608-11-130-058
INCREASE IN CEREALS PRODUCTION

Annex A

Indicate block
numbers.

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

D. Continue to conduct a research program in improved production techniques and varietal development.

E. Conduct an extension program to train farmers in improved wheat production techniques.

F. Create a Cereals Commission to determine and implement policy recommendations for cereals production.

III. Scope and Nature of Work

The program will include 345,000 hectares in 1967-68 and will be increased at a rate of approximately 40,000 hectares per year to reach a ~~final~~ goal of approximately 500,000 hectares by 1972-73.

The project will concentrate on wheat in those areas receiving 350 mm or more rainfall annually or which are irrigated. Within these areas there will be two types of operations. Multiplication of seed will be conducted exclusively on modern farms. These modern farms along with those traditional farms able to improve their production methods will receive maximum encouragement and assistance in order to achieve increased levels of wheat production. Although other crops will not be directly involved in this project, improved production levels of such crops as barley, maize, sorghum and forages are expected through the general improvement of land preparation, use of fertilizers and improved seed, insect control, and other improved farming practices.

IV. U.S. Contribution

In FY 68 the USAID is providing funds for:

A. Five technicians to assist in implementing the project including an Agronomy Advisor who will be in charge of the USAID technicians and four Agronomy Advisors (Cereals).

B. Additional technical backstopping through a regional contract with the International Corn and Wheat Improvement Center of Mexico which is supported by the Rockefeller and Ford Foundations (as per Annex B).

C. Vehicles, equipment, and materials for wheat production training and demonstration and seed of improved Mexican varieties for demonstration and multiplication (as listed in the attached PIO/C's).

DEPARTMENT OF STATE
 AGENCY FOR
 INTERNATIONAL DEVELOPMENT
 Worksheet In Morocco

PAGE 4 OF 6 PAGES

CONTINUATION
SHEET1. Cooperating Country
Morocco

2.a. Code No.

2.b. Effective Date

2.c. Amendment
 Original OR No.:

FORM SYMBOL

TITLE OF FORM

ProAg

PROJECT AGREEMENT BETWEEN
AID AND THE GOVERNMENT OF
MOROCCO

3. Project/Activity No. and Title

608-11-130-058
INCREASE IN CEREALS PRODUCTION

Annex A

Indicate block
numbers.

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

D. Participant training.

U.S.-owned and/or controlled local currency is also being provided for the support of the project as available and as agreed. AID financing in subsequent years is contingent upon the availability of funds and specific agreement.

V. GOM Contribution

The GOM will make available:

A. One or more research farms, of which Merchouch will be the central farm, to be operated for all wheat research, seed production, training and production promotion with the activities to be coordinated by a permanent Wheat Committee in the Ministry of Agriculture.

B. All personnel necessary to operate the program described in Section II above.

C. Land and equipment as needed in order to carry out the research, multiplication and extension programs described in Section II above.

D. All financing necessary to carry out the programs described above in addition to the U.S.-owned and/or controlled local currency which may be made available to the project subject to the mutual agreement of the GOM and USAID and subject to the availability of these funds.

VI. Work Plan

Activities under the project, as described in Section II, will be carried out in accordance with a work plan which is now being developed by GOM and USAID pursuant to this Project Agreement. This plan will be reviewed and updated at least annually, or as requested by the USAID or the Wheat Committee. It is understood that the information contained in the work plan reflects a firm statement of intent. However, either party to this Agreement may request a revision of the work plan.

CONTINUATION
SHEETDEPARTMENT OF STATE
AGENCY FOR
INTERNATIONAL DEVELOPMENT Worksheet Original

PAGE 5 OF 6 PAGES

FORM SYMBOL

TITLE OF FORM

ProAg

PROJECT AGREEMENT BETWEEN
AID AND THE GOVERNMENT OF
MOROCCO

Annex A

1. Cooperating Country
Morocco

2. Code No.

2.b. Effective Date

2.c. Amendment

 Original OR No:

3. Project/Activity No. and Title

608-11-130-058
INCREASE IN CEREALS PRODUCTIONIndicate block
numbers.

Use this form to complete the information required in any block of a PID or PAA form.

VII. Termination Date

Because of the time required to develop improved varieties, to multiply sufficient quantities of seed, and to disseminate the techniques of improved wheat production to farmers, it is anticipated that this project for which this Agreement covers the first phase will extend over a period of seven years, subject to the availability of funds.

Funding Plan and Action ScheduleI. Contribution of the U.S. (Fiscal Year 1968 - 1 July 1967 - 30 June 1968)A. Funds Obligated by the Project Agreement^{1/} (Dollars)1. Equipment and Materials

Field and training equipment for production promotion, and vehicles ^{2/}	60,707
---	--------

Seed of improved Mexican varieties	125,000
------------------------------------	---------

	185,707
--	---------

II. Contribution of COMA. Trust Fund1. Personal Benefits Dirhams (\$ Equiv.)

Quarters allowance, U.S. personnel	50,000	10,000
------------------------------------	--------	--------

2. Travel within Morocco (Per Diem)

U.S. and local personnel	10,000	2,000
--------------------------	--------	-------

3. <u>Supplies and Materials</u>	10,000	2,000
----------------------------------	--------	-------

Total	70,000	14,000
-------	--------	--------

DEPARTMENT OF STATE
AGENCY FOR
INTERNATIONAL DEVELOPMENT

Worksheet Issue

CONTINUATION
SHEET

1. Cooperating Country MOROCCO	2.a. Code No.
2.b. Effective Date	2.c. Amendment <input checked="" type="checkbox"/> Original OR No.
3. Project/Activity No. and Title 608-11-130-058 INCREASE IN CEREALS PRODUCTION	

FORM SYMBOL
**ProAg
Annex A**

TITLE OF FORM
**PROJECT AGREEMENT BETWEEN
AID AND THE GOVERNMENT OF
MOROCCO**

Indicate block
numbers.

Use this form to complete the information required in any block of a PID or PAA form.

B. Other GOM contributions in FY 1968 include DH 13,800,000 for operating and equipment expenses of Centres des Travaux; DH 60,400,000 of PL 480, Title IV funds have been provided since 1966 for the agricultural credit revolving fund. In addition, GOM funding will be required for the expansion of the Marchouch research farm.

- 1/ Excludes U.S. contributions in FY 1968 for U.S. technicians' services, for participant training, and for the contract with CIMMYT. In addition, DH 18,666,000 of 104 (f) funds have been proposed in support of the agricultural credit revolving fund.
- 2/ Notwithstanding Section C of the Standard Provisions Annex, title to the vehicles will remain in USAID/Morocco.

ANNEX B

NON-CAPITAL PROJECT PAPER

COUNTRY: Regional (Morocco and Tunisia) PROJECT NO. _____

SUBMISSION DATE: _____ ORIGINAL _____ REVISION _____

PROJECT TITLE: Wheat Improvement in North Africa

U.S. OBLIGATION SPAN: FY 1968 through FY 1972

GROSS LIFE-OF-PROJECT FINANCIAL REQUIREMENTS:

	<u>FY 1968</u>	<u>FY 1969</u>	<u>FY 1970</u>	<u>FY 1971</u>	<u>FY 1972</u>	<u>TOTAL</u>
U.S. Dollars	\$87,000	\$143,000	\$193,000	\$125,000	\$85,000	\$638,000

WHEAT IMPROVEMENT IN NORTH AFRICA

A. SUMMARY DESCRIPTION

The goal of this project is to increase wheat production in Morocco, and Tunisia, by providing certain technical, material, and training assistance. Increases in production of the order of 25-50 percent are tentatively projected to be achieved within five years of the starting date of the project. The principle changes needed to make these increases possible are (a) to develop or identify and introduce into production, wheat varieties of satisfactory grain quality which have a significantly higher yield potential than varieties now planted, (b) to expand the rational use of fertilizers, and (c) to improve tillage and planting methods.

Specific activity targets are as follows:

1. Establish sub-centers for wheat improvement in Tunisia, and Morocco.
2. Plan and commence in each country a program of comparative trials of introduced and local varieties and lines of wheat.
3. Initiate training of young agronomists and technical assistants at the International Maize and Wheat Improvement Center (CIMMYT)^{1/} in Mexico.
4. Initiate a comprehensive network of on-the-farm wheat test-demonstrations utilizing the best varieties available, and improved management practices including better land preparation, fertilization, and irrigation.
5. Develop seed production programs to insure that seeds of superior varieties are available to farmers.

The activities in each of the project countries will be carried out in the Ministry of Agriculture in cooperation with the National Agronomic Research Institute.

AID will enter into a contract with the Center to provide the services described below. These services are to be furnished in the cooperating countries and at the Center in Mexico.

The Center will supply the following specialists and training services and commodities over a 5-year period:

^{1/} Hereinafter referred to as the Center.

Estimated Costs

<u>Category</u>	<u>FY 68</u>	<u>FY 69</u>	<u>FY 70</u>	<u>FY 71-72</u>
Technical Assistance:				
Technical Director	\$ -	\$25,000	\$25,000	\$50,000
Agronomist (Plant Breeding)	15,000	25,000	50,000(2)	50,000(2)
Agronomist (Production)	15,000	25,000	50,000(2)	50,000(2)
Consultant Services	8,000	12,000	12,000	10,000
Training	24,000	36,000	36,000	30,000
Commodities	25,000	25,000	20,000	20,000
TOTALS	\$87,000	\$148,000	\$193,000	\$210,000

B. PROJECT SETTING

Morocco, once an important exporter of wheat must now import wheat to feed its people. Depending on the weather during the growing season, the wheat gap fluctuates widely. Since 1960 Morocco has had an average annual net shortfall of about 270,000 tons. Moroccan officials estimate that the annual deficit could reach 800,000 as early as 1970. The urgency of the wheat deficit problem is evident.

The annual wheat shortage in Tunisia in recent years has been on the order of 200,000 tons or over 25 percent of consumption requirements. A static production trend, a high rate of population growth and an increase in per capita consumption of wheat, makes the "wheat gap" the most important agricultural production problem in Tunisia.

Although soil and climatic factors in Tunisia and Morocco vary from highly favorable to unfavorable, studies in Morocco and Tunisia by U.S. agronomists, wheat scientists, and economists from the Tennessee Valley Authority, the Stanford Research Institute and the Rockefeller Foundation agree that wheat production can be increased substantially through development or introduction of higher-yielding varieties and the adaptation of known production technology. The studies in Morocco and Tunisia, referred to above, identify the following conditions as responsible for the critically low wheat yields in those two countries.

1. The use of wheat varieties of low yield potential

Wheat varieties have been selected largely for qualities the export market demanded to complement wheats produced by France. North Africa should as a first priority take immediate action to develop and produce high-yielding varieties to meet domestic needs.

2. Extremely low level of fertilizer use

Tunisia uses very little nitrogen fertilizer on wheat. Morocco uses more but, according to the TVA team, the amount is far below that which could be economically used.

3. A generally mediocre level of wheat production technology

Land preparation, method of seeding, fertilization, quality of seeds, and time of planting are generally unsatisfactory on a high percentage of the planted acreage and can be greatly improved.

4. Shortage of agronomists specialized in wheat improvement and production

Although wheat improvement activities are being carried out in Tunisia and Morocco these programs do not focus on the problem of low yields of bread wheats. The genetic materials used do not include the best of the world's superior selections and varieties. Neither are the breeding programs integrated with high levels of soil fertility and irrigation (where available) to develop varieties which will give the maximum response to fertilizers and supplemental irrigation.

Wheat Improvement programs, such as they are, are largely in the hands of European technicians. Dependence on foreign technicians to carry out applied research on a crop so vital to North Africa should be regarded as a temporary expedient. Training of local wheat geneticists and production agronomists will be given the highest priority under the proposed project.

C. STRATEGY

1. Alternatives

The urgency of the food problem (wheat) in North Africa requires rapid initiation of a program which will result in near-term increases in wheat production. At the same time the program should provide for training the technical manpower required for a continuing long-term effort in wheat breeding and production technology.

The success of the Rockefeller program, and the International Maize and Wheat Improvement Center in Mexico demonstrates the soundness of combining in a single project: (a) applied research, to develop varieties and identify improved production technology, (b) comprehensive training of cereal agronomists, and (c) an extensive demonstration program to convey results to farmers.

A training program alone might eventually produce cereal scientists and production agronomists who could plan and carry out a creditable project of the kind described herein. But, one can be sure that the time required would be much longer and the results less certain. The need for a solution

to the wheat problem is too urgent to rely on a solution requiring many years for success. The proposed project could probably be successfully implemented by a university contract. But, since the Center has demonstrated outstanding success in Mexico and more recently in Pakistan, India and Turkey in planning and carrying out wheat improvement programs, we feel they are exceptionally well qualified to undertake the project. Moreover the Rockefeller Foundation is considering the establishment of a Wheat Improvement Center in the Mediterranean Basin. The Center would be equipped to:

a. Carry out a cereal breeding program to develop lines and varieties for testing in participating countries (Middle East and North Africa);

b. Provide technical assistance in planning and evaluating cereal improvement programs in individual countries; and

c. Give intensive field and laboratory training to young agronomists. In addition it is probably true that technical assistance from the Center, a non-government agency, would be more acceptable to the recipient countries than either AID direct hire assistance or a university contract. Moreover the competence of the Center is widely recognized as a result of its accomplishments both in Mexico and in other countries.

For the above reasons we believe that the Center is clearly the logical source for the technical and training assistance required.

2. Leadership

This regional project will be implemented through the Ministries of Agriculture in Tunisia and Morocco. Both countries have active U.S. supported wheat improvement projects underway, as briefly described in F. below. Additional planning is underway by the GOM and GOT to expand these individual country programs. In both instances the GOM and the GOT in their country programs are counting heavily on technical training, and material assistance which would be provided by the Center under this regional project.

In Tunisia preliminary discussions to determine the nature and mode of assistance are rather far along.

In the case of Morocco, a comprehensive bilateral project, Cereals Improvement, has just been submitted to the assistant administrator for funding approval. It is designed to increase wheat production by 50 percent by 1974 through the introduction of new high-yielding varieties, judicious use of fertilizers, and improved cultural practices. The U.S. input will include local currencies, technical and training assistance, and selected commodities. The Center, under the regional project would provide a significant portion of the technical assistance required, particularly in planning and evaluation wheat variety trials and in the training of wheat agronomists. The Center would also be a major source of new plant varieties and lines for testing and the mechanism for interchange of plant materials

between Tunisia and Morocco.

Thus the regional project herewith proposed is designed to give essential and major support to individual wheat improvement programs in Morocco and Tunisia.

3. Institutional Aspects

The project should strengthen the work of the Research Institutes by demonstrating what can be accomplished in a planned program of applied research to develop superior varieties of wheat and establish the production technology required, combined with an agricultural extension program to convey the results to farmers. In addition, a successful wheat improvement project will be a stimulus to improve the production technology of other crops such as corn, barely and pulses.

By training up to 16 agronomists the project will make an important contribution to solving the critical shortage of cereal agronomists in North Africa.

D. PLANNED TARGETS RESULTS AND OUTPUTS

The goal of this project is to increase wheat production in Tunisia and Morocco by 25-50 percent within five years from the starting date of the project. These increases would be achieved through changes brought about by technical and material assistance in varietal improvement, improved cultural practices, expansion of pure seed production and wider use of fertilizers.

Specific activity targets which can be identified are:

1. Evaluation of present breeding programs, and inventory of physical and human resources available for an expanded program of wheat improvement in the two countries. This has already been done for Tunisia and is expected to be accomplished in Morocco in February 1968.
2. In cooperation with the Agronomic Research Centers in each country, plan and commence a program of annual experimental tests of introduced varieties and lines of wheat. Testing on a limited scale is underway in both countries.
3. Commence training of young agronomists and technical assistants at the Center in Mexico.
4. Initiate a series of on-the-farm wheat test-demonstrations utilizing the best varieties available, and the best management practices including fertilization, and modern cultural practices.
5. As soon as superior varieties are identified, develop seed production programs to insure that seed of the superior varieties is available to farmers. Pending local production, varieties shown to be superior will be imported in quantity probably from Mexican sources through the assistance of CIMMYT.

An annual cooperative project review will be held with the Center, the USAIDs, and the host countries participating. Project accomplishment and problems will be studied and work plans developed for the following year. Progress of the project will be measured in the number of wheat varieties released for seed increase, or identified as meriting further testing, the number of results of on-the-farm demonstrations in each country, acreage planted on improved varieties, increased use of fertilizer, the number of agronomists trained or in training, and any perceptible trend in total wheat production in the countries.

E. COURSE OF ACTION

A contract will be developed with the Center to provide the following:

1. Technical Assistance - The services of two full-time wheat scientists under a technical director will be provided during the first year. They will be assigned to work with wheat improvement projects in Tunisia and Morocco and will divide their time between those countries according to a mutually agreeable schedule. Additional technical personnel will likely be needed in future years, but the number and timing of assignment will depend upon the rate of progress of the project.

The duties of the two initial wheat specialists would include but not be limited to the following:

a. In cooperation with local specialists, evaluate present breeding programs and inventory the physical and human resources available for expanded comprehensive programs of wheat improvement in the cooperating countries.

b. Draw up, in cooperation with local officials, a modern Wheat Improvement Program for the cooperating countries. This program should be designed to develop or obtain, by modern wheat improvement methods, varieties of high yield potential. Applied research to guide the way to more effective use of fertilizers, pesticides and other physical inputs would be also important phases of the program.

c. The wheat scientists will assist in the selection of experimental sites, the preparation of plans, and participate in the supervision of tests of introduced and locally developed wheat lines and varieties. They would also plan seed increase programs to make superior varieties available to farmers.

d. Assist in the selection of local technicians and technical assistants for intensive training, initially at the Corn and Wheat Improvement Center in Mexico, but eventually this training would be done at the future Center in Lebanon.

2. Provision of Genetic Plant Materials - The Center through its access to extensive collections will provide selected plant materials for testing

in North Africa. Initially these materials will come mainly from the Center in Mexico but if a similar Center is opened in the Mediterranean Basin the bulk of the introduced plant materials will probably come from there.

3. Training - Training of young Moroccan and Tunisian wheat scientists will be one of the most vital elements of the project. It will include short-term (less than one year) training at the Center in Mexico and possibly degree training in a U.S. university for selected agronomists as noted below.

Trainees would receive intensive field and laboratory instruction and practice in modern techniques and methods of wheat improvement. Training would cover a complete crop cycle, from initial planning and layout of plots to analysis and interpretation of results.

During the training period outstanding individuals capable of higher academic achievement would be identified. These technicians would be sent for advanced degree training in the U.S.

4. Country Self-Help Actions

The Ministries of Agriculture of the cooperating countries will be expected to designate a team leader and staff with whom the Center specialists will work. Tunisia and Morocco have Wheat Improvement programs already underway. Although limited in scope, the individuals and facilities of these existing organizations will be the cooperating entities with whom the contractor will work.

F. PROGRESS TOWARD ACHIEVEMENT OF ACTIVITY TARGETS

The Rockefeller Foundation, made a preliminary reconnaissance study of wheat production problems in Morocco and Tunisia. The report from this study suggests that substantial improvements in wheat production can be obtained in both countries. At the request of AID and the governments of Morocco and Tunisia, the Center supplied those countries for testing 1967-68 about 50 kilograms each of a number of high-yielding short-strawed varieties of wheat. Based on the results of these preliminary trials, 50 tons of nine different Mexican varieties were obtained for more extensive testing and seed increase in Tunisia for crop year 1967-68. These varieties were planted at 32 different locations, including both irrigated and dryland farms, under the close supervision of the USAID Agricultural Research Advisor.

An extensive fertilization program on wheat in Morocco in 1966-67 reached 180,000 hectares. The goal this year (1967-68) is 335,000 hectares. The technical recommendations for the campaign were prepared by a TVA fertilizer team in late 1966. AID is providing \$8 million equivalent in dirhams to finance local costs of this extensive wheat fertilization effort.

The USAID has provided assistance to improve seed technology through expansion of facilities for seed testing, and the building and equipping of a large seed processing plant that will substantially increase the GOM capability to provide clean seed to producers of certified seed.

In addition the USAID staff in Morocco includes a seed production agronomist, an extension agronomist and two general extension advisers who will be assigned to the project.

G. COORDINATION WITH OTHER AGENCIES AND PROJECTS

Activities under the project would be coordinated with the FAO fertilizer demonstrations in Morocco in order to avoid duplication of effort and to insure adequate attention to important problem areas.

Likewise we would expect the contractor to utilize materials of high protein content in the world wheat collection maintained by the University of Nebraska, and to coordinate their work with any activity Nebraska may undertake in North Africa to increase protein content of wheat (contract funded by TCR).

The Ford Foundation has indicated an interest in providing support for a major program of wheat improvement in North Africa. Ford Foundation representatives have agreed to visit Tunisia and Morocco to define the nature and magnitude of assistance which the Foundation could provide to supplement and complement on-going programs and that proposed in the foregoing.

PROJECT AGREEMENT

BETWEEN THE DEPARTMENT OF STATE, AGENCY FOR INTERNATIONAL DEVELOPMENT (AID),
AN AGENCY OF THE GOVERNMENT OF THE UNITED STATES OF AMERICA, AND

PRO AG

AN AGENCY OF THE GOVERNMENT OF MOROCCO

The above-named parties hereby mutually agree to carry out a project in accordance with the terms set forth herein and the terms set forth in any annexes attached hereto, as checked below:

1. PROJECT/ACTIVITY NO.
608-11-130-058 PAGE 1 OF 1 PAGES

2. AGREEMENT NO.
68-7 3. ORIGINAL OR REVISION NO. **3**

PROJECT DESCRIPTION ANNEX A FOREIGN CURRENCY STANDARD PROVISIONS ANNEX
 STANDARD PROVISIONS ANNEX SPECIAL LOAN PROVISIONS ANNEX

4. PROJECT/ACTIVITY TITLE
INCREASE IN CEREALS PRODUCTION

This Project Agreement is further subject to the terms of the following agreement between the two governments, as modified and supplemented:

5. PROJECT DESCRIPTION AND EXPLANATION
(See Annex A attached)

GENERAL AGREEMENT FOR TECHNICAL COOPERATION DATE

ECONOMIC COOPERATION AGREEMENT DATE **4/2/57**

(other) DATE

6. AID APPROPRIATION SYMBOL **72-1181004** 7. AID ALLOTMENT SYMBOL **854-50-608-00-69-81**

8. AID FINANCING		PREVIOUS TOTAL (A)	INCREASE (B)	DECREASE (C)	TOTAL TO DATE (D)
<input type="checkbox"/> DOLLARS	<input type="checkbox"/> LOCAL CURRENCY				
(a) Total					242,332
(b) Contract Services					53,000
(c) Commodities					189,232
(d) Other Costs					
9. COOPERATING AGENCY FINANCING - DOLLAR EQUIVALENT					
\$1.00=					
(a) Total					14,000
(b) Technical and other Services					
(c) Commodities					3,000
(d) Other Costs					12,000

[Handwritten initials]
Walker
F & A
[Handwritten initials]

Amilot
CONT

Amoote
PROG

[Handwritten signature]
James
D/DIR

10. SPECIAL PROVISIONS (Use Additional Condition Sheets, if Necessary)

This amendment extends the estimated final contribution date to March 31, 1970.

All other conditions remain the same.

11. DATE OF ORIGINAL AGREEMENT **May 10, 1968** 12. DATE OF THIS REVISION **June 30, 1968** 13. ESTIMATED FINAL CONTRIBUTION DATE **March 31, 1970**

14. FOR THE COOPERATING GOVERNMENT OR AGENCY
SIGNATURE: _____ DATE: _____
TITLE: _____

15. FOR THE AGENCY FOR INTERNATIONAL DEVELOPMENT
[Handwritten signature]
Philip Birnbaum
Director
DATE: *[Handwritten date]* June 30, 1968

PROJECT AGREEMENT

ag

BETWEEN THE DEPARTMENT OF STATE, AGENCY FOR INTERNATIONAL DEVELOPMENT (AID),
AN AGENCY OF THE GOVERNMENT OF THE UNITED STATES OF AMERICA, AND

PRO AG

AN AGENCY OF THE GOVERNMENT OF MOROCCO

The above-named parties hereby mutually agree to carry out a project in accordance with the terms set forth herein and the terms set forth in any annexes attached hereto, as checked below:

- PROJECT DESCRIPTION ANNEX A FOREIGN CURRENCY STANDARD PROVISIONS ANNEX
 STANDARD PROVISION ANNEX SPECIAL LOAN PROVISIONS ANNEX

This Project Agreement is further subject to the terms of the following agreement between the two governments, as modified and supplemented:

- GENERAL AGREEMENT FOR TECHNICAL COOPERATION DATE _____
 ECONOMIC COOPERATION AGREEMENT DATE April 2, 1967
 (other) DATE _____

1. PROJECT/ACTIVITY NO. 608-11-130-058 PAGE 1 OF 1 PAGES
 2. AGREEMENT NO. 68-7 3. ORIGINAL OR REVISION NO. 2
 4. PROJECT/ACTIVITY TITLE
INCREASE IN CEREALS PRODUCTION

5. PROJECT DESCRIPTION AND EXPLANATION
 (See Annex A attached)
 6. AID APPROPRIATION SYMBOL 72-1181004 7. AID ALLOTMENT SYMBOL 854-50-608-00-69-81

8. AID FINANCING		PREVIOUS TOTAL (A)	INCREASE (B)	DECREASE (C)	TOTAL TO DATE (D)
<input type="checkbox"/> DOLLARS	<input type="checkbox"/> LOCAL CURRENCY				
(a) Total		189,232	53,000		242,232
(b) Contract Services			53,000		53,000
(c) Commodities		189,232			189,232
(d) Other Costs					
9. COOPERATING AGENCY FINANCING - DOLLAR EQUIVALENT					
\$1.00 =					
(a) Total					14,000
(b) Technical and other Services					
(c) Commodities					2,000
(d) Other Costs					12,000

10. SPECIAL PROVISIONS (Use Additional Consideration Sheets, if Necessary)

The purpose of this amendment is to provide an increase of \$ 53,000 in A.I.D. financing for contract services. All other provisions remain unchanged.

REF:
AIDTO 715

11. DATE OF ORIGINAL AGREEMENT May 10, 1968 12. DATE OF THIS REVISION June 25, 1968 13. ESTIMATED FINAL CONTRIBUTION DATE June 30, 1969

14. FOR THE COOPERATING GOVERNMENT OR AGENCY
 SIGNATURE: [Signature] DATE: 6/25/68
 TITLE: Chief, Tech. Com. Div. of E.A.

15. FOR THE AGENCY FOR INTERNATIONAL DEVELOPMENT
 SIGNATURE: [Signature] DATE: 6/25/68
 TITLE: Director

ag

PRO AG

BETWEEN THE DEPARTMENT OF STATE, AGENCY FOR INTERNATIONAL DEVELOPMENT (AID), AN AGENCY OF THE GOVERNMENT OF THE UNITED STATES OF AMERICA, AND

MINISTERS OF THE GOVERNMENT OF MOROCCO

The above named parties hereby mutually agree to carry out a project in accordance with the terms set forth herein and the terms set forth in any annexes attached hereto as checked below:

- PROJECT DESCRIPTION AREA A FOREIGN CURRENCY STANDARD PROVISIONS AREA
- STANDARD PROVISIONS AREA SPECIAL LOCAL PROVISIONS AREA

This Project Agreement is subject to all the terms of the following agreement between the two Governments, as modified and supplemented:

GENERAL AGREEMENT FOR TECHNICAL COOPERATION DATE 6/2/57

CLOUDED COOPERATION AGREEMENT DATE

(other) DATE

1. PROJECT/ACTIVITY NO. 603-11-100-018

2. AGENCY NO. 603-7

4. PROJECT/ACTIVITY TITLE INCREASE II. CEREALS PRODUCTION

5. PROJECT DESCRIPTION AND SEPARATION (See Annex A attached)

6. AID APPROPRIATION SYMBOL 72-1181004 7. ALLOCATION SYMBOL 854-50-600-10-09-81

	D. AID FINANCING		PREVIOUS TOTAL (\$)	INCREASE (\$)	DECREASE (\$)	TOTAL TO DATE (\$)
	<input type="checkbox"/> DOLLARS	<input type="checkbox"/> LOCAL CURRENCY				
(a) Total			185,707	3,525		189,232
(b) Contract Services						
(c) Commodities			185,707	3,525		189,232
(d) Other Costs						
E. COOPERATING AGENCY FINANCING - DOLLAR EQUIVALENT						
(a) Total						16,000
(b) Technical and other Services						
(c) Commodity						2,000
(d) Other Costs						12,000

10. Special provisions (See attached production schedule) This agreement involves 100 percent of the AID contribution to cover additional costs for commodity. All other conditions remain unchanged.

Stallone
P&A

AG Walker
EXEC

Moore, Jr.
PROC

Allport
CONT

PBAbaum
A/DIR

11. DATE OF ORIGINAL AGREEMENT May 10, 1968 12. DATE OF THIS AMENDMENT June 13, 1968 13. ESTIMATED FINAL CONTRIBUTION DATE June 30, 1969

14. FOR THE COOPERATING GOVERNMENT: [Signature] 15. FOR THE AGENCY FOR INTERNATIONAL DEVELOPMENT: [Signature]

SIGNATURE: [Signature] TITLE: Chief, Sect. Coop. Agreements

SIGNATURE: [Signature] TITLE: Director

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Continuation Sheet.

Life of Project:
From FY 68 to FY 74
Total U. S. Funding Project 058 \$1,393,000
Date Prepared: Project 173 AID/W
November 22, 1971

1.5/HS

Increase in Cereals Production 608-11-130-078 combined with
Project Title: Moroccan elements of Wheat Improvement in North Africa 608-11-130-173

6080058 (23)
PD-AAH-176

BEST AVAILABLE DOCUMENT

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS																				
Program or Sector Goal: The broader objective to which this project contributes:	Measures of Goal Achievement:		Assumptions for achieving goal targets:																				
Project Purpose:	Conditions that will indicate purpose has been achieved: End of project status. (cont'd) <ul style="list-style-type: none"> - Research programs that provide improved adapted varieties when required and requisite management and fertilizer practices. - Seed multiplication program, adequate to meet needs. - Extension program capable of transferring research knowledge into profitable production practices. 		Assumptions for achieving purpose:																				
Outputs: (cont'd) <ol style="list-style-type: none"> 1. Coordinated research programs <ol style="list-style-type: none"> a. Size of activity (No. of location) b. Quality of activity 2. Farmer training in use of recommended practices: <ol style="list-style-type: none"> a. Size of activity (No. of demonstrations) b. Quality of Activity 	Magnitude of Outputs: (cont'd) <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>FY 1971</th> <th>1972</th> <th>1973</th> <th>1974</th> </tr> </thead> <tbody> <tr> <td>a. Size of activity (No. of location)</td> <td>30</td> <td>30</td> <td>30</td> <td>30</td> </tr> <tr> <td>b. Quality of activity</td> <td colspan="4">Qualitative judgement of suitability and timeliness of release of improved, adapted bread wheat and durum varieties and recommendations for their fertilizer and management requirements.</td> </tr> <tr> <td>a. Size of activity (No. of demonstrations)</td> <td>200</td> <td>300</td> <td>300</td> <td>300</td> </tr> </tbody> </table>		FY 1971	1972	1973	1974	a. Size of activity (No. of location)	30	30	30	30	b. Quality of activity	Qualitative judgement of suitability and timeliness of release of improved, adapted bread wheat and durum varieties and recommendations for their fertilizer and management requirements.				a. Size of activity (No. of demonstrations)	200	300	300	300		Assumptions for providing outputs:
	FY 1971	1972	1973	1974																			
a. Size of activity (No. of location)	30	30	30	30																			
b. Quality of activity	Qualitative judgement of suitability and timeliness of release of improved, adapted bread wheat and durum varieties and recommendations for their fertilizer and management requirements.																						
a. Size of activity (No. of demonstrations)	200	300	300	300																			
Inputs (cont'd) <ol style="list-style-type: none"> 3. Commodities: <ul style="list-style-type: none"> RYV seed for initial production Research quantities of new seed materials Major farm and research equipment) Vehicles for U.S. technicians) Spareparts and replacement equipment as needed, mainly for research program. 	Implementation Target (cont'd) <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Total \$</th> </tr> </thead> <tbody> <tr> <td>135,000 (500 MT)</td> </tr> <tr> <td>150,000</td> </tr> <tr> <td>80,000 (continued at right)</td> </tr> </tbody> </table>	Total \$	135,000 (500 MT)	150,000	80,000 (continued at right)	Inputs (cont'd) <ol style="list-style-type: none"> 4. <u>Logistical Support</u> : Moroccan Govt. to Trust Fund Account 5. Appointment of suitable qualified Moroccan Personnel to work in association with US technicians 	Implementation Target (cont'd) : <p style="text-align: center;"><u>Total \$</u></p> <p>\$ 5,000/year/US technician</p> <p>18 Counterparts who will have worked with US technicians.</p>																
Total \$																							
135,000 (500 MT)																							
150,000																							
80,000 (continued at right)																							

(Continued from first and second column at left)

PROJECT DESIGN SUMMARY
LOGICAL FRAMEWORK

Life of Project:
From FY 1968 to FY 1974
Project 058 S 1,593,000
Total U. S. Funding ~~Project 173 AID/A~~
Date Prepared: ~~November 22, 1971~~

Increase in Cereals Production 608-11-130-058 combined with
Project Title: Moroccan elements of Wheat Improvement in North Africa 608-11-130-173

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS																								
<p>Program or Sector Goal: The broader objective to which this project contributes:</p> <p>To meet Moroccan agricultural food consumption needs. Increase agricultural income, and modernize agricultural institutions and methods.</p>	<p>Measures of Goal Achievement:</p> <ol style="list-style-type: none"> Higher agricultural food production growth rate. Reduction in food crop imports. Increased proportion of farmers engaged in modern commercial, as compared to subsistence, agriculture. 	<p>Government statistics</p>	<p>Assumptions for achieving goal targets:</p> <ol style="list-style-type: none"> Productivity will not decrease as a result of land redistribution programs Increases in population will not outstrip increases in agricultural production. Related U.S. and other donor projects will also contribute to this goal. 																								
<p>Project Purpose:</p> <p>To improve Moroccan capability to achieve and sustain higher levels of wheat production.</p>	<p>Conditions that will indicate purpose has been achieved: End of project status. XX</p> <ol style="list-style-type: none"> Increase in over-all average annual wheat production of 65% over preproject base of 12.3 million Qx (1962-65). Areas included in program show increased yields of wheat per hectare. A team approach to planning and implementation of a program leading to improved wheat production: 	<ol style="list-style-type: none"> Official statistics (production of other cereals can provide base for comparison) Official statistics Number of varieties released or in final stages before release; diversity of genetic base; fertilizer and management recommendations are made with release of varieties. <p>measurement of amounts of seed available in relation to needs in planned areas.</p> <p>numbers of farmers enrolled in organized programs; production increases cf. those of farmers not in program.</p>	<p>Assumptions for achieving purpose:</p> <ol style="list-style-type: none"> Continued GOM support for increased cereals production: <ul style="list-style-type: none"> favorable price support policy; provision of credit; actions to assure availability of fertilizer; encouragement of farmer participation. Existence of continuing Moroccan prog. to train required numbers of agricul. tech for research, extension, admin. and planning. 																								
<p>Outputs: Planned XX</p> <ol style="list-style-type: none"> Average annual wheat production (3 yr average in million Qx) Area using fertilizer and improved cultural practices for wheat production (000 ha) Area planted to adapted, improved varieties (000 ha) Production of pure seed of improved varieties (000 ha) No Participants completing Training (cumulative) 	<p>Magnitude of Outputs: XX</p> <table border="1"> <thead> <tr> <th>FY 1971</th> <th>1972</th> <th>1973</th> <th>1974</th> </tr> </thead> <tbody> <tr> <td>17.4</td> <td>18.5</td> <td>19.3</td> <td>20.4</td> </tr> <tr> <td>460</td> <td>510</td> <td>560</td> <td>600</td> </tr> <tr> <td>100</td> <td>200</td> <td>450</td> <td>600</td> </tr> <tr> <td>18</td> <td>30</td> <td>40</td> <td>45</td> </tr> <tr> <td>49</td> <td>64</td> <td>70</td> <td>74</td> </tr> </tbody> </table>	FY 1971	1972	1973	1974	17.4	18.5	19.3	20.4	460	510	560	600	100	200	450	600	18	30	40	45	49	64	70	74	<ol style="list-style-type: none"> Government statistics. USAID Records. Evaluation by project staff. 	<p>Assumptions for providing outputs:</p> <ol style="list-style-type: none"> Trainees will continue in the program.
FY 1971	1972	1973	1974																								
17.4	18.5	19.3	20.4																								
460	510	560	600																								
100	200	450	600																								
18	30	40	45																								
49	64	70	74																								
<p>XX Inputs: from bilateral & regional elements.</p> <ol style="list-style-type: none"> Technicians <ul style="list-style-type: none"> Direct Hire Near East Foundation (bilateral) CIMMYT (regional) Local Training: <ul style="list-style-type: none"> Participants in the U.S. Participants in Mexico In-country training 	<p>Implementation Target (Type and Quantity) XX</p> <table border="1"> <thead> <tr> <th>Man Years</th> <th>Expertise</th> </tr> </thead> <tbody> <tr> <td>28</td> <td>Production/Extension (NEP+DR)</td> </tr> <tr> <td>3</td> <td>Seed production (NEP)</td> </tr> <tr> <td>14</td> <td>Research (CIMMYT)</td> </tr> <tr> <td>7</td> <td>Planning/Management/Coordination (DR)</td> </tr> <tr> <td>21</td> <td>Local assistants</td> </tr> <tr> <td colspan="2">In U.S.: 12 degree training 33 shortterm</td> </tr> <tr> <td colspan="2">In Mexico: 18 shortterm</td> </tr> <tr> <td colspan="2">In-country: 75 extension agents for in-service upgrading per year</td> </tr> </tbody> </table>	Man Years	Expertise	28	Production/Extension (NEP+DR)	3	Seed production (NEP)	14	Research (CIMMYT)	7	Planning/Management/Coordination (DR)	21	Local assistants	In U.S.: 12 degree training 33 shortterm		In Mexico: 18 shortterm		In-country: 75 extension agents for in-service upgrading per year		<p>USAID records.</p>	<p>Assumptions for providing inputs:</p> <p>Commitments and effective actions on part of Government of Morocco concerning:</p> <ul style="list-style-type: none"> Technical, administrative and support personnel for the program. Research stations, equipment, fertilizer, operating funds. Placement of a sufficient number of suitable personnel in positions to benefit from association with US technicians. 						
Man Years	Expertise																										
28	Production/Extension (NEP+DR)																										
3	Seed production (NEP)																										
14	Research (CIMMYT)																										
7	Planning/Management/Coordination (DR)																										
21	Local assistants																										
In U.S.: 12 degree training 33 shortterm																											
In Mexico: 18 shortterm																											
In-country: 75 extension agents for in-service upgrading per year																											