



1. Project Data:		Date Posted : 03/14/2002	
PROJ ID: P005212		Appraisal	Actual
Project Name: Irrigation Improvement	Project Costs (US\$M)	331.7	311.7
Country: Iran	Loan/Credit (US\$M)	157.0	157.0
Sector(s): Board: RDV - Irrigation and drainage (59%), Agricultural extension and research (24%), Central government administration (17%)	Cofinancing (US\$M)		
L/C Number: L3570			
	Board Approval (FY)		93
Partners involved :	Closing Date	06/30/2001	06/30/2001
Prepared by :	Reviewed by :	Group Manager :	Group:
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2. Project Objectives and Components

a. Objectives

- **enhance management of water resources** in the Project area;
- **improve agricultural productivity** by upgrading agricultural research and extension services (the SAR and ICR add - "raise crop output, farm incomes and foreign exchange savings "); and
- **strengthen project implementation institutions** .
(For greater evaluation clarity the above is an edited version from the DCA .)

b. Components

- 1. Irrigation and drainage (46 % of base cost)** continuing a program of rehabilitation and improvement in four existing irrigation and drainage systems totalling 90,600 ha by: (i) construction, or lining, of main/secondary/tertiary canals (25% base cost); (ii) on-farm sub-surface drainage, land leveling and water management (10%); and (iii) provision of offices, housing, vehicles and equipment for irrigation /drainage O&M staff (11%).
- 2. Agricultural services (37% of base costs)** strengthening by: (i) provision of housing, vehicles and equipment, and additional staff for MOA service centers; (ii) training of provincial agricultural staff; (iii) pilot testing of extension methods for women; and (iv) sale of farm machinery and implements to farmers in Tajan and Zarrineh Roud. (Agricultural service area was 90,600 + 16,400 ha = 107,000 ha.)
- 3. Environmental protection (6% of base costs)** strengthening environmental management by MOA, MOE, DOE, PADs and RWAs by: (i) provision of equipment, technical services and training; (ii) development of water quality monitoring and agricultural chemical management programs; (iii) erosion control programs and an archaeological site survey; and (iv) environmental management studies.
- 4. Institutional development (11% of base costs)** by strengthening Liaison Offices, MOA and the Ministry of Energy; studies, project planning and monitoring; and training of project implementation staff .

c. Comments on Project Cost, Financing and Dates

A rare project where the actual cost, financing and closing date are the same as at appraisal even though there was a two year delay in start up.

3. Achievement of Relevant Objectives:

At the time of the ICR mission in June 2001 the project was substantially completed but most implementation had occurred quite recently. Hence some activities had not yet taken hold over the entire project area but were expected to do so. With that reservation, achievement of project objectives overall is expected to be substantial :

- **water management was enhanced** - despite a cautious downsizing of scope (on paper in the 1998 MTR) the full program of civil works was in fact practically complete, however satisfactory O&M of the schemes is not yet

verified or assured (either of the macro-infrastructure or the on-farm portion);

- **agricultural productivity improved** : - with the caution that with late completion of works the agricultural benefit stream has started unusually vigorously for such schemes and needs careful monitoring for signs of weakness (but research and extension has been strengthened physically and institutionally);
- **strengthened implementation institutions** : - physical and staff skills upgrading was substantial but there remains the intractable (and common) problem of scheme responsibilities being divided between estranged irrigation and agricultural agencies;
- **on the SAR/ICR subsidiary objectives** , crop output and farm incomes were raised significantly, but there is no information on FE savings.

4. Significant Outcomes/Impacts:

- The ICR reports that 95% of the planned civil works would be completed (in June 2001 some of the later contracts on two sub-projects were nearing completion), and vehicles and equipment were provided as intended;
- cropping intensities in two schemes were rising (but had fallen in a third and there was no data for one of the largest schemes) and yields increases are close to SAR targets despite a recent severe drought;
- estimated farm income increases are substantial in the range 40% to 250%;
- 44,500 farm families (close to target) were direct beneficiaries and 33,500 farmers participated in extension programs;
- a substantial amount of farmer and staff training was completed;
- successful agricultural technology approaches are being expanded to other areas (farmer-identified research priorities and integrated pest management);
- 16 Water Users Groups and an unknown number of farmer cooperatives were established (and this extra-project approach is going national);
- the ICR reports a satisfactory reestimated project ERR of 16.6% (a low ERR for one sub-project excluded benefits from water savings - no data);
- environmental impacts were strongly positive in improved water use efficiency (thus reducing water logging and salinization) and preservation of wildfowl habitat; and
- safeguard policies (natural resource conservation/protected ecosystems, agricultural chemicals, cultural heritage and dam safety) were reportedly complied with through a series of studies and appropriate measures .

5. Significant Shortcomings (including non-compliance with safeguard policies):

- Project preparation was rushed with serious efficiency and cost consequences later . At the time of approval the project was far from ready for implementation (in particular the first year's construction program was not designed or contracted and counterpart funding was not secured - compounded by a macroeconomic emergency);
- implementation capacities were overestimated and project design was over -ambitious and too complex, especially coming so soon after a long hiatus in Bank operations in Iran; there was little beneficiary participation and some key stakeholders were not consulted (and were uncooperative later);
- project management (and Bank supervision) were difficult as the design included four dispersed sub -projects and involved ten principal implementing organizations;
- lack of cooperation between the two key ministries for agriculture and irrigation (MOJA and MOE) was apparent during preparation and the inter-agency Project Steering Committee set up to mitigate this did not function;
- start up was delayed by two years (after Effectiveness) and implementation then proceeded slowly (early counterpart funding was lacking and TA recruitment was slow), and protracted procurement processes delayed construction starts;
- some contractors performed poorly, contract management was weak and several contracts were completed late; although with great effort the construction backlog was eventually made up, project benefits were delayed and thus reduced, unit costs increased, and the delays were costly to the Borrower in terms of Loan service charges without benefit;
- viable O&M arrangements for the irrigation and drainage systems are still being developed;
- local agricultural consultants proved inadequate;
- overseas training and workshops were delayed and achieved only half of targeted throughput;
- the women's extension unit has slipped from view;
- environmental activities were constrained (and impacts reduced) by failure to procure equipment and staffing shortfalls;
- safeguard compliance with the covenant on dam safety was delayed for three years .

6. Ratings:	ICR	OED Review	Reason for Disagreement /Comments
Outcome:	Satisfactory	Moderately Satisfactory	Problematic implementation suggests that outcome was much less efficient than it might have been.
Institutional Dev .:	Substantial	Substantial	Impact rating is helped by addition of

			WUA activities.
Sustainability :	Likely	Likely	
Bank Performance :	Satisfactory	Satisfactory	Only marginally so, given poor implementation readiness at entry, which took inordinate Bank supervision efforts to overcome.
Borrower Perf .:	Satisfactory	Satisfactory	Only marginally so, given initial counterpart funding problems .
Quality of ICR :		Satisfactory	

NOTE: ICR rating values flagged with '*' don't comply with OP/BP 13.55, but are listed for completeness.

7. Lessons of Broad Applicability:

- In a construction project, readiness for implementation requires that engineering designs have been completed and contract processing is well advanced, at least for the initial work (in this respect, the apparent withdrawal of the OMS guideline on status of preparation at approval is a matter of concern);
- after a hiatus in country operations a modest restart of lending activities in a sector (and gradually rebuilding relationships, mutual knowledge and confidence) is a more efficient approach than starting big and riskily;
- important stakeholders must be fully involved in project preparation to ensure commitment and later cooperation;
- an immature domestic consulting industry can best be grown in partnership with experienced international firms;
- project designs should provide indicators (covering all main activities and outputs) and an associated monitoring scheme to facilitate implementation management and later evaluation .

8. Assessment Recommended? Yes No

Why? (i) Some concern that the ICR is too upbeat on the turnaround to an apparently satisfactory outcome after a disastrous start and early years (the ERR needs checking in this respect, and examination of related financial costs could be instructive); (ii) sustainability of the macro investments is uncertain in the absence of information on the quality of construction, and of O&M current and expected; and (iii) apart from a good start in one sub-project, it is not clear how well the participatory (WUA) movement is taking hold to provide the institutional base for sustainability of on-farm investments in the other three sub-projects.

9. Comments on Quality of ICR:

The ICR is rated satisfactory but could have been improved in a few areas : (i) although there were construction delays and contractor performance problems, the ICR makes no comment on the quality of civil works (which would affect benefits and sustainability); (ii) similarly there is no analysis of the quality of current O&M (macro or on-farm) which is crucial to the projected benefit stream (and cost recovery does not necessarily equate to satisfactory O&M); (iii) the transition section (6.2) is too brief and leaves an air of doubt over the chances of effective O&M in future (this planning work was on-going and behind schedule); and (iv) the Key Performance Indicators table (Annex 1) is of little value - it omits the SAR targets but includes "last PSR" projections - to what purpose is unclear, has no achievement indicators (percentages), and also has few or incomplete data on institutional, agricultural and social changes .