



1. Project Data

Project ID P109736	Project Name LA -TA for Hydropower and Mining sectors		
Country Lao People's Democratic Republic	Practice Area(Lead) Energy & Extractives		
L/C/TF Number(s) IDA-54490,IDA-H5390,IDA-H9470,TF-99572	Closing Date (Original) 30-Sep-2014	Total Project Cost (USD) 26,295,469.60	
Bank Approval Date 12-Jan-2010	Closing Date (Actual) 30-Sep-2020		
	IBRD/IDA (USD)	Grants (USD)	
Original Commitment	8,000,000.00	2,542,397.00	
Revised Commitment	28,340,894.92	2,542,397.00	
Actual	26,295,469.60	2,542,396.46	
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2. Project Objectives and Components

a. Objectives

The Project Development Objective (PDO) was "to increase human capacity and improve the performance of the Recipient's oversight institutions for the hydropower and mining sectors" (Schedule 1 of the Financing Agreement dated March 12, 2010). The Recipient was the Lao Peoples' Democratic Republic (LPDR).



The PDO as stated in the Project Appraisal Document (PAD) was the same except for the use of the term "Government's" instead of "Recipient's".

The PDO remained unchanged during the implementation period. There were five restructurings, including an Additional Financing, which resulted in an increase in the ambition of the project with associated changes in some PDO indicators, Intermediate Result Indicators (IRIs), and targeted outputs. Consequently, a split evaluation is not carried out for the project.

For the ICRR, the PDO is parsed as follows:

Objective 1: To increase human capacity in the LPDR's oversight institutions for the hydropower and mining sectors.

Although hydropower and mining are separate sectors, the increase in human capacity in the two sectors is treated as a single objective in view of the substantial synergies and commonalities involved in the institutional capacity building and training aspects. Both sectors are in the purview of a single ministry - the Ministry of Energy and Mining (MEM).

Objective 2: To improve the performance of the LPDR's oversight institutions in the hydropower sector.

Objective 3: To improve the performance of the LPDR's oversight institutions in the mining sector.

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

03-Jun-2014

c. Will a split evaluation be undertaken?

No

d. Components

(Reference: PAD paras. 20 to 32 and ICR paras. 18 to 21)

The description below covers the project components as specified at appraisal. During project restructurings, some changes were made within the components with associated changes in indicators and targets. These changes are indicated later below under the respective restructurings.

At appraisal, the project had four components as follows:



Component 1: Joint Hydropower and Mining Learning Program: (estimated cost at appraisal US\$2.63 million; revised cost after additional financing US\$5.63 million; actual cost at project completion US\$4.79 million).

This component aimed at building critically needed capacity and generating public awareness across the hydropower and mining sectors and thereby removing critical bottlenecks to the development of both sectors. The component consisted of the following subcomponents.

Subcomponent a. Continuing learning program for sector professionals: This subcomponent aimed to provide learning in cross-cutting issues as well as training specific to the two sectors by funding high-level courses of a continuing education nature as well as sector-specific hands-on training on technical issues. The program would target government staff as well as public/private sector practitioners at three levels: senior management, mid-level, and provincial level.

Subcomponent b: Education Sector Support: This subcomponent aimed to support advanced formal education at the National University of Lao PDR (NUOL) and selected technical colleges to assist developing the next generation of hydropower and mining high level professionals and a skilled labor force. This would include (i) support to NUOL to develop technical engineering curricula for recently established hydropower and mine engineering degrees and (ii) technical training programs for skilled workers through two established specialized technical colleges, one for hydropower professionals and the other for mine professionals.

Subcomponent c: Outreach and Information Sharing for Stakeholders: This subcomponent aimed at (i) establishing a small library at the Ministry of Energy and Mining (MEM) where information could be made available to increase public awareness and support outreach programs; (ii) upgrading of MEM's centralized website for on-line publication of sector documents and information; (iii) providing a legislation register to house and keep track of changes to relevant government legislative instruments; and (iv) establishing five pilot information centers to conduct outreach activities in areas particularly impacted by hydropower and mining activities.

Component 2: Hydropower Sector Development: (estimated cost at appraisal US\$3.85 million; revised cost after additional financing US\$10.85 million; actual cost at project completion US\$10.70 million).

This component aimed at capacity building in support of sustainable hydropower development in LPDR. The activities were to cover the entire value chain from planning, concession awarding, construction, and operation, to revenue management.

Subcomponent a: Water Resource Management and Hydropower Planning: This subcomponent aimed to build up capacity in sustainable water resources management and hydropower development planning including: (i) taking into account potential environmental and social costs and benefits in hydropower development planning; (ii) updating the least-cost expansion plan for hydropower development; (iii) developing a National Hydrological Data Collection and processing System; (iv) updating existing models developed for water resource management ; and (iv) conducting training programs in MEM and associated government agencies to promote integrated river basin planning practice in the LPDR.

Subcomponent b: Hydropower Concession Management: This subcomponent aimed to provide technical assistance to the Department of Energy Promotion and Development (DEPD) on project supervision to ensure project construction and operation complying with the Concession Agreements (CA) signed. This would include consulting services to help DEPD in (i) preparation of requirements and



procedures for monitoring the construction and operation of hydropower projects; (ii) preparation of model contractual requirements to ensure sound environmental and social safeguard management and monitoring; (iii) supporting site inspection and monitoring of ongoing hydropower construction in line with the CAs; and (iv) training of DEPD staff at the central and provincial levels for managing the implementation of the CAs.

Subcomponent c: Hydropower Management and Implementation of the NPSH (National Policy on Environmental and Social Sustainability of the Hydropower Sector in LDR): This subcomponent would provide technical assistance to the Department of Energy (DOE) to adjust NPSH in line with the Environmental and Social Impact Assessment (ESIA) decreed and other changes in relevant regulations; (ii) update and implement MEM's guidelines and procedures for enforcement and monitoring of NPSH; and (iii) support DOE and selected provincial departments in three or four key provinces for implementation of the Action Plan developed to forge effective implementation of the NPSH.

Component 3: Mining Sector Development: (estimated cost at appraisal US\$2.71 million; revised cost after additional financing US\$8.71 million; actual cost at project completion US\$7.42 million).

This component consisted of the following subcomponents:

Subcomponent a: Improvement of Sector Governance and the Enabling Environment: This subcomponent aimed at helping complete the legislative and regulatory framework for developing the mining sector by providing legal advisory support for: (i) drafting detailed mining regulations; (ii) developing a national mining development policy; (iii) preparing a standard mineral development agreement which can be used by investors; and (iv) promoting models for corporate social responsibility, risk mitigation and community benefit-sharing approaches. In addition, the subcomponent would support (i) dissemination of the Minerals Law and regulations; (ii) preparation of a study on financial flows of the mining companies; and (iii) training of Ministry of Finance (MOF) staff to improve tax administration.

Subcomponent b: Strengthening of Government Oversight Capacity: The subcomponent would fund technical assistance and logistical support for (i) providing training in the use of a Monitoring & Evaluation (M&E) template developed under an earlier project; (ii) reinforcing mines inspections functions within MEM to ensure compliance with the requirements of the new Minerals Law and relevant regulations; (iii) elaborating a community consultation and disclosure program; and (iv) reinforcing the mine cadaster and mine title registry functions of the Department of Mines (DOM).

Subcomponent c: Program to Promote Minerals Development: The subcomponent would provide consultancy services and logistical support for: (i) providing geological and mineral inputs to modernize and upgrade the existing geographical information systems (GIS); (ii) providing field training in applied geological mapping; and (iii) acquiring, and providing training in the use of, laboratory and field equipment by the Department of Geology (DGEO). The funding to be provided under this subcomponent was to be supplemented by parallel funding from the Finland Government.

Component 4: Project Administration and Management: (estimated cost at appraisal US\$0.72 million; revised cost after additional financing US\$2.93 million; actual cost at project completion US\$3.38 million). The subcomponent would support provision of consultancy services for the Project Secretariat established within MEM for coordination and management of the project implementation, and acquisition of logistical and equipment support.



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

Project Cost: The estimated cost at appraisal was US\$10.54 million. With the Additional Financing in 2014, the cost was revised to US\$28.34 million. At completion, the actual cost was US\$26.29 million.

Financing: Total IDA financing for the project was US\$25.8 million including: (i) at appraisal, an IDA grant for US\$8 million; and (ii) under the Additional Financing in 2017, US\$17.8 million through an IDA grant of US\$8.9 million and an IDA credit of US\$8.9 million. At completion, US\$23.75 million had been disbursed and the balance of US\$2.05 million was cancelled.

Trust Fund Financing: In conjunction with the IDA grant of US\$8 million, the Australian Trust Fund provided financing in the amount of US\$2.542 million which was fully disbursed.

Borrower Contribution: The Borrower did not provide any financing for the project.

Dates: The project was approved in January 2010 and became effective in August 2010. The original closing date was September 30, 2014. It was extended four times; the actual closing date was September 30, 2020.

Mid-Term Review (MTR): A MTR was carried out in January 2013.

Restructurings: During implementation, there were five restructurings as follows:

First Restructuring: (May 2013, disbursed amount US\$3.57 million - 14 percent of total disbursement).

This was a Level II restructuring undertaken to address implementation changes including Government of Lao (GoL) agency realignments, update the Results Framework, and consolidate activities and related small procurement packages (ICR para. 22). Changes included:

Dropped Intermediate Result Indicators (IRIs): Three IRIs were dropped: (i) Establishment and effective operation of information centers in Vientiane as well as four pilot provinces; (ii) Expanded access to geo-information; and (iii) Field training in applied geology mapping and upgraded laboratory". The rationale for the dropping was to reflect changes in the sector context and priorities and to ensure alignment to the restructured project. (ICR para. 23, Table 3).

Extension of the project closing date from September 30, 2014 to September 30, 2015 to allow time for completion of ongoing activities.

Second Restructuring: (June 2014, disbursed amount US\$7.10 million - 27 percent of total disbursement).

This was a Level I restructuring undertaken to provide Additional Financing which substantially scaled up the scope of the project. The PDO was not changed. Changes were made in the PDO indicators and associated IRIs to better align them with the ultimate outcomes specified in the PAD and reflect closer monitoring of quantitative and milestone progress. (ICR para. 23, Table 3).

PDO Indicator 1: Formulation of the original indicator "Increased number of trained human resources in the mining and hydropower sectors within the public sector and from higher and technical educational institutions" was revised to "Percentage of of trained GoL staff report medium to intensive use of knowledge



and lessons gained from capacity building measures" to reflect qualitative effects of training support provided through the project. The target value was increased from 50 percent to 80 percent.

IR Indicator 1.1: The original indicator "Number of GoL personnel trained and applying the acquired knowledge and skills in cross-cutting areas such as contract management, financial analysis, accounting, environmental and social management" was slightly revised to "Number of GoL female and male personnel trained on technical aspects such as contract management, financial analysis, accounting, environmental and social management" to avoid duplication with PDO Indicator 1 and capture gender-specific data. The target value of 1,030 was not changed.

IR Indicator 1.2: "Completed and operationalized performance evaluation system for MEM and PDEMs" was added to monitor progress of the system developed to capture the impact of the capacity-building activities. (PDEM refers to Provincial Department of Energy and Mining).

PDO Indicator 2: The original indicator "Enhanced institutional capacity for the planning, management and monitoring of hydropower plants" was revised to "Number of river basins where all hydropower projects are monitored for CA compliance" to reflect direct impacts of CA (Concession Agreement) operationalization activities. The target unit was revised from percentage (50 percent) to number (5).

IR Indicator 2.2: "Completed power trade strategy and action plan" was added to reflect scale-up of the operation.

IR Indicator 2.3: The original indicator "Application of internal requirements and internal and standard procedures for CA monitoring and proficiency of staff to manage contracts" was revised to "Percentage of new hydropower IPPs applying the standard Concession Agreement (CA) requirements" to provide greater specificity. The target value wording was revised from "Hydrological data collection systems in place" to "100 percent applied".

IR Indicator 2.4: "Approved Standard Operation Procedures (SOPs) for IPP processing" was added in line with IRI Indicator 2.3, recognizing that proficiency of staff to manage contracts is already covered under PDO Indicator 1.

IR Indicator 2.5: The original indicator "Updated NPSH and approved action plan and procedures for its implementation" was revised to "Annual report on the implementation of the Policy on Sustainable Hydropower Development (PSHD)" to better reflect implementation progress of the updated NPSH, change in the scope and name from NPSH to PSHD, and the impact of project extension and the additional budget. (NPSH refers to National Policy for Sustainable Hydropower).

PDO Indicator 3: The original indicator "Increased percentage of mining inspections performed through the use of improved systems and procedures" was slightly revised to "Percentage of on-the-ground inspections of exploration/mining operations performed using improved systems and procedures in line with international practice" to provide more precise wording. The target value of 50 percent remained unchanged.

IR Indicator 3.1 The original indicator "Adoption of standardized terms and conditions for mine investment agreement" was revised for clarity to "Model Mining Development Agreement (MDA) approved by MEM". The target value was not changed.



IR Indicator 3.2: The original indicator "Number of mining regulations drafted and approved" was slightly revised to "Number of approved mining regulations" for clarity. The target value was not changed.

IR Indicator 3.3: "Completed sector strategy and action plan" was newly added following the mining moratorium introduced by the GoL: in 2012.

Other changes included:

Re-classification of the project as Category B: Following the Additional Financing, two safeguard policies were triggered - the Environmental Assessment Policy and the Policy on Indigenous Peoples.

Extension of the closing date from September 30, 2015 to September 30, 2018 to allow time for completion of the new and scaled-up activities added under the Additional Financing.

Third Restructuring: (May 2017, disbursed amount US\$17.17 million, - 68 percent of total disbursement).

This was a Level II restructuring. The PDO and PDO indicators were not changed. Fine-tuning revisions were made to IR indicators and target values to better align them with outcomes. (ICR para. 23, Table 3). The changes included:

IR Indicator 1.1: Decreased target values of the indicator "Number of GoL female and male personnel trained on technical aspects such as contract management, financial analysis, accounting, social and environmental management" from 1,030 to 750. The ICR indicates that this was done to reflect accuracy while maintaining the ambition of the project (ICR Table 3).

The IR indicator "Number of teachers and students benefiting from educational courses supported through the curriculum update/development, teacher training, technical/lab equipment and library materials" was dropped to avoid duplication with the IR indicator on direct beneficiaries which was categorized in different types/groups.

IR Indicator 2.1: The wording was revised to "Percentage of New Hydropower Purchasing Agreements (PPA) that are subject to the avoided costs methodology" for clarity and target values were updated to reflect accuracy. After the avoided costs methodology was developed and endorsed in May 2016, MEM has applied it to all new PPAs.

IR Indicator 2.2: The wording of the target values was revised to "Completed power trade strategy and action plan" to reflect more impact results and relevant outputs.

IR Indicator 2.4: The wording was slightly revised to "Approved Standard Operation Procedures (SOPs) for IPP processing" for clarity and target values were updated to reflect relevant outputs. The standardized SOP was to be approved by MEM by project closing.

IR Indicator 3.1: The wording was revised to "Model Mining Development Agreement approved by MEM" for clarity and target values updated to reflect relevant outputs in light of the moratorium on mineral licensing.

IR Indicator 3.3: The wording of the target values was revised to "Completed mining sector strategy and action plan" to reflect relevant outputs.



The IR indicator "Applied Standard Operation Procedures (SOPs) for mining concession process" was dropped because the activity was judged to be a repetition of indicators relating to Mineral Development Agreement and pieces of regulation already reflected in the Results Matrix.

An IR Indicator 3.4 "Geoscience infrastructure mapping (Geophysics & Geology) in two selected areas" was added to reflect more impact results and relevant outputs. The indicator was added to ensure tracking of increased geological knowledge in the country.

Fourth Restructuring (August 2018, disbursed amount US\$22.57 million - 86 percent of total disbursement)

This was a Level II restructuring.

Extension of the closing date from September 30, 2018 to September 30, 2019 to support the cross-border trade agenda under Component 2: Hydropower Sector Development, including evaluation of the commercial feasibility of a new interconnection to Viet Nam and wheeling to Malaysia.

Fifth Restructuring (September 2019, disbursed amount US\$26.17 million - 99 percent of total disbursement).

This was a Level II restructuring.

Extension of closing date by one year to September 30, 2020 to accommodate the GoL's request to use the remaining available funds to help implement the National Emergency Dam Safety Inspection (NEDSI) which became a top priority for the GoL after a major dam failure incident in July 2018.

3. Relevance of Objectives

Rationale

(Reference PAD paras.1 to 10 and ICR paras.1 to 7).

Country and Sector Context: At the time of appraisal in 2010, the LPDR was classified as one of the lesser developed countries in the region with an estimated annual per capita income of US\$740. However, the country has abundant natural resources of forestry, minerals, and terrains suited to hydropower generation. The LPDR's location in proximity to the Greater Mekong Sub-Region (GMS) facilitates exports to the sub-region. Driven by rising demand for hydropower and minerals from neighboring countries, including Thailand, Viet Nam and China, and with the entry of significant private foreign investment, the hydropower and minerals sectors in the LPDR grew rapidly. At appraisal, hydropower capacity was estimated to increase 10-fold since 2000, mostly for exports. The production value of industrial mining was estimated to have increased by nearly 80-fold (from US\$8 million to US\$600 million) and mineral exports accounted for 40 to 50 percent of the LPDR's exports. Power exports accounted for another



10 percent. Direct government revenue from taxation and mining combined represented about 25 percent of the LPDR's tax revenues. However, the rapid development of these sectors put severe strains on the GoL to effectively manage sector development and to ensure that the benefit streams were used to further the overall development objectives of the country. Significant issues which needed to be addressed included weaknesses in the legal and regulatory frameworks; overlapping mandates of the central and provincial government oversight institutions; incomplete administrative procedures and mechanisms to supervise the sectors; inadequate attention to environmental and social safeguards and benefit-sharing; and lack of capacity within the existing government civil service and government leaders. While some progress had been made in regard to these areas under earlier and ongoing Bank-supported and donor-funded projects, much still remained to be done, including development of a consistent and coherent approach to appraisal, implementation and monitoring of sector investments to ensure consistency with national interests and priorities. Critical requirements for improved governance for the two sectors were functioning institutions equipped with the tools, instruments, procedures, systems, regulations and guidelines to carry out their oversight functions transparently and effectively. The HMTA project was designed to address these needs.

Alignment with national priorities: The project development objectives (PDO) were relevant and consistent with the GoL's priorities prevailing at the time of appraisal and remain so under the GoL's 8th National Socio-Economic Development Plan (NSEDP) for 2016 to 2025 which includes three key outcome areas: (1) continued, firm and inclusive growth; (2) human resource development.; and (3) protection of natural resources and the environment. A cross-cutting theme under the Plan is the priority for enhancing the effectiveness of public governance and administration. The PDO directly contribute to outcome areas 2 and 3 and to the cross-cutting theme, and indirectly to outcome area 1.

Alignment with the Country Partnership Framework: The PDO were relevant and consistent with the World Bank Group's (WBG) Country Partnership Strategy (CPS) for FY2012 to FY2016 which was in effect at appraisal, and remain so under the latest WBG Country Partnership Framework (CPF) for FY2016 to FY2020. The CPF builds on the findings of the Systematic Country Diagnostic (SCD) which identified the over-arching priority of building institutions and indicated three development pathways, one of which was "sustainable and efficient development of natural resources" (CPF, para. 4). The CPF targets three focus areas: (i) supporting inclusive growth; (ii) investing in people; and (iii) protecting the environment. These three focus areas are complemented by a cross-cutting theme: strengthening institutions to create a rules-based environment. (CPF. para. 8). Under Focus Area 1 "Supporting Inclusive Growth", Objective 1,1 refers to putting public finances on a sustainable path and supporting financial sector stability". In this context, the CPF recognizes (para. 78) that the hydropower and mining sectors are significant contributors to the national fiscal revenues, and the need to enhance effective and transparent management of fiscal affairs in these sectors. Under Objective 1.3 "Investing in Infrastructure for Growth and Inclusion", the CPF acknowledges (para. 87) that, to improve performance of the GoL oversight institutions in the hydropower and mining sectors, the WBG has contributed through the HMTA, and the GoL has requested a follow-up project "Sustainable Energy and Extractives Development Technical Assistance" (SEEDTA). This project has been included under the WBG's FY2016 to FY2020 program for the LPDR.

Prior Bank Involvement: Previous and ongoing World Bank supported engagements at appraisal included the (i) Nam Theun 2 Social and Environmental Project (NTSTEP), (ii) Lao Environment and Social Project (LEnS); (iii) Poverty Reduction Support Operation (PRSOP); and (iv) assistance to the GoL to implement more systematic sector planning. The experience and lessons learned from these previous engagements contributed to the design and implementation of the HMTA.



Project Development Objective (PDO): Given the national and CPF priorities discussed above, the PDO was pitched at the right level. However, the PDO indicators that were adopted at appraisal, and later revised under the Additional Financing, were limited both in scope and in number to cover the reach of the project. Thus, while a number of relevant outcomes were in fact realized during implementation, these were mentioned in the ICR in relation to reporting of outputs, intermediate result indicators (IRs), and other results, and not as PDO indicators. This is discussed further in Section 4 below.

Rating

Substantial

4. Achievement of Objectives (Efficacy)

OBJECTIVE 1

Objective

To increase human capacity in the LPDR's oversight institutions in the hydropower and mining sectors.

Rationale

The ICR articulates a theory of change (TOC), including a diagrammatic presentation (ICR paras. 9 to 13 and Figure 1). The TOC outlines that the project would provide inputs in the form of technical assistance, including consulting services and supporting equipment, for a Joint Hydropower and Mining Learning Program aimed at sector professionals, education institutions, and outreach agencies. These inputs would directly contribute to realization of the following key outputs: (i) training of hydropower and mining sector professionals through delivery of technical and managerial training programs; (ii) strengthened training programs in NUOL (including addition of a Master's Degree program) and in vocational schools; and (iii) increased collaboration between educational institutions and private sector entities through establishment of trade working groups for the hydro and mining sectors, aimed at generating a skilled workforce to meet the demand. These outputs would directly lead to the resulting outcome of increased human capacity in the LPDR's hydropower and mining sectors. The longer-term outcome would be improved performance of the two sectors contributing thereby to improving economic growth and benefit-sharing in the LPDR. The original PDO indicator was "increased number of MEM personnel benefit from training on technical cross-cutting areas in the hydropower and mining sectors". This was revised at a restructuring to "percentage of trained GoL staff report medium to intensive use of knowledge and lessons learned from capacity building measures" as the latter was judged to be more relevant to assessing the impact of the training and capacity-building. The revised PDO indicator and the IR indicators were relevant, quantifiable and attributable to the project.

Outputs and IR Indicators : (ICR Annex 1 Results Framework and paras. 29 to 37).

IR Indicators:

- IR Indicator 1.1: Number of GoL female and male personnel trained on technical aspects, such as contract management, financial analysis, accounting, environmental and social management. The



original target was 1,030. This was revised at restructuring to 750 (2150 women and 600 men) to reflect accuracy. The actual achievement was 880. The revised target was overachieved.

- IR Indicator 1.2: Completed and operationalized performance evaluation system for MEM and PDEMs. The target was achieved.
- IR Indicator 1.3: Development of a modern curriculum and related capacity building in educational institutions. The target was achieved.

Core Indicator:

- Number of project beneficiaries, of which female: The baseline was 1,500. The target was 5,530 (including 760 female). The target was overachieved - 7,600 (including 1,525 female).

Targeted Outputs:

- Delivery of diverse training programs for hydropower and mining sector professionals, The target was achieved.
- Strengthening of specific programs at NUOL and vocational schools. The target was achieved.
- Establishment of trade working groups for the hydropower and mining sectors. The target was achieved.

Other Outputs: (The ICR reports these outputs but does not specify targets for them).

- Master's degree courses for GoL personnel: 30 MEM and PDEM staff completed graduate courses (including hydraulic engineering) that were newly set up at the NUOL in partnership with the Lao-German technical college.
- On-the-job trainings and workshops: 88 technical and managerial trainings and workshops were implemented under the HMTA for 880 out of the 1,400 staff in the MEM, PDEM, and District Division of Energy and Mines (DDEM).
- Human Resource Information System (HRIS): An HRIS and a Key Performance Indicator (KPI) system was set up for all MEM departments and the system was approved for operation at the end of 2018. The system consists of digital modules with information on MEM departments and officers (including KPIs), a document management system, training information, and tracer study tools. A complete operational rollout to PDEMs and DDEMs was subsequently achieved.
- Public-Private Trade Working Groups (TWGs): These were established for the hydropower and mining sectors in 2013. Regular TWG meetings were carried out to share information on human resources needs and sector developments, and to encourage and help coordinate formal cooperation between companies and education institutions, including study tours, exchange programs, internships, and industry support to more practically relevant curricula.
- Capacity building for higher education institutions: At NUOL, a new Master's Degree program in hydraulic engineering was created, and curricula for undergraduate degrees covering hydropower and mining were improved. Laboratory and office equipment were provided. The LGTC was provided support for six expanded/improved courses, along with library facilities, and IT and laboratory equipment. Teacher training was provided. These programs were operational at the closing date.

Outcomes: The revised PDO indicator "Percentage of trained GoL staff report medium to intensive use of knowledge and lessons learned from the capacity building measures". The target of 80 percent was fully



achieved as measured by tracer studies. Two aspects in assessing the degree of achievement of the objective of increasing human capacity are (i) to what extent was the impact of the training internalized by the trainees, and (ii) what tangible results can be attributed to the capacity-building. For the first aspect, the ICR reports that 80 percent of the trained staff reported medium to intensive use of the knowledge and lessons learned from the capacity-building measures. This represented a full achievement of the target. However, the indicator reflects self-reporting. This self-reporting indicator for the capacity-building objective would have been reinforced if data were provided from the Key Performance Indicators (KPI) system set up under the project to indicate how the capacity-building impacted staff performance and evaluations. The ICR does provide some supplementary information in this regard: "the outcomes have been positive in terms retention of trained staff in GoL agencies and promotion of several of the graduates to key managerial and technical roles in MEM" (ICR para. 32). Regarding the second aspect, an assessment is provided in the sections on Objectives 2 and 3 below. The ICR reports (para. 37) that, overall, activities supported under this objective succeeded in strengthening technical and managerial capacity of MEM and related GoL agencies, provided a capacity-building platform to bring together staff from different agencies for training in critical areas of hydropower and mining sector issues, and strengthened the capacity of higher education institutions to provided programs of quality education relevant to the needs of the two sectors. However, the ICR does not provide specific relevant metrics (e.g. comparison of baseline versus post-completion results) to support a fuller assessment of achievement of increased human capacity in the two sectors.

Rating
Substantial

OBJECTIVE 2

Objective

To improve the performance of the LPDR's oversight institutions for the hydropower sector.

Rationale

The theory of change (TOC) was that the project would provide inputs in the form of technical assistance, including consulting services and supporting equipment, to MEM and other key agencies involved in the LPDR's hydropower sector. These inputs would directly contribute to realization of critically needed outputs including (i) formulation and implementation of a sector strategy; (ii) legal and regulatory improvements in place such as an Electricity Law, LEPTS and Dam Safety Guidelines; (iii) operationalization of National Dam Safety Inspection; and (iv) Independent Power Purchaser (IPP) Standard of Operation Procedures (SOP). in place and operationalized. These outputs would directly contribute to achieving the outcome of improved performance of MEM and other GoL agencies concerned with the oversight of the hydropower sector. The longer-term outcome would be improved economic growth and benefit-sharing in the LPDR. The original PDO indicator was "Enhanced institutional capacity for the planning, management, and monitoring of hydropower plants". This was revised under a project restructuring to "Number of river basins where all hydropower projects are monitored for Concession Agreement (CA) compliance" to reflect the direct impact of CA operationalization activities. The original target (50 percent) was revised to a number (5). However, greater clarity should have been provided as to what is meant by "improved oversight performance". As recognized



in the ICR (Table 4), the PDO indicator was narrow in scope, in relation to the reach of the project. The PDO indicator does not capture significant outcomes that were achieved during implementation but were reported in the discussion of outputs, IR indicators, and other results, and not as PDO outcomes. For the assessment of achievement of Objective 2, the ICRR takes into account the supplementary information in regard to outcomes derived from the reporting of outputs, IR indicators, and other relevant information in the ICR..

Outputs and IR Indicators: (ICR Annex 1 - Results Framework, paras. 38 to 46, and Table 4)

IR Indicators:

- IR Indicator 2.1: New hydropower Power Purchase Agreements (PPAs) subjected to the avoided cost methodology: The target of 100 percent was fully achieved.
- IR Indicator 2.2: Completion of Power Trade Strategy and Action Plan: A White Paper was issued by MEM. The target was achieved.
- IR Indicator 2.3: New hydropower IPPs applying the Standard Concession Agreement (CA): The target of 100 percent was fully achieved.
- IR Indicator 2.4: Standard Operations Procedures (SOPs) for the IPP process: All 26 SOPs were endorsed by MEM. The target was fully achieved.
- IR Indicator 2.5: Implementation of the Policy on Sustainable Hydropower Development (PSHD): The PSHD was approved and the Annual Report on implementation prepared by MEM. The target was achieved.

Targeted Outputs:

- Sector strategy, planning and monitoring tools put into effect. The target was achieved.
- Introduction of legal and regulatory improvements, including amendments to the Electricity Law. The target was achieved.
- Operationalization of National Emergency Dam Safety Inspection (NEDSI). The target was achieved

Other Outputs: (The ICR reports these outputs but does not specify targets for them).

- Development of "Power Sector Reform Development Strategy for the Lao PDR": The study provided important recommendations to the GoL including: (i) Re-organization of Electricite De Laos (EdL).
- Revision of the Lao Electrical Power System Standards (LEPSS), including preparation of Dam safety Guidelines.

Outcomes: The single PDO indicator adopted was "Number of river basins where all hydropower basins are monitored for Concession Agreement (CA) compliance". The target was five and this was fully achieved. However, as acknowledged in the ICR, this PDO was narrow in relation to the overall scope of the objective. The IR indicators were achieved or overachieved. While the PDO was narrow in scope, a number of significant achievements in regard to outcomes have been reported under outputs, IR indicators, and information in other parts of the ICR. These include: (i) implementation of the PSHD; (ii) operationalization of the NEDSI; (iii) amendments to the Electricity Law; (iv) application of the revised Dam Safety Guidelines; and (v) application of the Power Sector Reform Strategy. Thus, taken as a whole, important improvements were achieved towards improving oversight capacity in MEM and other GoL oversight institutions including through development of sector strategy, legal and regulatory framework improvements, and sector planning and monitoring tools. The policy and institutional improvements were operationalized as reflected in the



increase and degree of achievement of the monitoring and compliance enforcement actions, including under the PDO indicator of monitoring of river basins for compliance with Concession Agreements (CAs). However, greater clarity needed to be provided in regard to what is meant by "improved oversight performance". The ICR does not provide specific relevant metrics (e.g. comparison of baseline versus post-completion results) to support a fuller assessment of achievement of improved oversight performance in the hydropower sector.

On balance, the ICRR rates the Efficacy of Objective 2 as Substantial with some shortcomings in view of the absence of strong outcome level indicators.

Rating

Substantial

OBJECTIVE 3

Objective

To improve the performance of the LPDR's oversight institutions for the mining sector.

Rationale

The theory of change (TOC) was that the project would provide inputs through technical assistance, including consulting services and equipment) to the MEM and other relevant GoL agencies concerned with sector governance and oversight responsibilities for the mining sector. These inputs would directly contribute to outputs relevant for improved sector governance and oversight including (i) improvements in laws and regulations including the Mineral Law; (ii) development and implementation of model mining agreements; (iii) development of mining cadasters; (iv) completion of geological mapping; and (v) other actions needed for improved oversight. These outputs would directly contribute to the outcome of improving the governance and oversight functions of the MEM and other concerned GoL agencies for the mining sector. The longer-term outcome would be improved performance of the mining sector contributing thereby to higher economic growth and benefit-sharing in the LPDR. However, greater clarity should have been provided in regard to what is meant by "improved oversight performance". The single PDO indicator adopted was "Percentage of on-the-ground inspections of exploration/mining operations performed using improved systems and procedures in line with international practice". As acknowledged in the ICR, this PDO had a narrow focus on inspections related to the overall scope of the objective. This PDO indicator does not capture other significant outcomes that were reported to be achieved. For the assessment of achievement of Objective 3, the ICRR takes into account the supplementary information provided in the ICR under reporting of outputs, IR indicators, and information in other parts of the ICR.

Outputs and IR Indicators: (ICR Annex 1 - Results Framework, paras. 47 to 54, and Table 4).

IR Indicators:

- IR Indicator 3.1: Model Mining Development Agreement (MDA) approved by MEM: The draft Agreement was approved by MEM. The target was achieved.
- IR Indicator 3.2: Number of approved mining regulations: The target was overachieved (13 actual vs 12 targeted).



- IR Indicator 3.3: Completion of Sector Strategy and Action Plan: This was approved by the MEM and the Prime Minister's office. The target was achieved.
- IR Indicator 3.4: Geoscience infrastructure mapping in two areas in LPDR: The target was fully achieved.

Targeted Outputs:

- Development and completion of Mining Sector Strategy and Action Plan: This was completed in 2016, and the findings and recommendations were inputs into the GoL's preparation of the Mineral Law in 2017, the Eighth Five-Year Development Plan, 2016-2020, Forecast 2020-2025, and Vision 2030 of the Mining Sector. The target was achieved.
- Mining regulations and guidelines: 13 regulations and guidelines were prepared, overachieving the target of 12. The regulations and guidelines cover important areas for the mining sector including concession management; industrial minerals; prospecting activities; exploration activities; mining activities; and certification of reserves and resource.
- Development and implementation of a Model Mineral Development Agreement (MDA) to better cover risk allocation, social and environmental issues, mine closure issues, and better define stakeholder responsibilities. The target was achieved. The GoL is utilizing the model agreement is negotiating concession contracts.
- Development of a pilot Cadaster Management System: The system has been developed and put into effect in two selected areas. The target was achieved. It is expected to be replicated in other areas in the LPDR.

Outcomes: The single PDO indicator adopted was "Percentage of on-the-ground inspections of exploration/mining operations performed using improved systems and procedures in line with international practice". This was overachieved (actual of 72 percent versus target of 50 percent). However, as acknowledged in the ICR, this PDO was narrow in relation to the overall scope of the objective. The IR indicators were achieved or overachieved. The PDO indicator does not capture some significant outcomes that were achieved but were reported in the ICR under the discussion of outputs, IR indicators, and information in other parts of the ICR. These include: (i) application of the newly developed Model Mining Development Agreement; (ii) application of improved mining regulations in regard to concession management, prospecting, and exploration activities; and (iii) incorporation of recommendations from the Mining Sector Strategy and Action Plan into the Mineral Law and national-level development plans. Thus, taken as a whole, important improvements were achieved towards improving oversight capacity in MEM and other GoL oversight institutions including through the development of sector strategy, legal and regulatory framework improvements, and sector planning and monitoring tools relevant to the mining sector. The policy and institutional improvements were operationalized as reflected in the increase and degree of achievement of the monitoring and compliance enforcement actions, including under the PDO indicator of on-the-ground mining inspections in line with international practice. However, the ICR does not provide specific relevant metrics (e.g. comparison of baseline versus post-completion results) to support a fuller assessment of achievement of improved oversight capacity in the mining sector.

On balance, the ICRR rates the efficacy of Objective 3 as Substantial with some shortcomings in view of the lack of appropriate indicators to capture the project's broader achievements.



Rating
Substantial

OVERALL EFFICACY

Rationale

At appraisal, the PDO for the project was "To increase human capacity and improve the performance of the Recipient's oversight institutions for the hydropower and mining sectors". The Recipient was the LPDR. The PDO remained unchanged during the implementation period. For the ICRR, the PDO was parsed into three separate objectives as follows:

Objective 1: To increase the human capacity in the LPDR's hydropower and mining sectors.

Objective 2: To improve the performance of the LPDR's oversight institutions in the hydropower sector.

Objective 3: To improve the performance of the LPDR's oversight institutions in the mining sector.

As discussed earlier, for Objective 1, efficacy has been rated as Substantial. For Objectives 2 and 3, the efficacy has been rated as Substantial with some shortcomings in view of the lack of strong PDO indicators to capture the broader achievements of the project. However, the ICRR took into account other relevant outcome-related information provided in the ICR under reporting of outputs, IR indicators, and information in other parts of the ICR..

Based on the foregoing, the ICRR rates the overall efficacy for the project as Substantial with some shortcomings.

Overall Efficacy Rating

Substantial

5. Efficiency

Administrative and Operational Efficiency

Project cost: The estimated cost at appraisal was US\$10.54 million; the cost was revised to US\$28.34 million at the Additional Financing in 2014; the actual cost at completion was US\$26.29 million. An unutilized balance of US\$2.05 million in the IDA grant was cancelled at completion.

Implementation period: The project was approved in January 2010 and became effective in August 2010. The planned closing date was September 30, 2014. At the Additional Financing in 2014, the closing date was extended to September 30, 2018, to allow adequate time for completion of the substantially scaled up project activities. The closing date was further extended to September 30, 2019 to allow for completion of ongoing activities. Thereafter, the closing date was again extended to September 30, 2020 to accommodate the GoL's



request to include activities under the project to help address the emergency situation after the major dam collapse in 2018. The actual closing date was September 30, 2020. The total implementation period was 120 months (10 years) as compared to the appraisal estimate of 48 months (4 years).

Economic and Financial Efficiency

The project components consisted of technical assistance activities which are not conducive to estimation of traditional economic cost-benefit indicators such as the internal rate of return or net present value. Thus, a cost-benefit analysis was not carried out at appraisal. However, it may still have been possible to prepare a cost effectiveness analysis in regard to some of the intended activities based on relevant comparable experience from other countries. This was not done at appraisal. While the ICR refers to comparisons with similar projects in the region, it does not provide specific cost effectiveness information in regard to the completed project. (ICR paras. 56 to 62).

Assessment: The project was completed within the costs estimated at appraisal and revised under the Additional Financing. Against the originally planned implementation period of 48 months (4 years), the actual implementation period was 120 months (10 years). This reflects the additional time required to complete the activities added under the Additional Financing and thereafter to respond to the GoL's request for emergency assistance to help with dam safety related matters. However, at least two of the extensions were to allow additional time for completion of already contracted ongoing activities. The administrative and operational efficiency is therefore rated as Substantial with moderate shortcomings. Economic and financial efficiency cannot be rated for lack of relevant cost effectiveness information.

Overall, the ICRR rates the project's efficiency as Substantial with moderate shortcomings.

Efficiency Rating

Substantial

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

The project's relevance is rated Substantial, efficacy is rated Substantial (with some shortcomings), and efficiency is rated Substantial with moderate shortcomings.



Based on the foregoing, the ICRR rates the project's outcome as Satisfactory.

a. Outcome Rating

Satisfactory

7. Risk to Development Outcome

Institutional risks: Institutional risks are rated Moderate. Institutional capacity has been substantially strengthened under the project with relevant human capacity building in MEM and other key GoL agencies dealing with the hydropower and mining sectors. Responsibilities of the different agencies have been more clearly defined. Sector strategies have been better defined and improved facilities and tools for better design, planning and monitoring of sector-related oversight functions have been provided and operationalized under the project. Subject to continuing GoL support to the oversight institutions, these gains are likely to endure. However, the ICR identifies some significant areas where additional GoL support is needed in regard to improving the capacity of technical and staff capacity of MEM: (i) for ensuring compliance with dam safety provisions under the LEPTS and Dam Safety Guidelines. (ICR para. 102); (ii) monitoring and enforcing mining-related compliance (ICR para. 101); and (iii) assessment of potentially unsustainable new coal-fired power production.

Policy Risks: Policy risks are rated Moderate. While the GoL has demonstrated commitment to strengthening the planning, implementation and oversight capacities in the sector, the continued development of multiple large hydropower projects has raised concerns regarding the possible negative impacts on the environment and local livelihoods. The HMTA project supported the development of Power Sector Hydropower Development (PSHD) strategy and the Strategic Environmental Assessment (SEA) in hydropower planning. However, the enforcing measures for environmental sustainability and social equity are yet to be realized. (ICR para.99). The ICR indicates that the willingness of the GoL to fully enforce Concession Agreements (CAs) and require hydropower project owners to implement remedial works recommended by the National Emergency Dam Safety Inspection (NEDSI) has yet to be established. (ICR para. 102).

Financial Risks: Financial risks are rated moderate. The institutional capacity-building and oversight-related gains made under the project will require continuing support from the GoL in regard to adequate and timely funding for the agencies concerned. This could be influenced by the overall economic situation and the fiscal constraints facing the GoL. One risk identified in the ICR is the deteriorating financial situation of the EdL due to inadequacy of tariffs (on political and social considerations) and accumulated arrears to creditors. (ICR para. 98). Unless this is satisfactorily addressed, it could adversely affect the power supply capacity in the hydropower sector.

8. Assessment of Bank Performance

a. Quality-at-Entry



The ICR reports that (paras. 88 to 93) that the project preparation was highly participatory with the Bank working closely with the GoL and other stakeholders through a series of consultations to ensure alignment and synergy between the PDOs and the GoL's national programs in the two sectors. Due to IDA's envelope constraints at the time of appraisal, the project proceeds were small in relation to the broad range of activities. Trust Fund support was mobilized from the Australian Aid Agency (AusAID) which increased the project financing by over 30 percent. Given the urgent need to initiate improvements in oversight activities in the two critically important sectors for the national economy, it was agreed with the GoL to start with the available resources. Project design was guided by a series of analytical services and lessons learned from earlier IDA-supported projects and sector studies. The strategic relevance and approach, as well as the policy and institutional aspects of project preparation, were suitable in the prevailing context. Considering that there were two separate sectors involved (hydropower and mining), due consideration was given to having two separate projects. However, given the synergies and common interests between the two sectors and the fact that both were overseen by the same ministry - MEM - the decision to have a single project allowed cost-effectiveness in project administration. The implementation arrangements were constrained at the start by the limited financial resources available but these deficiencies were addressed during implementation with the scale-up of project scope under the Additional Financing. The risk assessment was realistic and adequate mitigation measures were proposed. The PAD did have some shortcomings. The PDO indicators adopted were narrow in scope in relation to the broad reach of the project. Additional performance measures could have been included at the PDO level to enable a more complete assessment of the project's performance. The M&E design at entry was relevant for a much smaller project planned at appraisal and substantial changes were required during implementation, particularly after the Additional Financing in 2014.

On balance, the ICRR rates Bank performance for quality-at-entry as Satisfactory.

Quality-at-Entry Rating Satisfactory

b. Quality of supervision

The ICR reports (para. 94) that large, integrated technical and fiduciary supervision missions were conducted at least twice a year during the 10-year implementation period of the HMTA. The supervision teams were supported by relevant sector experts, including integrated water resource management and dam safety experts. The project had a total of five Task Team Leaders (TTLs) over the implementation period. While recognizing that this was not ideal, the ICR claims (para. 92) that this did not materially compromise the quality of the Bank's response.

The project's implementation period was 10 years as compared to 4 years planned at appraisal. A Mid-Term Review (MTR) was carried out in 2013, one and a half years before the originally planned closing date of September 30, 2014. This was relatively late in the originally planned project implementation period. The MTR findings led to a project restructuring, including a substantial Additional Financing, in 2014. The Bank team took the opportunity to significantly modify the Results Framework. Although no changes were made in the original PDO, changes were made in PDO and IR indicators to provide greater clarity and alignment with the intended outcomes. However, a weakness that was not corrected during the implementation period was the inadequacy of the PDO indicators in regard to their scope and coverage. The project team did supplement the results framework by inclusion of additional output and/or



intermediate results indicators that captured some additional outcomes. The ICR supplemented this further by indicating some more outcomes. One aspect that could have been improved is the provision of sufficient metrics (e.g. comparison of baseline to post-completion results) for assessing the achievement of increased human capacity and improved oversight performance which were key objectives under the project.

The supervision team was proactive in mobilizing Trust Fund support from PPIAF and ESMAP to supplement the supervision budget. The ICR acknowledges (para. 93) that this support was of key importance during the period of 2015 to 2019.

The ICR reports (para. 94) that a total of 18 Implementation Status and Results Reports (ISRs) were filed during the implementation period, and that the mission Aide Memoires and ISRs were closely tracked.

Although dam safety was not a part of the originally planned activities, the supervision team responded quickly to the Gol's request for assistance following a major dam failure in 2018. The support included assistance for helping implement the NEDSI, The ICR states (para. 95) that this support was highly appreciated by MEM.

The ICR also states (para. 96) that the Borrower's Completion Report included an assessment of World Bank performance and rated it highly.

On balance, the ICRR rates the Bank performance during supervision as Satisfactory.

Quality of Supervision Rating

Satisfactory

Overall Bank Performance Rating

Satisfactory

9. M&E Design, Implementation, & Utilization

a. M&E Design

The original project design envisaged a much smaller project within the financial resource envelope available at the time. The Results Framework, including PDO indicators and IR indicators, were designed for this limited project scope and lacked relevant indicators at the project level. With the substantial scaling-up of the project under the Additional Financing in 2014, it was necessary to revise most of the result indicators during project implementation. There were only three PDO indicators, one each for the project components. As acknowledged in the ICR (para. 78), two of the three PDO indicators were narrow in relation to assessing the achievement of the objectives. Additional relevant PDO indicators would have helped in better assessing achievement of the objectives. Overall, there was need for greater clarity in regard to what was meant by "increased human capacity" and "improved oversight performance".



b. M&E Implementation

During implementation, substantial changes were made to the original Results Framework to reflect ongoing experience and the substantial scaling up of the project under the Additional Financing in 2014. Although the PDO were not changed, significant changes were made in the formulations of the PDO indicators and IR indicators, with associated changes in targets. Nevertheless, as mentioned above, shortcomings in PDO indicators remained as indicated above (under M&E design) and were not corrected during project implementation. Furthermore, the ICR reports (para. 11) that about 270 activities were undertaken, classified into 29 groups, but does not provide adequate detail regarding the outputs and results of the activities.

The ICR reports (para. 82) that the PSO M&E capabilities were upgraded under the Additional Financing, particularly to enhance coordination within the GoL agencies concerned, improve procurement processes, and streamline the collection of data to measure progress.

The Project Secretariat Office (PSO) under the MEM's Cabinet Office had primary responsibility for M&E matters. Data were collected and reported by the many implementing agencies benefiting under the HMTA directly to the PSO. The PSO was supported by an M&E specialist during project preparation and implementation.

c. M&E Utilization

The ICR reports (para. 82) that the M&E system was used to assess project implementation progress and to make necessary adjustments to improve implementation. This included reallocation of funds from non-performing to well-performing activities through three restructurings, particularly to improve the performance of the hydropower sector.

M&E Quality Rating

Modest

10. Other Issues

a. Safeguards

Environmental and Social: The project was classified as Category B and triggered OP/BP 4.01 (Environmental Assessment). The environmental and social risk rating was moderate as the environmental impacts of the project activities were expected to be limited since most activities were technical assistance or training and did not involve any investment in physical facilities and construction. During the preparation of the Additional Financing in 2014, OP/BP 4.10 (Indigenous Peoples) was triggered to ensure that ethnic groups actively participate in consultations, information dissemination, and workshops under the HMTA. The MEM prepared an Environmental and Social Safeguards Activities Document to enhance the positive impacts in regard to environmental and social safeguards (ICR para. 84).



The ICR reports (para. 85) that the HMTA has significantly contributed to building up the regulatory framework and technical guidelines on the environmental and social impacts of the hydropower and mining sectors in the LPDR. During its implementation, the HMTA has supported putting in place key policy guidance, procedures, and accountabilities, including PSHD Guidelines, CDF Guidelines, Strategic Environmental Social Assessment, and pilot implementation of the guidelines has been undertaken in both sectors.

The ICR affirms (para. 85) that the project satisfactorily complied with all applicable safeguard policies as reported in the ISRs.

b. Fiduciary Compliance

Financial Management (FM): The ICR reports (para. 86) that the financial management function for the HMTA was managed by the PSO accounting arm and closely supervised by the Bank FM experts. The ICR also reports that, in the last year of project implementation, the FM rating was upgraded to Satisfactory, since the FM system was functioning satisfactorily and the reporting requirements were met. implying that the rating had been less than satisfactory in earlier years. While the ICR does not provide any further information as to the nature and extent of the problems leading to the less than satisfactory ratings, the ISRs during project supervision indicate that the problems were mainly in regard to timeliness and quality of financial management reporting. The ICR affirms (para. 86) that audits were completed satisfactorily and the audit reports were unqualified. The ICR also affirms (para. 86) that the HMTA complied with all legal covenants specified in the Financing Agreement.

Procurement: The PAD had identified the pre-mitigation procurement risk under the HMTA as high due to (i) the counterparts' inadequate procurement knowledge and experience with the World Bank's procedures and (ii) a weak procurement environment in the country. The ICR reports (para. 87) that this risk did materialize. Substantial delays in processing a large number of small procurement packages occurred in the earlier years of project implementation. This was addressed by bundling the TA activities into larger packages wherever feasible. Also, the MEM assigned a full-time staff, supported closely by an international procurement consultant, to improve procurement implementation. The ICR reports (para. 86) that no cases of fraud or corruption were detected.

The ICR does not report what was the procurement rating in the last ISR before project closing.

c. Unintended impacts (Positive or Negative)

No significant unintended impacts were reported in the ICR.

d. Other

Gender: The ICR reports (para. 65) that gender-disaggregated targets were reflected in certain indicators of the HMTA. In addition, the HMTA has raised awareness in regard to relevant gaps between males and females in line agencies of the MEM. The HMTA supported a range of activities by engaging with the



Women's Advancement Division within the Presidential Cabinet Office. The HMTA funded the discussion, drafting, and dissemination of a gender strategy which was adopted by MEM in national programs including Vision 2030, 10-Year Strategy for Gender Equality (2016-2025), and the First 5-Year Gender Equality Development Plan (2016-2020). The ICR reports (para. 65) that several female staff have been promoted within MEM in the past few years.

Institutional Strengthening: This was a core objective of the HMTA and is reflected in the wording of the PDO.

Poverty Reduction and Shared Prosperity: While not directly targeted under the HMTA, the hydropower and mining sectors supported by HMTA are of key importance as drivers of economic growth in the LPDR.

11. Ratings

Ratings	ICR	IEG	Reason for Disagreements/Comment
Outcome	Satisfactory	Satisfactory	
Bank Performance	Satisfactory	Satisfactory	
Quality of M&E	Substantial	Modest	The ICRR rates M&E quality as Modest due to (i) the persistent weakness in the scope and coverage of the PDO indicators and (ii) limited coverage of the number of activities (over 270) reported in the ICR as having been undertaken under the project..
Quality of ICR	---	Substantial	

12. Lessons

The ICR (paras. 104 to 109) lists a number of lessons which are relevant for technical assistance projects undertaken in similar environments. Based thereon, IEG derives the following lessons:

A long-term program of support that builds step by step, taking past success and failures and new challenges into account, and is positioned to help bring key agreed recommendations into actual implementation, is appropriate for facilitating beneficial transformation of these sectors. The experience under the project showed that, in sector environments which are fragmented, with many decision-makers and stakeholders, capacity-building and institutional oversight improvement take time. The HMTA was able to achieve good results in part because it was able to extend over 10 years in a period of substantial evolution of the sectors and was seen as being able to contribute significantly to needed sector reform.



Grant support from development partners can significantly leverage the financing available for technical assistance and thereby expand the scope and coverage of technical assistance beyond that can be supported by the state budget. The HMTA served as a catalyst for donor contributions that allowed the use of a varied international pool of experts. This was helpful in ensuring the transparency and in avoiding conflicts of interest.

Development of capacity for ensuring compliance with dam safety regulations is critically important for ensuring resilient and sustainable hydropower development. The LPDR's experience has shown that ensuring IPP's compliance with dam safety provisions can be a significant challenge given limited technical and staff capacity. The LEPTS and the new Dam Safety Guidelines would pose additional demands regarding institutional oversight. The capacity-related improvements made under the HMTA would help in this context.

If the PDO indicators do not capture all relevant outcomes of the project, there is a risk that positive and solid project results may not be measured, demonstrated, and reported on. In this project, despite the additional indicators that were added during restructuring, there was a lack of relevant indicators to sufficiently measure and demonstrate project outcomes. This made it difficult for the project to demonstrate and report on the full aspect of the project's results.

13. Assessment Recommended?

No

14. Comments on Quality of ICR

The ICR is well-written, candid, and generally complies with the OPCS guidelines except in regard to length (36 pages instead of the recommended 15 pages). It provides a clear theory of change. and is outcome-focused. The analysis is generally evidence-based but constrained to some extent by the weaknesses in the design and formulation of the PDO indicators. The ICR provides a number of lessons drawn from the experience under the project that are relevant for other technical assistance projects undertaken in similar environments. One area where the ICR could have provided greater information is regarding the outputs yielded by the project. The ICR mentions that, over its 10-year implementation period, the project generated over 270 activities classified into 29 groups but does not provide a listing of the significant outputs other than those reflected in the Intermediate Results Indicators. The ICR has some minor inconsistencies (e.g it refers to three restructurings but lists five) - however these do not affect the analysis or conclusions in a significant way.

a. Quality of ICR Rating

Substantial

