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REDSO/WCA

# PROJECT ASSISTANCE COMPLETION REPORT

FOR

# MAURITANIA AGRICULTURAL RESEARCH II PROJECT

(682-0957)

Date of Report: July 1993 PACD: June 30, 1991

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# PROJECT ASSISTANCE COMPLETION REPORT

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**PACD: June 30, 1991**

## I. INTRODUCTION

The Mauritania Agricultural Research II Project (AgRes II) was originally designed as a regional effort to be managed under the auspices of the Organisation pour la Mise en Valeur du Fleuve Senegal (OMVS). Its purpose was to develop and strengthen agricultural research capacities in the Senegal River Valley (SRV) through a combined enterprise with Senegal, Mali and Mauritania. This project was not implemented as envisioned.

Instead, separate bilateral projects were adopted in the three countries, and Mauritania AgRes II emerged as an institution-building effort in direct support of the National Agricultural Research Center (CNRADA) in Kaedi. The Project Paper (PP) proposed that a strengthened CNRADA would benefit the SRV through the implementation of adaptive agricultural research

The project, which began on August 22, 1984, through a Grant Agreement between USAID and the Government of the Islamic Republic of Mauritania (GIRM), targeted: providing technical support to CNRADA; developing a National Research Plan; conducting studies; strengthening regional coordination among other research and development agencies; and improving the technical and professional capacities of the CNRADA. To accommodate clarifications of these objectives, the Agreement was amended three times on February 7, 1985; March 9, 1986; and August 30, 1988.

Results of AgRes II were hoped to have profound social implications. Through the identification of higher-yielding food varieties and the development of more efficient farming practices, the project's goal was to promote food security, reduce the country's food deficit, and thereby improve the livelihood of the nation's poor. However, AID/Washington's decision in January 1990 to phase-down OAR/Nouakchott development activities curtailed long-term project plans.

AgRes II made a considerable contribution to strengthening Mauritania's research capacity. Some project accomplishments included: a five-year National Research Plan was created; linkages were strengthened with other national research agencies; CNRADA's research and administrative staff received technical and professional training; on-station and on-farm tests were performed; and surveys and studies were conducted in the SRV.

Coupled with the successful outputs were project difficulties. The mid-term report of October 1988 and the final report of February 1990 highlighted the following: when CNRADA's top researchers were sent to the U.S. for training, this left an inexperienced, skeleton crew to work with the technical assistance team; the project design inaccurately assumed that qualified Mauritanian expertise was in an abundant supply; the research facilities were not fully-functional; inconsistencies in the project objectives as defined in various implementation documents caused confusion; and, the amount of planned outputs was found to be overly optimistic and not completely feasible with the existing resources. Following the mid-term evaluation, the Office of the AID Representative in Nouakchott (OAR/Nouakchott) commissioned two REDSO/WCA consultants to advise on the situation.

Field operations were ceased on May 31, 1990. A PACD extension was granted from the original date of August 30, 1990, until June 30, 1991, to allow for the return of long-term training participants from the United States to Mauritania. This extension was supported by REDSO/WCA after it conducted a project assessment in October 1988. This extension also allowed the CNRADA to handle its operations independently.

## II. CONTRIBUTIONS OF THE PARTIES

Individual contributions of the GIRM and USAID are outlined below.

### GIRM

Under the terms of the Project Agreement, the Mauritanian government committed the equivalent of $375,000 as an "in-kind" contribution to the project, which included the use of PL 480 counterpart funds. This contribution comprised the salaries of CNRADA personnel assigned to the project and other CNRADA services related to the project. The GIRM consented to provide qualified counterparts to work on the project in training and administrative capacities.

Also, the GIRM provided all necessary resources not specifically designated as the responsibility of another party; and it granted the technical assistance contractor and OAR/Nouakchott tax exoneration on materials and equipment required for the project. A further stipulation in the Project Agreement committed the GIRM to pay a commensurate salary to the CNRADA researchers given long-term training in the U.S. upon their return to Mauritania.

### AID

USAID funded the AgRes II through a grant to the GIRM. AID had originally committed $3,820,000 to be disbursed in $500,000 increments. This was amended in February 1985 to reflect an increase in funds required for operating costs and contractor support. The $1,460,000 added at that time created a new LOP total of $4,210,000.

These funds were allocated for technical assistance services, training, lab and field equipment, commodities, construction, observational tours, and certain limited CNRADA operating expenses to support project activities. Such operating expenses included a portion of CNRADA's costs for office supplies, utilities, communication, vehicle and building maintenance, and fuel and oil. The funds also covered some foreign exchange and local currency costs.

**Other Contributors**

Personnel support was provided to help conduct farmer surveys for the research component of the project by organizations including the Peace Corps, the Kaedi Agricultural School, the Nature Protection Service, and the Regional Inspection of Agriculture.

## III. IMPLEMENTATION

The GIRM's Ministry of Rural Development served as the implementing agency with authority to sign all project implementation documents. The CNRADA Director served as project manager. The CNRADA's Deputy Director supervised the technical assistance team funded by the project and acted as the liaison to the higher levels of the GIRM. The Deputy Director was responsible for policy supervision and for overseeing all actions by CNRADA and other GIRM personnel associated with execution of the project. The administrative structure was cumbersome, for the Chief of Party for the technical assistance team was forced to obtain concurrence for all actions from the center Director.

OAR/Nouakchott worked closely with the Ministry and provided an Agricultural Research Planner/Economist, an administrative assistant, and a OAR/Nouakchott Assistant Project Officer to the project. The Assistant Project Officer organized and oversaw OAR/Nouakchott's inputs into the project and performed liaison and monitoring functions among the technical assistance contractor and CNRADA. The Supply Management Office of OAR/Nouakchott was responsible for procurement of AID-financed goods.

**Technical Assistance**

The University of Arizona's Office of Arid Lands Studies at Tucson was selected in November 1985 as the technical assistance entity for the duration of the project. It provided 15 person months of technical advice to CNRADA and, in conjunction with the CNRADA staff, designed a long-range research strategy for the center. This document became Mauritania's five-year National Research Plan.

The CNRADA staff conducted the actual research, relying on the technical assistance team for guidance and advice. The university team helped with research in the area of farming systems, and provided training in on-station and on-farm trials. The university team consisted of a long-term Chief of Party/Technical Advisor, a long-term administrative assistant, and several short-term specialists.

This team helped establish a system to handle administrative, logistical and procurement activities that incorporated accounting and fiscal controls. This system served as a model for the development of CNRADA's financial and administrative procedures. Quarterly progress and status reports identified the principle project activities completed and included an update of previous reports. Semi-annual reports were prepared covering all activities not included in the quarterly reports. Annual work plans defined the center's objectives, set a time-frame and budget, and designated areas of responsibility for the upcoming year's activities. It was envisioned that the University of Arizona's involvement would foster a long-term relationship with CNRADA.

AID, CNRADA and the GIRM collaborated to achieve the following planned outputs:

1. Establish a research system including the development of a research strategy to serve as the basis for a National Research Plan.

2. Train Mauritanian researchers at the BS and MS levels, arrange third-country and U.S. training for Mauritanian research assistants, and allow other GIRM field staff to benefit from in- country training and seminars.

3. Strengthen the regional research system by integrating national research agencies.

4. Conduct on-farm trials of improved technology.

**Commodities**

Following the project close-out, all project commodities were inventoried and signed-off as received by CNRADA. According to the final project report, a contractors property report was completed, reconciled, signed and verified.

**USAID Financial Inputs**

A summary of project financial reports as of June 30, 1993 indicated the following:

| LOP funding | Oblg. to date | Expenditures to date |
|---|---|---|
| $4,210,000 | $4,024,248 | $3,987,008 |

Of the total project funds, $4,024,248 has been obligated and disbursed as of June 30, 1993. Unused project funds have been deobligated.

## IV. ACCOMPLISHMENTS OF PROJECT OBJECTIVES

Project evaluations noted that AgRes II had made notable progress in agricultural research institution-building and in strengthening Mauritania's research capacity. One added that the introduction of the adaptive research strategy based on the farming systems research approach served as a strong foundation for future advancements.

These accomplishments came at a critical time for Mauritania. The recent droughts had caused a considerable reduction in livestock and crop production. This forced Mauritania to become more dependent on food aid, in the amount of 100,000 tons per year. Even after rainfalls resumed, total cereal production in 1988 only satisfied 45 percent of the national food need. The challenge facing the GIRM was the immediate need for increased agricultural production that could be sustained without large government subsidies.

The GIRM also had to contend with environmental degradation in the SRV, and in particular, the deforestation caused by farmers cutting wood to produce charcoal as an income source. The results of a project-funded study of this problem laid a solid groundwork for the GIRM's efforts to enhance food security.

### Surveys and Studies

Numerous reconnaissance and thematic studies were completed under the project, which provided useful data on different farming systems in the SRV. Fourteen farming systems surveys were completed. Two promising varieties of sorghum were identified and a germplasm collection was established. Sesame was tested at the research station for its cash crop potential. Thirteen more studies of the SRV yielded descriptive data on farming systems, ecology, technology, food consumption, nutrition, and women.

### On-Station and On-Farm Tests

On-station and on-farm tests of rain-fed and recessional grain crops did not produce the anticipated results. Evaluators surmised that poor planning and inadequate funding contributed to the disappointing results. Most of tests never reached term. In one instance, a 1988 sorghum trial in Djadjibini required the farmers to serve as unpaid labor. Though the test was researcher-managed, the actual operation was not given methodical attention, and project evaluators questioned the validity of the test results.

### Training

To upgrade the technical and professional skills of the CNRADA staff, the technical assistance team identified long-term training for seven of CNRADA's top researchers. The Center's most experienced researchers were sent to the University of Arizona' s U.S. campus. Five received B.S. training and two studied at the M.S. level. They did not graduate until the end of the project, and their absence caused a significant gap in the center's ability to process research results. During the life of the project, the technical assistance team had provided 42 person-months of short-term training in third country and in-country-training of research assistants.

The $788,400 budget for training also benefitted remaining staff members. Six researchers received short-term training; CNRADA personnel participated in international conferences and six researchers presented their findings; six in-country workshops and seven study tours were organized; secretaries were taught word processing; and on-the-job training was provided in surveying, measuring, reporting, observing, and experimental designs.

**Five-Year National Research Plan**

A five-year National Research Plan was developed by the TA team and the CNRADA staff. It provided a long-term research plan to help the GIRM improve and sustain its food production capacity.

The plan used an interdisciplinary approach called farming systems research, which examined the interactions within the complete farm rather than individual research elements. It took into account concerns such as farmer's greatest constraints and the GIRM's development objectives. Prior to the project's close-out, a final draft of this report was distributed to appropriate officials at the GIRM, OAR/Nouakchott, and CNRADA.

**Linkages**

Linkages were increased and strengthened among other Mauritanian research facilities and international research agencies and CNRADA. The three levels collaborated in farming systems surveys, sponsoring joint visits, and sharing research and technologies. The nurturing of these linkages enhanced CNRADA's international recognition.

**CNRADA Facilities**

The CNRADA research facilities were expanded with the addition of four AID-financed buildings. They were constructed under a contract arranged by the GIRM's Ministry of Equipment, using a private Mauritanian firm that had produced other complex facilities for a separate donor, the French Foreign Assistance Agency. Funding was through a $200,000 fixed amount reimbursable arrangement. The French Foreign Assistance Agency helped coordinate the construction. CNRADA, however, was not satisfied with construction performance. The quality was below expectations and construction was completed two years behind schedule.

Other center structures were physically deteriorated and not considered fully-functional for research activities. A grant from Mauritania's Food Security Commission was used to restore the other important buildings.

## V. LESSONS LEARNED

Project evaluations closely examined the difficulties that arose during project implementation. Some of these are cited to assist future agricultural research project designers.

1. The rate and quality of implementation of the project was hampered by a lack of qualified expertise, which project designers mistakenly assumed would be available in Mauritania. This shortage was exacerbated by CNRADA's top researchers' participation in the U.S. training and the GIRM's late provision of counterpart expertise.

2. Technical Assistance skills were not utilized to the fullest advantage. In this project, the TA was slated to play an advisory and training role. However, even when it became evident that the lack of project researchers would affect implementation, the TA team's role remained unchanged. This forced the TA team to spend a large amount of time on major administrative matters. As a result, the team was unable to fulfill the objectives of the project. The CNRADA staff was comprised of junior staff members who required constant guidance and supervision. Project evaluators suggested that this situation could have been averted had the TA's role been revised to emphasize implementation rather than advising. A second option involved shortening the long-term training, to return some of the most crucial researchers earlier.

3. The LOP did not provide adequate time to build CNRADA into a strong research institution. This was considered to be a long-term goal, not one that could be achieved within AgRes II's relatively short LOP. The extensive trials and studies involved elements that required long-term monitoring. The phase-down of OAR/Mauritania operations negated the possibility of extending the PACD any further. Project evaluators stated that additional time could have enabled CNRADA and the TA team to produce more extensive results.

4. The reliability of some of the project's on-station and on-farm tests were questioned by program evaluators. The reports noted that some tests were implemented under unsatisfactory conditions due to poor planning, hasty site selection, irregular monitoring, and questionable data collection and analysis. The final evaluation report attributed this to the project's attempt to conduct too many tests in too large a geographic realm without the necessary expertise.

5. AgRes II's operating budget was considered insufficient to support an acceptable adaptive research program. The GIRM's budget allocation to CNRADA was expended on salaries and operational expenses, leaving few resources for the research programs. The design team had assumed that CNRADA's budget would be used to maintain the research stations and to support the envisaged on-farm and on-station programs. In reality, however, funding was not available to support the extensive trial programs that had been attempted in the 1986-1988 growing seasons. Evaluators noted that the lack of funding ultimately affected the credibility of the results.

6. The centralized administrative structure of CNRADA impeded coordination and caused delays in implementation. CNRADA's Director retained control over all daily decisions in management and expenditures. There was no delegation and minimal coordination between divisions. A Management Audit recommended that a budgeting system be established which would control the Director's indiscriminate and inconsistent funding approvals. The Director did not support the concept, and the administrative structure was never rectified.

7. Despite the project's efforts to improve CNRADA's administration, personnel and financial management, the GIRM had not responded to early requests for program support. The GIRM did, however, assign two researchers and a documentalist at the end of the project. Program evaluators recommended that the GIRM's commitments be enforced earlier in project implementation.