

PD BBA 843

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CLASSIFICATION
PROJECT EVALUATION SUMMARY (PES) -- PART I

Report Symbol U-447

1. PROJECT TITLE Sahel Water Data Network & Management	2. PROJECT NUMBER 625-0940	3. MISSION/AID/W OFFICE USAID/Niger
	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) <u>683-85-06</u>	
<input checked="" type="checkbox"/> REGULAR EVALUATION <input type="checkbox"/> SPECIAL EVALUATION		

5. KEY PROJECT IMPLEMENTATION DATES			6. ESTIMATED PROJECT FUNDING	7. PERIOD COVERED BY EVALUATION	
A. First PRO-AG or Equivalent FY <u>82</u>	B. Final Obligation Expected FY <u>87</u>	C. Final Input Delivery FY <u>89</u>		A. Total \$ <u>7,000,000</u>	B. U.S. \$ <u>7,000,000</u>

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, PID, which will present detailed request.)	B. NAME OF OFFICER RESPONSIBLE FOR ACTION	C. DATE ACTION TO BE COMPLETED
1. Procure additional data processing equipment	USAID	June 1986
2. Conduct compliance audit on past NOAA participation	AID/W	June 1986

9. INVENTORY OF DOCUMENTS TO BE REVISED PER ABOVE DECISIONS			10. ALTERNATIVE DECISIONS ON FUTURE OF PROJECT	
<input type="checkbox"/> Project Paper	<input type="checkbox"/> Implementation Plan e.g., CPI Network	<input type="checkbox"/> Other (Specify) _____	A. <input type="checkbox"/> Continue Project Without Change	
<input type="checkbox"/> Financial Plan	<input type="checkbox"/> PIO/T	<input type="checkbox"/> Other (Specify) _____	B. <input type="checkbox"/> Change Project Design and/or	
<input type="checkbox"/> Logical Framework	<input type="checkbox"/> PIO/C		<input type="checkbox"/> Change Implementation Plan	
<input type="checkbox"/> Project Agreement	<input type="checkbox"/> PIO/P		C. <input checked="" type="checkbox"/> Discontinue Project	

11. PROJECT OFFICER AND HOST COUNTRY OR OTHER RANKING PARTICIPANTS AS APPROPRIATE (Names and Titles)		12. Mission/AID/W Office Director Approval	
GDO, Dennis Panther, Project Officer		Signature _____	
GDO, Dayton Maxwell, General Development Officer		Typed Name _____	
PDO, Clinton Doggett, Project Development Officer		Peter Benedict, Director	
AGRHYMET, C. Boucar Coly, Project Director		Date <u>2/7/86</u>	

Executive Summary

I. Project Title and Number: Sahel Water Data Network & Management (625-0940)

II. Project Description and Development Problem

The Sahel Water Data Network & Management Project was originally authorized by AID in 1976 as the U.S. vehicle for participation in the multi-donor, multi-national AGRHYMET Program. The AGRHYMET Program came about as a result of a resolution passed by the Permanent Inter-State Committee for Drought Prevention in the Sahel, generally known by its French acronym "CILSS." The goal of the AGRHYMET Program is to increase food production in the Sahel through the provision of timely and relevant agrometeorological and hydrological data and information to development planners, food producers (farmers and herders) and other users. The Program was conceived as a three phase effort, as follows:

Phase I: Strengthening of national agrometeorological, hydrological 1975-1981 and meteorological networks and creation of an AGRHYMET Regional Center (ARC).

Phase II: Development of basic operational activities 1982-1986

Phase III:

Implementation of operational activities through provision of 1987-1991 pertinent data and information to users; progressive assumption of overall responsibility for the Program by CILSS member countries (Burkina Faso, Cape Verde, Chad, The Gambia, Mali, Mauritania, Niger and Senegal), including staffing and financial support; and phasing out of expatriate technical assistance.

The present U.S.-funded portion of the total Phase II effort involves, in addition to USAID, participation by the World Meteorological Organization (WMO) and the National Oceanographic and Atmospheric Administration (NOAA) as implementing agencies.

III. Purpose of Evaluation

The purpose of the evaluation was (a) to examine AID inputs for continuity, completeness and appropriateness; (b) to evaluate progress made by the implementing agencies toward achieving final project objectives; and (c) to outline design issues and make recommendations on steps required to ensure that lessons learned under the Phase II project will be incorporated into design of the third phase activity.

IV. Evaluation Methodology

The evaluation team consisted of Dr. William A. Rutherford (Institutional Analyst/Team Leader), Dr. Dale E. Linville (Agrometeorologist), and Mr. Francis E. Naye (Computer Engineer-Systems Analyst).

The evaluation was carried out during August-September 1985 and used standard methods of appraisal based on guidance contained in AID Handbook 3. These included a review of pertinent literature on program and policy formation, goals, purpose and implementation activities and results throughout the areas covered by the program.

Written records of the project, AGRHYMET, WMO, NOAA, USAID and other organizations at the regional and national levels, were examined. A series of field visits was carried out in Niger, The Gambia, Senegal, Mali and Burkina Faso by the team. In each country the team held consultations and carried out research with key representatives of the national services for meteorology, hydrology, agriculture, agrometeorology, communications, CILSS, UNDP, FAO, WMO and USAID. NOAA project backstop personnel in Washington were not available for consultation at the time the evaluation began.

V. Findings

- A. The AGRHYMET Program had achieved its basic objective of reinforcing the meteorological, hydrological and agrometeorological national services in the participating countries.
- B. AID's contribution (high-technology data processing and communications equipment and training in the use and maintenance of this equipment) was behind schedule for the following reasons:
 1. National construction has been slow to non-existent.
 2. Countries have been slow to nominate participants and employ them upon their return.
 3. Department of Commerce procurement regulations are strict and time-consuming, resulting in delays.
 4. Technical assistance levels have been insufficient.
 5. Cost overruns have been considerable, creating strain on a budget which is already tightly-programmed as a result of adding Chad and Mauritania to the Program. Training costs have also been much higher than anticipated.

VI. Lessons Learned

The evaluation pointed to a number of areas where lessons generally applicable to other projects may have been learned. First, in complex projects involving a multiplicity of countries and implementing agencies it is vital that responsibilities among the various parties be clearly established at the outset, and adhered to as project implementation unfolds. It is clear from the evaluation report that there had been a significant degree of confusion with regard to the respective responsibilities of WMO, USAID, NOAA and the other donors. There emerged a general consensus that the original PASA executed between AID and NOAA was vague in some respects, most notably in the case of NOAA's responsibility to the project for technical input, and that the PASA should have been recast at some point to reflect changing requirements as they developed.

Second, a regional, multi-donor project as complex (in terms of technology and numbers of actors) and geographically spread (eight countries) as the AGRHYMET project is particularly prone to suffer from lapses in institutional memory caused by staff turn-over. The evaluation team found, for example, that USAID staff in missions outside of Niger were in many cases not well informed about the project. They noted further that oversight by USAID/Niger of the project had also suffered from staff turnover and insufficient record-keeping procedures, not only by USAID but by cooperating institutions and agencies as well.

VII. Recommendations

The major recommendations of the evaluation may be summarized as follows:

- A. Data processing equipment should be upgraded and modernized.
- B. More emphasis should be directed toward achieving the ultimate purpose of the project of delivering useful information to end users.
- C. The NOAA PASA should be re-executed, with responsibilities re-examined and modified to reflect the current situation.

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ACTION MEMORANDUM FOR THE A/DIRECTOR

From: PDO, Clinton Doggett
GDO, Dennis Panther

Subject: Sahel Water Data II (625-0940) Mid-Term Evaluation

Problem: Your approval is required to complete the review and mission commentary on the subject evaluation and to direct subsequent project implementation actions.

Background: A mid-term evaluation of the Sahel Water Data Network and Management II Project was completed in September 1985. The principle objective was to carry out an analysis of overall AGRHYMET program objectives, and to determine the degree to which AID's input under the subject had been appropriate, complete and implemented properly. The evaluation team also made recommendations pertaining to AID's role under a Phase III effort.

Discussion: The mission agrees with the basic observation of the evaluation (Section I-4) that the AGRHYMET Program is making substantial progress toward achieving the national institutional building objectives and is satisfied with the relative progress in the training, computer installation and telecommunication components of the subject USAID project. We are not convinced, however, of the evaluation's observation that the many positive achievements resulting from the overall multidonor AGRHYMET Program will have a significant bearing on the program's goal of increasing Sahelian agricultural production. Nor do we agree with the team's finding (Section I-6) that NOAA was largely responsible for failure to achieve the Phase I and II telecommunication and data processing objectives of the USAID project. The evaluation team did not sufficiently correlate USAID project inputs (through NOAA) with the multilateral funding aspect of the program. Delays in equipment installation, lack of certain technical assistance and training difficulties should also have been attributed to other agencies whose actions were prerequisites for NOAA activities, e.g. national level planning and agreements on required construction, provision of justification and specifications for required data processing equipment which were directly related to the program objectives. WMO is responsible for the overall execution of the program, but the evaluation did little either to point out any weakness in WMO direction or to make recommendations for improvements. Section XIII of the report contains numerous recommendations for both immediate and long term AID attention. They are summarized and presented with mission comments and recommended action in Attachment 1 to this Action Memorandum.

Recommendation: That you sign below and on the attached PES facesheet, indicating (a) mission acceptance of the mid-term evaluation report for the subject evaluation and (b) endorsement of the action decisions listed on the PES facesheet and of the mission's comments contained in Attachment 1 to this memorandum.

Approved: _____

Disapproved: _____

Date: 2/14/82

Clearance: PDO, S.Chambers	<u>Draft</u>
GDO, D.Maxwell	<u>Draft</u>
PROG, A.Fessenden	<u>Draft</u>
ADO, LJepson	<u>XXX</u>

Sahel Water Data Management and Network (625-0940)
Mid-Term Evaluation

USAID Interpretation and Planned Actions

1. State of the art/relevance of agrometeorology in the Sahel

Evaluation Recommendation: Continue with the project as planned; reinforce the agricultural production activities both at the regional and national levels.

Comment: Mission gives qualified agreement.

Discussion: This evaluation concludes that agrometeorological data collection and dissemination will eventually result in increased agricultural production and early crop forecasting. This conclusion has been reinforced by a subsequent UNDP evaluation and a technical meeting resulting from the Bonn summit. The Sahel ADO's at the 1985 Lome ADO conference, however, expressed skepticism that the agriculture production objectives could be met, that implementation of a third phase would constitute a burden to the staffs of other missions, and indicated that support to the regional center and networking activities for those objectives should be discontinued. They supported the climate impact assessment activities, however, indicating retention of the computer hardware/software program. U.S. participation has been limited to providing equipment and training required for research, climate impact assessments and agrometeorological data analysis for project planning (AID's influence in reducing or eliminating the agricultural production objectives from the program is therefore limited). The evaluation team strongly supported completing these actions. The team also pointed out that the AGRHYMET program has a considerable value for sectors not listed in the Project Paper, i.e. health, transportation, fisheries and engineering.

Mission Action: The extraordinary CAC meeting in February 1986 will review the AGRHYMET program, recast the general objectives and outline steps necessary to achieve those objectives. The mission will recommend that the Phase III design process critically review agriculture production objectives which will result in a Phase III document which includes a complete and technically feasible program logical framework, defining in detail all elements and components, their relationship to one another, time and resources required for each and determine each component's level of priority. The mission will also recommend that the relative importance of the other products of the program be determined during the Phase III design, and identify the appropriate resources to achieve these objectives. One component of the USAID Phase III design should include an attempt to explain the function and objectives of the AGRHYMET program to agriculturalists active in the Sahel (host country officials, researchers, USAID ADOs) and to determine ways in which project activities can be included in Sahel mission portfolios without imposing excessive management burdens.

2A. Data processing equipment:

Evaluation Observation: Current data processing equipment is inadequate for the collection and processing of data.

Comment: Mission agrees.

Discussion: Three options were given for upgrading the computer facilities: (a) multiple VAX super micro systems; (b) a VAX 11-780 minicomputer; and (c) purchase of a totally new generic system. AGRHYMET experts and NOAA are working with representatives of Digital Equipment Corporation to design the optimum system.

Mission action: A ten percent LOP funding increase has been requested from AID/W to finance upgrading of the data processing equipment and training. M/SER/IRM has approved the project's request to purchase the upgraded system, and meetings among AGRHYMET officials, NOAA specialists and DEC representatives have resulted in an agreement on procuring the required equipment.

2B. NOAA data processing equipment design procedure:

Evaluation Observation: NOAA was negligent by not ordering the upgraded data processing equipment that could handle the evolving needs of the center.

Comment: Mission disagrees.

Discussion: NOAA's responsibility under the PASA was to order and install the data processing equipment. It was WMO's responsibility to identify equipment requirements. The requirements were determined in 1978 by WMO, and state-of-the-art equipment was purchased. The Phase II project paper recognized the necessity of eventually upgrading the equipment but, probably through an oversight, did not provide the necessary funding. The drafters envisioned the need to upgrade during phase III but could not foresee the recent fast rate of computer technology advancement. Equally (if not more) important, NOAA consistently informed USAID of new equipment requirements, but the agriculture data dissemination objectives were never clarified by the program. USAID felt it imprudent to upgrade the equipment until the data processing objectives and accompanying equipment requirements were clarified. This was a USAID decision.

3. AGRHYMET Program Management

Evaluation Observation: The program is burdensome and causes undue implementation problems.

A. Evaluation Recommendation: Carry out an organizational development study for the AGRHYMET program.

Comment: Mission feels that implementation of this recommendation is impractical until directions for Phase III and beyond are established. The direction of the AGRHYMET program falls under the CILSS organization. To change AGRHYMET management would require a review of its relationships with

CILSS. The AID grant to the program is through WMO which has an agreement with CILSS. The WMO/CILSS convention assigns WMO program execution responsibilities, and CILSS overall governing responsibility.

Mission Action: Action on this recommendation will be initiated following determination of program objectives.

B. Evaluation Recommendation: Immediately provide a management-by-objective (MBO) expert to finalize the MBO activity already started at the ARC.

Comment: Mission agrees.

Mission Action: The ARC has drafted a preliminary MBO proposal with the help of a WMO expert. We believe that the exercise can be refined but given current limited program resources cannot be significantly expanded upon. Program goals and objectives must be redefined using the recommendations in the two evaluations. An extensive MBO plan will be included in the Phase III design.

4. Evaluation Observation: The AGRHYMET Regional Center is not responsive to the need for coordinating the flow of information and data, both internationally and within countries.

Evaluation Recommendation: An information/communications section should be created at the ARC and be given priority support. Its functions, must be determined, and a donor identified to fund the activity.

Comment: Mission gives qualified agreement.

Mission Action: Encourage WMO to formulate a plan for implementing this recommendation (to be discussed further at the CAC meeting). This too must be based on a clearer definition of program objectives and should consider recurrent cost implications of implementation.

5. Phase II Recommendations: (Note: Evaluation recommendations which require additional resources or design efforts are being included by the mission in Phase III design actions. Phase III design is now beginning.)

A. Evaluation Recommendation: A computer models specialist should be engaged at the ARC.

Comment: Mission agrees.

Mission Action: Insure this specialty under the design of Phase III, or through another donor (if U.S. funding, NOAA/NESDIS could possibly provide.)

B. Evaluation Recommendation: Train all National AGRHYMET Center personnel in computer use.

Comment: Mission agrees. The trained software specialist at each NAC is tasked with this function. Data entry classes should be taught at the ARC, and AGRHYMET will be encouraged to carry out such training.

- C. Evaluation Recommendation: NAC multi-disciplinary groups need gentle guidance.

Comment: Mission agrees.

Discussion: Inter-ministerial cooperation is a prerequisite for applying AGRHYMET data at the national level. Multidisciplinary groups serve to initiate this type of cooperation. Though all countries have multidisciplinary committees, not all are complete or fully functional.

Mission Action: Insure that Phase III includes technical assistance based at the regional center tasked to assist with the development of national committees.

- D. Evaluation Recommendation: NACs should start pilot projects to determine appropriate means of transmitting information to farmers.

Comment: Whether or not to keep the agricultural production objectives in the AGRHYMET program will be a major discussion point at the February CAC meeting. Though the meeting cannot actually decide on the issue, talks will focus on Phase III design terms of reference to study the program's system for data collection and control, coordination with research, analysis of data by a multidisciplinary team and means of dissemination of information within governments and advice to agricultural producers. The regular CAC meeting in May/June will examine the design effort and decide this component's utility and priority.

Mission Action: Should it be decided to keep agricultural production objectives in the program then mission will strongly recommend that pilot programs with methodologies clearly testing the dissemination of agrometeorological advice for all CILSS countries and funded under Phase III. Further, if a working understanding between FAO and WMO is not reached soon, AID should consider providing direction on reaching the agriculture objectives in Phase III. If on the other hand agricultural production objectives are dropped the mission will not pursue.

- E. Evaluation Recommendation: Establish a public relations section at the ARC to develop materials appropriate for broadcasters in the Sahel.

Comment: Mission agrees.

Mission Action: To be discussed at the February 1986 CAC meeting. This should be done in conjunction with item 4 above..

- F. Evaluation Recommendation: Institute a more structured planning procedure within the ARC.

Comment and Discussion: Mission agrees. However, USAID believes the management-by-objectives exercise already started by the WMO will suffice in this area if reinforced. A better planning structure is needed for the AGRHYMET program. This will be accomplished during the design of Phase III (i.e. by discussing program managerial constraints identified in the evaluations, defining specific critical path objectives, and making an action plan for their resolution and attainment conditions precedent in the project agreement).

G. NOAA

- 1) Evaluation Recommendation: Assign to the project two additional full time NOAA technical advisors who have training in telecommunications and software.

Comment: Mission disagrees. USAID believes that NOAA could provide a telecommunications expert during the project redesign to study the overall communications problem and make recommendations towards it's resolution. However, recruitment of long term software specialists is the responsibility of WMO. We believe the evaluation team misinterpreted the PASA scope of work.

- 2) Evaluation Recommendation: Assign a telecommunications programmer specialist to install a communications network.

Comment: A system must first be designed before an expert can do the job. This problem has been regularly reviewed by qualified experts. We do not feel that the evaluation team was qualified or had sufficient time to provide a useful recommendation in this area.

- 3) Evaluation Recommendation: Replace vendor supplied training with extended on-the-job training at the ARC.

Comment: The evaluation did not provide a comparative cost analysis to justify a change.

Mission Action: The project redesign will address this issue.

- 4) Logistics:

Evaluation Recommendation: Transfer the logistics function out of NOAA, find purchasing agents in the US and Europe, hire logistics staff for ARC and provide necessary documentation.

Comment: Mission agrees.

Mission Action: USAID will probably provide funds for the ARC to hire a logistics supervisor; WMO will hire a clerk/supervisor trainee; WMO has assumed responsibilities to coordinate consumable supplies procurement; DEC is studying the possibility of acting as procurement agent and will write to the WMO; NOAA will provide a temporary logistics TA to advise setting up operations at ARC. Transition actions have begun.

- 5) Evaluation Recommendation: Purchase a network control center for the ARC.

Comment: Mission agrees.

Mission Action: Request price quotations from NOAA.

- 6) Evaluation Recommendation: Completely recast the NOAA PASA:

Comment: Mission agrees.

Mission Action: Initiate a compliance audit and use its recommendations to draft a revised PASA. The redesign will determine areas of TA competence that NOAA can provide in the future. Subject to priority, availability of funds and NOAA's ability, these areas will be added to the PASA as soon as appropriate.

7) Evaluation Recommendation: NOAA/W should provide quarterly activity/financial reports. NOAA/Niger should submit annual work plans, updated quarterly. TA field personnel should submit quarterly activity reports.

Comment: Mission agrees. We feel, however, that the evaluation team failed to recognize the value of the yearly CAC and semi-annual technical meetings. All of the reports mentioned are in fact already prepared routinely except a NOAA/W quarterly activity report, and we fail to see the value of such a report. The NOAA/W financial statements, on the other hand, are essentially invoices, and lack sufficient detail. The audit will recommend procedures and outline minimum requirements.

H. Evaluation Recommendation: Study inclusion of a Geographic Information System into the AGRHYMET Program.

Comment: Mission agrees.

Mission Action: Submit this proposal to the CAC for Phase III.

I. Evaluation Recommendation: Further reduce dust contamination in computer facilities.

Comment: Mission agrees.

Mission Action: Fund this activity under Phase III.

J. Evaluation Recommendation: Begin computer upgrade option 3.

Comment: Mission disagrees. See para 2.

K. Evaluation Recommendation: AID monitoring staff should possess computer, telecommunications and training expertise.

Comment: Mission disagrees. The USAID/Niger training officer is studying other participant training possibilities. AID computer experts from M/SER/IRM have visited the project and are working with the Mission to determine appropriate systems configurations. A telecommunication expert has been provided by the WMO, although his report did not address the problem of extensive data transfer internationally.

L. Evaluation Recommendation: USAID project officer should report regularly to AID/W and other missions.

Comment: Mission agrees.

Mission Action: USAID reports to AID/W following each significant event relating to the AGRHYMET Program, and the project manager visits other missions annually. Regular reporting should be done by WMO in the form of a technical program newsletter. This issue will be discussed with the ARC and WMO during the CAC meeting. NOAA/Niamey will prepare quarterly procurement status and expected travel reports to be sent to each National center. As the program matures, results should become more evident and the communications cover more practical matters.