



<b>1. Project Data:</b>		<b>Date Posted :</b> 09/30/2003	
<b>PROJ ID:</b> P050418		<b>Appraisal</b>	<b>Actual</b>
<b>Project Name :</b> Tn-asil 2	<b>Project Costs (US\$M)</b>	67.9	61.8
<b>Country:</b> Tunisia	<b>Loan/Credit (US\$M)</b>	42.0	38.3
<b>Sector(s):</b> Board: RDV - Water supply (53%), Irrigation and drainage (34%), Agricultural extension and research (10%), Central government administration (3%)	<b>Cofinancing (US\$M)</b>	0	0
<b>L/C Number:</b> L4278			
	<b>Board Approval (FY)</b>		98
<b>Partners involved :</b> NA	<b>Closing Date</b>	06/30/2002	12/31/2002
<b>Prepared by :</b>	<b>Reviewed by :</b>	<b>Group Manager :</b>	<b>Group:</b>
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<b>2. Project Objectives and Components</b>			
<b>a. Objectives</b>			
There were two development objectives :			
1. to increase rural incomes derived from (a) sustainable use of water resources, and (b) the effective development, delivery and adoption of improved farming practices, and			
2. to enhance institutional responsiveness to user demand for agricultural research, extension and training .			
Both objectives are open ended and the second is difficult to measure .			
<b>b. Components</b>			
There are 4 components listed in the PAD (below, as followed in the ICR) . Agreed policy and institutional measures accompanied investments.			
1. <b>Small scale irrigation</b> : expansion in area (3,000 ha and 30 tubewell schemes), modernization (968 ha), and drainage (282 ha), accompanied by water tariff increases, increased support for Water User Associations (WUA) through a second mobile team, strengthened farmer participation and farm revenue monitoring (US\$22.5 million, 32 percent of estimated total costs).			
2. <b>Groundwater prospecting and monitoring</b> : drilling of 212 exploratory wells and 115 piezometers, and related equipment acquisition, accompanied by facilitation of related private sector professional organizations, and strengthened drilling site selection (US\$36.3 million, 55 percent).			
3. <b>Research</b> : priority research funding, especially in animal health, consolidation of research regionalization, accompanied by improved regionalization strategy, strengthening of research committees, and clarification of attributes of regional poles (US\$4.0 million, 6 percent).			
4. <b>Extension and training</b> : rehabilitation of 7 training centers, upgrading of central unit, and procurement of vehicles, accompanied by improved management of extension and reinforced linkages between extension, research and training (US\$5.1 million, 7 percent).			
The flawed Loan Agreement (LA) confusingly lists 7 components, including a Part B of the project (Institutional Capacity Building for Water Users Associations ), but without a corresponding Part A of the project .			
In addition to the 4 original components above, the project funded incomplete activities from the first ASIL : rural water supply, support to rural engineering, and to water and forestry research, buildings for the Institut National d ' Agronomie de Tunisie (INAT), training for support groups to water user associations (Groupements d'Intérêt Collectif - GICs), and agricultural mapping. Equipment and supplies for drought relief and impact evaluation of irrigation perimeters were also funded from savings .			
<b>c. Comments on Project Cost, Financing and Dates</b>			
Exchange rate savings on tubewell development allowed funding of the additional items ; 99 percent of costs were for works and goods; project costs and IDA financing were both 91 percent of appraisal estimates; the closing date was extended by 6 months.			

### 3. Achievement of Relevant Objectives:

The project achieved all its major relevant objectives with significant shortcomings. The open-ended objective to increase rural income from irrigation was achieved: the ICR reports that independent socio-economic impact evaluation of the irrigation perimeters financed under the project report that farmers gross margins /hectare have increased depending on the farm type and cropping pattern (the wide range of increases from 12 percent to ten times reflects the low pre-project returns in some situations); improved farming practices are contributing to increased income but at a lower rate than expected; and a range of planned investments and accompanying changes has improved the responsiveness of sector agencies (research, extension and training) to user demand for agricultural services.

### 4. Significant Outcomes/Impacts:

1. The project has made a positive impact on policy and institutions and has improved the economic impact of public investments in the sector;
2. farmers' incremental benefits are expected to generate satisfactory increased income levels (impact evaluation indicates that in rehabilitated perimeters, farm income increases ranged from 12 to 59 percent, and for new perimeters (with a low without-project situation) there has been a net increase in income for all farm models of up to ten times, however the evaluation also points out that non-farm income contributes significantly to household income in some cases up to 80% and this is especially so for small farmers - Section 5 has comments on less positive findings from the survey);
3. a total of 40 new small-scale Irrigation perimeters were completed, covering some 3,460 ha or 15 percent over the planned target, while irrigation rehabilitation reached some 2,690 ha, over double the appraisal target;
4. cost recovery rates through GICs are gradually rising, averaging about 80 percent cover (38% of GICs cover O&M fully, 43% of GICs reported cost coverage rates of 50 - 100 percent, and 19% cover less than half of O&M costs);
5. cropping intensities increased to a range of 100 -150 percent from a low baseline of less than 50 percent, but averaged less than expected;
6. the specific measures envisaged at appraisal to accompany irrigation investments were satisfactorily completed -(i) increased of water tariffs (but by less than planned given the drought); (ii) creation of a second mobile team to support GICs; (iii) participation of beneficiaries in sub-project preparation has been institutionalized, and (iv) an irrigation farm revenue monitoring system was established;
7. tubewell and piezometer development exceeded targets by a third and over a half by number respectively, substantially expanding groundwater exploitation and monitoring;
8. the project successfully encouraged the development of private sector contractors which increased competition and lowered unit costs (two thirds of new tubewells and nearly all piezometers were put in by private contractors);
9. progress in monitoring of groundwater resources (quantity and quality) has enabled an upward revision of exploitable water resources; and
10. agricultural research activities (aimed at decentralization) were mostly implemented as planned with satisfactory outcomes - three regional centers were constructed, research programs were reinforced and a new programs in biotechnology and animal health were launched, criteria for the selection of research projects were respected, training programs on computer science and data processing were carried out as expected and were well received by participants.

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

The most important overall shortcoming is an apparent reluctance or inability of farmers to take full advantage of the investments with the following specifics:

1. none of the irrigation infrastructure is being fully used (despite droughts) and only a third of farmers reported receiving an adequate quantity and quality of water, as water supply constraints have discouraged farmers from intensifying cropping with most continuing to concentrate on low margin crops which have low water requirements (cereals and forage) -- the ICR comments that "many continue to behave like rainfed farmers" (this is especially unfortunate when farmer interest in irrigation should have been stimulated by repeated long droughts);
2. "...the average cropping intensity for the sample perimeters has been of the order of 123% - far lower than (expectations) estimated in the feasibility studies" (implying reduced financial and economic returns to project investments); and
3. water tariff increases were from 3-5 percent compared to 9 percent projected at appraisal (with the droughts as an explanation), with implications for adequate O&M and sustainability.

6. Ratings:	ICR	OED Review	Reason for Disagreement /Comments
Outcome:	Satisfactory	Moderately Satisfactory	[the ICR's 4-point scale does not allow for a "moderately sat." rating]. Achievement of major objectives with significant shortcomings (as in the ICR's account

			and noted in Section 5). As water-related investments were 87 percent of estimated project cost, shortcomings in this area must necessarily be given substantial weight in the overall rating.
<b>Institutional Dev .:</b>	Substantial	Substantial	
<b>Sustainability :</b>	Likely	Likely	This is a close call with the ICR saying "moderately likely". Had an "Uncertain" category been available the project would be a good candidate -- as noted in the ICR, much will depend on the continuation of on-going external interest and support in this important sector.
<b>Bank Performance :</b>	Satisfactory	Satisfactory	
<b>Borrower Perf .:</b>	Satisfactory	Satisfactory	
<b>Quality of ICR :</b>		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:

1. Planning of investment in irrigation expansion should take careful note of alternative employment opportunities and incentives for farmer participation if costly over-investment is to be avoided;
2. Objectives statements in appraisal documents should contain specific targets so that expected outcomes are clear, quantitative, time-bound and monitorable; and
3. Project documents should be carefully reviewed to avoid inconsistencies, especially between legal agreements and intentions expressed in PADs.

#### 8. Assessment Recommended? ☐ Yes ☒ No

#### 9. Comments on Quality of ICR:

The ICR is marginally satisfactory: the discussions of income changes is confused such that the outcome against the major objective is not totally clear; the robustness of the reestimated ERRs is qualified by comments in the text with respect to shortfalls against appraisal expectations; six of the seven "lessons" are more properly "findings" rather than lessons; and the indicator table (Annex 1) was incomplete (lacking outcome appraisal targets and entries for some major activities - e.g. water tariff increases).