Philippines – Power Sector Programme II

Ex post evaluation report

OECD sector	23040 / Electrical transmission / distribution	
BMZ project ID	1995 65 282	
Project executing agency	National Power Corporation (NPC)	
Consultant	-	
Year of ex post evaluation report	**2010**	
	Project appraisal (planned)	**Ex post evaluation (actual)**
Start of implementation	Q4 1995	Q2 1996
Period of implementation	24 months	140 months
Investment costs	EUR 18.8 million	EUR 16.3 million
Counterpart contribution	EUR 3.1 million	EUR 2.7 million
Financing, of which FC funds	EUR 15.7 million	EUR 13.6 million
Other institutions/donors involved	-	-
Performance rating	2	
• Relevance	2	
• Effectiveness	2	
• Efficiency	2	
• Overarching developmental impact	3	
• Sustainability	2	

Brief description, overall objective and project objectives with indicators

Power Sector Programme II was set up to finance replacement parts for existing power supply facilities of the Philippine National Power Corporation NPC. The programme was intended to provide a follow-up to Power Sector Programme I, with a view to continuing German Financial Cooperation (FC) projects which support the Philippine power supply infrastructure. Power Sector Programme II complements the Sucat-Balintawak Transmission Line Project (BMZ ID 1991 65 861) and the Masinloc-Labrador Transmission Line Project (BMZ ID 1995 65 607).

The programme objective was to secure a high level of availability of the NPC's existing power supply infrastructure. This ex post evaluation tracks the programme objective on the basis of a sample of the facilities concerned. The overall objective of the open programme was to contribute to an economically efficient power supply infrastructure in the Philippines. The executing agency's return on net assets was chosen as a proxy indicator. Due to their high share in power consumption for productive purposes, industry and commerce, in particular, were identified as the target group of the project.

Project design / major deviations from the original project planning and their main causes

The project received an FC loan to the tune of EUR 13.2 million in order to finance the procurement of replacement parts. Between 1996 and 2002, the NPC conducted 14 individual tenders (in four separate tendering phases launched in staggered time intervals) to award contracts for numerous items of power transmission equipment and a smaller number of items of power generation equipment. In individual cases, contracts for supplier-specific parts were awarded directly. The shipments included, among other things, transformers, circuit breakers, transducers and accessory gear in order to replace outdated and obsolete parts and expand the existing facilities. In 2007, some of the remaining funds that had been provided under the loan were spent on the cooling pumps of various diesel power stations.

As the programme provided for an open design, the NPC (acting in its capacity as executing agency) was able to spend the funds according to its current needs. There were no geographical or quantitative criteria for the distribution of funds between the fields of power generation and transmission. This is a tried and tested concept enabling the executing agency to flexibly respond to changing tasks and needs, which also proved suitable against the backdrop of ongoing privatisation measures in the energy sector that were implemented at the time of the programme.

As a result of the privatisation, the sector context has changed significantly since the time of project appraisal. Originally, the NPC was, to a large extent, the only institution responsible for power generation and transmission. Today, it is only responsible for so-called missionary electrification outside the integrated grid. Private players have taken over the transmission sector and a large part of the power generation business. As a consequence, the facilities that benefited from FC-funded replacement investments are now being operated by various (mostly private) organisations. Privatisation also had an impact on the implementation of the programme. As the NPC handed over more and more of its responsibilities and assets to private companies, its need for replacement investments decreased, leading to delays in the implementation process and ultimately preventing the full use of the funds provided under the loan.

Key results of the impact analysis and performance rating

In view of the programme design, it is difficult to analyse its impact on individual operations. In principle, one can reasonably assume that replacement investments extend the service life and improve the availability of existing assets, as well as help avoid downtimes and cut the cost of maintenance and repair. This also reduces the need to invest in costly new assets. The sample examined for this ex post evaluation report confirms this. Therefore, we may conclude that the programme has had a positive financial impact on the NPC and its successor organisations. The same is true for the target group, which is indirectly affected by investment and maintenance costs which are passed on through electricity tariffs. All told, the programme was justified from a business perspective.

At the time of project appraisal, it was not possible to foresee the far-reaching effects of privatisation on the energy sector. As was pointed out above, this caused delays in the implementation process and reduced the funds paid out under the loan. As a result of the reforms, the financial situation of the NPC as an executing agency did not improve as much as expected, and the overall objective indicator is currently below its target level (of an 8% return on net assets). Following privatisation, the company's focus has

shifted to the electrification of isolated islands, which offers little or no profitability. Consequently, the NPC is generating operating losses. By contrast, one may assume that the private players that have entered the power transmission and generation markets since the time of project appraisal are essentially profitable.

At the time of project appraisal, one of the priorities of the Philippine government was to guarantee reliable power supplies, and this priority is still valid. In retrospect, the programme also appears to be fully justified from a sectoral point of view. There also was sufficient coordination with other donors which particularly invest in expanding generation capacities. All in all, the relevance of the programme is rated as good (sub-rating 2).

The project appraisal report emphasised that it would be difficult to quantify the impact of the FC project on programme objectives that are defined at the level of the entire sector. This point turned out to be true, as the FC contribution was rather low compared to the volume of the overall sector and spread over small investments all across the country. Moreover, the impact is hard to isolate from that of the ongoing privatisation. A sample-based study of individual facilities which was conducted as part of this ex-post evaluation suggests that FC-financed replacement parts helped to maintain or even expand existing capacities, while reducing maintenance costs and improving the level of availability. In that respect, one may conclude that the programme objective was met. The other indicators that were defined in the project appraisal report (availability time of power stations, internal consumption and transmission losses) proved inappropriate to track the programme objective.

From the target group's point of view (industry and commerce, and also private households), power supplies have substantially improved compared to the crisis of the 1990s. Power outages are an exception now and are no longer the order of the day. The NPC's proactive electrification programme has also helped poorer communities to gain access to electricity. These target groups have benefited more from the programme than had been expected at the time of project appraisal. All in all, the effectiveness of the programme is rated as good (sub-rating 2).

Only limited data is available to determine the production and allocation efficiency. On the positive side, the technical losses are within acceptable limits. However, there is no time-related information on the availability of thermal power stations. Therefore, there is a caveat to our conclusion that the programme has achieved its production efficiency target. Given the large number of players in the sector, it is not possible to assess the allocation efficiency on the basis of the long-run marginal cost. However, the current electricity prices are regarded as adequate to cover the costs, with the exception of missionary electrification. Concerning the latter, we deem it acceptable to temporarily subsidise electricity prices on isolated islands in order to lay the foundations for economic and social development in remote regions, despite inherently higher costs. Apart from that, there is no systematic distortion of electricity prices (e.g. through fuel price subsidies). Therefore, one may conclude that the allocation efficiency target has generally been met. In total, the efficiency of the programme is rated as good (sub-rating 2).

From today's point of view, the overall objective that was set at the time of project appraisal and the related indicator appear to be inappropriate to assess the overarching developmental impact of the programme. Due to the low volume of the programme (as compared to the overall sector) and in view of the external effects resulting from privatisation, we have doubts as to whether the impact on the economic efficiency of the energy supply system can be measured at reasonable cost. Therefore,

to track the objective, it is only possible to use proxy indicators. However, the proxy indicators proposed appear to be inadequate, as the programme failed to reach the indicator targets due to shortcomings in the privatisation and reform process, rather than for programme-related reasons.

It is fair to assume that the programme has produced a number of positive developmental effects. For instance, it has contributed to improving the energy supply system. The number of outages and power cuts has decreased significantly since the time of project appraisal, and proactive electrification policies have provided almost all municipalities throughout the country with access to electricity. The relatively high electricity prices may not only be ascribed to high generation costs, but they are also evidence of structural problems within the sector. They do have a negative impact on the competitiveness of energy-intensive businesses, but thanks to a subsidised social tariff, the poorer strata of the population are affected only to a limited extent.

From a development policy perspective the programme arguably had a positive but limited effect on the power supply system. Therefore, the overarching developmental impact is rated as satisfactory (sub-rating 3).

On-site visits show that, generally speaking, the FC-financed plants are operated and maintained in a sustainable manner. Positive effects result from the high quality of the equipment, reducing the need for maintenance and rehabilitation. Sustainability risks may arise from the financial strains of the executing agency, which, in the medium term, could jeopardise proper maintenance of the assets. However, today the NPC is responsible for only a small part of the facilities, as the lion's share has been privatised. In view of the price schemes and trends that are in place, one may assume that private power station operators and the private transmission grid operator are profitable. Therefore, the sustainability of the programme is rated as good (sub-rating 2).
In summary, the performance of the programme is rated as good (sub-rating 2).

General conclusions and recommendations

When FC projects such as Power Sector Programme II promote small replacement investments throughout the country, it is difficult to retrospectively track the programme's overall impact on the system. As is borne out by the case under review, this problem may be aggravated by crucial external developments that occur within the sector (e.g. privatisation) and supersede the effects of the programme. To take this into account, it is important to identify objectives and indicators at levels which can clearly be assigned to the programme measures.

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).