

PROJECT EVALUATION SUMMARY (PES) - PART I

Report Symbol U-447

1. PROJECT TITLE Agricultural Development Credit			2. PROJECT NUMBER 386-0466	3. MISSION/AID/W OFFICE USAID/India
5. KEY PROJECT IMPLEMENTATION DATES A. First PRO-AG or Equivalent FY <u>80</u> B. Final Obligation Expected FY <u>81</u> C. Final Input Delivery FY <u>82</u>			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) 82-6 <input type="checkbox"/> REGULAR EVALUATION <input type="checkbox"/> SPECIAL EVALUATION	
6. ESTIMATED PROJECT FUNDING A. Total \$ <u>1,250 million</u> B. U.S. \$ <u>55.6 million (Loan)</u>		7. PERIOD COVERED BY EVALUATION From (month/yr.) <u>6/80</u> To (month/yr.) <u>5/82</u> Date of Evaluation Review June 1, 1982		

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., telegram, SPAR, PIO, which will present detailed request.)	B. NAME OF OFFICER RESPONSIBLE FOR ACTION	C. DATE ACTION TO BE COMPLETED
<p>Against a \$100 million Loan Assistance authorized for this project, AID has decided to keep the assistance at \$55.6 million and not to obligate \$44.4 million.</p>	<p>AID/W</p>	<p>Completed</p>

<p>9. INVENTORY OF DOCUMENTS TO BE REVISED PER ABOVE DECISIONS None</p> <p><input type="checkbox"/> Project Paper <input type="checkbox"/> Implementation Plan e.g., CPI Network <input type="checkbox"/> Other (Specify) _____</p> <p><input type="checkbox"/> Financial Plan <input type="checkbox"/> PIO/T</p> <p><input type="checkbox"/> Logical Framework <input type="checkbox"/> PIO/C <input type="checkbox"/> Other (Specify) _____</p> <p><input type="checkbox"/> Project Agreement <input type="checkbox"/> PIO/P</p>	<p>10. ALTERNATIVE DECISIONS ON FUTURE OF PROJECT</p> <p>A. <input type="checkbox"/> Continue Project Without Change</p> <p>B. <input type="checkbox"/> Change Project Design and/or <input type="checkbox"/> Change Implementation Plan</p> <p>C. <input checked="" type="checkbox"/> Discontinue Project</p>
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<p>11. PROJECT OFFICER AND HOST COUNTRY OR OTHER RANKING PARTICIPANTS AS APPROPRIATE (Names and Titles)</p> <p>K.C. Kapoor <i>Kaulbach Chand Kapoor</i> Clearances: JAMalick (draft) RWNachtrieb <i>[Signature]</i> Project Development Officer USAID/New Delhi</p> <p>Frank J. Young <i>[Signature]</i> Acting Chief, Program Office</p>	<p>12. Mission/AID/W Office Director Approval</p> <p>Signature <i>P. M. Boughton</i> Typed Name Priscilla M. Boughton Director Date _____</p>
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USAID, NEW DELHI
PES - PART II
REGULAR EVALUATION

Project No. & Title: 386-0466 - Agricultural Development Credit

Summary

The Project Loan Agreement of \$20 million was signed on June 30, 1980 between the Government of India (GOI) and AID. A first amendment to this Loan Agreement was signed on December 15, 1980 for \$35.6 million making the total loan amount \$55.6 million against a \$100 million of Loan Assistance authorized for this project. The agreement provides that the proceeds of the AID Loan would be on-lent through the GOI to the Agricultural Refinance Development Corporation (ARDC) for support of its two year (July 1980-June 1982) program to refinance lending by eligible credit institutions (Land Development Banks, commercial banks, Regional Rural Banks and primary cooperative societies) for minor irrigation activities that include dugwells, borewells, shallow and deep tubewells, well improvements, lift irrigation and diesel and electric pumpsets, land development and soil conservation activities. Against the total loan assistance of \$55.6 million the GOI has furnished AID reimbursement claims totaling \$55.6 million. These claims have been fully disbursed by USAID.

The project's purpose is to increase agricultural production in India and contribute to the goals of increased income and employment. The purpose will be achieved by expanding and improving small farmer access to credit for productive investments in minor irrigation activities. The AID loan requires that at least 50% of its proceeds shall be used by ARDC to refinance loans to small farmers, defined as those where pre-development family income does not exceed Rs.2,000/- annually based on 1972 prices. ARDC has complied with this requirement and has disbursed 54% of the AID Loan proceeds to small farmers.

When authorizing this project the Administration requested that USAID should work with the borrower and other donors, particularly the World Bank, to assess progress under this project, including (a) beneficiary impact in terms of employment generation, (b) changes in policies related to subsidized interest rates and (c) reduction in the percentage of overdues and delinquent loans in the rural lending program supported by this project.

During 7/80 to 6/81 ARDC disbursed Rs.2,765 million (\$307 million equivalent) for refinancing minor irrigation and land development schemes (MILD). Out of this 63.8% Rs.1,765 million (\$196 million equivalent) was disbursed to 235,000 small farmers. Thus a substantial portion of this activity's resources reaches small farmers. Impact evaluation studies carried out by ARDC on earlier minor irrigation schemes show increased agricultural production and generated additional employment. (See Attachment B.)

In September 1981, ARDC published the results of its Evaluation study of "Development of Acid Lime Gardens in Nellore District" (Andhra Pradesh). The study evaluated investments under the horticulture scheme including the impact

of installing minor irrigation units. The study states "The installation of minor irrigation units under the scheme is estimated to have provided non-recurring on-farm employment of 170,000 man-days. Additional recurring 520 man-years (of 250 man-days each)".

Changes in policies related to subsidized interest rates: The interest charged to farmers on minor irrigation loans refinanced under the ARDC program was raised effective July 1, 1980 from 9.5% to 10.25%. However, the ARDC refinancing rate to eligible participating institutions remained unchanged at 6.5% thus providing an additional margin of operating income needed for efficient functioning of the participating institutions. There is no other change in the GOI policy, which continues to maintain low interest rates to encourage farmers to adopt higher technology agriculture.

Reduction in the percentage of overdue and delinquent loans in the rural lending program, supported by this project: The greatest problem ARDC faces is the high rate of overdue loans in the participating LDBs and Commercial Banks (CBs). Nationwide the overdues in LDBs average about 50 percent; the average in CBs is slightly higher. However, there are major differences between the various states in their recovery performance. The problem is particularly acute for LDBs in the states of Tamil Nadu, Bihar, Gujarat, Madhya Pradesh and Maharashtra. For example the recovery of demand in Bihar in 1977-78 and 1978-79 was approximately 40%; in 1979-80, it was only 23 percent. Likewise, in Madhya Pradesh, recoveries were 55 percent in 1977-78, 44 percent in 1978-79 but only 23 percent in 1979-80. On the other hand, the states of Haryana, Punjab and Andhra Pradesh had overdues of less than 5 percent.

The problem of high overdues has been receiving ARDC's priority attention. The Central Government has issued letters to the Chief Ministers of the states where high overdues is a chronic problem eliciting their support in maintaining the integrity of credit. There also is a proposal to "block" the overdues which are chronic and delinquent for more than three years. The amounts due from the borrowers and not collected under this concept will be paid to LDBs by the state governments. This proposal is under consideration in the GOI.

In all of the states with high overdues (above 50 percent), rehabilitation plans for LDBs have been prepared and corrective action initiated. The rehabilitation plans broadly provide for (i) relief to beneficiaries affected by drought by way of extension of the loan instalments, fulfilment of government obligations in respect of blocked loan accounts, extending concessional loan maturities to small farmers, (ii) review of existing compensation schemes for failed wells, (iii) drawing up of proposals for completion of incomplete investments undertaken in the past, (iv) organizational measures to strengthen the LDB structure for loaning and recovery, and (v) for action against wilful defaulters.

ARDC has prescribed eligibility criteria for its refinancing of advances made by SLDBs branches. The criteria provides for incentives to improve loan recovery performance by directly linking the extent of lending to recovery.

In case of CBs the overdues on agricultural loans, though as high as in case of LDBs, constitute about 2 percent of their total outstanding credit. A plan identifying the causes of high overdues and a plan for reducing them is required by ARDC before it will refinance schemes of CB branches having overdues on agricultural loans above 50 percent. ARDC also makes a periodic review of the recovery position and the corrective action taken.

AID Monitoring: During the period covered by this evaluation, USAID officials visited two states (Maharashtra and Uttar Pradesh) to review procedures and controls for refinancing MILD schemes. It was found that, effective January 1, 1981, ARDC instituted District Oriented Monitoring (DOM) to replace its earlier system of individual scheme-oriented monitoring system. DOM facilitates more intensive supervision of schemes for development programs and credit planning by assessing financial and physical progress of schemes, identifying constraints in implementation, reviewing arrangements for supervising and verifying loans, assessing misutilization, reviewing adequacy of infra-structural support and suggesting measures for improving the performance of schemes. Our review of several DOM reports received and under review by ARDC showed that these reports were fairly exhaustive and that they identified the same types of findings that we observed in our own inspections. For example, through its DOM system, ARDC found instances of technical criteria not being followed (acreages not matching pumpset capacities), repayment capacities of borrowers not carefully enough calculated, inadequate coordination between participating banks, etc. Instances of misutilization were also identified.

Visits by the USAID and interviews with beneficiaries also showed that these types of discrepancies exist. They were discussed with ARDC. Instructions and revised procedures for participating banks and their regional offices have been issued.

In a meeting with us on October 21, 1981, Mr. Sant Dass, Managing Director of ARDC, expressed appreciation for the findings of the USAID team and stated that USAID monitoring has been very helpful in improving the ARDC system.

Evaluation Methodology

As noted in Part IV Section A (2) of the Project Paper, AID is relying on the ARDC's evaluation program to obtain information and the impact of ARDC's activities. As part of PP preparation, ARDC's evaluation system and studies on such investments as minor irrigation and land development were reviewed.

Based on this review and ARDC's plans to have an additional 50 studies completed prior to December 1982, it was decided that AID would not conduct independent evaluation studies. As of April 1982, ARDC has completed 4 evaluation studies, two of which are: (1) Exploitation of Groundwater Irrigation in Kota district of Rajasthan and (2) Minor Irrigation in Bhojpur District of Bihar. Both these studies are being printed. In addition, participating commercial banks covered under ARDC refinancing have also completed 15 evaluation studies; six of these studies are on minor irrigation. We have reviewed these studies and summarized their findings which are presented as Attachment A to this PES. We have communicated our concern to ARDC on the slow progress of completing their evaluations.

External Factors

AID's decision not to obligate \$44.4 million third tranche of this \$100 million project is expected, despite a GOI priority for minor irrigation, to result in a reduction of the size of ARDC's program for minor irrigation and land development.

Inputs

AID has already provided \$55.6 million out of a planned \$100 million for the 2 years of this \$1.25 billion project. Other inputs have come from IDA (\$250 million) and other donors (U.K., Germany, Canada, Netherlands and Switzerland) have already provided about \$200 million for this program through the year ended June 30, 1981. The IDA assistance finances minor irrigation and other diversified ARDC activities. AID assistance is available to finance only the minor irrigation and land development component of the ARDC program. Adequate GOI inputs are also available. No problems with regard to required inputs through the life of this project are anticipated.

Outputs

ARDC has not as yet undertaken studies specifically to determine the outputs flowing from this project. The physical targets (e.g., the number of minor irrigation units which will be in place at the completion of the project) were estimated during PP preparation based on the IDA appraisal of ARDC III. ARDC plans to carry out toward the end of 1982-83 studies which will evaluate present generation investments. However, ARDC's 18th Annual Report stated that in India, additional irrigation potential of 2.5 million hectares was created during FY 81 and the total irrigation potential 59 million hectares. Furthermore, agricultural production increased 19%, food grain production increased 22% and non-food grains increased 11% over FY 80. The production increase is due to (i) good rains, (ii) increased irrigation facilities made available through investments in minor irrigation, (iii) inputs of fertilizers and other pesticides and (iv) increased flow of institutional credit. During FY 81 ARDC sanctioned 2,011 minor irrigation and 93 land development schemes involving a commitment of Rs.4,600 million (\$511 million) as against 1,359 MI and 143 LD schemes involving ARDC financial commitments of Rs.4,100 million in FY 80. This shows that ARDC assistance in the MI and LD area continues to be its major activity.

During FY 81, ARDC disbursed Rs.2,765 million (\$307 million) on MI and LD as against Rs.2,370 million (\$263 million) disbursed in FY 1980. ARDC reports that in FY 1981, 63.8% (Rs.1,765 million) of its disbursements under MILD were made to 235,000 small farmers as against 61.2% (Rs.1,442 million) disbursed to 192,000 small farmers in FY 80. The assistance to borrowers meeting small farmer criteria averages Rs.7,500 (\$833) each for each year. These numbers give some idea as to the number of MI investments that have been accomplished by ARDC through its investment activities under this project.

Purpose

The project purpose is to increase agricultural production. Increased investment in minor irrigation and land development will bring additional area under cultivation and also raise production by the adoption of HYV and intensive cultivation techniques. Studies carried out in the past by ARDC on its investments have assisted in raising agricultural production increasing employment and increasing the incremental income of farmers. Attachment B shows the benefits derived from minor irrigation and land development investments as based on ARDC's studies.

Goal

The project goals are: increased level of small farmer income and expanded rural employment opportunities. The degree to which this project has contributed towards these goals will be determined only after ARDC has conducted impact evaluation studies covering economic activity generated by this investment. However, some idea as to the incremental income and employment generation resulting from investment in MILD activities is given in Attachment B.

Beneficiaries

The AID loan to GOI for Agricultural Development Credit required that at least 50% of loan proceeds benefit small farmers. ARDC has reported that 63.8% of its disbursements under MILD schemes have been made to small farmers. When combined with other donor resources (U.K. and the Netherlands), the percentage of small farmers attributable to AID financing is about 54%.

Unplanned Effects

Despite the increase in volume of disbursements recorded by ARDC during its FY 1981 (July 1980 to June 1981) it is reported that shortage of power and critical material such as cement, bricks, etc. have affected the progress of implementation of ARDC schemes.

Summary of Findings
of
6 Evaluation Studies completed by Participating Banks under ARDC Refinancing

The following evaluation studies on minor irrigation schemes covered under ARDC refinancing were undertaken by the participating commercial banks.

1. An Evaluation Impact Study of Minor Irrigation Scheme in Bundi District of Rajasthan State by Central Bank of India, Bombay.
2. Evaluation/Impact Study of Minor Irrigation Scheme in Jabalpur District of Madhya Pradesh by Central Bank of India, Bombay.
3. An Evaluation/Impact Study of Minor Irrigation Scheme in Bhind District of Madhya Pradesh by Central Bank of India, Bombay.
4. An Evaluation/Impact Study of Minor Irrigation Project in Jalgaon District of Maharashtra State by Central Bank of India, Bombay.
5. Impact of International Development Association assisted Minor Irrigation Scheme in Uttar Pradesh by Punjab National Bank
6. Scheme for financing Minor Irrigation Investments in Sultanabad and Peddapalli Panchayat Samithis of Karimnagar District in Andhra Pradesh An Evaluation Study by Agricultural Banking Department, State Bank of Hyderabad

These studies establish that investment in minor irrigation has positively contributed to increase in agricultural production and income which was the purpose of AID assistance under this project. However, these studies have not addressed to the question of employment generation which was one of the goals of AID assistance. The findings of these studies are summarized below.

These studies show that as a result of investments in minor irrigation the crop yield has gone up. Increased yield is attributed to (1) additional land area brought under cultivation, (2) double cropping due to the availability of irrigation, (3) use of high yielding varieties, and (4) an increase in the use of fertilizers by borrower farmers. These studies have compared the crop yield of borrower farmers with irrigation facilities with those of the non-borrower farmers. The comparative yield obtained per acre for different crops by borrower and non-borrower farmers is tabulated below.

<u>Crop</u>	<u>(Yield per acre in Kgs.)</u>	
	<u>Borrower</u>	<u>Non-Borrower</u>
Cereals	380 - 940	310 - 501
Pulses	190 - 465	170 - 344
Oilseeds	200 - 489	180 - 344
Sugarcane	23500 - 33500	19500 - 38300

The cropping intensity for borrowers has been found in the range of 123.2% to 148% whereas for the non-borrowers the same has been reported to vary between 102.6% to 112.6%. One study by the Punjab National Bank of a scheme in Uttar Pradesh has reported that the cropping intensity increased from 81% before to 159% after investment in minor irrigation.

The availability of Minor Irrigation facility with farmers has also brought about a change in their cropping patterns. The percentage of the total cultivated area by borrower farmers put under cereals (varying between 46.7% to 86.4%) cultivation is less than that by the non-borrower farmer (52.5% to 95.5%). The area put under cultivation of pulses, oil-seeds, vegetables and sugarcane by borrower farmers varies between 13.6% to 53.3% as against 4.5% to 47.5% by non-borrower farmers.

Due to increased land having been brought under cultivation, increased cropping intensity, and increased crop yield per acre the income of the borrower farmer is more than that of the non-borrower farmer. The per capita income for the borrower farmer varies between Rs.760 to Rs.1,375 whereas for the non-borrower the same varies between Rs.457 to Rs.622.

One study by Central Bank of India in Bundi District of Rajasthan has also compared the anticipated and actual economics of the scheme which is as follows:

	<u>Anticipated</u>	<u>Actual</u>
Income	Rs.1,202.0 ^{1/}	Rs.840.0
Cropping Intensity	175%	112.6% - 123.2% ^{2/}

The failure to achieve anticipated economics is primarily attributed to continuous drought conditions for 2-3 years which belied the assumption of normal rainfall in the area for water recharge in the wells.

None of the six studies have attempted to examine the impact of minor irrigation scheme on employment generation.

All the studies have reported poor recovery of loans. Poor recovery in relation to demand is attributed to natural calamities (continuous drought, distress sales, the use of additional income for consumption purposes). Besides the aforesaid reasons, the studies also point out that the bank staff did not follow up adequately with the borrower for repayment. Lack of transport facilities or inadequate transportation allowances provided by the banks made access to borrowers who are spread over a wide area less frequent.

1/ Based on average 4 acre farm.

2/ If we take area under sugarcane as double cropped then intensity is 147%.

This table is only indicative of the impact that minor irrigation, given other inputs, has on agricultural production. This needs to be confirmed by other impact studies on Minor Irrigation planned by ARDC.

Benefits derived from Minor Irrigation and Land Development Investments

Type of Investment	State/District or Region/Reference year of study	Cost of investment (Rs.)	Net Benefited area (ha)	Increase in cropped area (ha)	Additional production of food-grains per annum (quintals)	Gross Value of additional production (all crops) per annum (Rs.)	Incremental net income per annum* (Rs.)	Additional on farm employment per annum (man-days)	Financial rate of return (%)
MINOR IRRIGATION									
Shallow Tubewell	Haryana/Karnal/1973-74	6,210	3.57	1.43	N.A.	8,686	4,617	343	Over 50
	Uttar Pradesh/6 districts in Eastern Uttar Pradesh/1976-77	6,965	2.47	1.81	50	5,229	7,090	232	33
	Bihar/Saran/1978-79	6,600	1.65	0.56	57	8,800	2,365	316	22
Dugwell with pumpset	Maharashtra/Sholapur/1973-74	9,066	2.00	0.28	N.A.	3,794	2,569	300	29
	Madhya Pradesh/6 districts/1977-78	10,210	3.20	0.61	35	8,653	4,960	170	37
	Karnataka/Entire state excluding coastal districts/1976-77	11,790	1.20	0.48	12	3,040	1,600	145	21
Land Development	Karnataka/Bhadra Project-Chitradurga/1973-74	3,005	3.07	N.A.	N.A.	14,557	7,939	744	Over 50
	Andhra Pradesh/Nagarjuna Sagar-Nalgonda/1973-74	3,435	3.06	N.A.	N.A.	12,646	5,806	755	Over 50

* Includes also income from sale of water.