

P DAAZ-466

100-61876

AUDIT OF THE
WATER RESOURCES MANAGEMENT
AND TRAINING PROJECT IN INDIA
PROJECT NO. 386-0484

AUDIT REPORT NO. 5-386-89-05
JULY 12, 1989

AGENCY FOR INTERNATIONAL DEVELOPMENT
OFFICE OF THE REGIONAL INSPECTOR GENERAL FOR AUDIT
- Singapore -

U.S. POSTAL ADDRESS:
American Embassy
AID/RIG
FPO San Francisco 96699

INTERNATIONAL ADDRESS:
c/o American Embassy
30 Hill Street
Singapore 0617
Tel: 225-1033

July 12, 1989

MEMORANDUM FOR Mr. Robert Bakley
Director, USAID/India
FROM: *B. R. Howard*
Reginald Howard, RIG/A/Singapore
SUBJECT: Audit of the Water Resources Management and
Training Project in India, Project No.
386-0484 (Audit Report No. 5-386-89-05)

The Office of the Regional Inspector General for Audit/Singapore completed its audit of USAID/India's Water Resources Management and Training Project. As explained in this report, the audit scope was limited to the assessment of the adequacy of indicators used by USAID/India to measure project progress. The audit found that the project lacked adequate quantitative and qualitative indicators, thereby limiting USAID/India's ability to measure project achievements on a continuing basis and to assess the effectiveness of technical assistance. Your written comments to the draft report are included in Appendix 1

Please advise within 30 days of any additional information relating to actions planned or taken to close the recommendation. I appreciate the cooperation and courtesy extended to my staff during this audit.

Background

The primary objective of the Water Resources Management and Training Project was to strengthen India's capability to plan, design, manage and maintain efficient and productive water resource systems for irrigation. The project agreement was signed on July 22, 1983, and the project assistance completion date is September 30, 1990. An internal review was conducted jointly by USAID/India and the Government of India in 1986. The project's training component was evaluated during 1988.

. 1

The estimated total project costs are \$79.2 million, with A.I.D. contributing \$51 million and the Government of India \$28.2 million. As of December 31, 1988, A.I.D. obligations amounted to \$33.7 million with accrued expenditures amounting to \$14.5 million (See Exhibit 1).

Audit Objectives and Scope

The Office of the Regional Inspector General for Audit/Singapore conducted a performance audit of the Water Resources Management and Training Project in India. The audit objectives were to determine whether (1) the project objectives were being accomplished; (2) A.I.D. funds were efficiently and effectively spent for technical assistance, training, commodities, and construction; and (3) USAID project monitoring was effective.

The audit was conducted during March 1989 at USAID/India in New Delhi and included a site visit to observe project activities at the state training institute in Tamil Nadu. Project records were reviewed, and discussions were held with USAID, the technical assistance contractors, and appropriate Government officials. The audit covered the period from July 30, 1983 through December 31, 1988 and accrued A.I.D. expenditures of \$14.5 million. Host country contributions were not reviewed because USAID/India was in the process of performing payment verification reviews.

The audit scope was limited to assessing the adequacy of USAID/India's procedures for project monitoring, particularly the adequacy of the indicators established to measure progress. This scope reduction was necessary because USAID/India was in the process of implementing extensive management improvements and project revisions, thus making it too soon to assess the overall impact of these changes. These changes resulted from a (1) restructuring of the project during 1988 to address past implementation problems (see Exhibit 2 for a summary of the restructuring actions); (2) late 1988 evaluation of the project's training activities (see Exhibit 3 for a summary of the evaluation findings and USAID actions on these findings) and, (3) major effort to verify payments made to state training institutes.

The review of internal controls and compliance was limited to the finding presented in the report. The audit was made in accordance with generally accepted government auditing standards.

Results of Audit

It was not possible to determine whether the project objectives were being accomplished, to assess the effectiveness of the technical assistance, or to determine whether USAID/India's project monitoring was effective because the project lacked adequate quantitative and qualitative indicators. Although a October 1988 evaluation raised serious concerns about the effectiveness of the project's training activities, USAID/India was already addressing these concerns. The audit disclosed no serious problems with commodities and construction.

As a result of implementation problems, USAID/India, in coordination with the Government of India, undertook a review of project activities during 1986. As a result of the review, the project was restructured during 1988. Project objectives were revised and administrative procedures streamlined. A recent evaluation noted substantial progress was being made in developing and implementing training activities. USAID/India revised its monitoring system and evaluation plan and established a monitoring unit to improve its project management.

The project, nonetheless, lacked adequate quantitative and qualitative indicators. This limited USAID/India's ability to measure project achievements on a continuing basis and assess the effectiveness of technical assistance expected to cost over \$17.8 million. The report recommends that USAID/India establish indicators and target dates for monitoring significant project activities and require technical assistance contractors to report on the indicators and progress towards meeting the target dates.

USAID/India Needs To Establish Quantitative And Qualitative Indicators To Better Measure And Monitor Project Progress -
USAID/India can improve its project monitoring by establishing more comprehensive quantitative and qualitative indicators to better measure progress towards achieving project objectives and assess the performance of technical assistance contractors. Such indicators are required by the Foreign Assistance Act, A.I.D. regulations, and a USAID/India Mission Order, but were not established because of other project priorities.

Discussion - The Foreign Assistance Act requires A.I.D. to establish a management system that includes (1) the definition of objectives and programs, (2) the development of quantitative indicators of progress toward these objectives, (3) the orderly consideration of alternative means for accomplishing such objectives, and (4) the adoption of methods

for comparing actual versus anticipated results. A.I.D. Handbook 3 and USAID/India's Mission Order 650 contain similar requirements. The importance of quantitative indicators was stressed by the Administrator in a May 1987 cable. He was especially interested in the use of targets and indicators in the monitoring and evaluation process.

In response to past implementation and monitoring problems and an expansion of project activities, USAID/India established an extensive project monitoring and evaluation plan. The revised plan contained a number of measures intended by the mission to ensure the project was kept on track and accomplished its objectives. In February 1989, USAID/India also established a project monitoring unit to implement this plan. While these actions are important steps in improving project monitoring, the revised monitoring and evaluation plan and various project reports on project activities still lacked:

- specific quantitative and qualitative indicators that were needed to objectively determine the progress of various elements towards meeting objectives;
- specific qualitative and quantitative indicators for assessing technical assistance activities; and
- target dates for accomplishing actions considered necessary for achieving project objectives.

Therefore, for most project elements it was difficult to (1) compare actual versus anticipated results at a given point in time, (2) determine what additional inputs and actions (time and resources) were needed to achieve project objectives, and (3) evaluate the effectiveness of technical assistance expected to cost over \$17.8 million. The following provides an illustration of this problem for the project's \$7.2 million Water Resources Planning and Management element.

A major objective under this element was to develop India's capability for water resources systems analysis, planning, and management. One of the principal ways to achieve this objective was by establishing a central training unit with a staff capable of implementing training in water resources systems planning and management. The unit was expected to have an established training curriculum including detailed case studies and teaching materials.

USAID entered into a \$6.5 million technical assistance contract for the development of this training capability. A central training unit was established to conduct the water resources training, and the contractor was about to begin the third year of the five-year effort. However, the contractor's progress reports and other project documents did not contain information necessary to determine whether or not there was

adequate progress towards accomplishing the element's objectives because quantitative indicators were not established. Thus, the contractor was not in a position to adequately report on progress towards meeting the objectives.

For example, no indicators or target dates were established for measuring progress in staffing the training unit. The contractor prepared an organization chart for the unit showing various positions that needed to be staffed. The Government provided some professional staff but, according to the technical assistance contractor, many of them were not qualified to fill these positions, leaving most key positions vacant. Since no target dates were established for staffing these positions, it was not possible to determine if the staffing was proceeding according to plans. Therefore, it was not possible to determine if this element was on target towards its goal of having the Government of India assume full responsibility for training unit activities.

Indicators were also lacking for assessing the performance of the technical assistance contractor. In addition to assisting in the establishment of a central training unit, the contractor was also required to assist the Government of India in establishing a model state river basin planning unit. Although this was envisioned to be a major time consuming task, the contractor was not devoting any resources to it while the Government of India is reconsidering whether it wanted to establish a planning unit at the state level. Since no indicators were established to measure the contractor's performance for this task, an assessment could not be made as to whether (1) the contractor had sufficient time and resources remaining to complete this task if the Government decided to proceed with the objective or (2) the contract needed to be modified to take into account a reduced scope of work.

It is difficult to establish quantitative and qualitative indicators to measure progress for institutional development projects. It is, however, not possible to adequately monitor progress towards achieving the development objectives or assessing the effectiveness of the technical assistance without such indicators. For the Water Resources Planning and Management element, the following indicators are suggested:

- number and percentage of training unit positions filled with qualified permanent staff;
- amount and percentage of operating costs absorbed by the training unit;
- number and percentage of professional faculty positions trained;

- number and percentage of courses taught by training unit staff; and
- number and percentage of courses offered versus projected requirements.

The technical assistance contractor should be required to report on the progress towards meeting the objectives established for this project element. Since this is intended to be a phased approach, interim target dates should be established for achieving certain indicators which would better enable a continuing assessment of project progress.

In addition to the Water Resources Planning and Management element, virtually all the other project elements lacked indicators to measure progress as shown by the following additional examples:

1. Under the training and professional development project element, 12,000 irrigation agricultural professionals were to be trained.
 - Although over 7000 trainees completed instruction, there was no way to assess progress against anticipated results because no interim target dates were established for achieving the training. Indicators were also needed to assess the project's progress towards training the right people, developing the institutional capability to carry out the training, and determining whether those trained were actually utilizing the training.
2. The action research studies project element focused on the development of long-term research studies involving irrigation planning and management.
 - Many states had accomplished little or nothing in this area. Since target dates had not been established for the development of these studies, it was not possible to assess the overall progress against anticipated results or determine whether it was still possible to accomplish the objective.
3. The technology transfer project element was to develop a mechanism for the exchange of irrigation and water resource management information through the establishment of a central technical information unit which could in turn be linked to state information units.
 - Indicators were needed to measure the expected rate of progress in creating the technical information unit and the information transfer mechanism.

4. The organizational and procedural changes project element was to influence changes in state and national irrigation and water resource management policies when those policies were a deterrent to more effective water utilization.

-- Target dates were needed to measure progress in completing the background data collection, field data collection, and the recommendations and implementation phases of this element.

Although USAID's 1986 internal review recognized that it needed better information and assessments in order to guide project activities more effectively, it did not establish the indicators needed to do this. Currently, USAID/India monitors project activities through the use of such tools as site visits, annual state training institute implementation plans, technical assistance contractor annual work plans, quarterly work objectives, and project management committees. While these tools are needed, USAID/India also needs quantitative and qualitative indicators. Accordingly, we believe the project must be thoroughly reviewed to develop and establish the necessary indicators.

USAID officials advised that their major efforts to date were concentrated on improving project management and strengthening the project's technical objectives. They stated that priority had to be given to these tasks before indicators could be established. They further stated that these tasks, which are now completed, will serve as a basis for setting objectives and identifying quantitative and qualitative indicators that will be used to measure progress. USAID officials indicated they planned to establish indicators for measuring project progress over the next six month period.

Recommendation No. 1

We recommend that USAID/India in coordination with the Government of India and the technical assistance contractors:

- a. develop more comprehensive quantitative and qualitative indicators to measure the progress of all project elements and technical assistance activities;
- b. establish target dates, including interim target dates, for accomplishing project element activities considered necessary for achieving the element objectives; and
- c. require technical assistance contractors to report on the indicators established for the project elements and on the status of achieving the target dates.

Management Comments

USAID/India generally concurred with the finding and recommendation. However, the mission questioned our draft report inference that they had no indicators or yardsticks to measure project progress. The mission cited the project paper and the logframe which gave specific indicators for the various elements. In addition, the mission maintained that its quarterly targets and contractors' work plans provided indicators to measure project progress. However, the mission agreed that these sources were diffused and not all outputs were quantified nor were all time phased.

USAID/India stated it recently completed an "Institutional Indicator Plan" for the development of more comprehensive project indicators and indicated it expected to finalize these indicators within a period of three months.

Office of Inspector General Comments

Based on USAID/India's comments, we revised the finding and recommendation to indicate the mission had not developed **adequate** quantitative and qualitative indicators. The recommendation is resolved and will be closed once the indicators and target dates have been established.

AUDIT OF THE
WATER RESOURCES MANAGEMENT
AND TRAINING PROJECT IN INDIA
PROJECT NO. 386-0484

EXHIBITS AND APPENDICES

Financial Information by Major Project Element
As of December 31, 1988 (in \$000)

<u>Project Elements</u>	<u>Obligations</u>	<u>Expenditures</u>
Training and Professional Develop.	\$ 15,893	\$ 9,209
Action Research Studies	4,464	1,427
Water Resource Planning Management	4,173	1,684
Central Programs	3,795	-
Educational Institutions	2,980	1,108
Technology Transfer	1,700	718
Organizational & Procedural Changes	550	308
Other	145	47
	-----	-----
Total	\$ 33,700 =====	\$ 14,501 =====

Summary of Water Resources Management
and Training Project Restructuring

Background

Between August and December 1986, a joint Government of India (GOI) and USAID team carried out an intensive review of the activities and progress of the Water Resources Management and Training project. The purpose of the review was to determine why the implementation progress of the project over the first three years had been very slow. In response to the findings and recommendations of that review, the project was restructured in July 1988.

Major Findings

The review concluded that the project had serious structural problems. For instance, GOI implementing agencies' organizational responsibilities were not always compatible with their project responsibilities. Consequently, project activities and management did not receive the attention required. The review also found that the single implementation plan being used did not work because of the diversity of the implementation problems in each state. Instead, a detailed implementation plan and support work plan was needed for each state. These state plans would be the primary management tool in the project for all state activities.

Also, the review concluded that the project was an incremental and process-type activity but it lacked the basic monitoring and evaluation processes and management decision points to make the process approach work. The project needed new monitoring and evaluation plans to promote management feedback loops and decision points within the project. Once project implementation plans are developed, it would be necessary to modify the budget to be compatible to those plans. The report recommended the entire project budget be revised.

USAID Actions Taken in Response to Report Findings

After reviewing the report findings, USAID and GOI revised project objectives, management and administrative plans, and the project budget. These revisions were formalized by the issuance of Project Implementation Letter No. 7 in July 1988. Some of the more important revisions were:

- 1) New and more specific project objectives were set at both the national and state level.
- 2) Each of the participating States is responsible for developing an Annual State Implementation Plan. The plans set forth a list of all the activities to be implemented during the Indian fiscal year, as well as which agency would be responsible for its implementation. A workplan for the activities includes training, equipment, and technical assistance needs along with the budgetary requirements.
- 3) Based on the review findings and recommendations, USAID/India revised its "Monitoring and Evaluation System" and established a separate Project Monitoring Unit. Major components of the monitoring system include site visits by USAID, GOI, and contractor officials; state and national implementation plans; contractor work plans; and committee oversites. In addition, a plan was developed to evaluate each major project element during the course of the project.
- 4) The budgets for the loan and grant components were revised. Detailed budget plans will be presented each year based on each organization's annual implementation plan activities.

USAID/India's Follow-up of the Management Training Evaluation

An evaluation of the Water Resources Management and Training Project's training element was completed in October 1988. The purpose of the evaluation was to provide guidance to the Government of India and USAID on the progress, direction, and effectiveness of the project's training activities. Eight findings were made by the evaluation team. The following is a list of those findings and USAID actions in response to the findings.

<u>Finding</u>	<u>USAID/India Actions in Response to Finding*</u>
1. Programs are not planned specifically to meet the needs of the officers of the irrigation and agricultural departments.	A training needs assessment is being developed for each state training institute. A prototype has been completed and will be tested in one state.
2. The focus on present training programs is mainly on farm irrigation systems with little attention paid to main irrigation systems.	A series of course curricula/modules are being developed to address the operations, maintenance, monitoring, and evaluation of main systems. One module has been finished and will be tested in one state.
3. Some course content remains less effective and relevant than desired.	The training needs assessment referred to in the first action above will also address this finding.
4. Instructors rely too much on lectures as their primary mode of teaching with less attention paid to participating teaching methods.	A training guide for trainers has been completed. It will include country training programs, improved pedagogical skills, use of audio-visual aids, etc. A trial program using the guide has begun.
5. State training institutes do not use evaluations to assess the procedures, effects, and impacts on their training activity.	A training evaluation is being developed for each institute. It will include pre- and post-training evaluations and a periodic follow-up. This design is expected to be operational in two states by the end of 1989.

USAID/India's Follow-up of the Management Training Evaluation

<u>Finding</u>	<u>USAID/India Action in Response to Finding*</u>
6. A lack of systematic interaction exists between the training institutes and the universities.	Seminars and workshops are being set up to bring together institute and university instructors and researchers and allow them to develop joint working plans.
7. The selection process for trainees has often resulted in the choice of candidates who were not in the greatest need of training or were not in a position to make optimal use of the training.	Each state has been asked to review its training process and to make a manpower assessment to determine who might best utilize future training.
8. The training-of-trainers program would be more cost-effective if conducted in India instead of the U.S.	This program has already been moved to India.

* Information based on interviews with USAID/India project officials.

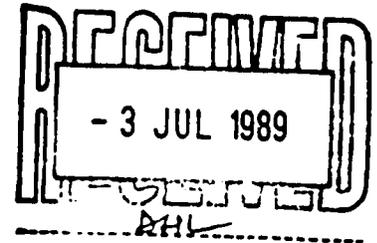
14



UNITED STATES AGENCY for INTERNATIONAL DEVELOPMENT

NEW DELHI, INDIA

June 29, 1989



MEMORANDUM

TO :Mr. Reginald Howard -RIG/A/S
FROM :Robert N. Bakley - Director *RNB*
SUBJECT :Draft Audit Report on Water Resources
Management & Training Project.

Our comments on the subject Draft Audit Report are as follows:

1. The Audit Recommendation reaffirms the Mission's internal review finding of the need to develop adequate quantitative and qualitative indicators. Although we agree in principle about the lack of adequate indicators to measure progress of the project, we question statements in the draft audit report which infer that the project has no indicators or yardstick to measure project progress. The Project Paper in its narrative and the Logframe do give specific indicators for the various elements. In addition, our quarterly targets and contractors' work plans also provide indicators to measure project progress. We agree that they are diffused and not all outputs have been quantified nor are all time phased. Copies of relevant pages from the Project Paper, quarterly and annual work plans are attached for your information. It appears that the draft audit report fails to distinguish between the terms "lack of indicators" and "lack of adequate indicators", and the same have been used interchangeably. If you feel satisfied based upon your perusal of the attached pages of the Project Paper and plans, then I would request you to reword sentences referred below to read as follows:

(Page 1, para 1): "The audit found that the project lacked adequate quantitative and qualitative indicators...."

(Page 5, para 3): "USAID/India can improve its project monitoring by establishing more comprehensive quantitative and qualitative indicators to measure progress towards achieving project objectives and to assess the performance of technical assistance contractors."

2. As a result of the internal review finding, Mission initiated substantial groundwork to develop detailed and time phased indicators. A revised monitoring and evaluation plan was one output of this endeavor. The monitoring and evaluation plan will be further

2.

amplified to address the shortcomings pointed out on page 7 of the Draft Audit Report. At the time of audit the Mission was already in the process of developing detailed quantitative and qualitative indicators. Thus, it would be proper to supplement the words "Develop" and "Establish" in the recommendation to read as follows:

"a. Complete development of more comprehensive qualitative and quantitative indicators.....

b. Complete the establishment of target dates"

3. The Mission has recently completed an "Institutional Indicator Plan" for development of more comprehensive project indicators and expects to finalize these indicators within a period of three months. A copy of the indicator plan is attached for your reference.

Report Distribution

	<u>No. of Copies</u>
U.S. Ambassador/India	1
Mission Director, USAID/India	5
Assistant to the Administrator, Bureau for Asia and Near East (AA/ANE)	1
Office of South Asian Affairs (ANE/SA)	1
Audit Liaison Office (ANE/DP/F)	1
Bureau for External Affairs (AA/XA)	2
Office of Press Relations (XA/PR)	1
Office of Legislative Affairs (LEG)	1
Office of General Counsel (GC)	1
Assistant to the Administrator for Management (AA/M)	2
Assistant to the Administrator for Personnel & Financial Management (AA/PFM)	1
Office of Financial Management (PFM/FM/ASD)	2
Office of Agriculture (S&T/AGR)	1
Center for Development Information and Evaluation (PPC/CDIE)	3
Inspector General	1
Deputy Inspector General	1
Office of Policy, Plans and Oversight (IG/PPO)	2
Office of Programs and Systems Audit (IG/PSA)	1
Office of Legal Counsel (IG/LC)	1
Office of Administration (IG/ADM)	12
Assistant Inspector General for Investigations and Inspections (AIG/I)	1
Regional Inspector General for Investigations/Singapore (RIG/I/S)	1
RIG/A/Cairo	1
RIG/A/Dakar	1
RIG/A/Manila	1
RIG/A/Nairobi	1
RIG/A/Tegucigalpa	1
RIG/A/Washington	1