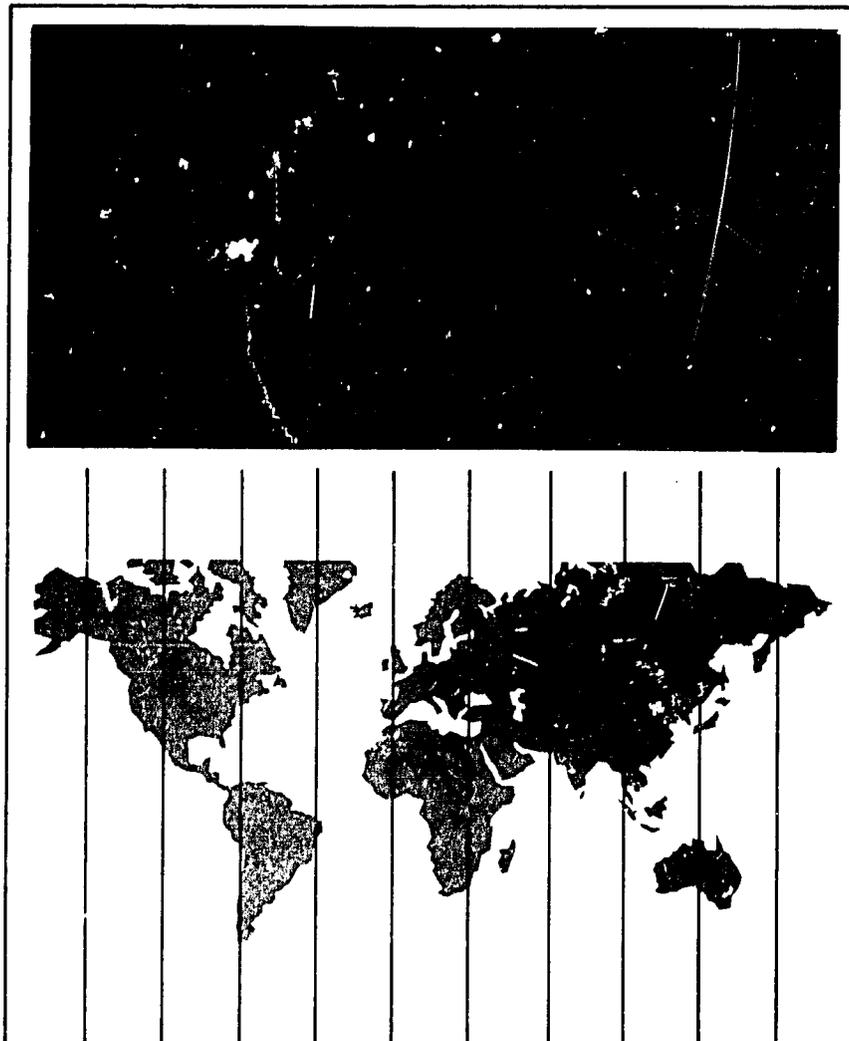


UNITED STATES  
AGENCY FOR INTERNATIONAL DEVELOPMENT

THE  
INSPECTOR  
GENERAL



Regional Inspector General for Audit  
NAIROBI

MOROCCO'S DRYLAND AGRICULTURE  
APPLIED RESEARCH PROJECT HAS  
PRODUCED LIMITED RESULTS DUE TO LACK  
OF PLANS, UNUSUALLY DRY WEATHER AND  
POOR CONTRACTOR PERFORMANCE

AUDIT REPORT NO. 3-608-82-27  
SEPTEMBER 29, 1982

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 APPLIED RESEARCH PROJECT HAS  
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TABLE OF CONTENTS

	<u>Page</u>
EXECUTIVE SUMMARY	i
BACKGROUND	1
PURPOSE AND SCOPE	1
FINDINGS, CONCLUSIONS AND RECOMMENDATIONS	2
Project Accomplishments Have Been Minimal	2
Stronger Mechanism Is Required To Ensure That Host Governments Furnish Participants And Counterparts	3
Planning For Project Research Needs To Be Initiated	6
Coordinated MIAC/INRA Research Plans Need To Be Developed	6
Plans For Activating Extension Activities Component Are Required	7
Contractor Performance Requires Closer Monitoring	8
MIAC Contract Requires Amendment And Stricter Enforcement Of Provisions	8
Project Funds Used For Non-Project Training	10
Fly America Act Provisions Not Adhered To	11
Additional Areas Requiring Management Action	11
Internal Controls Over Project Equipment And Spare Parts Need To Be Strengthened	12
The GOM Is Not Meeting Project Commitments	12
Social/Economic Studies For Project Requires Clarification	14
Project requires More Practical Vehicles	15
 APPENDIX A - List of Recommendations	
APPENDIX B - List of Report Recipients	

## EXECUTIVE SUMMARY

### Introduction

The Dryland Agriculture Applied Research Project is an attempt to more fully exploit Morocco's food production potential. The purpose of the project is to (a) develop an applied agronomic research program in order to increase cereal, legume and forage crop production, and (b) perform socio-economic research so that effective extension programs can be developed to distribute the agronomic research results to the dryland farmers.

Funding for the project consists of a \$4.5 million grant from the U.S., and a \$3.4 million input by the Government of Morocco (GOM). The U.S. funds are being used to finance technical assistance, agricultural machinery, and training for Moroccan staff. The project began in August 1978, with an expected completion date of September 1984.

### Purpose and Scope

The purpose of our audit was to determine whether (a) AID provided resources were effectively and efficiently utilized, (b) laws and regulations were complied with, (c) project objectives were being met, (d) technical assistance personnel performed satisfactorily, and (e) USAID/Morocco adequately supervised the project.

### Findings, Conclusions and Recommendations

The project accomplished very little in the four years since the project agreement was signed. The principle reasons for the lack of progress were:

- Poor technical assistance contractor performance (pages 8 to 11).
- Insufficient rainfall for research results (page 2).
- Delays in sending participants for long term training (pages 12 to 14).
- Failure to develop comprehensive research plans (pages 6 and 7).

The projects' future looks somewhat brighter with new technical assistance people due to arrive, and numerous participants receiving English training prior to departing to the U.S. To help ensure that this new phase of project activity receives proper direction and

oversight, we recommended that USAID/Morocco amend the technical assistance contractors scope of work, establish new timeframes for preparing research plans, and adopt an aggressive monitoring plan to oversee the future course of the project (pages 9 and 10).

The report discusses additional problem areas which will have to be addressed by USAID/Morocco. Recommendations were made to ensure that:

- Project funds are used only for project related training (page 11).
- Fly America Act provisions are adhered to (page 11).
- Controls over project equipment and spare parts are strengthened (page 12).
- The GOM meets project commitments (page 14).
- Social/economic studies for the project receives clarification (page 15).

This report also addresses an across the board problem concerning the failure of host governments to adequately time phase appointment of counterparts and departure/return dates of participants. Several recent audits we performed disclosed that the host governments failure to provide counterparts and participants as planned was (a) eroding the effectiveness of technical assistance personnel, (b) disrupting the timephasing of project activities, and (c) curtailing institution building. A recommendation is made to PPC/PDPR to explore methods of building a stronger mechanism into project design to ensure that host governments furnish qualified personnel before technical assistance teams are brought on board (pages 3 to 5).

At the conclusion of our audit our findings were discussed with pertinent USAID/Morocco personnel. A draft report was also transmitted to USAID/Morocco. Their comments during our exit conference and in response to our draft report were duly considered, and where pertinent have been included in this report.

Our draft comments on the need for a stronger mechanism to ensure that host governments provide counterparts and participants at the proper time were transmitted to PPC/PDPR by cable. We did not receive comments from PPC/PDPR on that section of our report.

## BACKGROUND

Agriculture is the mainstay of the Moroccan economy. About one half of Morocco's population of 18 million depend on farming for a livelihood. In spite of this heavy concentration on agriculture, Morocco continues to be a food grain deficit country.

Importation of food is a major factor contributing to Morocco's economic problems. Consequently one of the Government of Morocco's (GOM's) highest priorities is increased food self-sufficiency. USAID/Morocco's development strategy supports this priority by concentrating inputs on food production.

One of USAID/Morocco's major efforts to increase food production is the Dryland Agriculture Applied Research Project (No. 608-0136). The purpose of this project is to develop an applied research program in order to increase cereal, legume and forage crop production in the rainfed areas, and to contribute to the extension of techniques developed. The project also intends to create a permanent capacity within the GOM for agro-economic and socio-economic research by training Moroccan personnel to continue in developing the program.

The project, being implemented by the Institut National de la Recherche Agronomique (INRA) has five components. An agro-economic research component was to determine the production methods best adapted to Moroccan agriculture where annual rainfall averages 325 mm to 450 mm. A socio-economic research component was included to gain a better understanding of the attitude of farmers so that production methods could be structured in a manner most acceptable to the farmers. Another component was to contribute to agricultural extension so that the research results could be delivered to the farmers. And finally, training and phases of execution components.

Funding for the project consists of a \$U.S. 4.5 million grant from AID and \$3.4 million to be provided by the GOM. The AID funds are to be used to finance technical assistance, agricultural machinery and related equipment, and train Moroccan staff. The project agreement was signed in August 1978, and the project completion date is September 1984.

## PURPOSE AND SCOPE

The purpose of our audit was to determine whether (a) the implementing agency of the GOM (INRA) effectively and efficiently used AID provided resources, (b) applicable laws and regulations were complied with, (c) the project was meeting its objectives as stated in project documentation, (d) AID funds were properly

expenses, (e) the contractor, AmeriAmerica International Agriculture Consultants (MIAC), performed satisfactorily and operated within the provisions of the contract, and (f) USAID/Morocco gave adequate supervision to the project.

We reviewed USAID/Morocco, host government and contractor records, reports and correspondence; and held discussions with USAID/Morocco, MIAC and contractor officials. We also made field trips to project sites in the Sottat region. Project expenditures as of March 31, 1982 totalled \$1.35 million.

### FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

#### Project Accomplishments Have Been Minimal

Accomplishments have been very limited since the project agreement was signed four years ago. The principle reasons for the lack of progress were (a) poor contractor performance, (b) two consecutive years of insufficient rainfall for research trials, (c) delays in sending participants to the U.S. for long term training, and (d) failure to develop comprehensive research plans.

The contract to implement the project was negotiated and awarded to MIAC by AID/Washington on a sole source basis. Implementation was to be carried out through five major components. The current status of each of these components is summarized below:

Agro-economic Research Component - This activity was to address all aspects of the production systems used by the dryland farmer. Research trials were planted by the MIAC team in the fall of 1981; however, severe drought conditions had a devastating impact on almost all research trials. Consequently, the results of the project's only year of research was of very limited value. The construction of facilities to house personnel and the Dryland Research Center at Sidi El Aide did progress, and are expected to be completed in the latter part of 1982.

The seed drying structure to house the processing, handling and storage of seeds had not been started. A maintenance and repair shop for equipment repair had not yet been set up, but a technician was brought on board in May 1982 to accomplish this task.

The Socio-Economic Research Component - This segment was to identify and analyze the patterns of technical and economic decisions that dryland farmers make under a high risk situation. Some studies have been made, but whether they are what is required is not known. A contractor has been hired to analyze the studies. The cause of this problem was that an agreement was not signed to specify what the studies should contain or how they should be conducted.

Training Component - It was anticipated that thirteen members of the permanent staff of the research program would receive post university training at the Ph.D. level in the U.S. An additional ten would receive training at the M.S. level. Four participants have been selected and are in training. There are another seventeen potential participants receiving English training in Morocco. Whether all seventeen will be accepted by U.S. universities or will follow through with the English training is unknown.

Extension Component - Extension agents of the zone will participate in the demonstration experiments and will be brought to the research station for training. Little has been done to address this activity.

Phases of Execution Component - During the first year of the project, the contractor and implementing agencies were to formulate detailed work plans on all components of the project, and lay out a five year research program. This had not been done. Although the project now appears to be entering into a new cycle with new MIAC personnel, it is almost four years behind schedule with no research results as yet available. The prospects for the future appear somewhat better, but any further slippage in implementing the five project activities by MIAC and INRA should not be tolerated by USAID/Morocco.

Further discussions of the factors hindering project implementation along with our conclusions and recommendations are included in the following sections of this report.

#### Stronger Mechanism Is Required To Ensure That Host Governments Furnish Participants and Counterparts

The long term success of this as well as numerous other AID projects rests heavily, if not entirely, on the timely provision of qualified counterparts to work with technical assistance personnel, and participants to attend long term specialized training. It is through these counterparts and participants that AID attempts to accomplish the institution building necessary to sustain or expand the objectives of the project. However, in this project as well as several other projects we recently reviewed, the institution building was not occurring because the host governments did not provide counterparts or participants in a timely manner.

Project implementation schedules generally time phase appointment of counterparts and departure/return dates of participants so that maximum interaction with technical assistance personnel occurs. If counterparts and participants are not provided or are furnished in the later stages of the project, the value of technical assistance is eroded and institution building becomes seriously curtailed. Additionally, when the phasing of counterparts and participants gets off schedule, subsequent phases of project activity which were relying on them as building blocks are disrupted or cannot progress.

The following table demonstrates the shortcomings in participant training we noted in three recent audits.

<u>Project</u>	<u>Number of Planned Participants</u>	<u>Number of Participants Departed For Training</u>	<u>Time Elapsed<sup>1/</sup> Since Project Began</u>
Sudan's Blue Nile	14	2	25 months
Swaziland's RDA Support	9	3	44 months
Morocco's Dryland Research	23	4	46 months

Although it is not possible to precisely quantify the number of counterparts who should have been assigned to a project, they are also far below requirements. For example, in the Blue Nile project it was anticipated that there would be 20 professional and 24 semi-professional Sudanese working on the project. In the first year there was only one Sudanese professional assigned, and during the second year only a few more were added. The Swaziland RDA Infrastructure Support Project had no counterparts during the first two years. The Morocco Dryland Research Project also experienced a shortage of counterparts.

Although the number of participants and counterparts may be increased in the later stages of the project (all three USAIDs told us they expected more counterparts and participants in the future), the harmful effects on project implementation/institution building will have already occurred. Technical assistance personnel will have been functioning in an operational rather than a training role, project implementation schedules will be out of sequence, participants may return after technical assistance or the project terminates, etc...

All three of the cited projects were experiencing serious implementation problems -- and the lack of counterparts and participants was one of the major impediments. These projects represented an investment of \$34 million. At the time of our audit it appeared that the success of all of them would be limited by the lack of institution building brought about by the host governments failure to provide counterparts and participants in a timely manner.

In our opinion, the effectiveness of project implementation could be increased by having selected participants who are critical to project success sent for training and ready to return before technical assistance is provided. This has many advantages, some of which are : (a) it would pressure the host government to select and send the participants, (b) the technical assistance team would be

<sup>1/</sup> Time elapsed was computed from the signing of the project agreement until the date of audit.

working with the trained participants -- greatly increasing the effectiveness of the technical assistance, (c) the technicians would be working with personnel that can speak English -- taking considerable language pressure off the team and allowing for more flexibility in team selection, and (d) the project would have a greater chance of surviving after the team leaves because a nucleus of trained persons would have been on board and would have been working with the technicians for the term of the technical assistance. Other benefits would be more time to select the technical assistance team, and more time to determine project commodity requirements.

The one major disadvantage is time. Once a project is on the books, the Agency places considerable pressure on getting the technical assistance team in country regardless of the readiness of the project for the team. The dryland farming project is just now about ready for a technical assistance team. It would be more ready if the 23 participants had been sent to training in 1979 or 1980 and were now returning. As it turns out most of the participants will be returning when the technicians are leaving -- allowing little time to work with the technical assistance team.

We believe AID should study this issue closely because three recent audits of projects have pointed out the same problems; and all are suffering from poor implementation and all have few of the many planned participants in the U.S. being trained.

#### Conclusion and Recommendation

AID is investing a substantial amount of money on development projects which are falling short of objectives because host governments are not providing counterparts or participants as planned. This erodes the effectiveness of technical assistance personnel, disrupts the time phasing of project activity, and curtails institution building. Project implementation could be much more effective if USAIDs could ensure that counterparts and participants were supplied in a timely manner.

#### Recommendation No. 1

PPC/PDPR (a) explore methods of building a stronger mechanism into project design to ensure that host governments furnish qualified personnel before technical assistance teams are brought on board, and (b) issue policy guidance to USAIDs for the timely termination or delay of projects whose success depend heavily on the training of personnel, when such personnel are not furnished as planned.

### Planning For Project Research Needs To Be Initiated

USAID/Morocco was optimistic that project progress would improve when new technical assistance personnel arrived in September 1982. To assist the new team in getting project activities underway, USAID/Morocco should ensure that the required planning is initiated. As discussed in the following sections, the project can be given direction by developing coordinated MIAC/INRA research plans, and by developing plans to activate the extension activities component of the project.

### Coordinated MIAC/INRA Research Plans Need To Be Developed

USAID/Morocco had not required INRA to develop a comprehensive five year research plan that integrates the MIAC team into the dryland research activities. INRA has been doing dryland research for years, so we assume the project is to organize and focus the research effort with the help of outside technical assistance. There is little chance of achieving much success unless detailed plans are developed to give organization and direction to all phases of project activity.

The lack of comprehensive plans has forced MIAC to implement project components with little INRA participation. The 1982-83 research effort still appears to be separated with MIAC and INRA working independently of each other. The planning and execution of research projects should be a joint effort of MIAC and INRA.

The lack of progress thus far makes it all the more imperative that joint research be undertaken so that MIAC's technical assistance can be maximized during the three planting seasons remaining under the project. If unfavorable weather conditions continue, the ability of either MIAC or INRA to develop meaningful results by themselves is unlikely. Additionally, if INRA participates in project activities, a stronger base for continuing project activities after U.S. assistance ends will be provided.

Planning of research activities also needs to address the locations for field trials. Sections of land need to be restricted to specific field trials. This will prevent the residual effects of indiscriminate placement of initial trials from interfering with the growth of future trials.

### Conclusion and Recommendation

Comprehensive research plans which incorporated MIAC technical assistance should have been developed before or shortly after the teams arrival in country. These plans are still essential if MIAC assistance is to be effectively utilized and dryland research capability is to be enhanced at INRA.

Recommendation No. 2

USAID/Morocco work with INRA to prepare a five year research plan, as specified in the project agreement, that incorporates MIAC technical assistance into project activities.

Plans For Activating Extension Activities Component Are Required

A major concern about the Dryland Project is the mechanism for disseminating research results to the farmers. In the project area there are an estimated 263,000 farm units which can benefit from the research. The project agreement contains an extension activity that is to provide project specialists who will participate in the elaboration, inspection and interpretation of the results of the demonstration experiments. These specialists will include extension agents of the project zone, who will be brought to the research station for training courses.

The extension activities contained in the project agreement have not yet been activated; therefore, we cannot comment on the effectiveness of this approach. However, we do believe a plan on how this research activity will be implemented and integrated into a follow on extension activity is needed.

The temporary chief of party, who is an extension specialist, might be more effectively used to develop an approach to activate this component of the project after the permanent chief of party arrives. This would be more beneficial to the project than his plan to develop horse drawn tillage and planting equipment for use by farmers. The recently hired agriculture engineer is charged with that responsibility.

Conclusion and Recommendation

An extension activities component was included in the project paper but implementation planning had not been started. USAID/Morocco plans to design a follow on extension activity which will take the research results to the farmers field. We believe planning is required to activate the extension component and determine how it can be integrated into USAID/Morocco's follow on extension activity.

Recommendation No. 3

USAID/Morocco work with the MIAC team and INRA to develop a plan for activating the extension activities component of the project.

### Contractor Performance Requires Closer Monitoring

Project implementation problems can be attributed to the inadequate staffing furnished by MIAC. We also noted that MIAC used project funds for non-project training, and did not adhere to Fly America Act provisions. Consequently, we feel USAID/Morocco should strictly enforce contract provisions and more closely monitor contractor activity.

### MIAC Contract Requires Amendment And Stricter Enforcement Of Provisions

AID awarded a \$4.5 million contract to MIAC in February 1980 to provide technical assistance to the project. To date, MIAC has done an unsatisfactory job in providing qualified personnel to execute the terms of the contract. This has severely curtailed project progress and wasted a considerable amount of AID funds.

A contract provision states -- "As a first step in discharging this responsibility MIAC pledges to provide experienced and capable university personnel for the field staff under this contract". To date, not one field technical assistance person has been a staff member of a MIAC university. Poor staff recruitment resulted in two technical assistance personnel having to be removed before providing much tangible output. This resulted in the additional costs of hiring a temporary chief of party and the cost of bringing in new replacement staff. Two of the present MIAC team members were recruited by USAID/Morocco under personal services contracts so that the effects of staffing voids could be lessened.

Examples of other contract provisions which were not acted upon are:

- Evaluations were considered essential to the projects progress and were to be carried out annually. After two years no evaluations were made.
- The team leader, within 45 days of arrival in country, was to prepare a preliminary draft of a five year research program. This draft was never prepared.
- By the end of the first years operation, the contractor in conjunction with the appropriate implementing agency, was to (a) formulate a detailed set of measurable end of project institutional objectives with respect to structure, location, staffing, research capabilities and coordinating mechanism for the agronomic research and extension activities, and (b) lay out a five year research program with respect to various research topics, objectives of each effort, methodologies, timetables and budget estimates. These two critical requirements for project success were not complied with.

- An annual report covering project progress, major accomplishments and shortfalls was to be submitted by September 1981. As of June 1982, this report had not been received by USAID/Morocco.
- The contract required resident staff members to be able to read and speak French at the FSI-2 level prior to their arrival in Morocco. Funds were also provided under the contract for this training. Nevertheless, the chief of party arrived in Morocco without French language proficiency.

Part of the difficulties in fulfilling contract provisions and subsequently evaluating how well they were executed stems from the lack of precision in the contract's operational plan. The statement of work in the contract was vague, and only required the team members to collaborate with the GOM in the establishment and operation of the research program and the related extension information activities. The contract doesn't define the responsibilities of the contract team as far as carrying out research, establishing a soils lab, training counterpart personnel, etc. It is a vague attempt at establishing a contractual relationship without any detailed performance requirements other than the preparation of work plans and reports. Note that this contract was negotiated and awarded to MIAC by AID/Washington on a sole source basis.

Contractor performance and hence project progress could probably have been improved if USAID/Morocco had more aggressively enforced contract provisions. Too many shortfalls in executing contract provisions were occurring which should have prompted strong action by USAID/Morocco in an attempt to get the project back on a proper course. Additionally, good project management should have amended the contract when provisions appeared to be unrealistic, out of date, or in need of clarification. Lack of enforcement of certain contract provisions can lead to a laxity in the manner in which the contractor implements other contractual requirements.

#### Conclusion and Recommendation

MIAC has not satisfactorily met all their contractual obligations. USAID/Morocco did not aggressively attempt to ensure that these obligations were met. Additionally, the contract scope of work needs to be more specific concerning the roles and responsibilities of the contract team for executing the various project components.

#### Recommendation No. 4

USAID/Morocco (a) in coordination with M/SER/CM, amend the scope of work of the MIAC contract to clearly and precisely define responsibilities and establish new timeframes for submission of research workplans, performing evaluations, submitting annual

reports, etc., and (b) adopt an aggressive monitoring plan to ensure that the amendment provisions and timeframes are adhered to.

#### Project Funds Used For Non-Project Training

Project funds were used to finance short term training in the United States which, in our opinion, was not project related. The GOM requested, and MIAC approved, a training course for two people which addressed grain storage and marketing. We feel this training has no relationship to dryland research or food production.

This training course addressed grain marketing and handling facilities -- their management, operation and equipment, with emphasis on quality control of marketed grain. The dryland project focuses on aspects of the production system used by the dryland farmers. By the most liberal view point, we cannot see how this course relates to the project purpose, goal or any related project activity. The MIAC contract authorized short term training in "plant pathology, entomology, agriculture development, etc.." This course clearly does not relate to these cited topics, and we don't feel the "etc" should be used as a "catchall" just because a course was available and the Ministry of Agriculture had personnel who wanted to attend. Furthermore, the students were not employed by INRA, the GOM agency being assisted by the grant and having overall responsibility for dryland research.

#### Conclusion, USAID/Morocco Comments, and Recommendation

Funds were spent under the MIAC contract for training in the United States which did not relate to dryland research or food production. This training was sponsored and approved by USAID/Morocco; therefore, we are not recommending that a bill of collection be issued to MIAC.

In response to our draft report, USAID/Morocco stated:

"While we can hardly object to recommendation No. 5, the premise on which it is based is inaccurate. One of the most important constraints to increased cereal production in rainfed areas in Morocco is lack of adequate grain storage and marketing facilities. This lack causes spoilage losses and prevents timely marketing of grain when prices are most favorable. Participant training in the area of grain storage is specifically mentioned on page 14 of project paper and is fully appropriate to project purpose and goal."

Although the project paper did mention grain storage as a topic for training, we still do not feel grain storage training provides any input to dryland research. In commenting on another section of our draft report USAID/Morocco stated "This is a research project." As such, we feel training should be directly related to dryland research activities. Grain storage might be appropriate and needed; however, it is not within the scope of the dryland research project. We therefore have retained our recommendation.

Recommendation No. 5

USAID/Morocco require the contractor (MIAC) to limit training to that related directly to project activities.

Fly America Act Provisions Not Adhered To

AID project agreements contain a standard provision requiring air travel be performed on American flag carriers. Although the project agreement required the GOM to pay for participant travel, USAID/Morocco agreed to pay for the travel of two participants. Since USAID/Morocco was paying the fare, the travel should have been via American flag carriers.

These two participants returned from the U.S. to Morocco on Royal Air Morocco, a non-U.S. flag carrier. In addition, a MIAC employee also returned to Morocco on the same airline. This violated the Fly American provisions of the project agreement, and the cost of the tickets are not allowable project expenses.

Conclusion and Recommendation

Fly America Act provisions were not complied with.

Recommendation No. 6

USAID/Morocco (a) instruct MIAC to utilize American carriers in the future, and (b) bill MIAC \$1,456 for air travel performed on a foreign carrier from the U.S. to Morocco.

Additional Areas Requiring Management Action

Our review surfaced a few additional areas where project operations could be improved. USAID/Morocco should take action to correct deficiencies pertaining to (a) poor controls over project equipment and spare parts, (b) failure of the GOM to meet commitments, (c) unclear social/economic research studies, and (d) impractical project vehicles.

Internal Controls Over Project Equipment And Spare Parts  
Need To Be Strengthened

Our review of project assets indicated that internal controls over AID provided equipment and spare parts were not adequate. Controls can be strengthened by creating detailed property control records for equipment, and establishing inventory control records for spare parts. Additionally, equipment could be repaired faster and at less cost by having a supply of spare parts on hand.

The MIAC team had a listing of project equipment, but it was not in sufficient detail for us to physically identify many of the items. Inventory control would be strengthened if detailed property control records were created for each piece of equipment. These records should include information such as manufacturer, model type, serial number, date acquired, cost, location, and where it is assigned.

There were no inventory records for spare parts or supplies. Consequently, we could not determine if spare parts purchased for the project were properly accounted for, or whether they had been used for authorized purposes. Inventory records are an essential starting point for asset accountability.

At the time of our review, the project had a very limited supply of spare parts. When parts were needed they were being purchased from local retail suppliers. Equipment repairs could be done faster and at a lower cost if the project increased levels of spare parts.

Conclusion and Recommendation

Accountability over AID provided equipment/spare parts can be strengthened. Equipment repairs can also be more timely and at a lower cost if adequate levels of spare parts are maintained.

Recommendation No. 7

USAID/Morocco ensure that (a) detailed property records are created for project equipment, (b) inventory control records are established for spare parts, and (c) adequate levels of spare parts are maintained.

The GOM Is Not Meeting Project Commitments

The GOM had not provided office space, equipment, counterpart personnel, participants, funds to cover local operating costs, or costs associated with the research programs, as required by the project agreement. MIAC paid for office space, purchased office

equipment to furnish the offices, and hired a secretary to do the typing. In addition MIAC, using AID funds, was paying for office space for INRA's staff, paid the utility and telephone expenses for their office, provided office supplies, and furnished the office equipment. Paying for INRA operating expenses in contrary to the project agreement and the MIAC contract.

MIAC provided all the seed, fertilizer, and in some cases had to hire local personnel to help with their research work. The project agreement stipulates that INRA is to provide the research operating costs.

Until recently the MIAC team worked without any counterpart personnel. To help with technical aspects of the research, MIAC hired a local technician who should have been provided by INRA. In May 1982, INRA finally provided an agronomist, with a masters degree, who had just returned from training under another AID project. Although of value to the team, the agronomist had not been paid in seven months and would not travel with the team because he would have to wait months for reimbursement of travel costs. This greatly reduces his effectiveness.

Only four of 23 candidates for advanced degree training had been sent to the U.S. since signing of the project agreement on August 31, 1978. We were told there are currently 17 undergoing language training for possible selection and acceptance in a U.S. university in 1983. Two others were about to leave for training.

The MIAC team had to provide funds to maintain the AID financed equipment. Often the equipment was out of order or was missing parts such as batteries when the equipment was needed. These costs should be born by INRA. The MIAC team had to operate the tractors, do the planning, etc. because INRA did not provide the needed personnel. The use of research scientists for this type of work is a gross misuse of AID financed technical assistance.

The MIAC team had also paid for other questionable INRA operating costs. For example, MIAC paid approximately \$200 for signs to be placed at the research station. MIAC was paying for INRA copying expense at Settat. MIAC paid over \$3,000 to repair a tractor, over \$1,000 for soils tests, and \$300 for burlaps sacks. All of these are local operating costs of INRA that should not be financed by AID.

In response to our draft report USAID/Morocco stated:

"The finding ignores two very important factors which affect assignment of counterparts and local costs. INRA is a relatively new institution, having been created in Feb. 1982, out of COM Division of Agronomic Research, which was previously responsible for implementing the project. One reason GOM

created an institute out of a Ministerial Division is because under Moroccan Law, higher salaries can be paid to professional employees by an institute. Rationale was that better qualified GOM professionals could be recruited and retained to perform research on cereals. However, legislation establishing INRA has not yet been passed by GOM Parliament. Until such time, salaries for professional, trained personnel are no more attractive than any other division of the Ministry. It has thus been extremely difficult for INRA to hire qualified professionals to work with U.S. counterparts as it competed with other institutes within the Ministry. Secondly MIAC financed many local operating costs because of failure to establish and obtain agreement upon a research plan in time for it to be included within INRA's annual budget to the Ministry of Finance. This request includes local operating costs determined by the research activities at each station. We will seek prompt compliance with actions specified in the recommendation."

#### Conclusion and Recommendation

INRA had not provided the contributions to the project as stipulated in the project agreement. AID funds were used to pay for INRA operating costs in violation of the project agreement and the MIAC contract.

#### Recommendation No. 8

USAID/Morocco work with INRA to ensure that (a) as quickly as possible counterpart personnel are provided, and (b) all future operating costs as stipulated in the project agreement are assumed by INRA.

#### Social/Economic Studies For Project Requires Clarification

The project contained a socio-economic research component, which was to identify and analyze the patterns of technical and economic decisions that dryland farmers make under high risk situations. This research was to be performed by the GOM's Hassan II Agronomic and Veterinary Institute, and was to provide the basis for building effective programs from the results of the agronomic research component. It is questionable whether the studies produced thus far are what is needed to help build effective programs from the research results.

We were not able to identify any scope of work or memorandum of agreement which specified what type of studies were to be undertaken, or what research methodologies were to be employed. Hassan II has completed 13 studies thus far and will probably

produce about 12 more before December 1982. It is uncertain whether these studies are producing the data needed to provide maximum benefit from the agronomic research component.

The Hassan II studies tended to be student thesis for masters degrees, and encompassed several soil surveys as well as a variety of other agricultural related topics. There were no benchmarks or guidelines to determine whether these studies were what was required for the project, other than a few general topics cited in the project agreement. USAID/Morocco recently hired an individual under a personal services contract to review the studies to determine if they contained information which could be useful to the project.

#### Conclusion and Recommendation

USAID/Morocco agreed to finance social/economic studies without specifying, in writing, exactly what was to be produced. It is questionable whether the reports received were what is needed for the project.

#### Recommendation No. 9

USAID/Morocco negotiate a written agreement with Hassan II Agronomic and Veterinary Institute which specifies the nature, scope and methodologies to be employed in any on-going or future studies.

#### Project Requires More Practical Vehicles

The three half-ton pick up trucks purchased by the project were not the most suitable means of transportation for the technical assistance team. These vehicles have high operating costs, run on gasoline (a diesel engine is the most economical/practical engine for Morocco), and are not adaptable for many of the required uses.

Since these are the only project vehicles, they must be used to drive to meetings, for picking up visitors, transporting short term technicians, as well as day to day commuting to project areas located throughout Settat Province. It is estimated that it costs \$60-80 in fuel just to drive to Kabat for meetings (these meetings are held frequently). There is no covered luggage space for picking up visitors, passenger carrying capacity is limited, and there is no secure space for safeguarding tools or equipment when the vehicle is parked.

In our opinion it would be prudent to purchase an economical vehicle which would be practical for handling visitors, attending meetings, and other project business where hard surfaced roads can be used. The savings in gasoline alone would more than pay for the vehicle. This would be especially true if it were done in conjunction with the sale or trade in of one or more of the pick up trucks.

In response to our draft report, USAID/Morocco stated:

"More economical transportation implies purchase of non-U.S. source/origin vehicles at a time when USAID policy is to minimize insurance waivers to this purpose. Furthermore, disposal of current trucks within Morocco highly doubtful because of high operating costs. We are investigating practicality of replacing gasoline engines with diesel..."

Conclusion

The three half ton pick up trucks procured for this project are not a cost effective means of transportation for many project activities. This has been recognized by USAID/Morocco. As they are already taking steps to rectify this situation, we are not making a recommendation.

List of Recommendations

	<u>Page</u>
<u>Recommendation No. 1</u>	5
PPC/PDPR (a) explore methods of building a stronger mechanism into project design to ensure that host governments furnish qualified personnel before technical assistance teams are brought on board, and (b) issue policy guidance to USAIDs for the timely termination or delay of projects whose success depend heavily on the training of personnel, when such personnel are not furnished as planned.	
<u>Recommendation No. 2</u>	7
USAID/Morocco work with INRA to prepare a five year research plan, as specified in the project agreement, that incorporates MIAC technical assistance into project activities.	
<u>Recommendation No. 3</u>	7
USAID/Morocco work with the MIAC team and INRA to develop a plan for activating the extension activities component of the project.	
<u>Recommendation No. 4</u>	9
USAID/Morocco (a) in coordination with M/SER/CM, amend the scope of work of the MIAC contract to clearly and precisely define responsibilities and establish new timeframes for submission of research workplans, performing evaluations, submitting annual reports, etc., and (b) adopt an aggressive monitoring plan to ensure that the amendment provisions and timeframes are adhered to.	

Recommendation No. 5 11

USAID/Morocco require the contractor (MIAC) to limit training to that related directly to project activities.

Recommendation No. 6 11

USAID/Morocco (a) instruct MIAC to utilize American carriers in the future, and (b) bill MIAC \$1,456 for air travel performed on a foreign carrier from the U.S. to Morocco.

Recommendation No. 7 12

USAID/Morocco ensure that (a) detailed property records are created for project equipment, (b) inventory control records are established for spare parts, and (c) adequate levels of spare parts are maintained.

Recommendation No. 8 14

USAID/Morocco work with INRA to ensure that (a) as quickly as possible counterpart personnel are provided, and (b) all future operating costs as stipulated in the project agreement are assumed by INRA.

Recommendation No. 9 15

USAID/Morocco negotiate a written agreement with Hassan II Agronomic and Veterinary Institute which specifies the nature, scope and methodologies to be employed in any on-going or future studies.

APPENDIX B

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