Tunisia: Industrial Environmental Funds I and II

Ex post evaluation

OECD sector	24030/Formal sector financial intermediaries	
BMZ project ID	(a) 1994 65 574 (b) 1995 66 308 (c) Training 1999 212 (sample 2009)	
Project executing agency	Agence Nationale de Protection de l'Environnement (ANPE)	
Consultant	---	
Year of ex-post evaluation report	**2009**	
	Project appraisal (planned)	**Ex-post evaluation (actual)**
Start of implementation	(a) Q I 1996 (b) Q 3 1998 (c) Q 1 2001	(a) Q I 1996 (b) Q 3 1998 (c) Q 1 2001
Period of implementation	(a) 48 months (b) 48 months (c) 30 months	(a) 54 months (b) 110 months (c) 110 months
Investment costs	(a) EUR 9.2 million (b) EUR 15.4 million	(a) EUR 9.2 million (b) EUR 15.4 million
Counterpart contribution	--	--
Financing, of which Financial Cooperation (FC) funds	(a) EUR 9.2 million (b) EUR 15.4 million	(a) EUR 9.2 million (b) EUR 15.4 million
Other institutions/donors involved	--	--
Performance rating	3	
• Relevance	2	
• Effectiveness	3	
• Efficiency	4	
• Overarching developmental impacts	3	
• Sustainability	3	

Brief description, overall objective and project objectives with indicators

The overall objective of the projects[1] was to contribute to reducing environmental and health hazards from industrial plants. The programme objective was compliance by the promoted enterprises with Tunisian environmental protection provisions in the sector

[1] In the following, Industrial Development Funds I and II are designated as 'the projects'.

where environmental investments were made. For this, the enterprises were provided with subsidies and long-term finance for environmental protection investments via Tunisian commercial banks. In keeping with the national environmental strategy of the Tunisian government, priority was to be attached to the treatment and reduction industrial effluent from small and medium-sized enterprises (SMEs).

The FC funds were paid into a Tunisian environmental fund, consisting of two components: Forty-four per cent of the FC funds was allocated as a subsidy to the Fonds de Dépollution (FODEP) to provide subsidies of up to 20% of the environmental protection investment costs. Fifty-six per cent of the FC funds (in form of a loan and subsidy) was earmarked for refinancing the revolving loan fund, Fonds de Crédit (FOCRED) to provide finance for up to 50% of the investment costs. Altogether, the two environmental funds in Phases I and II were endowed with EUR 24.54 million (EUR 15.34 million of which as subsidies and EUR 9.2 million as loans). Moreover, a further training measure was financed from FC funds amounting to EUR 0.25 million.

No indicator for overall objective achievement was defined at appraisal. A possible indicator by current standards would be the share of all industrial plants that have adequate facilities at their disposal for the reduction of environmental pollution and operate these properly.

The following indicator was to be applied for measuring the achievement of the programme objective: The attainment of the target environmental protection effect, defined as compliance with the thresholds or official standards by at least 80% of the promoted enterprises after a three-year operating phase.

Project design/major deviations from original planning and main causes

The programme approach was to create incentives for environmental investments by industrial enterprises via a subsidy and loan fund. To counteract windfall effects, the subsidy component was confined to 20% of the costs for the environmental investment. A loan component was also set up to provide finance for a maximum 50% of the investment outlay in addition to the subsidy that would otherwise be unavailable from the private sector.

It was assumed during design that the National Environmental Protection Agency, ANPE, would be able to adequately monitor the thresholds and impose sanctions where necessary. This has improved during the implementation period in Tunisia, but only functions in limited measure even today. Besides this, there was a lack of alternative incentive mechanisms for environmental protection measures (e.g. pressure by NGOs), especially at the beginning of the projects, which resulted over several years in a reduced demand for the funds and with that to delays in implementation. Later, extrinsic factors then brought about improvements in the incentives structure: Particularly export-dedicated enterprises showed keen interest in environmental investments at the time of ex post evaluation in the hope of gaining better marketing opportunities in the industrialised countries and avoiding pejorative coverage in the international press.

The target group of the Environmental Fund was defined at programme appraisal as existing, creditworthy, industrial and commercial enterprises not yet complying with the environmental guidelines and monitored by ANPE. The priority was to be placed on SMEs producing wastewater. As SMEs make up the bulk of Tunisian industrial enterprises and effluent remains a core environmental problem in Tunisia, we assess the original choice of target group as appropriate.

With a ratio of 56% of investments in the wastewater sector, the investment focus was almost attained. Waste management enterprises received 34% of assistance. The

purchase of facilities for the treatment and recycling of solid waste belongs to the core business activity of these enterprises and the investment costs generally pay for themselves after a short period. Windfall effects cannot be ruled out in this kind of company. A graduated scaling of the subsidy component by environmental impact or type of business activity might have reduced efficiency losses here. Almost half the funds went to promoting small and medium-sized enterprises (approx. 45%).

Key results of impact analysis and performance rating

The main anticipated results of the programme lay in the environmental sector. The provision of financing facilities induced the enterprises to make environmental investments and with that generate beneficial environmental impacts.

We assess overall developmental performance as follows:

Relevance:
The projects were to contribute to reducing environmental pollution caused by public and private industrial and commercial enterprises. In view of the ongoing serious environmental problems, improving industrial and commercial environmental protection remains extremely important for the economic and social development of Tunisia. The discharge of untreated industrial effluent, lack of air purification and inadequate solid waste disposal are major causes of the pollution of water resources, soil and air. Environmental protection measures are accorded high development-policy priority in the goals and guidelines of BMZ and in the strategies of the Tunisian government. The projects effectively complement the other measures of German FC and TC and of other bilateral and multilateral donors engaged in the sector.

Project design proceeded on the assumption that environmental thresholds and operational control and sanction mechanisms were in place and would be upgraded. This was already an optimistic assumption at project appraisal and proved unrealistic during implementation. ANPE was able in part to offset regulatory compliance deficits with the prescribed and monitored environmental protection regulations in some enterprises, but these are not embodied in clear legal provisions and strategies. It is therefore not possible to rule out the risk of a certain degree of random regulation. Alternative incentives developed in the course of implementation, primarily by way of higher environmental protection requirements for export-dedicated companies from the sales markets. The high counterpart ratio for subsidies and liability for credit exposure in additional loan finance through the lending banks also helped to prevent windfall effects.

Finance for environmental investments outside the Industrial Environmental Fund is almost solely available from the enterprises' own funds. In finance, then, the projects addressed a major systemic bottleneck. We assess relevance overall as good (Subrating: 2).

Effectiveness:
The programme objective was compliance by the promoted enterprises with Tunisian environmental protection provisions in the measures conducted. A prerequisite for verifying the programme objective indicator are statutory thresholds for wastewater and atmospheric pollution. So far, this only applies in Tunisia for the wastewater sector and for individual sectoral emissions (e.g. from cement works). For investments in air purification and waste treatment, which make up about 40% of the assisted investments, legal provisions on which to base the programme objective indicator are still lacking. In our opinion, alternative indicators based on individual values for constituent substances are also presently difficult to apply for both sectors.

Altogether, the environmental effectiveness of the facilities at the 17 sample enterprises inspected as part of ex post evaluation made a positive impression. Investments in the wastewater and cement industry adhere to present standards. As to investments in solid waste management, where no thresholds apply, we consider it plausible to presume that environmental pollution has been reduced. Since ANPE checks the functionality of the financed facilities, it is in our view also plausible to assume that they contribute to adequate environmental protection, even if this cannot be verified with thresholds throughout. As we were not able to select the sample of inspected enterprises ourselves, we may, however, assume that the outcome of all investments falls short of that for the selected sample. The main reason for this is that environmental monitoring is not carried out systematically by ANPE, especially in the operating phase, which lessens the incentive for proper operation of the facilities. Sufficient know-how is also lacking in the industrial sector for their operation and maintenance.

By today's standards, a financial indicator would be needed for the repayment rate of the final borrowers at programme objective level. Such an indicator (aggregate repayment rate of at least 90%) has already been added for Phase III and also adduced here to assess objective achievement for Phases I and II. The information provided by the three banks visited that the indicator had been met at ex post evaluation (95%) is in our view plausible.

With a ratio of 56% of investments in the wastewater sector, the investment focus was almost attained. Almost half the funds went to promoting small and medium-sized enterprises (approx. 45%). In return, assisted enterprises frequently achieved considerable environmental impacts. Altogether, we assess effectiveness as sufficient (Subrating 3).

Efficiency:
Although we consider the organisational structure of FODEP as appropriate and its mode of operation as effective, production efficiency can only rate as limited. Due to lack of experience and know-how in local consulting enterprises in some cases, the installed facilities were inadequately scaled, with a poor cost-benefit ratio for environmental impacts as a result. High guarantee and equity requirements by the banks in keeping with banking standards in part incurred delays and disinvestments. At FODEP and FOCRED level, the lack of personnel in the project unit also caused delays. Because the credit standing of the enterprises was not properly appraised, subsidies were also paid to commercially unviable enterprises that had to give up their business activity during programme implementation. This also detracts from allocative efficiency. Sixty-six per cent of the funds were provided to enterprises for which the environmental measure made up an additional investment. In 34% of cases in contrast, waste management firms were supported with the same subsidy component where the purchase of facilities for the treatment and recycling of solid waste belonged to their core business activity. This is in our estimation warranted from an environmental standpoint but the indiscriminate distribution of the subsidy component regardless of environmental impacts or the business activity of an enterprise deserves criticism. We cannot rule out efficiency losses due to windfall effects, particularly in the larger-scale enterprises in waste management.

Altogether, we assess the efficiency of the projects as slightly insufficient (Subrating 4).

Overarching developmental impacts:
The overarching developmental impacts of the projects pertain to the contribution of industry to environmental protection, the reduction of adverse effects on health and improved access to long-term finance for environmental investments. ANPE could not provide us with sufficient information for the alternative overall objective indicator defined, i.e. the share of enterprises that have adequate environmental facilities at their

disposal and operate these properly in the long term (see above). While almost one-third of the enterprises belonging to the original target group made an environmental investment under the projects, the proper, long-term operation of the facilities is not monitored systematically enough. Nevertheless, the projects can be expected in our view to have made a beneficial environmental contribution overall at enterprise level, since ANPE at least sets individual environmental protection standards for companies and monitors compliance within its personnel and legal limits. The projects may also be presumed to have made a contribution to raising environmental awareness among Tunisian industrial firms, as also underscored by the share of counterpart contributions by the enterprises of over 60% of investment costs.

The fact that enterprises increasingly see incentives for environmental investments even without strict supervision of actual emissions is due to extrinsic factors, particularly heightened environmental awareness in export markets and locally.

A shortcoming here, however, is that Tunisian environmental standards are still not embodied in clear legal provisions and strategies and the relevant legal framework, so that it is impossible to fully rule out the danger of a certain degree of random control and sanctions in environmental protection measures. Nor can the risk of political influence on decisions by ANPE be completely ignored. We may, though, assume that ANPE capacity has been strengthened by the projects.

Hardly any overarching development impacts are discernible in the financial sector, but these were not the focus of the projects in any case. Loans for environmental investments are still only available via special credit lines sponsored by government or donors. Nor do longer-term loans (of over seven years) belong to the customary range of products offered by Tunisian banks.

Altogether, we assess the overarching developmental impacts as sufficient (Subrating 3).

Sustainability:
At enterprise level, the proper operation and adequate maintenance of the financed facilities and an adequate repayment of the loans are decisive for sustainability. Particularly in the larger-scale enterprises in waste management with business interests in the installations and in larger, above all export-dedicated enterprises, we consider the sustainable, adequate operation of the facilities to be probable. A risk to sustainability lies primarily with enterprises where operation incurs additional costs. Unsystematic controls by ANPE on compliance with environmental regulations frequently fail to provide sufficient incentive for the proper operation of the facilities in the long term. In investments in air purification and waste disposal, the complete lack of legal provisions acts as a negative incentive for sustainable operation, which can only be partially offset by alternative incentive mechanisms, such as improved export opportunities. Clearly detracting from the sustainability of the projects are the enterprises that have received subsidies but have had or will have to cease business activity due to financial problems.

At 95%, the repayment rate in the loan component so far would appear good, but this figure is beset with uncertainties. The projects failed to establish sustainable environmental loans in the banking sector. FOCRED continues to operate for the time being, however, and two additional credit lines have been set up by AfD and EIB geared to the FOCRED structure that also issue environmental loans.

The role and authority of ANPE has also been indirectly strengthened by the projects. ANPE has been established for the long term and operates in our estimation in a dedicated and purposeful way. As the banks bear credit exposure risk, there is also a guarantee that the funds will continue to receive funding for finance.

We assess the sustainability of the programmes as sufficient (Subrating 3).

Considering the results and risks cited, we assess the developmental performance of the projects as sufficient (Performance rating: 3).

General conclusions

In our view, restricting the subsidy component is sensible in open programmes for the promotion of environmental investments so as to limit windfall effects. In view of the disparate investments, however, we recommend defining subsidy criteria for this specific purpose. A conceivable option could be a graduated scaling, for example, depending on whether the investment belongs to the core business activity or constitutes an additional measure and on the scope of environmental impacts.

In open programmes where the choice of projects eligible for aid from an institution does not lie in the hands of KfW, besides adequate technical qualification, the institution must also be able to appraise financial aspects. This will help ensure that FC funds are allocated to sustainable projects.

Where there are doubts about the regularity of government environmental supervision, self-control by the enterprises should be included in project design. This means the enterprises themselves carry out regular checks of thresholds. These kinds of mechanism make a major contribution to reducing environmental impacts and relieving the responsible supervisory authority of the need to permanently control the companies. ANPE would only have to verify the results of self-control. Self-control should already be made binding in detail in the course of the approval procedure and subject to penalties on contravention. Where enterprises lack know-how for conducting self-controls, an appropriate complementary measure could be added.

Notes on the methods used to evaluate project success (project rating)

Projects are evaluated on a six-point scale, the criteria being relevance, effectiveness (outcome), "overarching developmental impact" and efficiency. The ratings are also used to arrive at a final assessment of a project's overall developmental efficacy. The scale is as follows:

1 Very good rating that clearly exceeds expectations

2 Good rating fully in line with expectations and without any significant shortcomings

3 Satisfactory rating – project falls short of expectations but the positive results dominate

4 Unsatisfactory rating – significantly below expectations, with negative results dominating despite discernible positive results

5 Clearly inadequate rating – despite some positive partial results the negative results clearly dominate

6 The project has no positive results or the situation has actually deteriorated

A rating of 1 to 3 is a positive assessment and indicates a successful project while a rating of 4 to 6 is a negative assessment and indicates a project which has no sufficiently positive results.

Sustainability is evaluated according to the following four-point scale:

Sustainability level 1 (very good sustainability)

The developmental efficacy of the project (positive to date) is very likely to continue undiminished or even increase.

Sustainability level 2 (good sustainability)

The developmental efficacy of the project (positive to date) is very likely to decline only minimally but remain positive overall. (This is what can normally be expected.)

Sustainability level 3 (satisfactory sustainability)

The developmental efficacy of the project (positive to date) is very likely to decline significantly but remain positive overall. This rating is also assigned if the sustainability of a project is considered inadequate up to the time of the ex post evaluation but is very likely to evolve positively so that the project will ultimately achieve positive developmental efficacy.

Sustainability level 4 (inadequate sustainability)

The developmental efficacy of the project is inadequate up to the time of the ex post evaluation and an improvement is very unlikely. This rating is also assigned if the sustainability that has been positively evaluated to date is very likely to deteriorate severely and no longer meet the level 3 criteria.

The overall rating on the six-point scale is compiled from a weighting of all five individual criteria as appropriate to the project in question. A rating of 1 to 3 indicates a "successful" project while a rating of 4 to 6 indicates an "unsuccessful" project. In using (with a project-specific weighting) the five key factors to form an overall rating, it should be noted that a project can generally only be considered developmentally "successful" if the achievement of the project objective ("effectiveness"), the impact on the overall objective ("overarching developmental impact") and the sustainability are considered at least "satisfactory" (rating 3).