

Original No File #

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PROJECT PAPER AMENDMENT NO. 2

PROJECT 608-0136

MARCH, 1983

MOROCCO - DRYLAND AGRICULTURE APPLIED RESEARCH

AGENCY FOR INTERNATIONAL DEVELOPMENT

PROJECT DATA SHEET

1. TRANSACTION CODE

A = Add  
 C = Change  
 D = Delete

Amendment Number  
TWO

DOCUMENT CODE  
3

2. COUNTRY/ENTITY

MOROCCO

3. PROJECT NUMBER

608-0136

4. BUREAU/OFFICE

Near East

03

5. PROJECT TITLE (maximum 40 characters)

Dryland Agriculture Applied Research

6. PROJECT ASSISTANCE COMPLETION DATE (PACD)

MM DD YY  
09 30 84

7. ESTIMATED DATE OF OBLIGATION  
(Under 'B' below, enter 1, 2, 3, or 4)

A. Initial FY 78

B. Quarter 4

C. Final FY 84

8. COSTS (\$000 OR EQUIVALENT \$1 = )

A. FUNDING SOURCE	FIRST FY			LIFE OF PROJECT		
	B. FX	C. L/C	D. Total	E. FX	F. L/C	G. Total
AID Appropriated Total	2,096		2,096	4,000	500	4,500
(Grant)	( 2,096 )	( - )	( 2,096 )	( 4,000 )	( 500 )	( 4,500 )
(Loan)	( )	( )	( )	( )	( )	( )
Other U.S.						
1.						
2.						
Host Country		1,300			3,400	3,400
Other Donor(s)						
<b>TOTALS</b>	<b>2,096</b>	<b>1,300</b>	<b>2,096</b>	<b>4,000</b>	<b>3,900</b>	<b>7,900</b>

9. SCHEDULE OF AID FUNDING (\$000)

A. APPROPRIATION	B. PRIMARY PURPOSE CODE	C. PRIMARY TECH. CODE		D. OBLIGATIONS TO DATE		E. AMOUNT APPROVED THIS ACTION		F. LIFE OF PROJECT	
		1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan	1. Grant	2. Loan
(1) ARDN	121	080	--	4,342				4,500	
(2)									
(3)									
(4)									
<b>TOTALS</b>				<b>4,342</b>				<b>4,500</b>	

10. SECONDARY TECHNICAL CODES (maximum 6 codes of 3 positions each)

073 312 963

11. SECONDARY PURPOSE CODE

141

12. SPECIAL CONCERNS CODES (maximum 7 codes of 4 positions each)

A. Code  
B. Amount

13. PROJECT PURPOSE (maximum 480 characters)

To establish an applied agronomic research program which will (a) adapt existing technology to local conditions in order to increase the productivity of the dryland farmers; (b) train adequate Moroccan staff to operate the program and transmit the results to farmers; and (c) develop a program whereby suitable farming equipment can be made accessible to small farmers; and

To establish a socio-economic research program which will give a better understanding of the behavior of the dryland farmers and thus provide a basis for effective extension programs.

14. SCHEDULED EVALUATIONS

Interim MM YY MM YY Final MM YY

15. SOURCE/ORIGIN OF GOODS AND SERVICES

000  941  Local  Other (Specify)

16. AMENDMENTS/NATURE OF CHANGE PROPOSED (This is page 1 of a 4 page PP Amendment.)

The purpose of this Amendment Number 2 is to correct an error made in Amendment No. 1 involving the GOM's contribution to the project. The figure of 3.040 Million Dollars used as the GOM contribution should be changed to 3.400 Million Dollars. Attached are corrected pages 1, 3, 5 and 21 to Amendment Number One. All other conditions reflected in Amendment No. 1 remain unchanged.

17. APPROVED BY

Signature

*Robert G. Chase*  
Robert G. Chase

Title

Director  
USAID

Date Signed

MM DD YY  
07 22 83

18. DATE DOCUMENT RECEIVED IN AID/W, OR FOR AID/W DOCUMENTS, DATE OF DISTRIBUTION

MM DD YY

DRYLAND AGRICULTURE APPLIED RESEARCH PROJECT 608-0136

I. SUMMARY AND RECOMMENDATIONS

- A. Grantee: The Government of Morocco (GOM)
- B. Implementing Agency: Ministry of Agriculture, Institute for National Research (INRA).
- C. Amount: This amendment does not change the authorized life of project costs to AID of the Dryland Agriculture Applied Research project, which is U.S. \$4.5 Million.
- D. Total Project Cost: Total project cost is estimated at U.S. \$7.9 Million. These costs broken out by source, foreign exchange and local currency are projected as follows:

<u>SOURCE</u>	<u>U.S. DOLLARS</u>		<u>TOTAL</u>
	<u>FX</u>	<u>LC</u>	
A.I.D. GRANT	4,000	500	4,500
GOM	--	3,400	3,400
<b>TOTALS</b>	<b>4,000</b>	<b>3,900</b>	<b>7,900</b>

E. Project Purpose: To establish an applied agronomic research program which will (a) adapt existing technology to local conditions in order to increase the productivity of the dryland farmers; (b) train adequate Moroccan staff to operate the program and transmit the results to farmers; and (c) develop a program whereby suitable farming equipment can be made accessible to small farmers; and

To establish a socio-economic research program which will give a better understanding of the behavior of the dryland farmers and thus provide a basis for effective extension programs.

F. Revised Project Description: The Dryland Agriculture Applied Research project has been designed with the recognition that the problems facing the dryland farmers are not susceptible to quick and easy solutions. Adequate time and much hard work will be required to develop, test and transmit to farmers improved technology that they can use without increasing the naturally high risks that dryland crop production entails.

To achieve the projects goals and purpose AID will finance technical assistance, training and project commodity procurement. Under the project an AID financed technical assistance team will assist the GOM develop institutional capacity to conduct applied research geared to increasing agricultural production in the dryland areas where annual rainfall averages between 250 to 450 mm, and subsequently increase farm income.

Life of Project:  
From FY '78 to FY '84  
Total U.S. Funding \$4,500,000  
Date Prepared: December, 1982

Project Title & Number: DRYLAND AGRICULTURE APPLIED RESEARCH (008-0136)

NARRATIVE SUMMARY	OBJECTIVELY VERIFIABLE INDICATORS	MEANS OF VERIFICATION	IMPORTANT ASSUMPTIONS
<p>Program or Sector Goal: The broader objective to which this project contributes: To increase basic food production in order to meet the needs of Morocco's fast-growing population, and improve income of traditional small dryland farmers.</p>	<p>Measures of Goal Achievement</p> <ul style="list-style-type: none"> <li>- Increase in food production.</li> <li>- Reduction in basic food imports in absolute terms or in relation to population increase.</li> <li>- Increase in consumption in dryland areas.</li> <li>- Increase in income of small farmers.</li> </ul>	<p>GOM statistics, and other reports.</p>	<p>Assumptions for achieving goal targets: The GOM will</p> <ul style="list-style-type: none"> <li>- effect program and price policy changes so as to encourage greater farmer productivity.</li> </ul>
<p>Project Purpose: To establish an applied agronomic research program which will (a) adapt existing technology to local conditions in order to increase the productivity of the dryland farmers; (b) train adequate Moroccan staff to operate the program and transmit the results to farmers, and (c) develop a program whereby suitable farming equipment can be made accessible to small farmers, and To establish a socio-economic research program which will give a better understanding of the behavior of the dryland farmers and thus provide a basis for effective extension programs.</p>	<p>Conditions that will indicate purpose has been achieved: End of project status.</p> <ul style="list-style-type: none"> <li>- A unit in MARA with adequate staff facilities, and budget is conducting production-oriented research.</li> <li>- Production technology that is economically applicable is being developed.</li> <li>- Improved technology is being made available to farmers.</li> </ul>	<ul style="list-style-type: none"> <li>- GOM reports</li> <li>- Annual and Special Evaluations</li> </ul>	<p>Assumptions for achieving purpose:</p> <ul style="list-style-type: none"> <li>- MARA is committed to establishing a permanent applied dryland research program.</li> <li>- MARA and AID will provide adequate human, material, and financial resources on a timely basis.</li> <li>- MARA will implement programs to transmit to farmers the results of the research program.</li> </ul>
<p>Outputs: 1. Improved technology. 2. Trained Moroccan scientists and technicians. 3. Relevant information from the socio-economic research. 4. Analytical report on dryland mechanization.</p>	<p>Magnitude of Outputs: 15 Scientists trained to PHD in the U.S./Morocco 10 Scientists trained to M.S. in the U.S./Morocco 8 Technicians trained on-the-job 13 Socio-economic study reports 1 Report on mechanization.</p>	<ul style="list-style-type: none"> <li>- Annual Project Evaluations</li> <li>- Special Evaluations</li> </ul>	<p>Assumptions for achieving outputs:</p> <ul style="list-style-type: none"> <li>- MARA will assign qualified "ingenieurs" and adjoints techniques" in agreed-upon numbers and on a timely basis.</li> <li>- Adequate resources-- funds, equipment and land-- will be provided on a timely basis.</li> </ul>
<p>Inputs: A.I.D. 1. Research Team 2. Consultants 3. Commodities 4. Training 5. Other Costs GOM Land, buildings, equipment and machinery, agricultural and social scientists and technicians, laborers and administrative personnel. Operating budget.</p>	<p>Implementation target (Type &amp; Quantity): A.I.D. US \$(000) 23 1/2 P/Y 6 Technicians 1,749 3 1/3 P/Y Consulting Services 112 Commodities See Equipment List 829.6 1.0% P/Y 15ST and 25 LT) Training 1,170 Other costs 579.4 Total A.I.D. 4,500 GOM Capital Budget 900 Operating Budget 2,400 Total GOM 3,400 TOTAL PROJECT 7,900</p>	<ul style="list-style-type: none"> <li>- USAID and GOM records</li> <li>- On-site visits</li> </ul>	<p>Assumptions for providing inputs:</p> <ul style="list-style-type: none"> <li>- AID inputs will be provided on a timely basis.</li> <li>- Contractor staff will have proficiency in French.</li> <li>- GOM will provide inputs on a timely basis.</li> <li>- GOM will provide adequate budget for operating costs.</li> </ul>

USAID/Rabat efforts to get this project on track have resulted in the satisfactory strengthening of project administration, a root cause of project implementation delays. The project is now proceeding with reasonable progress. The technological and institutional objectives in the original Project Paper remain valid. Therefore, the purpose of this amendment is to clarify and realign the project activities with a new implementation schedule and to shift financial resources to enable USAID to effectively support and evaluate project implementation activities described in the original Project Paper and further clarified in this amendment.

- H. Recommendations: It is recommended that this amendment to the Dryland Agriculture Applied Research Project (608-0136) be approved. The original AID authorization of \$4.5 million remains unchanged. The total GOM contribution is \$3.400 million equivalent in local currency. All other recommendations made in the original Project Paper remain unchanged.

## II. THE PROJECT

- A. Problem Statement: The semi-arid region of Morocco is defined as receiving from 250 mm to 450 mm annual rainfall, albeit the temporal and spatial distribution of annual rainfall is highly erratic. This semi-arid region comprises approximately one-half of the total arable land base and provides a living for over one-fifth of all rural inhabitants of Morocco. The majority of farms located in the region are less than 20 hectares and are characterized by excessive fragmentation of holdings, sharecropping and other forms of insecure tenancy exacerbated by inheritance customs and rural-urban migration. Many of the regional soils are highly calcareous, rocky, shallow, non-uniform and deficient in nutrients. Farm implements and cultural practices employed by most farmers are, in combination with other agronomic and climatic conditions, constraining farm productivity and yields to an estimated 30 percent of potential. It is commonly assumed that most of the available improved production techniques and inputs utilized by more commercial farmers in the region are either not available/known to the majority of traditional farmers of the region, or the increased cost of production is beyond the financial risk perceived by the farmer under such variable and unpredictable climatic conditions. Additionally, highly complex lineage and political relationships characterize the social milieu in which farmers operate.

Although these generalizations describe the global characteristics, the major operational premise of this project is that very little detail is known of the region. The GOM has long emphasized the development of irrigated perimeters under more favorable agronomic conditions in an attempt to maximize production of high value export crops which earn valuable foreign exchange. However, the last decade has witnessed an