

PROJECT EVALUATION SUMMARY (PES) -- PART I

Report Symbol U-447

1. PROJECT TITLE Gujarat Medium Irrigation (AID Loan No. 386-T-223)		2. PROJECT NUMBER 386-0464	3. MISSION/AID/W OFFICE India
		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) 82-2	
		<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>78</u>	B. Final Obligation Expected FY <u>78</u>	C. Final Input Delivery FY <u>83</u>		A. Total \$ <u>215,000,000</u>	From (month/yr.) <u>8/78</u>
			B. U.S. \$ <u>30,000,000</u>	Date of Evaluation Review <u>10/81</u>	

B. 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., m/gram, SPAR, PIO, which will present detailed request.)	B. NAME OF OFFICER RESPONSIBLE FOR ACTION	C. DATE ACTION TO BE COMPLETED
<p>1. Attached is the Annual Implementation Review Report dated November, 1981 highlighting the action taken by GOG on the recommendations made in Mid-Term Status Report dated December 23, 1980 and progress made by project.</p> <p>2. GOG has taken action to remove all constraints to progress identified in Mid-Term Status Report. A disbursement of \$7.4 million has been made with another \$1.5 million of claims under process by GOG/GOI up to the period ending September 1981. Quarterly disbursement rates have increased from \$0.5 million to \$1.5 million since GOG received and acted upon our mid-term review recommendations.</p> <p>3. Physical progress and financial allocations have significantly improved but still are behind schedule. Staffing continues to be a constraint and expeditious action is being taken by GOG. This will further improve physical and financial progress.</p> <p>4. It appears that the PACD will have to be extended to June 30, 1984 (one year) in order to meet the project objectives.</p>	Edwin D. Stains	December 1982.

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. Continue Project Without Change

B. Change Project Design and/or

Change Implementation Plan

C. Discontinue Project

11. PROJECT OFFICER AND HOST COUNTRY OR OTHER BANKING PARTICIPANTS AS APPROPRIATE (Names and Titles)

Edwin D. Stains, Engineering Advisor *EW*
 Shankar Iyer, OSD, Gujarat Irrigation Dept.
 John R. Westley, Chief, Program Office *JW*

12. Mission/AID/W Office Director Approval

Signature *Priscilla M. Boughton*
 Type Name Priscilla M. Boughton
 Date Director, USAID/New Delhi
 December 29, 1981

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GUJARAT MEDIUM IRRIGATION PROJECT
(Loan 386-0464)

Annual Implementation Review
November 1981

1. Purpose of the Review

The purpose of the review was to identify the action taken by the Government of Gujarat (GOG) on the recommendations made in AID's Mid-Term Status Report (December 23, 1980) for improving the project implementation rate and quality of works. In addition, a review was made of the current implementation status as compared to the planned targets and the discrepancies analyzed to determine the reason for shortfalls. The review of the project was jointly conducted with World Bank officials during October 16 - 21, 1981. The basic data for this review was collected from the GOG Irrigation Department's Project Planning and Monitoring (PPM) Cell and analyzed with their assistance. Key individuals, who participated and rendered contribution are listed in Attachment A.

2. Project Commitments

The Gujarat Medium Irrigation Project is a five year irrigation sector supports project, designated to provide financial support to 33 (now modified to 31) of Gujarat's identified new, on-going and to be modernized Medium Irrigation Projects (MIP). A project loan agreement was executed between AID and GOI on August 26, 1978 to provide a financial support of \$30 million. In addition, the GOI entered into an agreement with World Bank to provide \$85 million for the same project. The project assistance completion date (PACD) under each of the agreements is June 30, 1983.

The project when completed (PACD - June 30, 1983) envisions the following achievements as outlined in the project paper:

- a. Implementing thirteen new and twenty improved MIPs covering 149,000 ha of irrigated land.
- b. Establishment of a network of automatic river gauging stations.
- c. Development of agricultural plans and establishment of demonstration plots within each MIP.
- d. Preparation of baseline socio-economic studies for each MIP.
- e. Establish a program to carry out water loss measurements in several of the MIPs.

3. Project Monitoring

The project paper provided that the responsibility for monitoring and review of project implementation rests with the World Bank. However, it was envisioned that AID would participate in some of the World Bank review missions. As a result of the Mid-Term Status Report, AID decided to take a more active role in project monitoring. The objective being to attempt to persuade GOG to improve the implementation rate by increasing staff and budget. In addition, AID assisted GOG in setting up a mechanism for improving quality of the construction works. During the past ten months, an awareness was created in the World Bank of the seriousness of the situation and they also intensified monitoring activities.

4. GOG Action on Mid-Term Status Review Recommendations

The recommendations of the December 23, 1980 Mid-Term Status Report are repeated in Attachment B. These recommendations were transmitted to GOI and GOG on January 29, 1981.

The GOG has taken the following actions (listed in the order of the recommendations shown in Attachment B):

- a. There has been a significant improvement in the staffing and budget position, although these continue to be major constraints for project progress. An analysis of staffing position (Attachment C) shows that GOG has sanctioned 75 percent of the subdivisions and 80 percent of the field staff positions recommended by the CWC appraisal committee for the 1981-82 fiscal year. Of the sanctioned subdivisions, 92 percent are actually in place and 72 percent of the field staff are actually in place. The major shortfall is in the field supervisory positions (51 percent of that recommended by CWC). The field supervisory category has registered an increase of 15 percent since March, 1981. GOG feels that the CWC estimates are conservative. However, if GOG could completely fill all currently sanctioned posts with staff the overall staffing position would be reasonably good.

The current budget provisions for 1981-82 (Rs. 615.4 million) and 1982-83 (Rs. 760.2 million) for the approved projects are shown in Attachment D. These are 190 percent and 234 percent higher than the actual expenditure of Rs. 324.6 million incurred during 1980-81 (Attachment E). Thus, GOG has made a substantial increase in their budget. However, considering the expenditure incurred between April - September 1981 (Rs. 96.7 million), it is not likely that an expenditure of more than Rs. 500.0 million (152 percent of the preceding year) would be possible on approved projects during the current year 1981-82 (ending March 1982). As such, it appears that there will continue to be a shortfall of expenditures as compared to budgeted amounts unless the staffing situation improves.

- b. The lack of coordination between the GOG Departments of Irrigation and Agriculture continue to hamper timely implementation of required agricultural development plans and the setting up of a demonstration plot in each subproject. In addition, there is little evidence to show that the farmers are ready to accept the water when it becomes available.
- c. GOG has taken action to improve the quality of canal and water-course construction:
 - (1) A four day workshop on quality control in construction for field supervisory staff from five subprojects was conducted in June 1981 and subsequent workshops are scheduled for the personnel from the remaining subprojects beginning in November 1981.
 - (2) A task force, including USAID and World Bank representatives, inspected lining works and prepared recommendations to GOG on ways to improve construction techniques and lining specifications. GOG has accepted the recommendations and issued instructions to implement them on all medium irrigation projects in Gujarat.
 - (3) The Quality Control Circle of the Irrigation Department has been expanded and proposal to further expand the circle is under the consideration of GOG.
 - (4) The production of 5 x 30 x 30 cm compressed sand cement tiles has been suspended and the tiles in stock will be used following agreed to modified improved specifications.
- d. The World Bank has scheduled the first in a series of "Irrigation Systems Network Planning and Design Workshops" for November 1981. This workshop is designed to improve the planning and design capabilities of the ID field staff.
- e. During the year 1981-82, the rate of subproject approvals has significantly improved with nine approvals and the remaining seven scheduled for approval by March, 1982. This would complete the approval of all the subprojects identified for assistance.
- f. The sign boards identifying USAID assistance have been installed at the subproject sites.

5. Current Project Status

- a. Physical - The project has realized the following achievements against the targets outlined in Section 3.
 - (1) Currently, it appears that approximately 25 new and on-going projects and six modernization projects with a combined CCA of about 261,000 hectares will be implemented under the project (Attachment F). The physical progress

(construction) of the 22 subprojects out of 23 so far approved is lagging significantly behind the planned levels (Attachment G). The mean percent of achievements lags the projected target by approximately 30 percent for the dam (head works); 10 to 40 percent for the canals; and the distribution system is yet to be started in all but one subproject. This is because the dam construction works are location specific (one location), attract contractors easily and provide operational convenience for supervision when only limited field staff are available.

Canal and distribution networks are scattered, demand more field supervisory units and are comparatively less cost oriented - and hence, neglected under the current staff constraints.

- (2) The river gauging stations have been installed in all but one of the approved subprojects (Attachment F). These have been established by the Water Resource Investigation Circle with the assistance of a World Bank consultant and all planned imported equipment has been received in good condition.
 - (3) Due to lack of coordination between the Departments of Irrigation and Agriculture, there has not been any progress either on the implementation of the agricultural plans or setting up of demonstration plots. For effective and efficient utilization of water below an outlet (8 hectares), it is necessary that the planned agricultural development inputs are provided and proven practices demonstrated in order to optimize returns per unit of water used.
 - (4) The socio-economic studies for the 30 subprojects have been completed and study on the additional subproject identified recently is under progress (Attachment F).
 - (5) A World Bank consultant is assisting the Irrigation Department in developing a sound and reliable program for the measurement of canal seepage losses on both lined and unlined systems.
- b. Financial - Attachments D and E provide a summary of the financial status of the 23 approved and the remaining eight subprojects yet to be approved. Approved subprojects have approximately incurred one-third of the total estimated project cost to date. The reasons for the low expenditure are problems of time delays relating to land acquisition, inadequate posting of staff and delay in the selection of contractors (still major constraints). Based on current planned budgets (Attachment D), 16 of the approved subprojects and three of the projects yet to be approved could be completed by the PACD. However, an analysis of the percent of project completion based on total project costs (Attachment E, Column 10) shows that only six approved subprojects have incurred expenditures of over 50 percent. Another six subprojects have spent between 35 to 50 percent of their estimated total cost.

Based on past trends and hopes for additional staff it appears that only six subprojects will be completed by the PACD with another six completed within a year after the PACD.

- c. Disbursements - The project paper projected that \$91 million would be spent on project works by September 1981 of which \$19 million would be reimbursable by AID. Actual expenditures total over \$100 million (Rs. 854 million - Attachment E) on the approved projects with AID disbursements of \$7.4 million, with another \$1.5 million of claims being processed by GOG and GOI. Considering the disbursement claims under process, approximately \$9 million will be disbursed covering expenditures incurred ending September 1981. Since the mid-term review (December 1980) and issuance of recommendations to GOG in January 1981, the quarterly rate of disbursement has increased from \$0.5 million to \$1.5 million per quarter.

The reason for the low disbursements relate to the portion of total expenditures which are eligible for cost sharing. In the PP it was assumed that 53 percent of the total expenditures would be reimbursed by AID and IDA whereas only 34 percent is actually reimburseable based on eligible expenditures.

It has been determined that the low rate of eligible expenditures is a result of the purchasing and stock piling of large quantities of construction materials (mainly cement and steel) which costs show against total subproject expenditures but do not qualify for reimbursement until after they have been used. With the utilization of the stocks, the average percent of eligible expenditures qualifying for disbursements would rise from 59 percent (Attachment E) to over 70 percent.

6. Financing Schedule through PACD

Attachments D and E provide the details of year wise expenditures incurred on the project (both approved and yet to be approved subprojects) to date and the projected budgets made by GOG during the remaining project period through the PACD. Keeping in view the past expenditure trends and the staffing constraints that still exist, the provisions may appear ambitious. Under the best of efforts, it would be unrealistic to assume that more than 80 percent of the projected budget could actually be utilized or approximately \$183 million (Rs 1,650 million - GOG FY 81, 82 and 83 to PACD). If it is assumed that 70 percent of the total expenditures would be eligible for partial funding by IDA/USAID (GOI/GOG - 46 percent, IDA/World Bank - 40 percent and USAID - 14 percent) a total amount of \$214 million (Rs 1,930 million) would have been utilized on the project during GOG FY 81, 82, 83 to utilize the available USAID credit. As such, it appears reasonable to assume that the PACD will have to be extended to June 30, 1984 (one year) in order to meet the project objectives and utilize the full credit of \$30 million.

7. Recommendations

a. Government of Gujarat (GOG)

- (1) There is a significant shortfall in the placement of field supervisory (junior engineers and overseers) personnel. Vacant positions need to be urgently filled and additional positions sanctioned to match the requirement as projected by the Appraisal Committee. GOG must give high priority to staffing in order to utilize the available credit even if the PACD is extended for one year.^{1/} Action is needed to assure that sufficient subdivisions are assigned to the distribution system to synchronize canal construction activities with the headworks. This would also enable utilization of stock piled materials from the preceding years and qualify their costs for reimbursement.
- (2) Selection of contractors for canals and distribution networks is lagging far behind schedule. Action by GOG is needed to reduce the selection and approval time and thus improve the implementation rate.
- (3) Implementation of the upgraded canal and watercourse lining specifications must be enforced by GOG in order to improve the construction quality.
- (4) Continue the training workshops for the field officers in "Irrigation System Network Planning and Design" and "quality control in construction" until all the field staff have been trained.
- (5) Implementation of agricultural development plans and setting up of a demonstration plot in each of the MIPs has not made any headway. Since this aspect of the program is vital in order to optimize agricultural production, complete orchestration between Irrigation and Agriculture Departments is necessary. GOG urgently need to set up a coordination group to assure that the agricultural development plans are developed and demonstration plots established.

b. USAID

World Bank is a major donor and has the lead responsibility for monitoring the project. The World Bank is now taking a more active role in project monitoring and attempting to see that the identified constraints to project implementation and quality are removed. As such, AID should reduce its monitoring input and concentrate the limited available resources on its other projects. AID should only join the Bank personnel for their periodic reviews of the project.

^{1/} We have been advised that orders have been issued to hire an additional 150 diploma holders and 100 degree holders. This would fill almost all of the vacant sanctioned positions. However, we have not received written confirmation of this action.

Attachment A

LIST OF KEY PERSONS WHO PARTICIPATED IN EVALUATION

World Bank

1. Mr. C. J. Perry, Project Manager
2. Mr. D. Taneja, Irrigation Engineer
3. Mr. S. Subramaniam (accounts office)

USAID

1. Mr. Edwin D. Stains - Project Officer
2. Mr. D. R. Arora - Operations Manager

CENTRAL WATER COMMISSION (CWC)

1. Mr. J. R. Khanna - Director FA-II

GOVERNMENT OF GUJARAT

1. Mr. D. R. Shankar Iyer - OSD (PPM Cell)
2. Mr. K. R. Lad - OSD (Monitoring)

RECOMMENDATIONS

MID-TERM STATUS REPORT
December 23, 1980

1. In order to utilize the available credit prior to the completion date of the project, it is imperative that the GOG take immediate action to assure that the recommended staffing patterns for each of the 30 projects are in place within the next few months.
2. In order to insure compliance within the agricultural support criteria, it is strongly recommended that a coordination group be formed between the Department of Irrigation and the Department of Agriculture to insure that the required agricultural development plans and the demonstration projects are established in each of the 30 projects and coordinated with the completion of irrigation works.
3. In order to assure acceptable quality control for the canal and water-course lining program, it is recommended that the GOG:
 - a. Carry out workshops for all the assistant and junior engineers involved with construction supervision of the canal lining. Each workshop would not need to be more than a week long and should be limited to approximately 15 to 20 persons. The focus of the workshop would be proper procedures of concrete handling, placement and curing to assure a high quality product and procedures to assure proper compaction of the banks supporting the lining.
 - b. Form a task force to make an on-site detailed inspection of all lining carried out over the last two years under the IDA/AID projects. The task force would identify reaches of the lining that need to be replaced to meet minimum quality requirements.
 - c. Expand the Quality Control Circle of the Irrigation Department to provide additional XEN's to inspect the construction quality for the NIPs and particularly of lining. These XENs should participate in the training exercises outlined above. At present two XENs are assigned to inspect all of the on-going major and medium irrigation projects in Gujarat.
 - d. Discontinue the use of the 5 x 30 x 30 cm compressed sand cement tiles as a lining material. A high degree of failure with the lining material due to its fragile nature and the difficulty of assuring strong mortared joints has been noted. The World Bank has suggested possible ways to improve the quality. However, because of increase in cost that will result from the proposed improvements and difficulties envisioned in the placement of the tile, their continued use is discouraged.

4. In order to improve the planning and design of the minor distribution networks, the recommendations of the World Bank should be implemented on a large scale.
5. In order to expedite the appraisal committee approval of the 12 projects pending with them, efforts need to be made to intensify communication between the appraisal committee and the necessary Irrigation Department officials to clear these projects.
6. In order to comply with the requirements under Article B, Section B 8 of the Loan Agreement and Item VI.C of the Implementation Letter No. 1, signboards need to be prepared and installed at each project site identifying the USAID as providing financial assistance.

ARD:E.D.Stains:D.R.Arora:1a:12/4/81

GUJARAT MEDIUM IRRIGATION PROJECT
STATUS OF STAFF IN APPROVED PROJECTS
AS OF SEPTEMBER 30, 1981

PROJECT	Staff Position								
	As recommended by Appraisal Committee			Sanctioned by GOG			Actual in position		
	D	SD	FS	D	SD	FS	D	SD	FS
<u>Approved Projects</u>									
Panam	7	35	150	6	33	150	6	33	143 (33)
Sukhi	9	27	166	8	41	166	8	40(5)	96
Deo	6	18	58	2.5	12	58	2.75	12	36 (23)
Watrak	5	15	57	2	15	57	2	15	50 (7)
Guhai	-	6	30	-	4	14	-	4	13
Sipu	1	4	20	1	4	19	1	4	18
Machan-nala	1	5	25	1	8	25(20)	1	3	15
Hadaf	-	8	40	2	9(5)	32(20)	1	3	12
Bhadar (P)	2	6	30	1	13	57	1	7	33
. Aml/Ver-II	1	8	40	1	4	23	1	4	18 (1)
. Kelia	-	6	30	-	-	-	-	1	4
. Sukh bhadar	-	9	45	1	6	26	1	6	18 (3)
. Machhundri	-	9	40	1	5	21	1	5	10 (1)
. Kalubhar	-	8	36	1	7	31	1	7	22
. Venu - II	-	8	35	1	6	23	1	6	18 (5)
. Und	4	14	60	2	8	38	2	8	29 (8)
. Demi - II	-	6	30	-	2	38	-	2	29
. Aji - II	-	5	25	1	3	15	1	3	12
. Aji - III	-	8	40	-	5	20	-	5	13
. Bhadar (Mod)	-	15	65	1	5	23	1	5	11
. Dantiwada (Mod)	-	30	140	1	5	23	1	5	17
. Jhuj	-	7	30	-	-	-	-	1	4
. Fatewadi *	-	-	-	-	-	-	-	-	-
TOTAL	36	257	1192	33.5	195(5)	859(40)	32.75	179(5)	621 (81)
Percent	100	100	100	93	75	80	91	71	51

figures in () indicate improvement in staff position since March, 1981

- Division, SD - Subdivision, FS - Field Supervisory staff.

Project approved in October, 1981. Details of sanctioned staff and staff in position not available.

GUJARAT MEDIUM IRRIGATION PROJECT
ESTIMATED COSTS AND SCHEDULE OF EXPENDITURE

(Million Rupees)

PROJECT	Estimated Project cost	Expenditure upto March 81	Requirement from April 1, 1981	Budget Provisions			Requirement beyond April 1, 1983
				81-82	82-83	March 83 to June 83 (PACD)	
<u>Approved</u>							
Panam	413.6	305.7	107.9	50.0	36.0	21.9	-
Sukhi	324.9	123.5	201.4	85.0	85.0	31.5	-
Deo	160.5	40.8	119.7	47.4	42.3	30.7	-
Watrak	243.9	95.3	148.6	50.5	75.0	23.1	-
Guhai	168.9	15.1	153.8	47.2	50.4	40.0	16.2
Hadaf	78.6	15.9	62.7	20.0	30.0	12.7	-
Machan-nala	47.3	32.2	15.1	15.1	-	-	-
Bhadar (P)	144.1	48.5	95.6	35.0	35.0	25.6	-
Kelia	61.7	22.0	39.7	19.3	15.0	5.5	-
Jhuj	100.4	6.4	94.0	21.4	36.8	39.8	-
Aml/Ver-II	64.4	34.0	30.0	14.0	16.4	-	-
Dantiwada (Mod)	244.9	38.9	206.0	20.0	40.0	20.0	126.0
Fatewadi (Mod)	178.6	19.3	159.3	10.0	35.0	20.0	94.3
Bhadar (Mod)	117.0	5.9	111.1	15.0	27.0	10.0	59.1
Sukhbhadar	58.8	25.8	33.4	10.0	15.0	8.0	-
Machhundri	73.4	36.6	36.8	15.0	20.0	1.8	-
Kalubhar	63.1	32.5	30.6	15.9	14.7	-	-
Venu-II	89.2	29.2	60.0	23.6	25.6	10.8	-
Und	150.6	41.8	108.8	15.0	25.0	10.0	58.8
Demi-II	57.6	16.1	41.5	15.0	20.0	6.5	-
Aji-II	67.8	7.1	60.7	19.0	26.0	15.7	-
Sipu	411.0	38.0	373.0	22.0	50.0	32.0	269.0
Aji-III	163.9	21.5	142.4	30.0	40.0	15.0	57.4
sub-total	3,484.5	1,052.1	2,432.4	615.4	760.2	380.5	600.8
<u>to be approved</u>							
Mazam	123.2	16.3	106.9	25.0	40.0	15.0	26.8
Uben	67.5	25.8	41.7	23.7	15.0	3.0	-
Zankhari	344.3	13.0	331.3	24.5	40.0	20.0	246.8
Shetrunji (Mod)	68.8	4.8	64.0	20.0	30.0	10.0	4.0
Machhu I (Mod)	34.6	-	34.6	8.0	13.0	7.0	6.8
Hathmati	34.5	3.8	30.7	10.0	15.0	5.7	-
Khari cut	44.0	13.6	30.4	10.0	8.0	5.0	7.4
Mukteshwar	-	-	-	10.0	20.0	7.0	-
sub-total	788.0	77.3	710.7	131.2	101.0	72.7	291.8
Grand-total	4,272.5	1,129.4	3,143.1	746.6	861.2	453.2	892.6

GUJARAT MEDIUM IRRIGATION PROJECT
ESTIMATED SUB-PROJECT COSTS AND SCHEDULE OF EXPENDITURE
30th SEPTEMBER, 1981 1/

PROJECT	Estd. cost (million Rupees)	GOG EXPENDITURES (Million Rupees)							% project completion by cost	Eligible Expdr. (million 3/ Rupees)	% Eligible Expdr. of Col. 9
		Upto 7/78	7/78 to 3/79	79-80 ^{2/}	80-81	4/81 to 9/81	Commulative up-to 9/81	7/78 to 9/81			
Approved (1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1. Panam	413.6	162.7	36.4	54.6	52.0	16.8	322.5	159.7	78	125.1	78
2. Sukhi	324.9	13.9	69.8	20.7	19.1	2.7	126.2	112.3	39	57.0	51
3. Deo	160.5	1.8	8.9	13.7	16.4	9.9	50.7	48.9	32	24.9	51
4. Watrak	243.9	52.4	9.2	11.3	22.4	2.1	97.4	45.0	40	12.2	27
5. Guhai	168.9	-	0.6	1.6	12.9	1.3	16.4	16.4	10	3.5	21
6. Hadaf	78.6	1.2	3.1	1.1	10.5	3.0	18.9	17.7	24	8.2	44
7. Machan-nala	47.3	7.1	4.9	7.5	12.7	9.0	41.2	34.1	87	23.2	68
8. Bhadar (P)	144.1	7.1	12.7	7.8	20.9	4.4	52.9	45.8	37	28.0	61
9. Kelia	61.7	-	-	4.0	18.0	7.1	29.1	29.1	47	19.7	68
10. Jhuj	100.4	-	-	2.2	4.2	7.7	14.1	14.1	14	9.2	65
11. Amli/Ver-II	64.4	4.0	7.4	13.2	9.4	1.4	35.4	31.4	55	15.7	50
12. Dantiwada (Mod)	244.9	1.4	10.3	12.2	15.0	2.9	41.8	40.4	17	31.2	77
13. Fatewadi (Mod)	178.6	6.7	3.4	5.7	3.5	1.5	20.8	14.1	12	11.5	82
14. Bhadar (Mod)	117.0	0.3	1.0	1.3	3.3	3.8	9.7	9.4	8	7.0	74
15. Sukhbhadar	58.8	8.1	4.8	4.9	8.0	1.3	27.1	19.0	46	18.0	95
16. Machhundri	73.4	15.4	6.2	7.8	7.2	1.1	37.7	22.3	51	15.0	67
17. Kalubhar	63.1	4.5	7.1	7.4	13.5	3.2	35.7	31.2	57	13.9	45
18. Venu-II	89.2	1.2	6.0	8.9	13.1	1.2	30.4	29.2	39	16.2	56
19. Und	150.6	1.8	8.9	15.8	15.4	3.6	45.4	43.7	30	20.4	40
20. Demi-II	57.6	-	1.0	7.0	5.1	3.9	17.0	17.0	30	6.3	31
21. Aji-II	67.86	-	-	3.0	4.1	3.2	10.3	10.3	15	4.1	34
22. Sipu	411.0	2.9	4.1	4.0	27.0	1.0	39.0	36.1	4	No claims submitted	
23. Aji-III	163.9	-	-	10.6	10.9	4.6	26.1	26.1	16		
Sub-total	3,484.5	292.7	206.8	226.3	324.6	96.7	1,147.3	854.1	34.26	47.3	59 ^{4/}

GUJARAT MEDIUM IRRIGATION PROJECT
ESTIMATED SUB-PROJECT COSTS AND SCHEDULE OF EXPENDITURE
30th SEPTEMBER, 1981

PROJECT (1)	Estd. cost (million Rupees) (2)	GOG EXPENDITURES (Million Rupees)							% project completion by cost (10)	Eligible Expdr. (million Rupees) (11)	% Eligible Expdr. of Col. 9 (12)
		Upto 7/78 (3)	7/78 to 3/79 (4)	79-80 (5)	80-81 (6)	4/81 to 9/81 (7)	Cummu- lative upto 9/81 (8)	7/78- 9/81 (9)			
<u>Yet to be approved</u>											
1. Mazam	123.2	-	0.3	4.6	11.4	6.6	22.9	22.9	19	-	-
2. Uben	67.5	-	1.5	8.3	16.0	5.9	31.7	31.7	47	-	-
3. Zankhari	344.3	-	0.2	12.5	0.3	-	13.0	13.0	4	-	-
4. Shetrunj (Mod)	68.8	0.4	0.2	1.0	3.2	5.4	10.2	9.8	15	-	-
5. Machhu I (Mod)	34.6	-	-	-	-	-	-	-	-	-	-
6. Hathmati	34.5	-	0.3	-	3.5	2.4	6.2	6.2	18	-	-
7. Kharicut	44.0	0.5	1.0	4.7	7.4	1.5	15.1	14.6	34	-	-
8. Mukteshwar	-	-	-	-	-	-	-	-	-	-	-
Sub-total	788.0	0.9	3.5	31.1	41.8	21.8	98.9	98.5	17.1		
Grand total	4,272.5	293.6	210.3	257.4	366.4	118.5	1246.2	952.6			

- 1/ Information provided by GOG, PPM Cell
2/ GOG fiscal year 1 April - 31 March
3/ Based on claims being submitted by GOG
4/ Excluding projects 22 & 23.

GUJARAT MEDIUM IRRIGATION PROJECT
PROJECTS POSED FOR IDA/AID ASSISTANCE
STATUS AS OF OCTOBER, 1981

<u>P R O J E C T S</u>	<u>CCA</u> <u>(ha)</u>	<u>Date</u> <u>CWC</u> <u>appro-</u> <u>ved</u>	<u>Date</u> <u>socio-</u> <u>eco.</u> <u>studies</u> <u>completed</u>	<u>River</u> <u>gaug-</u> <u>ing</u> <u>estab-</u> <u>lished</u>	<u>Date</u> <u>CWC</u> <u>pro-</u> <u>gress</u> <u>reports</u>	<u>Major</u> <u>constraint</u> <u>identified</u> <u>by CWC</u>
<u>Approved</u>						
Panam	41,116	22.5.79	17.4.78	x	1.8.81	-
Sukhi	20,660	19.4.79	4.8.78	x	1.8.81	Staff, land aquisition
Deo	7,207	13.3.80	29.1.78	x	1.8.81	Staff, contractor
Watrak	18,341	13.3.80	4.12.78	x	1.8.81	Staff, contractor
Guhai	6,827	17.1.81	15.3.79	x	16.5.81	Staff, material
Hadaf	5,238	7.5.80	11.2.79	x	19.8.81	Staff, tech. sanctions
Machan-nala	3,084	6.4.79	5.9.78	x	19.8.81	Staff
Bhadar (P)	6,600	9.7.81	20.2.80	x	-	Staff
Kelia	3,468	11.8.80	22.1.80	x	19.8.81	material, staff
Jhuj	4,180	11.8.80	8.2.80	x	19.8.81	Staff, land aquisition
Aml/Ver-II	3,644	19.4.79	6.10.78	x	19.8.81	Staff, contractor
Dantivada (M)	4,896*	8.5.81	28.7.81	x	-	Staff, contractor
Fatewadi (M)	7,230*	14.10.81	30.3.81	x	-	Staff, contractor
Bhadar (M)	4,518*	8.5.81	15.9.80	x	-	Staff, contractor
Sukhbhadar	7,400	20.6.79	21.8.78	x	1.8.81	Staff, equipment
Machhundri	8,095	19.6.79	18.9.78	x	19.8.81	Staff, contractor
Kalubhar	5,830	18.6.79	30.9.78	x	19.8.81	Staff, contractor
Venu-II	5,253	7.5.80	29.12.78	x	1.8.81	Staff, contractor
Und	10,920	7.5.80	4.12.80	x	1.8.81	Staff, tech, sanctions
Demi-II	2,437	17.1.81	5.1.80	x	16.5.81	Staff, land aquisition
Aji-II	2,348	13.5.81	20.7.81	x	-	-
Sipu	23,451	4.9.81	27.2.79	x	-	-
Aji-III	6,615	9.7.81	27.2.80			
Sub-total	<u>2,09,358</u>					
<u>to be approved</u>						
Mazam	6,325		23.2.80			
Uben	2,430		11.2.79			
Zankhari	24,202		1.3.80	x		
Shetrunji (M)	1,96 *		15.10.80			
Machhu-I (M)	4,739*		28.7.81			
Hathmati	4,250		31.3.81			
Khari-cut (M)	1,804		30.3.81			
Mukteshwar	<u>5,838</u>		UP			
Sub-total	<u>49,784</u>					
TOTAL	<u>259,142</u>					

- Additional potential due to modernisation

- Under preparation

A - Cultivable Command Area

M - Modernisation project

GUJARAT MEDIUM IRRIGATION PROJECT
STATUS OF PHYSICAL WORKS
as of June 30, 1981

(Percent)

PROJECT	ENGINEERING		DESIGN		CONSTRUCTION				DIST. SYSTEM	
	DAM		CANAL		DAM		CANAL		Target	Achieved
	Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved
<u>Approved</u>										
1. Panam	100	100	100	100	100	100	74	74	67	65
2. Sukhi	100	92	90	62	75	41	65	6	-	-
3. Deo	100	95	52	35	61	30	23	6	0	0
4. Hadaf	100	90	70	50	62	30	35	10	4	0
5. Machan-nala	100	100	100	72	82	82	72	50	-	-
6. Sukhbhadar	100	100	55	55	100	98	12	5	5	0
7. Machhundri	100	100	100	60	100	100	58	20	52	0
8. Kalubhar	100	100	82	85	100	86	25	15	42	0
9. Venu - II	100	100	62	62	70	57	18	0	20	0
10. Und	100	100	45	25	79	79	15	0	6	0
11. Watrak	100	100	100	80	60	60	75	31	23	0
12. Jhuj	100	65	32	-	28	21	12	0	-	-
13. Kelia	100	80	76	-	64	79	23	0	23	0
14. Demi - II	100	100	40	5	60	60	10	0	-	-
15. Guhai	100	100	18	20	20	10	10	0	5	0
16. Aji - II	100	90	10	10	10	25	-	-	-	-
17. Dantiwada (MOD)	0	0	-	-	0	0	22	23	8	0
18. Bhadar (MOD)	-	-	-	0	0	0	22	23	4	0
19. Aji - III	100	80	60	15	58	50	50	5	-	-
20. Bhadar (P)	95	90	58	75	67	57	38	28	-	-
21. Aml/Ver - II	100	100	100	70	80	65	85	20	65	0
22. Sipu	70	50	35	-	20	0	5	0	-	0
23. Fatewadi (MOD)	-	-	4	0	-	-	31	-	4	0

Contd. . .

PROJECT	ENGINEERING		DESIGN		CONSTRUCTION				DIST. SYSTEM	
	DAM		CANAL		DAM		CANAL		Target	Achieved
	Target	Achieved	Target	Achieved	Target	Achieved	Target	Achieved		
<u>Yet to be approved</u>										
1. Mazam	100	100	58	5	55	30	4	-	13	0
2. Uben	-	-	-	-	-	-	-	-	-	-
3. Zankhari (MOD)	100	-	50	-	30	-	-	-	0	0
4. Shetrunji (MOD)	-	-	-	-	-	-	-	-	0	0
5. Kharicut (MOD)	-	-	-	-	-	-	5	-	30	25
6. Machhu - I (MOD)	-	-	-	-	-	-	5	-	5	0
7. Hathmati (MOD)	-	-	-	-	-	-	5	-	-	-
8. Mukteshwar *	-	-	-	-	-	-	-	-	-	-

* included for assistance in September, 1981

- indicates information not available during review.