



1. Project Data

Project ID P043311	Project Name NP: POWER DEVELOPMENT PROJECT		
Country Nepal	Practice Area(Lead) Energy & Extractives	Additional Financing P116190	
L/C/TF Number(s) IDA-37660,IDA-46370,IDA-H0390,IDA-H5060	Closing Date (Original) 30-Jun-2009	Total Project Cost (USD) 150,141,936.00	
Bank Approval Date 22-May-2003	Closing Date (Actual) 31-Dec-2013		
	IBRD/IDA (USD)	Grants (USD)	
Original Commitment	75,600,000.00	0.00	
Revised Commitment	103,212,039.73	0.00	
Actual	115,628,424.75	0.00	
Prepared by Ranga Rajan Krishnamani	Reviewed by Fernando Manibog	ICR Review Coordinator Christopher David Nelson	Group IEGSD (Unit 4)

2. Project Objectives and Components

a. Objectives

The original Project Development Objectives (PDOs) as stated in the Development Financing Agreement (DFA, Schedule 2, page 20) were:

(i) To develop the Borrower's hydropower potential in an environmentally and socially sustainable manner so as to help meet electricity demand; (ii) improve access of rural areas to electricity services; (iii) promote efficient private participation in the power sector; and (iv) mobilize financing for the power sector's investment requirements."



The PDOs as stated in the Project Appraisal Document (PAD, page 1) are similar, although not identical.

(a) develop Nepal's hydropower potential in an environmentally and socially sustainable manner as to help meet electricity demand; (b) improve access of rural areas to electricity services; and (c) promote private participation in the power sector as a way to improve sector efficiency and to mobilize financing for the sector's investment requirements.

The project was revised through a Level 1 restructuring on February 2, 2008. The revised PDO as stated in the project restructuring paper was:

To build capacity to manage the development of Nepal's hydropower potential in a prudent and sustainable manner; increase access to electricity services in rural areas; and improve the supply and accountability of electricity.

Additional Financing (AF) was approved on August 21, 2009. The PDOs as stated in the AF Agreement (Schedule 1, page 5) was:

To (a) increase access to electricity in rural areas; and (b) improve the quantum and efficiency of electricity supply.

This review is based on the PDOs as stated in the Development Financing Agreement, the project restructuring paper and the PDOs in the AF agreement.

b. Were the project objectives/key associated outcome targets revised during implementation?

Yes

Did the Board approve the revised objectives/key associated outcome targets?

Yes

Date of Board Approval

15-Feb-2008

c. Will a split evaluation be undertaken?

Yes

d. Components

There were three components (PAD, page 49-57):

One: Power Development Fund (PDF). Appraisal estimate US\$77.90 million. Revised estimate after restructuring US\$1.08 million. Actual cost US\$1.10 million.

This component aimed at increasing private investments in small and medium hydropower plants through the PDF by providing long-term financing to investors. Activities included: (i) establishing a PDF for financing 25 Megawatt (MW) of small and 30 MW of medium-sized hydro schemes. The PDF was to finance eligible projects that had fulfilled the necessary licensing requirements of the Department of



Electricity Development and had clearance from the Ministry of Population and Environment; and (ii) Technical Assistance for administering and implementing the PDF.

There were delays in setting up the PDF due to the political uncertainty and the weak implementation capacity of the newly created PDF Board. Only 21.4% of the funds allocated for this activity was disbursed in four years. Although the PDF was to remain, the scope of PDF was reduced from investment to technical assistance support for developing hydropower resources. The unutilized funding for this activity was reallocated for expanding the scope of rural electricity-related activities.

Two: Micro-Hydro Village Electrification Program. Appraisal estimate US\$8.9 million. Revised estimate after restructuring US\$21.50 million. Actual cost US\$22.10 million.

This component aimed at increasing electricity access from the off-grid supply system, within the 15 districts served by the existing Rural Energy Development Program, and expanding coverage to another ten districts. Activities included developing 125 to 150 new micro hydropower systems for serving 30,000 new consumers. The scope of this activity was increased following the project restructuring, with the target of electricity generation scaled up to 8.01 MW and serving about 74,000 Households. Some of the activities in this component was financed by the United Nations Development Program (UNDP), community contributions, District Development Committee investments and loans from the Agricultural Development Bank.

Three: The Nepal Electricity Authority Transmission and Distribution. Appraisal estimate US\$37.5 million. Actual cost US\$144.9 million.

This component aimed at increasing grid-based rural electricity access through construction of transmission lines and reducing electricity system bottlenecks. Activities included: (i) establishing a 75 kilometer, 220 kV double circuit transmission line from Khimti power station to the existing 132 kV Dhalkebar substations; (ii) investments in transmission and distribution lines to unelectrified rural areas in five districts and rehabilitation of the existing distribution grids in three urban or semi-urban areas; and (iii) technical assistance for the institutional strengthening of the Nepal Electricity Authority's (NEA), including its capacity for project management.

Some activities were added and several activities were dropped following the project restructuring. The added activities included: (i) technical assistance for implementing the Energy and Customer Accountability Framework and improving NEA's internal governance through management information systems; (ii) removing transmission system bottlenecks through the Bharatpur-Hetauda transmission link; (iii) removing sub-transmission and distribution system bottlenecks through rehabilitating the existing infrastructure and providing spare parts for maintenance of the systems; (iv) expanding rural access through new lines; and (v) institutional strengthening. The dropped activities included: (i) the Ramechhap Rural Electrification Project due to the limited time for completing the activity; and (ii) the Kathmandu Valley Distribution System Rehabilitation project, which was facing delays due to fraud in the supply of the transformer package. This case was investigated by the Commission for Investigation of Abuse of Authority and the Bank's Department of Institutional Integrity.



Additional Financing (AF) was approved on June 18, 2009, in response to a request from the Government in the wake of the energy crisis situation. In December 2008, the Government declared a national energy crisis and approved an Energy Crisis Management Action Plan aimed at alleviating load-shedding. The AF supported additional investments in components two and three activities. The PDOs were revised and additional investments financed by the project included rehabilitating generation assets, transmission and distribution strengthening, technical assistance for institutional strengthening, and training and technical studies aimed at power sector development.

e. Comments on Project Cost, Financing, Borrower Contribution, and Dates

Project Cost. Appraisal estimate US\$133.40 million. Actual cost US\$168.10 million. Actual cost was higher than estimated as there was financing for some component three activities from the UNDP, District Development Committee and the Agricultural Development Bank.

Project Financing. The project was financed by an IDA Credit of US\$50.40 million and an IDA Grant for poorest country of US\$25.20 million. Total IDA financing was US\$75.60 million. Additional Financing of US\$89.20 million was approved on 06/18/2009. Total IDA financing for the project was US\$164.80 million. US\$55.00 million of the Grant was cancelled. The amount disbursed was US\$98.00 million. According to the information provided by the team, the difference between the IDA grant and the amount disbursed was due to fluctuations in the exchange rate between SDR and US\$ during implementation. There was parallel financing for complementary activities from the United Nations Development Program (UNDP).

Borrower Contribution. Borrower contribution was estimated at US\$15.10 million. Total contribution from local communities and local sources of borrowing country was estimated at US\$3.90 million, including US\$1.10 million from local communities and US\$2.80 million from local sources.

Dates. Following the delays in the initial years due to the political environment, which discouraged investment in small and medium hydropower projects, there was a Level 1 restructuring on February 15, 2008. This restructuring was intended to focus on activities that could be achieved within a reasonable time frame. In addition to the changes described above, other changes were made.

One, the financial covenants were modified. As per the Financial Agreement, the Nepal Electricity Authority (NEA) was expected to achieve satisfactory financial performance during the 2003-2007 period through raising tariffs. The specific financial covenants were: reduction in debt service coverage ratio of NEA by 1.2, rate of return of NEA of 6%, and 90-day levels of accounts payables of the NEA. At approval, NEA was breaking even and making a return on assets. NEA's financial health however deteriorated due to the fragile political environment. It received little support from the government at this time. There had been no tariff increases in real terms and the deteriorating quality of electricity supply made it even more difficult for the government to raise tariffs. As a result the government had not been complying with the financial covenants, except for the accounts payable covenant. The two financial covenants - the debt service coverage ratio and the rate of return of NEA were dropped at government request.



Two, the project closing date was extended by 18 months from June 30, 2009 to December 31, 2010. AF was approved on June 18, 2009. The scope of component two and three activities were expanded significantly with the AF. The following changes were made through one Level 2 restructuring on December 21, 2012: (i) unutilized projects funds of US\$42.47 million were cancelled; (ii) the closing date was extended by a year for completing ongoing activities; and (iii) the results framework was modified and the targets for transmission capacity and energy generation were revised upwards.

The project closed on December 12, 2013. According to the information provided by the team, although the project closed in 2013, all the safeguard activities (such as compensation payment) were not completed and the Bank team was still supervising the project. The project activities could not be considered complete, as the safeguard activities were not complete. Hence, the submission of the Implementation Completion Report had to be postponed.

Split rating. The PDO was changed twice: once in 2008 when US\$17 million (about 15%) of the original IDA grant was disbursed, and again in 2009 when an additional US\$8.00 million (8%) of the grant was disbursed. AF of US\$89.20 million was approved in 2009 and 77% of the balance was disbursed at closure. This review is based on a split rating of objectives: at disbursements of 17% in 2008, 8% in 2009 and the remainder 77% at project closure.

3. Relevance of Objectives & Design

a. Relevance of Objectives

Original PDO. At appraisal, there were vast disparities in access to electricity services, with over 90% of the urban population having access as compared to 30% in the rural areas. The installed generation capacity was only 522 MW and the sector was facing serious challenges due to factors such as inconsistent and overlapping policies and weak institutional support for improving rural access. Further, although Nepal's hydropower generation potential was estimated to be about 43,000 MW, only 522 MW of this was developed, with another 119 MW under construction, due to factors such as lack of private sector debt and equity for hydropower projects and poor financial performance.

The PDOs were relevant for the government strategy. The government's Ninth Plan goals for the 1998-2002 were: (1) producing sufficient hydroelectricity at cheaper cost; (2) reducing rural-urban and regional disparities in electricity access; and (3) linking electrification with rural activities. The government's Tenth Plan specified a target of increasing generation capacity to 800 MW by 2008. The Hydropower Development Policy revised in 2001 underscored the need for private sector participation, through transparent and investment friendly procedures and developing small and district level hydro projects under decentralized schemes. The government's plan for the 2009-2013 period highlighted the need for accelerating economic growth and generating employment through developing physical infrastructure. These goals were reiterated by the government's plan for the 2014-2016 period.



At appraisal, the PDOs were well-aligned with the Country Assistance Strategy (CAS) of December 1998. The CAS supported the goal of developing basic infrastructure for promoting broad-based economic growth and improving resource utilization. With respect to the energy sector, the CAS strategy called for increasing domestic power supply and facilitating private sector investment in the sector. The PDOs were consistent with the Bank's Interim Strategy Note (ISN) for 2011-2013. The ISR recognized the direct relationship between years of under-investment in infrastructure in the power sector and the current low level of economic development and underscored the need for supporting new hydropower generation. The PDO continues to be relevant for the Bank's Country Partnership Strategy (CPS) for 2014-2018. The first pillar of the strategy identified the need for increasing growth and employment through increasing the supply of electricity and improving access to reliable and affordable electricity.

Revised PDO following the first project restructuring. There were significant delays in implementing the Power Development Fund (PDF) - the most important project component - due to the political uncertainty in the country. The scope of this component was reduced and refocused on activities that could realistically be implemented within the specified time frame. Unallocated funds for the PDF component were diverted for funding additional rural electrification activities. Given that these added activities were important to the government and the Bank strategy, the revised PDO was also highly relevant.

Revised PDO after AF. The PDOs were further revised in the context of the deteriorating energy situation in the country. Given that the activities focused on activities identified in the government's Energy Crisis Management Plan, the revised PDO was highly relevant.

The relevance of objectives across these three stages is rated **high**.

Rating

High

Revised Rating

High

b. Relevance of Design

Original and revised design. The statement of the PDO was clear and there was a logical causal chain between project activities, their components and outcomes. Component one activities to provide long-term financing to private investors were intended for encouraging private investments in small and medium hydro projects. Component two activities to increase electricity access in rural areas from the off-grid supply system and component three activities such as electricity transmission and distribution lines were aimed at increasing grid-based rural access. These activities together with institutional strengthening of the Nepal Electricity Authority (NEA) aimed at improving access to electricity services in rural areas.

The design with three implementing agencies was complex, given the weak implementation capacity. The design was over-optimistic on the private sector response to the proposed PDF line of credit for hydropower development. There was no adequate preparation to identify the constraints to private sector participation in hydropower development. Given the delays associated with implementing the PDF activity, the scope of this activity was reduced from investment to technical assistance activities. Unutilized funds for this component were used for increasing the scope of two and three activities aimed at increasing electricity access in rural areas.



Revised design following AF. The revised design was simpler and activities focused, given the "national energy crisis". Additional investments for rehabilitating electricity generation and transmission assets aimed at increasing access to electricity access in rural areas and improving the quantum and efficiency of electricity supply.

Rating
Modest

Revised Rating
Substantial

4. Achievement of Objectives (Efficacy)

Objective 1

Objective

To develop the Borrower's hydropower potential in an environmentally and socially sustainable manner so as to help meet electricity demand.

Rationale

Outputs (ICR, page 12, para 50)

- None of the activities associated with creating a PDF were executed.

Outcomes

- No outcomes were realized.

Rating
Negligible

Objective 1 Revision 1

Revised Objective

To build capacity to manage the development of Nepal's hydropower potential in a prudent and sustainable manner.

Revised Rationale

Output.

- There were no outputs.



Outcome.

- No outcomes were realized.

Revised Rating

Negligible

Objective 2

Objective

To improve access of rural areas to electricity services.

Rationale

Outputs.

- 180 towers were rehabilitated.
- The following transmission and distribution links were completed as targeted: (1) The Chandanigahaput 132 kV substation: (2) The distribution network in five districts and 23,881 new households were expanded: (3) The rehabilitation work and rural electrification works was completed in three districts.
- The Enterprise Resource Planning (ERP) system and the tower design was completed and the foundation stone was approved for all towers except for the nine multi-circuit towers. 116 foundations for the towers were completed. The Multi Fuel Power Plant was rehabilitated and the Kathmandu Valley Distribution System was completed.
- Total kV capacity of new off-grid micro-hydro village schemes increased to 8,497 kV, exceeding the target of 1,400 kV.
- 3,362 persons were trained on micro-hydro operation/management and end use skills. 2,200 people were trained on institutional development.
- 1,200 jobs were created in jobs relating to operation and management of micro-hydropower plants.
- Of the three transmission lines, the Khimti-Dhalkebar transmission line was completed after the project completion period (February 2017) and the other two transmission lines (the Hetauda-Bhartpur and the Bhartpur-Baddaghat transmission lines were not completed by the project closing date.
- 1619 kilometer (Km) of distribution lines were built. This was short of the target of 2200 kms.
- Eight distribution centers were rehabilitated. This was short of the target of 18.

Outcomes.

- 88,934 additional households in rural areas were provided with access to electricity generated by micro-hydro schemes. This exceeded both the original and revised targets of 30,000 and 74,000 respectively.



Rating
Substantial

Objective 2 Revision 1

Revised Objective

To increase access to electricity services in rural areas.

Revised Rationale
Outputs.

- The outputs described above were also relevant to this objective.

Outcomes.

- The outcomes described above were also relevant to this objective.

Revised Rating
Substantial

Objective 2 Revision 2

Revised Objective

To increase access to electricity in rural areas.

Revised Rationale
Outputs.

- The outputs described above were also relevant to this objective.

Outcomes.

- The outcomes described above were also relevant to this objective.

Revised Rating
Substantial

Objective 3

Objective

To promote efficient private sector participation in the power sector and to mobilize financing for the sector's investment requirements.



Rationale Outputs

- None.

Outcomes

- None.

Rating Negligible

Objective 3 Revision 1 **Revised Objective**

This objective was dropped.

Revised Rationale

Revised Rating Not Rated/Not Applicable

Objective 4 **Objective**

To improve the supply and accountability of electricity

Rationale Output

- 1,619 km of distribution lines were built. This was short of the original target of 2,200 km.
- Eight distribution centers were rehabilitated. This was short of the target of 18.
- The generation capacity of new micro-hydro schemes (off-grid) increased to 8,497 kW. This exceeded the target of 1,400 kW.

Outcomes

- 37,451 additional rural households were provided with access to grid-connected electricity.



- The transmission capacity of the Khimti-Dhalkebar line did not increase as targeted as the line was not completed by the closing date. The ICR (viii) reports that the line has been in operation since February 2017.
- Distribution losses in project-supported distribution centers outside Kathmandu reduced from 28% at the baseline to 4.74% by project closure. This was short of the target of 1.6%.
- Distribution losses in project-supported distribution centers inside Kathmandu Valley were reduced from 18.8% at the baseline to 4% at project closure. This exceeded the target of 6%.

Rating

Substantial

Objective 4 Revision 1

Revised Objective

To improve the quantum and efficiency of electricity supply.

Revised Rationale

Outputs.

- The outputs described above were also relevant to this objective.

Outcomes.

- The outcomes described above were also relevant to this objective.

Revised Rating

Substantial

5. Efficiency

Economic Analysis. An economic analysis was conducted at appraisal for activities associated with developing small hydro projects through the PDF, Micro-Hydro Village Electrification, and expansion of the transmission and distribution links. These activities accounted for 93% of the appraisal cost. The benefits of the PDF financing was assumed to come from the real rate of return to equity ranging from 15% to 19%, as compared to the post-tax cost of debt of 10%. The benefits of the micro-hydro village electrification component were to come from displacement of kerosene for household lighting and displacement of diesel engines for production uses. The benefits of the transmission and distribution links was to come from the expected incremental sales from the newly created capacity. Other indirect benefits such as energy usage savings due to



lower energy prices were identified but not factored in the analysis. The Economic Rate of Return (ERR) for the entire project was in the range of 10-33%. The ERR for the PDF activity ranged between 30-33%, while the ERR for the Micro-Hydro Village Electrification and the transmission and distribution links were 11% and 14% respectively (PAD, page 24).

An economic analysis was conducted at closure for activities associated with constructing the transmission lines, reducing distribution losses both inside the Kathmandu Valley and losses outside the Valley, and the rural electrification on-grid and off-grid. The methodology followed for the analysis at closure was not comparable to the analysis at appraisal, as the project's components and design changed significantly during implementation. The ERR for the transmission lines ranged from 17% to 21%, while the ERR for the distribution loss reduction inside Kathmandu was 32% and for outside Kathmandu 48%. The ERR for the rural electrification on-grid and off-grid were 39% and 87%, respectively.

Administrative and Operational Issues. Although political factors contributed to the delays with respect to the creation of the PDF in the initial years, the delays were exacerbated by factors such as the inefficient staffing of the PDF. These factors contributed to the significantly reduced scope of this activity following the first restructuring. There were delays during implementation due to factors such as the poor institutional capacity and the business practices of the Nepal Electricity Authority (NEA), which contributed to delayed decision making, procurement delays and delays in safeguards compliance (discussed in section 11). The project was not able to pursue the financial improvement plans for NEA. Most activities funded through the AF were not completed before the project closing date and works associated with two transmission lines and installation of system integrators were still ongoing at project closure under a Nepal-India Electricity Transmission and Trade Project (NIETTP).

Note: The ERRs were not entered below as the project at closure was significantly different from the originally appraised project, and the ERRs are therefore not comparable.

Efficiency Rating

Modest

a. If available, enter the Economic Rate of Return (ERR) and/or Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation:

	Rate Available?	Point value (%)	*Coverage/Scope (%)
Appraisal		0	0 <input type="checkbox"/> Not Applicable
ICR Estimate		0	0 <input type="checkbox"/> Not Applicable



* Refers to percent of total project cost for which ERR/FRR was calculated.

6. Outcome

Original objectives. Relevance to the country and the Bank strategy is High. Relevance of design is Modest, in view of the ambitious design in relation to the implementation capacity. Efficiency is Modest. Efficacy of two objectives (to develop the hydropower potential in an environmentally and socially sustainable manner and to promote efficient private participation in the power sector and mobilize financing for the power sector's investment requirements) is rated as Negligible. Efficacy of the third objective (to improve access of rural areas to electricity services is rated as Substantial). Outcome of the original objectives is rated as Highly Unsatisfactory before restructuring.

Revised objectives. Relevance of the objectives is High. Relevance of design was Modest. Efficiency is Modest. Of the three objectives, the first objective (to build capacity to manage the development of Nepal's hydropower potential in a prudent and sustainable manner), is rated as Negligible. Efficacy of the remaining two objectives (to increase access to electricity services in rural areas and to improve the supply and accountability of electricity). Outcome of the revised objectives is rated as Moderately Unsatisfactory.

Relevance after AF. Relevance of objective is rated as High. Relevance of design is Substantial, as the activities were restricted in scope and focused on activities that could realistically completed. Efficacy of the two objectives (to increase access to electricity in rural areas and to improve the quantum and efficiency of electricity supply), is rated as Substantial. Outcome after AF is rated as Moderately Satisfactory.

Taking into account the ratings discussed above and weighing by the shares of disbursements before and after the restructurings $(0.15*1+0.08*3+0.77*4) = 3.47$, the overall outcome is Moderately Unsatisfactory, reflecting significant shortcomings in the project's achievements of its objectives and in its efficiency.

a. Outcome Rating

Moderately Unsatisfactory

7. Rationale for Risk to Development Outcome Rating

Technical risk. Many of the activities such as the two transmission lines and installation of systems integrators were not completed at project closing.

Institutional risk. Given that the local communities and the Alternative Energy Promotion Center are responsible for operating and maintaining the hydro plants, it is not clear if there is adequate capacity for maintaining these assets.

Financial risk. Given that the Nepal Electricity Authority (NEA) did not comply with the financial covenants, there is risk to the financial viability of the NEA. According to the clarifications provided by the team, there was a five-year gap between project closing in 2013 and completion of the ICR in 2018. During this period, NEA's financial status had continued on a deteriorating path until 2016. In 2017, NEA turned profitable for the first time in a decade due to significant financial restructuring measures taken by the Government and these measures



included, reducing losses from 25% to 23%, reducing the interest rate from 8% to 5% on the government loans to NEA, clearing the arrears on electricity payments owed by government offices, settling the outstanding subsidies owed by the government to NEA and converting NEA's outstanding payments to the Government into additional equity. The NEA also approved a ten year financial viability action plan in 2018 and this plan among other things aims at cost reflective tariffs within five years, introducing competitive power purchase and achieving returns on its investments on par with international standards and exporting electricity to neighboring countries.

Social risk. It is unclear whether the government will be able to address issues pertaining to land acquisition for the transmission lines.

a. Risk to Development Outcome Rating

Substantial

8. Assessment of Bank Performance

a. Quality-at-Entry

This project was prepared based on the lessons from prior Bank-financed sector projects (Marsyangdi Hydroelectric Project, Third Technical Assistance Project and the Power System Efficiency Projects) in Nepal. Lessons incorporated included using a participatory approach for project preparation, which was successful in a prior rural electrification program, and activities for supporting a transparent process of inviting offers on an internationally competitive basis. The arrangements made at appraisal for M&E were appropriate (discussed in section 10). There were shortcomings in Quality-at-Entry, as follows:

- There was no thorough examination of the constraints to private sector involvement in hydropower development at preparation. The design underestimated the institutional capacity of the newly created PDF Board. Although measures were incorporated for mitigating this risk, these measures were not implemented. The PDF component was reduced following the restructuring.
- The project with three implementing agencies was ambitious. Lack of capacity in the agencies caused delays in the initial years. Lack of a coordinated approach between the major government stakeholders and poor procurement further contributed to delays. Given the weak implementation capacity, the design could have made arrangements for a Project Management Consultant under the technical assistance component of the project.



- There was lack of diligence with respect to safeguards compliance (discussed in section 11a). It is not clear if there was due diligence at preparation, with respect to the transmission line adopted by NEA. The route alignment survey at design ignored the social impacts, which later affected project implementation. Furthermore, the NEA did not possess its own tower designs and hence tower designs needed to be type tested in each contract and this contributed to delays during implementation.
- The technical assistance component did not have provisions for a Project Management Consultant. The time lag between project planning and implementation of processes like acquisition of licenses by the NEA contributed to the delays.

Quality-at-Entry Rating Moderately Unsatisfactory

b. Quality of supervision

21 Implementation Status Results reports were filed over a 12 year project time frame (implying on average of two missions a year). Supervision teams included safeguards and fiduciary specialists and missions included visits by senior officials to various sites. Given the delays experienced in the initial years, the supervision team appropriately scaled back the project activities to what could be accomplished within the specified time line with the first restructuring. The team appropriately increased the scope of electricity access in rural areas in the wake of the energy crisis following the approval of AF for the project. It is not clear if there was adequate supervision of financial management, given the financial management issues during implementation (discussed in section 11b).

Quality of Supervision Rating Moderately Satisfactory

Overall Bank Performance Rating Moderately Unsatisfactory

9. Assessment of Borrower Performance

a. Government Performance

The government was committed to the PDO and provided adequate budget support to meet shortfall of funds as provided in the Legal Agreement. The government provided more funding to the Alternative Energy Promotion Center and this aided in completion of more household electrification activities after project closure (discussed in Section 9b).



Government Performance Rating

Moderately Satisfactory

b. Implementing Agency Performance

The Ministry of Water Resources (MOWR) was in charge of the project. The three implementing agencies were the Department of Electricity Development (DOED), the Nepal Electricity Authority (NEA) and the Alternative Energy Promotion Center (APEC).

DOED. The DOED in the MOWR was responsible for development of hydro generation schemes and for creating the PDF. Although the PDF was established, it did not have dedicated full-time staff to carry out the intended activities. There were delays in submission of audit reports by the DOED.

NEA. The NEA was in charge of implementing the transmission and distribution investments. The NEA appointed a project coordinator and this aided in coordination within the various departments of the NEA. The NEA did not however comply with the financial covenants. Frequent changes in staff in NEA contributed to delays during implementation. Environmental and social safeguards issues were not handled with due diligence by the NEA. The NEA's financial statements and project audits for 2010/11 and 2011/2012 were qualified due to misuse of project assets and advances provided to contractors without certification for capital work in progress.

APEC. APEC - an autonomous agency in the Ministry of Science and Technology responsible for promoting and developing alternative and renewable energy technologies - was responsible for implementing community-based micro-hydro development schemes. The APEC completed the activities associated with household electrification and with additional resources from the government, was able to complete more household electrification activities after project closure.

Implementing Agency Performance Rating

Moderately Unsatisfactory

Overall Borrower Performance Rating

Moderately Unsatisfactory

10. M&E Design, Implementation, & Utilization

a. M&E Design

The original Monitoring and Evaluation (M&E) indicators were appropriate. Increase in coverage of electricity services in rural areas and increase in the number of households with service access were appropriate for monitoring performance with respect to the PDO of improving access to electricity services in rural areas. Increase in the number of bankable hydroelectric projects through the PDF were appropriate for monitoring performance with respect to developing hydroelectric potential. The other key



outcome indicators -- monitoring financial efficiency (through reduction of debt service coverage and rate of return on assets) and operational efficiency (through reduction of losses) of NEA -- were appropriate for monitoring performance with respect to sector efficiency. Adopting transparent and objective processes for investment offers for medium-sized projects were appropriate for monitoring performance with respect to the objective of mobilizing private sector financing for the sector.

b. M&E Implementation

Following the project restructuring, which increased the scope of component two and three activities, the targets for increase in service coverage in rural areas, the number of villages served through micro-hydro schemes, and increase in grid connection were revised upwards. Given that the scope of component one activity was reduced substantially, the key quantitative outcome indicator for this activity was dropped. Following the approval of AF, the targets pertaining to the number of additional households with access to electricity generated by micro-hydro schemes, the number of additional rural households with access to grid connected electricity, and the transmission capacity and energy generation capacity, were scaled upwards.

c. M&E Utilization

The M&E arrangements were used to identify and address the implementation issues and take corrective actions, such as during the restructuring when the PDOs and indicators were revised during implementation. At closure, they were used for monitoring project performance.

M&E Quality Rating

Modest

11. Other Issues

a. Safeguards

The project was classified as a Category A project. Together with environmental assessment (OP/BP 4.01), seven safeguard policies were triggered: Natural Habitats (OP/BP 4.04), Forestry (OP 4.36), Indigenous Peoples (OP 4.20), Involuntary Resettlement (OP/BP 4.12), Safety of Dams (OP/BP 4.37), and Projects in International Waters (OP/BP 7.50). An Environmental and Social Impact Assessment (ESIA) was conducted and an ESIA policy framework to mitigate the environmental and social impacts was prepared to address environmental and social issues at appraisal (PAD, page 35). A Resettlement Action Plan (RAP) and a separate Vulnerable Communities Development Plan (VCDP) to ensure that ethnic communities/ tribal communities were provided with assistance was to be prepared during implementation (PAD, pages 105-107).

Environmental Safeguards. The ICR (page 10) notes that baseline information and specific Environment Management Action Plan (EMAP) were updated during the early stage of implementation to reflect the final



realignment of each transmission line. The ICR (page 9) notes that there were no major environmental issues in the micro-hydropower, rehabilitation of diesel, multi fuel and distribution system rehabilitation works components of the project during implementation. The ICR (page 9) reports that the Vulnerable Community Development Plans were completed for all districts.

Involuntary Resettlement. The ICR (pages 7-8) notes that there was an issue with the transmission line adopted by the NEA at preparation. The route alignment survey ignored the social impacts, which contributed to issues such as conflict with communities and resulted in an inspection case. The inspection panel case involved a 3.85-km section of the Khimti-Dhalkebar Transmission Line in the Sindhuli District. The community had pressed for either an alternative alignment or a much higher level of compensation for those affected by the Transmission Line Right-of-Way. The Inspection Panel submitted its Investigation Report to the Board on February 12, 2015. The Panel findings concluded that there were considerable delays in (a) translation and disclosure of subproject-specific safeguard documents; (b) implementation of the Resettlement Action Plan and the Vulnerable Community Development Plan; and (c) implementation of agreed grievance mechanisms. The Plan also found that the project violated Operational Policy 4.12 on Involuntary Resettlement, Operational Manual Statement (OMS) 2.20 on Environmental Assessment, and the OP 4.10 and OP 4.12 on consultations. On March 30, 2015, the Bank's management submitted its response to the Inspection Panel's findings and provided a detailed Management Action Plan. This implementation of this plan took two years to complete.

After a range of discussions, the Department of Roads agreed to acquire the land under the 3.85-km length of road for a feeder road and compensated the owners at 100% of the land value. Out of 159 plots, 139 were compensated, amounting to Nepal Rupees 207.80 million (representing 92% of the total compensation for this land). The compensation for the remaining 27 plots was outstanding as these plots either included absentee owners or plots where legal disputes of property division among owners were pending. Funds for compensation for the remaining 27 plots had been deposited in a Special Purpose Account at closure (ICR, page 9).

b. Fiduciary Compliance

Financial Management. An assessment was conducted at appraisal to judge the financial management capacities of the NEA and the AEPC. The financial management arrangements of the agencies were deemed to be satisfactory at appraisal (PAD, page 24). As indicated in Section 9b, the NEA did not comply with the financial covenants. The ICR (page 10) notes there were issues pertaining to accounting, inadequate supporting documents, and unreconciled accounts/balances during implementation, and the financial statements from NEA were always qualified. A refund for Nepal Rupee of 86,463,620 in lieu of payments made by the AEPC to 51 incomplete subprojects was still pending at project closure.

Procurement. An assessment was conducted at appraisal to determine the institutional capacities of the implementing agencies to address procurement issues (PAD, page 24). The PAD (page 75) notes that



although DOED had limited exposure to Bank-financed projects, it had been carrying out procurement satisfactorily, with the assistance of the United States Agency for International Development (USAID). The NEA had implemented several bank-financed projects and its performance in executing the procurement aspects of these projects was deemed to be satisfactory. The procurement risk was rated as average at appraisal (PAD, page 75). The ICR does not report any case of mis-procurement.

c. Unintended impacts (Positive or Negative)

d. Other

12. Ratings

Ratings	ICR	IEG	Reason for Disagreements/Comment
Outcome	Moderately Unsatisfactory	Moderately Unsatisfactory	---
Risk to Development Outcome	Modest	Substantial	There are substantial technical and financial risks.
Bank Performance	Moderately Satisfactory	Moderately Unsatisfactory	Per IEG guidelines, when the rating for one dimension is in the Unsatisfactory range and the rating for the other dimension is in the Satisfactory range, the overall rating is determined by the outcome rating.
Borrower Performance	Moderately Satisfactory	Moderately Unsatisfactory	There were shortcomings in the performance of DOED and NEA.
Quality of ICR		Substantial	---

Note

When insufficient information is provided by the Bank for IEG to arrive at a clear rating, IEG will downgrade the relevant ratings as warranted beginning July 1, 2006.
The "Reason for Disagreement/Comments" column could cross-reference other sections of the ICR Review, as appropriate.

13. Lessons



The ICR draws the following three main lessons from implementing this project, with some modification of language:

(1) At appraisal, it is necessary to have an analysis of political economy considerations, particularly before investing in a country during an insurgency period. The lack of a political risk assessment identifying the key issues in the case of this project constrained implementation and taking corrective actions.

(2) Adequate preparation for safeguards (e.g., for the detailed route survey, availability of land, and permission for forest clearances), is especially required in countries where the implementing agencies have less experience in project preparation. For instance, in this project the Environmental and Social Impact Assessment prepared for the Khimti-Dhalkebar had weak analysis, which contributed to the social conflicts that surfaced during implementation.

(3) The project design needs to be realistic, particularly in countries with weak implementation capacity. This project with three implementing agencies was ambitious in terms of addressing complex and multiple issues faced by Nepal's power sector, which included everything from hydro and diesel generation, to transmission and distribution, and off-grid and rural electrification. This necessitated the scaling-back of project activities during the first restructuring.

14. Assessment Recommended?

No

15. Comments on Quality of ICR

The ICR is concise and well written for the most part. It provides a candid description of the delays in the initial years of the project and the environmental and social safeguards issues that arose during implementation. It also provided a clear and adequate discussion of project results vis-à-vis original targets. There were some shortcomings. The figures provided in page iv are confusing. According to the IEG Guidelines, regarding the rating for overall Bank performance, when the rating for one dimension (such as, Quality-at-Entry) is in the unsatisfactory range and the rating for the other dimension (supervision) is in the satisfactory range, the rating for overall Bank Performance depends on the outcome rating. It would be helpful to the reader if the ICR used abbreviations and acronyms sparingly and more important, to check that the abbreviations and acronyms are always spelled out in page ii. The ICR provides little detail whether there were procurement issues during implementation.

a. Quality of ICR Rating



Substantial