

PROJECT APPRAISAL REPORT (PAR)

PD-AAD-118-A1

1. PROJECT NO. 386-11-120-368.6	2. PAR FOR PERIOD: 1/1/72 TO 6/30/73	3. COUNTRY India	4. PAR SERIAL NO. FY-74-4
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ORIGINAL FILE COPY

**THIS IS A TERMINAL PAR**  
**Soil and Water Management (Groundwater)**

6. PROJECT DURATION: Began FY 1971 Ends FY 1973	7. DATE LATEST PROP 6/17/69	8. DATE LATEST PIP	9. DATE PRIOR PIP
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10. U.S. FUNDING	a. Cumulative Obligation Thru Prior FY: \$ 144,000	b. Current FY Estimated Budget: \$ 91,000	c. Estimated Budget to completion After Current FY: \$
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11. KEY ACTION AGENTS (Contractor, Participating Agency or Voluntary Agency)

a. NAME <b>United States Geological Survey</b>	b. CONTRACT, PASA OR VOL. AG. NO. <b>PASA No. NESA(IC)-5-72</b>
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I. NEW ACTIONS PROPOSED AND REQUESTED AS A RESULT OF THIS EVALUATION

A. ACTION (X)			B. LIST OF ACTIONS	C. PROPOSED ACTION COMPLETION DATE
USAID	AID/W	HCST		
			<p>No action required as the project phased out as of June 30, 1973, three years ahead of schedule at the recommendation of the GOI and concurrence of USAID/India.</p> <p>Note: In view of vital importance of ground water in enhancing and stabilizing agricultural production in India, this project was given a very high priority in the USAID agricultural program. With its abrupt termination, the activity is likely to receive a setback. When at any time planning for future assistance is done, this project should receive the importance and priority it deserves.</p>	

12. REPLANNING REQUIRED:  REVISED OR NEW:  PROP  PIP  PRO AG  PIO/T  PIO/C  PIO/P

PROJECT MANAGER, TYPED NAME, SIGNED INITIALS AND DATE: **E. I. Bullard**

MISSION DIRECTOR, TYPED NAME, SIGNED INITIALS AND DATE: **Howard E. Houston**

E. DATE OF MISSION REVIEW: **September 17, 1973**

**II. PERFORMANCE OF KEY INPUTS AND ACTION AGENTS**

A. INPUT OR ACTION AGENT  CONTRACTOR, PARTICIPATING AGENCY OR VOLUNTARY AGENCY	B. PERFORMANCE AGAINST PLAN							C. IMPORTANCE FOR ACHIEVING PROJECT PURPOSE (X)				
	UNSATIS. FACTORY		SATISFACTORY			OUT-STANDING		LOW		MEDIUM		HIGH
	1	2	3	4	5	6	7	1	2	3	4	5
1. <b>United States Geological Survey (USGS)</b>					<b>X</b>						<b>X</b>	
2.												
3.												

*Comment on key factors determining rating*      **The USGS made available three competent technicians with an excellent understanding of the project purpose and provided adequate technical backstopping. The team members developed effective relationship with their Indian associates and field team members. They assisted the local technicians in developing studies in four important areas in India pertaining to the development and use of ground water.**

<b>4. PARTICIPANT TRAINING</b>	1	2	3	4	5	6	7	1	2	3	4	5
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*Comment on key factors determining rating*  
**No participants were trained in the U.S. in FY 72 and FY 73 as the training program was discontinued by the GOI from December 1971. No rating indicated.**

<b>5. COMMODITIES</b>	1	2	<b>X</b>	4	5	6	7	1	2	<b>X</b>	4	5
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*Comment on key factors determining rating*  
**Most of the commodities were purchased locally and used for training the associates involved in the program. It was difficult to keep the drills in running condition all the time due to a lack of spare parts.**

<b>6. COOPERATING COUNTRY</b>	<b>a. PERSONNEL</b>	1	2	<b>X</b>	4	5	6	7	1	<b>X</b>	3	4	5
	<b>b. OTHER</b>			<b>X</b>						<b>X</b>			

*Comment on key factors determining rating*  
**The importance of the use of ground water in relation to crops and soils is fully realized in India. The on-the-job training provided by the U.S. technicians was well received and put into practice to the extent that funds and transportation were available. The program did suffer from a delay in approval of some studies and receiving aerial photographs and maps late in the operation of the project. There will be a shortage in trained staff to complete the program.**

<b>7. OTHER DONORS</b>	1	2	3	4	5	6	7	1	2	3	4	5
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*(See Next Page for Comments on Other Donors)*

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11. 7. Continued: Comment on key factors determining rating of Other Donors

Not applicable to the project.

### III. KEY OUTPUT INDICATORS AND TARGETS

A. QUANTITATIVE INDICATORS FOR MAJOR OUTPUTS		TARGETS (Percentage/Rate/Amount)					
		CUMULATIVE PRIOR FY	CURRENT FY73		FY74	FY75	END OF PROJECT 76
			TO DATE	TO END			
1. Trained participants (state).	PLANNED	8	4	4	4	4	24
	ACTUAL PERFORMANCE	0	0				
	REPLANNED						
2. Trained participants Central Groundwater Board.	PLANNED	2	1	1	1	1	6
	ACTUAL PERFORMANCE	0	0				
	REPLANNED						
3. On-the-job training.	PLANNED	15	10	10	10	10	55
	ACTUAL PERFORMANCE	32	32				
	REPLANNED						
B. QUALITATIVE INDICATORS FOR MAJOR OUTPUTS	PLANNED						
	ACTUAL PERFORMANCE						
	REPLANNED						
1. On-the-job training	COMMENT: The local staff received excellent training in map reading and the use of aerial photographs as well as the use and maintenance of drilling and hydrogeological equipment.						
2. Participant training.	COMMENT: The GOI did not approve training for the local technicians in the U.S. or a third country.						
3. Studies of geological situation.	COMMENT: Studies were made of the Narmada Valley Alluvial area at Bhopal, Madhya Pradesh, Narmada Valley Outfall area at Baroda, Gujarat and the Crystalline Rock area at Bangalore in Mysore State.						

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**IV. PROJECT PURPOSE**

A. 1. Statement of purpose as currently envisaged.

2. Same as in PROP?  YES  NO

**Development within the Central Ground Water Board (CGWB) and groundwater organizations of four states, technical competence and services for continuing assessment of the quality and quantity of groundwater in four important types of geological areas of India.**

B. 1. Conditions which will exist above purpose is achieved.

2. Evidence to date of progress toward these conditions.

1. CGWB and four state groundwater organizations are conducting effective, systematic studies of groundwater supplies and independent of outside assistance.
2. Organizational structure, technical staff, equipment and budgets of CGWB and 4 state groundwater organizations are sufficient for sound groundwater assessment programs, using latest techniques and equipment.
3. CGWB and state organizations accept the need for an integrated approach to surface and groundwater assessments to provide the data base which would permit their most efficient management and use. Their resource administration and utilization policies reflect this acceptance.
4. Studies similar to those conducted under this project are being planned/implemented for other areas in India.

The project terminated three years ahead of schedule. Considerable progress was made in the one and a half years the project was active. A local core staff was trained to carry on the project in the future. The training included map reading and the use of aerial photographs as well as the use and maintenance of drilling and hydrogeological equipment. The trained staff, however, is too small to cope with an expanded program.

**V. PROGRAMMING GOAL**

A. Statement of Programming Goal

**Continuing rapid growth in agricultural production in India.**

B. Will the achievement of the project purpose make a significant contribution to the programming goal, given the magnitude of the national problem? Cite evidence.

Achievement of the project purpose will have a significant contribution to the programming goal. In order to produce sufficient foodgrains to feed 570 million people, multi-cropping will be required in many regions. In order to multi-crop land; irrigation will be required. A groundwater survey is the first step to developing efficient irrigation projects.