Evaluation Summary

Power Transmission Enhancement Investment Program

Country: **Pakistan** | Sector: **Energy**

Evaluator: **Oxford Policy Management**
Date of the evaluation: **October 2023 to October 2024**

Key data on AFD's support

Projet numbers: CPK 1036
Amount: €75 million
Disbursement rate: 80%
Signature of financing agreement: Sep. 2017
Completion date: Dec. 2019
Total duration: 2 years

Context

Pakistan faces a persistent energy crisis marked by frequent electricity outages and an inadequate supply to meet the growing demand. These challenges harm the country's economy, industries, and businesses. Despite ambitious policies to address Pakistan's energy needs, the power sector continues to struggle with significant problems. The power transmission sector, run by the National Transmission and Dispatch Company (NTDC), faces its own set of issues. While efforts are being made to enhance the transmission infrastructure, there remain challenges related to optimizing substation capacity and securing the necessary investments to ensure long-term improvements.

To strengthen the NTDC network, the Asian Development Bank (ADB) approved a 10-year multi-tranche financing facility (MFF) – spread over 4 tranches – for an amount of $800 million for the Power Transmission Enhancement Investment Program in 2006. ADB Financing for Tranche 4 was approved in 2014, but due to the disbursement deadline in 2016, ADB requested Agence Française de Développement (AFD) to take over the funding of remaining projects of Tranche 4. AFD agreed to fill the gap and provide the remaining budget and expenses concerning Tranche 4

Actors and operating method

The main actors were NTDC, AFD, and ADB. NTDC was responsible for the planning, design, procurement, and supervision of the project, AFD provided the funding while ADB oversaw monitoring contracts, overseeing project implementation, and reviewing disbursement applications

Goals and Objectives

The objectives of tranche 4 of the Power Transmission Enhancement Investment Program were to:

- increase the country's transmission capacity,
- improve system reliability,
- reduce transmission losses, and
- update the existing system voltage profile to acceptable conditions.

This was to be achieved through:

- the construction of new grid stations,
- installation of new transmission lines, and
- the augmentation of existing grid stations.

The specific goals included the:

- dispersal of power from power generation plants particularly renewable power plants,
- reduction of load shedding, and
- improvement of voltage profiles in various geographical areas.

Outputs

- Construction of 4 new 220 kV grid stations and associated in/out transmission lines at:
  - Chakdara, D.I. Khan, Lalian and Nowshehra
- Extension of 500-kV grid stations at Jamshoro, Gujranwala, and Rawat

Performance assessment

Relevance
The project's objectives are well aligned with the strategic priorities and development imperatives outlined in various official documents shaping Pakistan's energy sector.

Coherence
The collaboration between the AFD and other development partners, as well as the private sector, underscores a concerted and coherent effort to address Pakistan's energy challenges.

Effectiveness
The project demonstrated high effectiveness in achieving its objectives, as evidenced by the increase in transmission capacity through the construction of 4 new 220 kV grids, the extension of 3 existing 500 kV grids and the provision of an additional 2,950 MVA of transformers.

Efficiency
Despite facing initial challenges in procurement and coordination, the project demonstrated adequate efficiency of delivery. While delays occurred, efforts to improve procurement capacity and restructure the Project Management Unit contributed to progress. These measures helped to address the challenges and ultimately facilitated project implementation.

Impact
The project showcases significant impact across power system quality, connection rates, electrification, and GHG avoided emission objectives, demonstrated by reduced outage hours, increased energy transmission, extended electricity access, and integration of renewable energy sources. Therefore, a rating of 5 reflects the project's significant impact.

Sustainability
Although the project's environmental and social risk management framework was in place, specific challenges emerged in the execution of land acquisition and resettlement plans which were beyond the domain of NTDC, causing delays in some instances.

Added value of AFD's contribution
AFD's assistance helped achieve both the Tranche 4 and MFFs target outcomes, and it allowed NTDC to finish the construction of remaining subprojects that ADB could not finance due to MFF time constraints.

Conclusions and lessons learnt

A. Operational Effectiveness:

- While the AFD-funded program demonstrated moderate effectiveness, it successfully delivered its intended outputs, though over an extended timespan.
- NTDC's resilience and adaptability were evident throughout the project cycle, culminating in notable procurement achievements that were widely recognized.
- The PMU, though facing resource constraints, played a crucial role in project coordination. Despite relying heavily on NTDC departments, the PMU's efforts contributed to progress.

B. Capacity Building and Performance Improvement:

- Efforts to strengthen NTDC's capabilities showed some impact, such as reducing the time between loan signing and contract award.
- Further external support may be necessary to improve NTDC's performance in key areas.

C. Project Results and Sustainability:

- The project successfully enhanced power systems quality, with significant reductions in outages, T&D losses, and improvements in system security metrics.
- The increase in energy transmission could potentially provide electricity to an additional 17.7 million people.
- NTDC established effective environmental and social risk management protocols but faced severe problems with Land Acquisition and Resettlement Plans (LARPs).
- Financial sustainability is a concern, with the need for regular tariff reviews and potential upward revisions to ensure long-term sustainability.

Recommendations:

- Conduct capacity assessments for NTDC units to optimize manpower deployment.
- Develop an online monitoring system for real-time project tracking and management.
- Establish a comprehensive bidder database to streamline tendering/bidding.
- Simplify procurement processes and implement sequential tendering through e-procurement platforms.
- Assign dedicated Project Managers and enhance PMO capabilities for effective project governance.