

# Ex post evaluation – Morocco



**Sector:** Formal sector financial intermediaries (CRS code 24030)  
**Project:** Industrial Environmental Fund FODEP II and III  
**BMZ No.** 1999 66 722 (FODEP II)  
**BMZ No.** 2000 65 516 (FODEP III)\*  
**BMZ No.** 2001 70 233 (CM)  
**Implementing agency:** Ministère chargé de l'Environnement (FODEP II/III), Ministère de l'Economie et des Finances (FODEP II CM)



## Ex post evaluation report: 2018

		Phase II (Planned)	Phase II (Actual)	Phase III (Planned)	Phase III (Actual)	CM (Planned)	CM (Actual)
Investment costs	EUR million	25.5	25.8	13.0	12.4	1.01	1.01
Counterpart contribution	EUR million	15.3	16.1	7.9	7.3	0.00	0.00
Funding	EUR million	10.2	9.7	5.1	5.1	1.01	1.01
of which BMZ budget funds	EUR million	10.2	9.7	5.1	5.1	1.01	1.01

\*Random sample 2015

**Summary:** The “Morocco Industrial Environmental Fund” FC project was designed to provide partial financing for integrated and downstream environmental protection investments by industrial and commercial companies in the fields of wastewater treatment and prevention, air pollution control, waste disposal and prevention, as well as conserving raw materials and consumables in Morocco. FODEP funds were used in combination with commercial bank loans to provide corresponding projects with grants of up to 40 %. The project was carried out in three tranches and supported with a complementary measure. This evaluation relates to the second and third phases, along with the complementary measure.

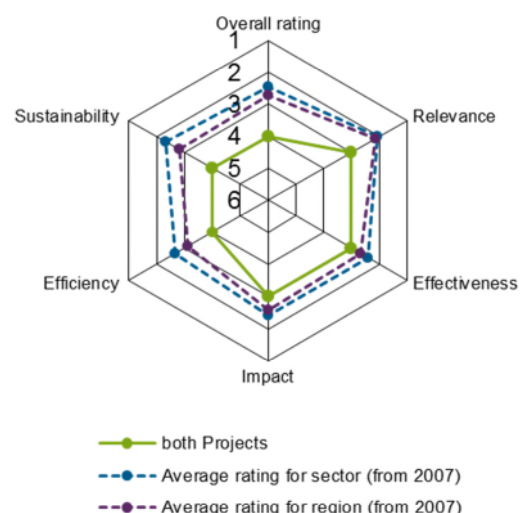
**Development objectives:** The project’s development objective was to contribute to improving environmental protection within industrial and commercial enterprises’ sphere of influence in Morocco (impact). The programme objective was to reduce pollutant emissions and/or of the consumption of resources by industrial and commercial enterprises taking part in the programme (outcome).

**Target group:** The target group of the project comprises creditworthy industrial and commercial companies (public and private sector), who want to implement investments that have a positive impact on the environment.

## Overall rating: 4 (both projects)

**Rationale:** The developmental effectiveness of Morocco’s industrial environmental fund (FODEP II and III) is considered unsatisfactory on account of the measures’ limited overall sustainability, since many of the companies that received support no longer exist or the respective investments are no longer active. Nevertheless, the project did have positive impacts, particularly because of the example it set. It also meets the developmental objectives of the country. However, the efficiency of the project implementation was inadequate.

**Highlights:** Morocco’s industrial environmental fund was the first financing instrument in Morocco to promote investment in environmental technologies, despite weak institutions and inadequate legal frameworks. The fund helped to demonstrate the feasibility of environmental technologies in Morocco, thereby setting an example for other companies and credit lines in the banking sector and for other donor agencies.



## Rating according to DAC criteria

### Overall rating: 4 (both projects)

#### Ratings:

Relevance	3
Effectiveness	3
Efficiency	4
Impact	3
Sustainability	4

#### Relevance

As a result of increasing industrialisation, Morocco has faced the challenge of rising emissions and increasing waste from industrial and commercial enterprises since the mid-20th century in particular. This has led to growing pollution and overuse of the country's natural resources. Morocco, which is a mostly arid country, is also faced with protecting its scarce water resources. However, water quality in the country is steadily deteriorating due to the discharge of municipal and industrial wastewater, almost always untreated. Climate change, the effects of which are already visible, is exacerbating the pressure on Morocco's water resources. So from today's perspective, the issues identified at the time of the project design still persist. Moreover, depollution efforts have significantly increased in importance during the reign of King Mohammed VI. In the meantime, the country has passed several important laws regulating the discharge of wastewater and the waste problem, and is now implementing these at an increasing rate. In addition, the conditions for monitoring environmental infringements have been improved in recent years. In this respect, and given the fact that environmental protection is a developmental priority for Morocco and for FC, the project remains relevant.

The impact hypothesis underpinning the environmental fund concept is that the provision of financial resources and subsidies will encourage companies facing environmental problems to invest in environmental protection technologies. However, the survey of companies conducted during the evaluation indicated that the majority of entrepreneurs would have invested in environmental protection technologies even without subsidies, as they were obliged to do so due to their international ties (export business, requirements of parent companies) or in order to meet national requirements (water authority requirements, complaints raised by those in the local area). The occasional low demand amongst Moroccan companies for financial support from the environmental fund is clearly attributable to the fact that legal requirements have, until recently, been poorly implemented, as well as to the virtually non-existent monitoring of environmental regulations to date. In this respect, the assumptions about the environment – upon which the assumed impact of financing and subsidies in the form of increased investment in the reduction of emissions (outcome) and the resulting environmental protection were based – did not materialise.

From the evaluator's point of view, the key issue when it comes to the low level of company investment in environmental protection technologies lies less in the insufficient availability of financing instruments and more in the lack of use and monitoring of regulatory instruments as well as in the lack of sanctions for infringements of environmental regulations.

Against the background of the continued significance of industrial pollution for Morocco, we rate the project's relevance as satisfactory overall.

#### Relevance rating: 3 (both projects)

#### Effectiveness

The following project objective (outcome) was defined for both projects: Reduction of pollutant emissions and/or of the consumption of resources by industrial and commercial enterprises taking part in the programme. The programme objective also appears appropriate from today's perspective.

Two indicators were used to measure the achievement of the programme objective. Both indicators also appear appropriate from today's perspective.

Indicator	Status PA, Target value PA	Ex post evaluation
(1) After a three-year operation phase, 80 % of companies receiving support operate and maintain the environmental systems properly.	Target value: 80 %	Actual value (according to the <i>Cellule FODEP</i> ): >80 % Actual value (random sample): 50-65 %*
(2) The targeted positive environmental protection effects (i.e. compliance with the <i>Critères d'Eligibilité</i> of the environmental fund) are achieved by at least 80 % of the companies receiving support.	Target value: 80 %	Actual value (according to the <i>Cellule FODEP</i> ): >80 % Actual value (random sample): 50-65 %

\* however, some of the projects included in the random sample had also been implemented for a much longer time, meaning that the indicator was probably fulfilled under strict observation of the 3-year period.

Checking the level of achievement of the indicators can, in principle, be carried out both via the project-executing agency's monitoring system and using a random sample of the company visits during on-site operations. This second method tends to be less conclusive, however, and is therefore better considered as an estimate.

However, the project-executing agency does not possess a detailed monitoring system that would allow it to accurately track the level of the indicators and thus the stage of project implementation. Employees in the FODEP unit (*Cellule FODEP*) ensure the proper set-up of the promoted environmental protection technologies at the time they are put into operation and inspect these after a period of at least one year to verify that they are running properly. In the case of a positive decision with regard to proper operation, the project-executing agency issues a certificate (*Certificat de conformité*) which allows the company to request the release of the guarantee deposited with the bank. According to the project-executing agency, where possible the FODEP unit will not attempt to issue this certificate of conformity until at least three years after commissioning, in order to ensure that the supported systems can be checked against the indicator. The project-executing agency was unable to provide detailed information relating to the status of indicator achievement at the time of the evaluation, however.

At the time of the evaluation, 73 projects had received proportionate financing through FODEP II and III, and a further 4 projects were in the process of being implemented. The evaluator suggested ten companies to the project-executing agency for the on-site company visits (for a total of 11 projects). However, three of the companies have since ceased their operations. At a further company, the system was not functional, and one company made the investment but never put the system into operation. At one company, according to the operator, the system was undergoing repairs and could not be verified. The systems at the remaining companies were functional. This allows us to make an estimate of 50 % for the actual value of Indicator 1. In addition to the companies proposed by the evaluator, the project-executing agency selected a further seven companies for evaluation. One of these was also affected by closure. So from the 17 companies, a total of four were closed, one was without a functioning system, one had a system which was undergoing repairs, and one had not put its system into operation. In all other companies, the systems functioned flawlessly. This gives an estimated value of around 65 % for the actual state of Indicator 1. In summary, therefore, proper operation and maintenance were established in 50-65% of the companies included in the random sample. As some of the companies have only put their systems into operation within the last three years, and based on the sample selection described above, this statement on the actual value of the indicator has limited reliability.

The company visits carried out during the evaluation indicated, in principle, that all companies with functioning environmental protection technologies also complied with the stipulated environmental regulations. The estimated actual value for Indicator 2 is therefore in line with the value for Indicator 1.

For the projects visited, FODEP's co-financed investments demonstrably reduced pollutant emissions.

The effectiveness of the project was only just assessed as satisfactory.

### Effectiveness rating: 3 (both projects)

#### Efficiency

The overall cost of the investments co-financed by FODEP II and III totalled approximately EUR 38.2 million, with a financing share of approximately EUR 14.8 million. This was in addition to the costs for the complementary measure amounting to around EUR 1 million. This corresponds to an average investment of approximately EUR 496,000 with an average non-repayable financial contribution from FODEP funds of around EUR 192,000 per project. Investments were reviewed for their correct market price prior to financing by the project-executing agency. No noteworthy deviations were found during the company visits. The investments appear appropriate from a microeconomic point of view.

The economic benefits resulting from the investments can only be quantified to a very limited extent. However, it can be deduced from the documentation of the individual projects that the investments it possible to achieve a significant reduction in the pollutant load released into the environment. In addition, other effects were generated, such as the strengthening of skills in engineering firms, banks, construction companies as well as at the project-executing agency – whose economic benefits are verifiable, but also quantifiable only to a limited extent.

It should be noted that there was a significant delay in the implementation of the overall project (FODEP II: 12 instead of the planned 3 years, FODEP III: 7 instead of the planned 3 years) and the consequent substantial delay in the outflow of funds. The reasons behind this slow outflow of funds have been identified in particular as the exodus of a high number of personnel from the FODEP unit following the end of the complementary measure as well as the lack of communication about FODEP as a financing instrument. The overwhelming majority of the entrepreneurs interviewed stated that they had only learned about the environmental credit line and the financial contribution by chance or through personal contacts. No communication strategies to advertise FODEP were put in place. The project's low efficiency is also reflected in the fact that, since the final inspection in January 2014, only 37 enquiries have been registered and only 13 new projects have been or are set to be carried out. Although the *Cellule FODEP* has very well-trained, competent, and highly-motivated employees (who were, however, occasionally entrusted with other tasks), the processing of applications is slow. This may also be due to the fact that the project-executing agency is struggling to raise the necessary resources for the project visits (overnight accommodation expenses, for example).

During the company visits, the overwhelming majority of the entrepreneurs and managers interviewed confirmed that they had made the investment supported by FODEP without the financial contribution in order to meet the requirements of the parent company or of business partners abroad. At the same time, the entrepreneurs emphasised that the granting of the financial contribution accelerated the investment decision and led to the purchase of better-quality equipment with a higher environmental performance. Overall, it can be concluded that windfall effects adversely affected the allocation efficiency of the project.

The efficiency of the project is assessed as unsatisfactory.

### Efficiency rating: 4 (both projects)

#### Impact

For its development objective (impact), the project was designed to contribute to improving environmental protection within industrial and commercial enterprises' sphere of influence. From the evaluation's point of view, this ultimate objective is suitable as an overarching development objective. Due to very long results chains, however, it is not possible to quantify the development objective at the indicator level. In addition, it is unrealistic to derive an appropriate overarching development objective from the German contribution, owing to the highly inaccurate data relating to the environmental situation. As a result, no indicators were formulated at the project appraisal.

Several evaluation dimensions were used in order to assess the overarching developmental impacts of FODEP. From a microeconomic point of view, FODEP had a positive impact on the companies which participated in the programme. The investments in environmental protection technologies reduced the com-

panies' pollutant loads. In this respect, FODEP contributed to the improvement of environmental protection within the sphere of influence of industrial and commercial enterprises in Morocco. In addition, some companies saw a reduction of pollution in the workplace.

Moreover, for a vast majority of companies visited, the targeted environmental effects have brought with them unanticipated social and organisational benefits, e.g. in terms of relationships with the parent company, customers or environmental authorities.

These selective improvements did not have any appreciable signalling effect on other industrial enterprises in the country, however. Moreover, the positive results of FODEP were neither picked up by the industry associations nor reviewed and disseminated by the project-executing agency. In this context, no overall economic impact of the FODEP is discernible.

Nevertheless, FODEP has triggered developments that go beyond improving the environmental performance of individual companies. For example, the fund is the first instrument for the financing of environmental protection technologies in Morocco to have a structural effect. Subsequent projects, such as the EU-funded "Voluntary Mechanism for Hydric Industrial Depollution (*Mécanisme Volontaire de Dépollution Industrielle Hydrique – MVDIH*)" built on the experience gained as a result of FODEP. The commercial banks involved in concluding FODEP are now developing their own environmental lines of credit (for example, BMCE Bank's *Ligne Bleue*). In addition, FODEP has allowed a number of key players to develop specialist expertise. The technical responsibility for industrial environmental protection in Morocco clearly lies, therefore, with the department of the State Secretariat responsible for the environment, and which was also responsible for FODEP. The cooperation between the State Secretariat and the companies has also had a positive effect on the culture of cooperation and on the credibility of the Moroccan environmental authority. The engineering firms involved in preparing the FODEP proposal and in the concrete realisation of the treatment facilities have developed new skills that were previously unavailable or not readily available in Morocco. In addition, the companies participating in the FODEP programme also make their investments accessible to other interested companies as well as to universities, thus contributing, at least to some extent, to the dissemination of experience.

Therefore, in spite of the relatively limited impact of the environmental fund on the individual companies receiving funding, the evaluator believes that this is outweighed by the fund's positive effects, in particular as a model of environmental financing in Morocco, and the developments initiated by it. In light of this, we rate the overall impact of the project as satisfactory.

**Impact rating: 3 (both projects)**

### **Sustainability**

Several evaluation dimensions were also used to assess the sustainability of FODEP. On the one hand, the investments made by the companies were assessed with regard to their sustainability; on the other hand, it was also necessary to assess the sustainability of the effects which go beyond the individual company level. In addition, the sustainability of the complementary measure was assessed.

The project-executing agency was unable to give precise information on the exact survival rates of the companies participating in FODEP. Of the companies selected for the random sample, around 25 % had already ceased operations. However, as this sample also includes some recently commissioned systems, it must be assumed that the rate of closed companies is actually higher. Added to this are the systems which are no longer functioning or which have not yet been put into operation, allowing us to assume an estimated overall survival rate of 50 % of the investment measures.

In the companies with functioning systems, the maintenance and operating situations were found to be satisfactory. Given that the monitoring of and sanctions for infringements of environmental regulations in Morocco are likely to increase, it is expected that these companies will continue to maintain their systems in the future.

As stated in the previous section, improvements in the companies participating in the FODEP project have had little or no broad impact on other industrial enterprises in the country. The positive results of FODEP remained selective and were not disseminated by the industry associations. From the evaluator's point of view, the increased involvement of industry associations would have contributed to increasing the sus-

tainability of the effects achieved through FODEP. The project-executing agency has not developed a strategy to multiply the experience gained from the FODEP project, with the result that the sustainability of the achieved effects cannot be guaranteed.

All but one of the skilled workers given advanced training as part of the complementary measure left the FODEP unit following the end of the complementary measure. Consequently, the expertise developed through this measure is no longer available to the FODEP unit. The processes and procedures developed during the complementary measure will continue to be used, however.

Overall, there are significant doubts about the sustainability of the effects of FODEP. Against this background, the project sustainability is no longer considered to be satisfactory.

**Sustainability rating: 4 (both projects)**

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

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

<b>Level 1</b>	Very good result that clearly exceeds expectations
<b>Level 2</b>	Good result, fully in line with expectations and without any significant shortcomings
<b>Level 3</b>	Satisfactory result – project falls short of expectations but the positive results dominate
<b>Level 4</b>	Unsatisfactory result – significantly below expectations, with negative results dominating despite discernible positive results
<b>Level 5</b>	Clearly inadequate result – despite some positive partial results, the negative results clearly dominate
<b>Level 6</b>	The project has no impact or the situation has actually deteriorated

Rating levels 1-3 denote a positive assessment or successful project while rating levels 4-6 denote a negative assessment.

### 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 is very unlikely to improve. 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. Rating levels 1-3 of the overall rating denote a "successful" project while rating levels 4-6 denote an "unsuccessful" project. It should be noted that a project can generally be considered developmentally "successful" only if the achievement of the project objective ("effectiveness"), the impact on the overall objective ("overarching developmental impact") and the sustainability are rated at least "satisfactory" (level 3).