

CLASSIFICATION
PROJECT EVALUATION SUMMARY (PES) - PART I

Report Symbol U-447

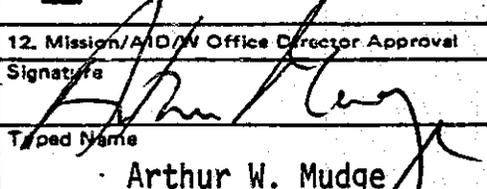
1. PROJECT TITLE Western Sudan Agricultural Research Project	2. PROJECT NUMBER 650-0020	3. MISSION/AID/W OFFICE Agriculture 194
4. EVALUATION NUMBER (Enter the number maintained by the reporting unit e.g., Country or AID/W Administrative Code, Fiscal Year, Serial No. beginning with No. 1 each FY) 83		
<input checked="" type="checkbox"/> REGULAR EVALUATION <input type="checkbox"/> SPECIAL EVALUATION		

5. KEY PROJECT IMPLEMENTATION DATES A. First PRO-AG or Equivalent FY <u>78</u> B. Final Obligation Expected FY <u>82</u> C. Final Input Delivery FY <u>87</u>	6. ESTIMATED PROJECT FUNDING A. Total \$ <u>50,000,000</u> B. U.S. \$ <u>25,999,826</u>	7. PERIOD COVERED BY EVALUATION From (month/yr.) <u>Sept 30, 1978</u> To (month/yr.) <u>Sept 30, 1982</u> Date of Evaluation Review
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8. ACTION DECISIONS APPROVED BY MISSION OR AID/W OFFICE DIRECTOR

A. List decisions and/or unresolved issues; cite those items needing further study. (NOTE: Mission decisions which anticipate AID/W or regional office action should specify type of document, e.g., airgram, SPAR, PIO, which will present detailed request.)	B. NAME OF OFFICER RESPONSIBLE FOR ACTION	C. DATE ACTION TO BE COMPLETED
The Team recommends that: - WSARP establish close linkages and informational exchanges with ARC in matters of administration, finance, and technical procedures. - Project administration begin immediately to identify and recruit scientists, technicians, and operational support staff for all stations. - Project management establish a regular schedule for the aircraft. - The dual role of Deputy Director and Chief of Party be clarified to the technical assistance staff. - The Research Program be revised and modified to identify possible interventions that can be carried out in the 1983-84 season on farmers' fields, that management options be left open to farmers, and formal data is supplemented by farmers assessments of intervention cost-benefit ratio.	Riley - WSARP Dafalla - WSRP Bakheit - ARC Dafalla & Owens Project Director Dafalla Chief of Party G.Owens Kadugli Team: Bunderson Cook Gingrich Patrick Teitelbaum	In process In process Completed December 1982 Completed April 1983 Completed April 1983

9. INVENTORY OF DOCUMENTS TO BE REVISED PER ABOVE DECISIONS <input type="checkbox"/> Project Paper <input type="checkbox"/> Implementation Plan e.g., CPI Network <input type="checkbox"/> Other (Specify) _____ <input type="checkbox"/> Financial Plan <input type="checkbox"/> PIO/T <input type="checkbox"/> Logical Framework <input type="checkbox"/> PIO/C <input type="checkbox"/> Other (Specify) _____ <input type="checkbox"/> Project Agreement <input type="checkbox"/> PIO/P	10. ALTERNATIVE DECISIONS ON FUTURE OF PROJECT A. <input checked="" type="checkbox"/> Continue Project Without Change B. <input type="checkbox"/> Change Project Design and/or <input type="checkbox"/> Change Implementation Plan C. <input type="checkbox"/> Discontinue Project
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11. PROJECT OFFICER AND HOST COUNTRY OR OTHER RANKING PARTICIPANTS - AS APPROPRIATE (Names and Titles) J. Turk, Project Manager, USAID Dafalla Ahmed Dafalla, Project Director, WSARP Mohamed Bakheit, Director General, ARC	12. Mission/AID/W Office Director Approval Signature:  Typed Name: Arthur W. Mudge Date: June 25, 1983
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ACTION MEMORANDUM TO THE DIRECTOR

DATE: May 26, 1983

FROM: J. Turk, Project Officer, WSARP

PROBLEM: Your approval is required on the attached Project Evaluation Summary (PES) for its distribution to AID/W and REDSO

Background: The Western Sudan Agricultural Research Project (650-0020) was evaluated in November, 1982 by representatives of the GOS IBRD, and AID. The purpose of the Evaluation was to assess the progress of the project in relation to planned targets, review project design in relation to current Mission and GOS strategy, and provide recommendations to improve project implementation.

The final evaluation report has been distributed to project administrators, scientists, the ARC, and USAID. A Project Evaluation Summary has been completed and is attached for your review.

Summary of Evaluation

As is standard, Part I provides a list of recommendations, for this project numbering 24 pertaining to project integration with ARC, project management and support, the research programs, and administration.

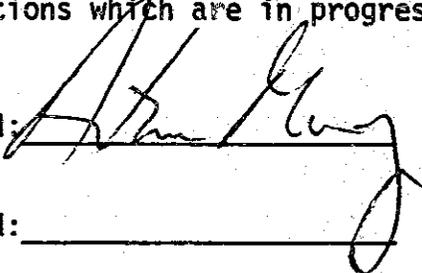
Part II of the PES gives a brief summary of the project, the evaluation methodology, external factors affecting the project, describes beneficiaries, and relates lessons learned. A list of attachments completes the section.

Annex A is a standard Evaluation Summary required by the Africa Bureau. It is a list of ten questions and answers regarding technology transfer.

Annex B is the Evaluation Report. Annex C and D are the Construction Evaluation and the Research Work Plan, both too bulky to include in the PES.

In general the Evaluation Team responded positively to the project. They listed 24 recommendations and cited the lack of experienced, qualified Sudanese staff at all levels as the major constraint to the project's success. The second constraint cited is a lack of a station maintenance plan for repair of vehicles, equipment and facilities.

The 24 recommendations were distilled to five major issues. All but two of these have been completed. The remaining ones are long-term actions which are in progress.

Approved: 

Disapproved: _____

Date: June 25, 1983

SUMMARY

Current progress of WSARP includes the completion of one research station and the start of the agricultural research program at that station in four disciplines - livestock production and health, crop production, range ecology, and socio-economics. Construction of the remaining three stations has been delayed due to insufficient firewood to fire bricks, drought, and fuel for transporting imported construction materials. The prospects of achieving the purpose and goal in the life of the project are very good. Refer to Annex B, iii - iv for details for current project situation.

14. Evaluation Methodology

The evaluation was conducted to assess the progress of the project to date and to improve project implementation. Page 2-4 Annex B describes methods of the evaluation in detail.

15. External Factors

Expressing great concern for environmental destruction and encroaching desertification, the Regional government in El Obeid banned the cutting of green firewood near the project site. The lack of such has hindered brick-making and elevated the constructor's construction costs. Refer to Annex B page 32 part VI for details.

16. Inputs

Technical services and training are on target. Refer to pp. 10-12 Annex B for details.

17. Outputs

Progress to date: In terms of research, activities are on schedule at the Kadugli station. As other stations are still under construction, research is only starting at El Obeid. Sudanese scientists are in training and employed at the Kadugli research station. Refer to p. 6, Annex C. Vol. III Part A and part B, p. 99-100 (same volume) for details.

18. Purpose

The project will increase the capability of the Sudanese Agricultural Research Corporation (ARC) to develop and test improved production systems that conserve and rehabilitate natural resources. Refer to Annex B page 35 for progress toward EOPS.

19. Goal

To increase agricultural and livestock production from, and improve the standard of living of subsistence farmers and pastoralists in, the arid and semi-arid areas of Sudan. Annex B page 35 addresses this point.

20. Beneficiaries

The beneficiaries of this project are sedentary farmers, transhumant, and nomads in the Kordofan and Darfur provinces of Western Sudan. These

beneficiaries are small - farm, labor intensive agricultural populations. See Annex C pp. 32-34, Vol. III of the Work Plan and Vol I. Part A. pp 31-49 for detailed descriptions of beneficiaries.

21. Unplanned Effects - Not pertinent at this time.

22. Lessons Learned

As the project is developing as an integral part of the well established ARC, follow-on to WSARP would be an expansion of the foundation laid by this project. By strengthening the capabilities of the ARC, any new project must serve the ARC's efforts in other areas of Sudan. Reference p. 34, Annex B for details.

23. List of Attachments

Annex A - Africa Bureau Executive Summary

Annex B - Evaluation Team Midterm Report (January 24, 1983) 44 pages

* Annex C - Construction Evaluation (Nov. 1982) 40 pages

* Annex D - Research Work Plan (240 pages)

* These documents are considered integral parts of the evaluation. They are not included in this PES for reasons of bulk and volume. They may be viewed at the following locations:

- USAID/Sudan Agriculture Office
- Washington State University, Office of International Development
- Agriculture Research Corporation WSARP Office, Khartoum, Sudan.

AFRICA EVALUATION SUMMARY

PREPARED BY: Joyce Turk, USAID/Sudan, Project Officer, Agriculture

DATE: 30 April 1983

PROJECT: Western Sudan Agricultural Research Project
650-0020

COUNTRY: Sudan

ESTIMATED
FUNDING: US\$ 51,000,000 (USAID \$ 26,000,000)

ESTIMATED PROJECT COMPLETION DATE: 1987

Q. I. WHAT CONSTRAINTS DOES THIS PROJECT ATTEMPT TO OVERCOME AND WHOM DOES IT CONSTRAIN?

The purpose of the Western Sudan Agricultural Research Project (WSARP), approved September 30, 1978, for \$26,000,000 is to increase Sudan's capability to develop and test improved agricultural production systems for sedentary farmers and pastoralists in Western Sudan. The institution supported by this project is the Agricultural Research Corporation (ARC), a semi-autonomous organization responsible for planning and implementing agricultural research in Sudan.

Through this project the Agricultural Research Corporation (ARC) is addressing the problems of land degradation due to overstocking and overgrazing, range burning, and poor agronomic practices; live-stock production - poor nutrition and diseases; crop production - low yields, poor seed germplasm, poor soil fertility. This project attempts to overcome socio-economic constraints to crop and livestock production through a farming systems approach to research. The beneficiaries are sedentary farmers, transhumants, and nomads.

Q. II. WHAT TECHNOLOGY DOES THE PROJECT PROMOTE TO RELIEVE THIS CONSTRAINT?

This project provides for the introduction and field testing of improved agronomic and livestock husbandry practices. These include crop rotations with legumes or forages, development of disease resistant and drought tolerant cultivars, seed dressing, and crop screening trials; supplemental livestock feeding trials, evaluation of ectoparasite burdens, controlled grazing trials, and range resource evaluations.

Q. III. WHAT TECHNOLOGY DOES THE PROJECT ATTEMPT TO REPLACE?

The project attempts to identify the constraints to production systems through diagnostic surveys, on-farm and on-station research trials, and extension to farmers. The intended beneficiaries are subsistence farmers who burn rangeland, monocrop on nutrient poor soil, and harvest low yields due to poor seed germplasm. The livestock producers benefit little from limited available animal health products, poor and inadequate forages, and unimproved husbandry practices. This project proposes to introduce improved seed germplasm, crop rotations, and animal management techniques which will allow the nomads to produce healthier livestock, and the sedentary farmers and transhumants to increase their yields of traditional crops.

Q. IV. WHY DO PROJECT PLANNERS BELIEVE THAT INTENDED BENEFICIARIES WILL ADOPT THE PROPOSED TECHNOLOGY?

Under this project, most of the direct beneficiaries will be those benefiting from the field testing of technologies developed and adapted. Because of these crucial steps, technologies will not be extended until they have been determined to be economically, technically and socially feasible, as well as readily acceptable to potential consumers. Under FSR, farmers should be active partners in carrying out trials of new varieties and agronomic/livestock production practices.

Implementation of the improved agronomic and livestock husbandry techniques will provide for larger yields of traditional crops, healthier livestock, and greater opportunity to market the produce.

Q. V. WHAT CHARACTERISTICS DO INTENDED BENEFICIARIES EXHIBIT THAT HAVE RELEVANCE TO THEIR ADOPTING THE PROPOSED TECHNOLOGY?

Nomads seek veterinary care and updated information on livestock husbandry. Sedentary farmers and transhumants request improved seed stock, and purchase fertilizers and herbicides when money and stock is available. They will only adopt devices developed by ARC-WSARP if these devices are economically and technically sound.

Q. VI. WHAT ADOPTION RATE HAS THIS PROJECT OR PREVIOUS PROJECTS ACHIEVED IN TRANSFERRING THE PROPOSED TECHNOLOGY?

At this point in the project, most of the technologies are still at the stage of prototype development. However, experience from other projects of this type has shown that the diffusion of many improved agricultural technologies proceeds at a slower pace than anticipated and that these technologies can be expected to make only a partial contribution to increasing crop yields and livestock offtake rates.

Primary constraints have included:

1. under-emphasis of field testing;
2. the time required for determination of economic feasibility and social acceptability, and
3. the limited marketing and extension infrastructure as in most African countries.

Q. VII. WILL THE PROJECT SET IN MOTION FORCES THAT WILL INDUCE FURTHER EXPLORATION OF THE CONSTRAINT AND IMPROVEMENTS TO THE TECHNOLOGICAL PACKAGE PROPOSED TO OVERCOME IT?

Through continuing prototype development and field-testing, the project does promote the eventual identification of cost-effective reliable and socially acceptable production technologies. The Agricultural Research Corporation staff is highly motivated, and the national commitment to the development of farming systems production is likely to continue. The Agricultural Research Corporation has established links through the Western Sudan Agricultural Research Project with other international agricultural organization, such as ICRISAT, IITA, ILRAD, ILCA, INTSORMIL, and CIMMYT. The project will include further research into minimizing constraints to production by integrating the inputs to achieve maximal production yields.

Q. VIII. DO PRIVATE INPUT SUPPLIERS HAVE AN INCENTIVE TO EXAMINE THE CONSTRAINT ADDRESSED BY THE PROJECT AND COME UP WITH SOLUTIONS?

Private input suppliers are encouraged to address the production constraints identified by the project and to recommend solutions. These constraints are poor genetic stock of crops and livestock, crop pests and diseases, poor animal health and nutrition, low soil fertility, and inefficient land and water use management and cultural practices. Private enterprise is being emphasized in the country's national development plan. The suppliers have a ready market for animal health products, fertilizers, improved seed, etc.

However, effective marketing by input suppliers is constrained by the difficulty of reaching potential user markets, partly because of limited national transportation and communication infrastructure. Emphasis on strengthening national radio communication might help to open up rural markets for urban manufacturers and importers.

The limited availability of credit institutions in Sudan also constrains both the establishment of manufacturers and the ability of rural and urban users to purchase some technologies. Additionally, credit institutions must be assured that their investment does not involve an unacceptable level of risk.

Q. IX WHAT DELIVERY SYSTEM DOES THE PROJECT EMPLOY TO TRANSFER THE NEW TECHNOLOGY TO INTENDED BENEFICIARIES?

The project does not specifically aim at the transfer of production technologies, but at the further development of farming systems already in place. However, the project will employ agricultural extension to deliver the technology to the target beneficiaries. Extension agents will transfer improved agricultural technologies via community leaders, sheikhs, tribal leaders, etc. The project does plan to use private input suppliers as a means of diffusing research information and technologies. The evaluation team recommends placing a minimum of three production specialists on each station to facilitate technology transfer.

Q. X. WHAT TRAINING TECHNIQUES DOES THE PROJECT USE TO DEVELOP THE DELIVERY SYSTEM?

The project uses participant training for post graduate and non-degree training. The trainees possess an undergraduate degree in a specific discipline related to the position they will fill on the project. As yet research has not reached a stage for effective extension. A new Mission activity has been proposed that would focus on extension and methods of delivery. It is planned to integrate with this project at the research station where infrastructure is strongest and where research has progressed to a point of extension.

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