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Report No: ICR00006335

IMPLEMENTATION COMPLETION AND RESULTS REPORT

<IDA-53830, IDA-56200, IDA-H9150, TF-16619>

ON AN

IDA GRANT

IN THE AMOUNT OF SDR 3.0 MILLION (US\$4.5 MILLION EQUIVALENT)

AND

IDA CREDITS

IN THE AMOUNT OF SDR 18.9 MILLION (US\$27.5 MILLION EQUIVALENT)

AND A

GEF GRANT

IN THE AMOUNT OF US\$6.83 MILLION  
TO THE

LAO PEOPLE'S DEMOCRATIC REPUBLIC

FOR THE

SECOND LAO ENVIRONMENT & SOCIAL PROJECT (FORMERLY PROTECTED AREA AND  
WILDLIFE PROJECT)

February 19, 2024

Environment, Natural Resources & The Blue Economy Global Practice  
East Asia And Pacific Region

## CURRENCY EQUIVALENTS

(Exchange Rate Effective as of June 30, 2023)

Currency Unit = Lao kip (LAK)

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At Appraisal: LAK 8,030 = US\$1

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At Completion: LAK 18,755 = US\$1

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US\$1.33 = SDR 1

FISCAL YEAR

July 1 – June 30

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## ABBREVIATIONS AND ACRONYMS

AF	additional financing
ASEAN	Association of Southeast Asian Nations
BLX	Bolikhamxay Province
CAP	community action plan
CCA	community conservation agreement
CBI	Community and Biodiversity Investment Window (under EPF)
CEF	conservation engagement framework
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CPF	country partnership framework
CPS	country partnership strategy
CSI	core sector indicator
DCNEC	Department of Combating Natural Resources and Environmental Crime
DEQP	Department of Environmental Quality and Promotion
DFRM	Department of Forest Resource Management
DNEI	Department of Natural Resources and Environment Inspection
DNEP	Department of Natural Resources and Environment Policy
DOE	Department of Environment
DOF	Department of Forestry
DOFI	Department of Forest Inspection
DPC	Department of Planning and Cooperation
DPR	Department of Public Relation
ECC	environmental compliance certificate
EIA	environmental impact assessment
EPF	Environment Protection Fund
ESMF	environmental and social management framework
FEB (NUOL)	Faculty of Economics and Business Management
FES (NUOL)	Faculty of Environmental Sciences
FFS (NUOL)	Faculty of Forest Science
FNS (NUOL)	Faculty of Natural Science
FSS (NUOL)	Faculty of Social Science
GCF	Green Climate Fund
GEF	Global Environment Facility
GEO	global environment objective
GoL	government of Lao PDR
HUA	Houaphan Province
ICR	implementation completion and results report
IDA	International Development Association
IEE	initial environmental examinations
ISP	integrated spatial planning
IUCN	International Union for the Conservation of Nature
KHA	Khammouane Province
Lao-WEN	Lao Wildlife Enforcement Network
LENS2	Second Lao Environment & Social Project

LLL	Lao Landscapes and Livelihoods Project
LPB	Luang Prabang Province
MAF	Ministry of Agriculture and Forestry
MEM	Ministry of Energy and Mines
METT	Management Effectiveness Tracking Tool
MTR	mid-term review
MONRE	Ministry of Natural Resources and Environment
MPI	Ministry of Planning and Investment
NAPA	National Academy of Public Administration
NEIO	Natural Resources and Environment Inspection Office
NEPL	Nam Et – Phou Louey
NIER	National Institute for Economic Research
NRERI	Natural Resources and Environmental Research Institute
NNT	Nakai Nam Theun
NPA	national protected area
NT2	Nam Theun 2 Hydropower Project
NUOL	National University of Laos
PA	protected area
PAD	project appraisal document
PAFO	Provincial Office of Agriculture and Forest
PAW	Protected Area and Wildlife Project
PCD	Pollution Control Department
PCR	Project Completion Report (by EPF)
PCV	Phou Chomvoy Protected Area
PDO	project development objective
PICE	Policy, Institutional, and Capacity Enhancement Window (under EPF)
PKK	Phou Kao Kouay National Protected Area
PLUP	participatory land use planning
POFI	Provincial Office of Forest Inspection (under MAF)
PONRE	Provincial Office of Natural Resources and Environment (under MONRE)
P-WEN	Provincial Wildlife Enforcement Network
SDA	Subproject Delivery Agency
SEA	Strategic environmental assessment
SVK	Savannakhet Province
ToC	theory of change
VTE	Vientiane Province
WCS	Wildlife Conservation Society
WEN	Wildlife Enforcement Network
WMPA	Watershed Management Protection Authority
XKG	Xiengkhuang Province

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**DATA SHEET**

**BASIC INFORMATION**

**Product Information**

Project ID	Project Name
P128393	Second Lao Environment & Social Project (formerly Protected Area and Wildlife Project)
Country	Financing Instrument
Lao People's Democratic Republic	Investment Project Financing
Original EA Category	Revised EA Category
Partial Assessment (B)	Partial Assessment (B)

**Related Projects**

Relationship	Project	Approval	Product Line
Supplement	P128392-Second Lao Environment & Social Project (formaly Protected Area and Wildlife)	02-Apr-2014	Global Environment Project
Additional Financing	P152066-Second Lao Environment and Social Project (Additional Financing to the Protected Area and Wildlife Project)	29-Apr-2015	IBRD/IDA

**Organizations**

Borrower	Implementing Agency
Lao People's Democratic Republic	Environment Protection Fund



**Project Development Objective (PDO)**

Original PDO

To strengthen the management systems for national protected areas conservation and for enforcement of wildlife laws

Revised PDO

The objective of the Project is to help strengthen selected environmental protection management systems, specifically for protected areas conservation, enforcement of wildlife laws and environmental assessment management.

**FINANCING**

	Original Amount (US\$)	Revised Amount (US\$)	Actual Disbursed (US\$)
<b>World Bank Financing</b>			
P128393 IDA-H9150	4,500,000	4,500,000	4,230,381
P128393 IDA-53830	12,500,000	12,500,000	11,496,619
P128393 TF-16619	6,825,688	6,825,688	6,825,688
P128393 IDA-56200	15,000,000	15,000,000	14,875,812
<b>Total</b>	<b>38,825,688</b>	<b>38,825,688</b>	<b>37,428,500</b>
<b>Non-World Bank Financing</b>			
Borrower/Recipient	1,400,000	3,000,000	3,000,000
<b>Total</b>	<b>1,400,000</b>	<b>3,000,000</b>	<b>3,000,000</b>
<b>Total Project Cost</b>	<b>40,225,688</b>	<b>41,825,688</b>	<b>40,428,500</b>

**KEY DATES**

Project	Approval	Effectiveness	MTR Review	Original Closing	Actual Closing
P128393	02-Apr-2014	04-Jul-2014	20-Mar-2017	30-Jun-2021	30-Jun-2023



**RESTRUCTURING AND/OR ADDITIONAL FINANCING**

Date(s)	Amount Disbursed (US\$M)	Key Revisions
29-Apr-2015	1.31	Additional Financing Change in Project Development Objectives Change in Results Framework Change in Disbursements Arrangements Change in Safeguard Policies Triggered
14-Feb-2018	10.84	Change in Results Framework Change in Components and Cost Reallocation between Disbursement Categories Change in Disbursements Arrangements Other Change(s)
28-Aug-2020	30.72	Change in Results Framework Change in Loan Closing Date(s) Change in Disbursements Arrangements Change in Implementation Schedule
21-Mar-2022	36.99	Change in Loan Closing Date(s) Change in Disbursements Arrangements Change in Implementation Schedule
23-Dec-2022	37.46	Change in Loan Closing Date(s) Reallocation between Disbursement Categories Change in Disbursements Arrangements Change in Implementation Schedule

**KEY RATINGS**

Outcome	Bank Performance	M&E Quality
Moderately Satisfactory	Moderately Satisfactory	Substantial

**RATINGS OF PROJECT PERFORMANCE IN ISRs**

No.	Date ISR Archived	DO Rating	IP Rating	Actual Disbursements (US\$M)
01	24-Jun-2014	Satisfactory	Satisfactory	.32
02	19-Dec-2014	Satisfactory	Satisfactory	1.02
03	17-Jun-2015	Satisfactory	Satisfactory	1.39



04	30-Dec-2015	Satisfactory	Moderately Satisfactory	2.01
05	30-Jun-2016	Satisfactory	Moderately Satisfactory	3.42
06	22-Dec-2016	Moderately Satisfactory	Moderately Satisfactory	5.52
07	25-May-2017	Moderately Satisfactory	Moderately Satisfactory	6.79
08	08-Dec-2017	Moderately Satisfactory	Moderately Satisfactory	10.84
09	17-Apr-2018	Moderately Satisfactory	Moderately Satisfactory	11.72
10	17-Oct-2018	Moderately Satisfactory	Moderately Satisfactory	15.77
11	02-May-2019	Moderately Satisfactory	Moderately Satisfactory	19.32
12	20-Jun-2019	Moderately Satisfactory	Moderately Satisfactory	19.77
13	27-Dec-2019	Moderately Satisfactory	Moderately Satisfactory	27.00
14	29-Jun-2020	Moderately Satisfactory	Moderately Satisfactory	29.63
15	28-Dec-2020	Moderately Satisfactory	Moderately Satisfactory	33.11
16	07-Jul-2021	Moderately Satisfactory	Moderately Satisfactory	35.62
17	27-Jan-2022	Moderately Satisfactory	Moderately Satisfactory	36.80
18	27-Jul-2022	Moderately Satisfactory	Moderately Satisfactory	37.39
19	27-Feb-2023	Moderately Satisfactory	Moderately Satisfactory	37.46

## SECTORS AND THEMES

### Sectors

Major Sector/Sector (%)

**Agriculture, Fishing and Forestry 100**

Public Administration - Agriculture, Fishing & Forestry 54

Forestry 46

### Themes

Major Theme/ Theme (Level 2)/ Theme (Level 3) (%)

**Private Sector Development 100**

Jobs 100



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**ADM STAFF**

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## 1. PROJECT CONTEXT AND DEVELOPMENT OBJECTIVES

### A. CONTEXT AT APPRAISAL

#### Context

1. **At project appraisal, poverty rates were declining in the Lao People’s Democratic Republic (Lao PDR) and economic growth, led by the natural resources sector (particularly hydropower and mining), was accelerating.** Population below the national poverty line had decreased from 39 percent in 1997/1998 to 23.2 percent in 2012/2013.<sup>1</sup> Annual gross domestic product growth was 6.7 percent, and the natural resources sector was expanding 21 percent annually. Nonetheless, Lao PDR remained one of the poorest countries in Southeast Asia, with per capita income of US\$1,460 in 2013. The government of Lao PDR (GoL) had set a goal of graduating to middle-income country status by 2020 and proposed achieving this through continued development of the natural resource sector in its 7<sup>th</sup> Five-Year National Socio-Economic Development Plan (2011-2015).

2. **However, reliance on natural resource exploitation to fuel economic growth and reduce poverty also came with environmental health risks and threats to critical ecosystems and their services.** While natural forests covered 40 percent (9.8 million hectares) of Lao PDR, the highest rate in the region, they also were threatened by deforestation. Ecoregions with rich biodiversity and critical habitat for endangered species, such as the Northern Indochina Sub-Tropical Moist Forests and the Annamite Range Moist Forests, were highly vulnerable to encroachment. Forest encroachment, deforestation, and forest degradation were due to drivers including fires, unsustainable wood extraction, shifting cultivation, agricultural expansion, industrial tree plantation, infrastructure development, and urban expansion. Most notably, Protected Areas were being increasingly threatened by road construction, mining, and hydropower development. Hunting and illegal wildlife products were also threatening biodiversity and habitats. Lao PDR’s geographic location (surrounded by five countries with open borders), weak wildlife policies and capacities, and growing demand for wildlife products in neighboring countries, allowed for a thriving market for illegal food, skins, medicinal ingredients, and ornaments to enter national and international markets. These drivers and their effects were diminishing the tangible and intangible ecosystem services provided by natural forests, including clean air, reliable water resources, watershed protection and flood mitigation, biological control of pests, crop pollination, carbon storage, economic opportunities in sectors such as ecotourism, and social value to indigenous peoples, forest communities, and the country as a whole. These impacts also disproportionately affect the poor.

3. **Lao PDR’s protected area (PA) management policy was based on integrated conservation and development, with a focus on collaboration with and benefits for local people.** All PAs were multiple-use areas with differing levels of protection for defined areas within the PA. Under the Forestry Law (2008), PAs were categorized as either conservation forest or protection forest, and could be national, provincial, district, or some cases even village-level PAs. In 2011, the Ministry of Natural Resources and Environment (MONRE) was established, with the MONRE Department of Forest Resource Management (DFRM) tasked with overseeing PAs. However, only a few PAs had stand-alone management units, with most being loosely managed by staff from the District Offices for Natural Resources and

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<sup>1</sup> National poverty line is estimated at about US\$1.1 a day at 2019 prices. Data from government of Lao PDR and WDI, World Bank. Additional information can be found in the [Lao PDR Poverty Assessment 2020, World Bank](#).



Environment (DONREs).<sup>2</sup> This complex PA management organization led to diffuse accountability with limited funding, staff, equipment, and training.

4. **Wildlife management was governed by the Forestry Law (2008), Wildlife Law (2007), and the Ministry of Agriculture and Forestry (MAF) Regulation No. 0360 (2003).** The Wildlife Law divided species into three categories: (a) prohibited species, (b) management species, and (c) common or general species. The MAF Department of Forest Inspection (DOFI), created in 2008, was responsible for enforcement of wildlife and forestry law. In 2012, the Sam Sang Directive on devolution of governance at the subnational level delegated many enforcement responsibilities to the provinces, districts, and villages. Lao PDR signed the Convention on Biological Diversity in 1992 and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in 2003. It was also a member of the ASEAN Wildlife Enforcement Network (ASEAN-WEN, launched in 2005) and established its own Lao Wildlife Enforcement Network (Lao-WEN) in 2011. In 2012, DOFI adopted a national strategy that included wildlife law and international trade control in partnership with Lao-WEN institutions. Despite these steps, Lao PDR had weak enforcement of wildlife crimes, and traffickers took advantage of the country's limited capacity relative to other countries. Efforts to increase collaboration between Vietnamese and Lao conservation agencies were ineffective. In addition, public departments responsible for oversight of national protected areas (NPAs) and for wildlife law enforcement were critically underfunded and understaffed.

5. **The Lao Environment & Social Project (LENS2), originally approved as the Protected Area and Wildlife (PAW) Project, was prepared as the fourth phase of the World Bank's program for Strengthening Regional Cooperation for Wildlife Protection in Asia.**<sup>3</sup> The objective of this regional program, funded by the International Development Association (IDA), was to help participating governments build and enhance shared capacity, institutions, knowledge, and incentives to collaborate in tackling illegal wildlife trade and other selected conservation threats in border areas. The program was expected to produce benefits across national boundaries, support country ownership through ASEAN-WEN and South Asia WEN and provide a platform for policy harmonization between the WEN countries, gradually improving regional and transboundary coordination and strategies.

6. **LENS2 was included in the World Bank Country Partnership Strategy (CPS) for FY12–16.** The project was expected to contribute to CPS Objective 2 on Sustainable Natural Resource Management and Outcome 2.3 on “sustainable management and protection of forests and biodiversity” in particular. The project was one of a set of complementary World Bank operations supporting Objective 2, including (a) the Nam Theun 2 (NT2) hydropower project which included development of the Nakai Nam Theun (NNT) NPA that the LENS2 project would help strengthen and restructure, (b) the originally planned follow-on project to LENS1 to implement subprojects financed by Lao PDR's Environment Protection Fund (EPF) but with a broader focus on decentralized capacity building than LENS1, (c) the Integrated Water Resources Management Project which focused on river basin management, and (d) the Forest Support operation that supported MAF efforts in production forests and promotion of community livelihood opportunities.<sup>4</sup> The planned follow-on to LENS1, called LENS2 during preparation, was eventually dropped and its

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<sup>2</sup> In principle, NPAs were to be managed at the national level with provincial PAs (PPAs) managed at the provincial level. However, NPA management was mostly delegated to provincial and district authorities due to limited resources.

<sup>3</sup> The Strengthening Regional Cooperation for Wildlife Protection in Asia was a horizontal (multi-country) adaptable program loan or APL (now known as a series of projects). Phase 1 (Nepal and Bangladesh) and Phase 2 (Bhutan) were ongoing at the time of project approval. Phase 3 (India) had been dropped.

<sup>4</sup> For more information, the referenced projects are: Lao Nam Theun 2 Power Project (P076445), Nam Theun 2 Social and Environment Project (P049290), Second Laos Environment and Social Project (P144330), Mekong Integrated Water Resources Management Project (P104806), LA Scaling-Up Participatory Sustainable Forest Management (P130222).



objectives were captured in the design of the parallel PAW project which adopted the name LENS2 when its size and scope were broadened with the approval of additional financing in March 2015 (see paragraph 20).

### Theory of Change (Results Chain)

7. **Figure 1 presents the original theory of change (ToC) based on the LENS2 project appraisal document (PAD), which did not include a visual representation of the ToC.** The PAD identified deforestation and forest degradation, driven by numerous factors, as the key concerns for ecosystem protection.<sup>5</sup> Challenges to reducing these threats included lack of understanding of the value of environmental sustainability, weak performance in wildlife law enforcement and NPA management, lack of cross border cooperation for NPA management, lack of funds and staff, lack of skilled human resources, and lack of incentives for communities. The PAD identified national, regional, and global high-level outcomes of the project, although it did not clearly outline the causal pathway to reach those outcomes, including the links between project activities, outputs, and intermediate and final outcomes.<sup>6</sup> Based on the severely limited institutional capacity in Lao PDR, the project was designed to raise capacity related to management systems for PA conservation and wildlife law enforcement across a wide range of relevant national and subnational institutions. A revised ToC reflecting the scaled-up project scope and activities after the March 2015 additional financing is presented in Figure 2 and discussed in Section I.B of the this Implementation Completion and Results Report (ICR).

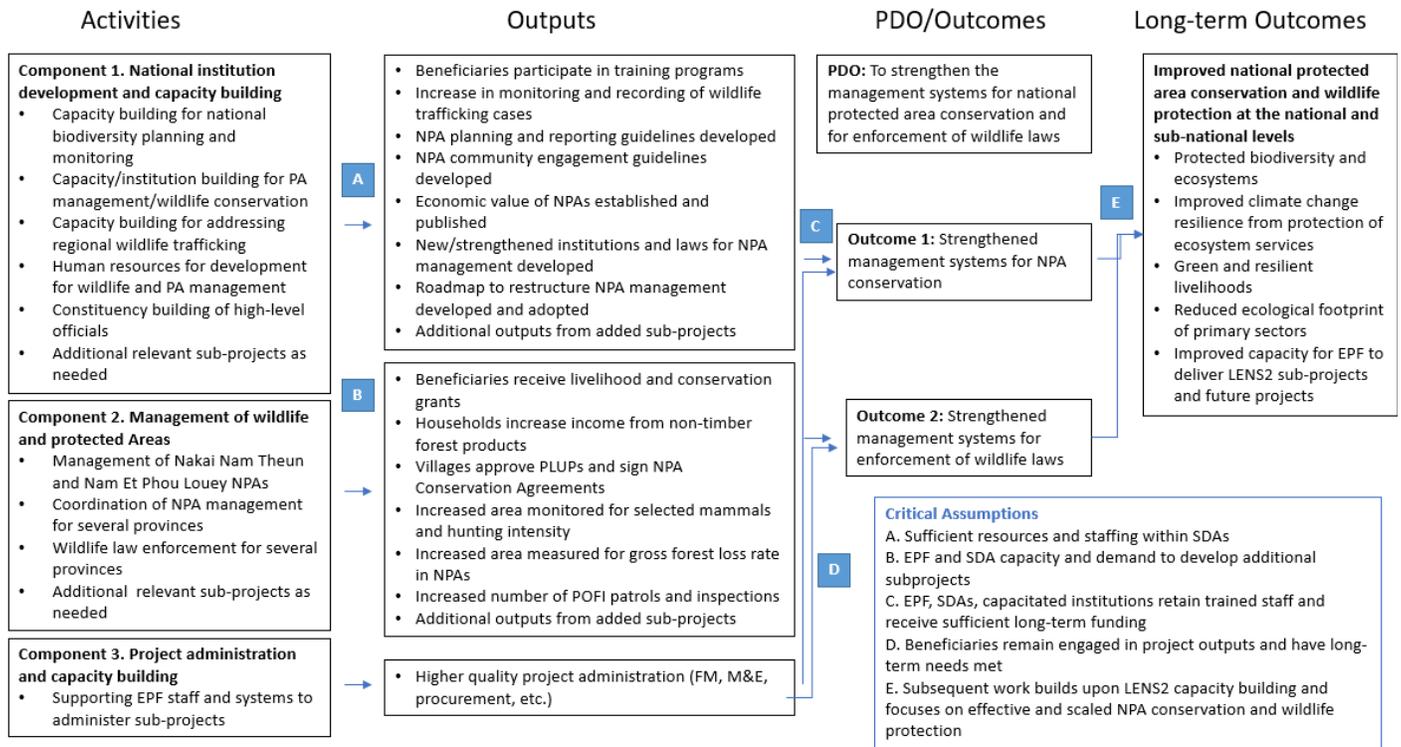
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<sup>5</sup> The PAD mentions fire, unsustainable wood extraction, pioneering shifting cultivation, agricultural expansion, industrial tree planting, mining, hydropower, infrastructure development, and urban expansion, roads construction, hydropower development, and illegal hunting (linked to food security, wildlife product demand from China and Vietnam).

<sup>6</sup> Selected identified outcomes included capacity building, livelihood development, preserved economic opportunities at the national level; knowledge transfer, trans frontier management of ecosystems, diminished illegal cross border trade at the regional level, and limited degradation of important biodiversity and wildlife, reduced pressure on forests, and reduced carbon emissions at the global level.



Figure 1. Theory of Change (based on PAD)



Project Development Objectives (PDOs)

8. The PDO and Global Environment Objective (GEO) at project approval was: *Strengthen the Recipient’s management systems for national protected areas conservation and for enforcement of wildlife laws.*<sup>7</sup>

Key Expected Outcomes and Outcome Indicators

9. The PDO had two key expected outcomes: strengthen the management systems for national protected areas conservation (Outcome 1); and strengthen the management systems for enforcement of wildlife laws (Outcome 2). The outcome indicators corresponding to the two outcomes are as follows:

<sup>7</sup> As stated in the legal agreements. The PAD formulation was the same, except that it omitted “the Recipient’s”.



**Table 1: Outcome Indicators by Key Outcomes**

Outcome 1	Indicator 1: Area brought under enhanced biodiversity protection measures by score of management effectiveness (hectares based on increase in METT scores) <sup>8</sup>
Outcome 2	Indicator 2: International illegal trade information reports submitted by DOFI to international law enforcement or monitoring agencies (annual, number)
Outcomes 1 and 2	Indicator 3: Aggregate index of functional capacity of selected protected area and wildlife management institutions (points measured on custom-defined scales for each institution)

### Components

10. **Total project cost at appraisal was US\$25.23 million** (IDA US\$17.0 million; GEF US\$6.83 million; government of Lao PDR US\$1.2 million).<sup>9</sup> Parallel activities related to the project, but not considered as directly contributing to the results chain in the project’s theory of change, included US\$8.40 million from the Nam Theun Power Company to the Watershed Management Protection Authority (WMPA), US\$0.35 million from Wildlife Conservation Society (WCS), and US\$0.30 million from WWF.

11. **Component 1: National Institution Development and Capacity Building (US\$6.5 million).** Component 1 sought to improve the capacity of ministerial departments and university faculties to implement and monitor national conservation laws and regional/international commitments, and to operate according to national plans. It was implemented through the Environment Protection Fund (EPF)’s Policy, Implementation, and Capacity Enhancement (PICE) Window. PICE subprojects were intended to strengthen the capacity of subproject delivery agencies (SDAs) to execute and coordinate national biodiversity planning, manage the national protected areas system, cooperate with neighboring countries, monitor and control illegal wildlife trade, develop and implement educational and training programs on protected areas and wildlife sciences, raise the awareness of decision makers on biodiversity and wildlife trade issues, and other activities related to national biodiversity conservation.

12. Component 1 had an initial portfolio of six subprojects: (1.1) Capacity building for national biodiversity planning, (1.2) Capacity and institution building for PA management and wildlife conservation, (1.3) Capacity building for addressing the regional illegal wildlife trade, (1.4) Human resources development for protected area management, (1.5) Constituency building of high-level officials, and (1.6) Constituency building of public administration. Any additional subprojects financed by EPF sub-grants would be approved by the EPF Board and World Bank.

13. **Component 2: Management of Wildlife and Protected Areas (US\$8.6 million).** Component 2 sought to improve the capacity of provincial and district offices, communities, and other stakeholders to manage NPAs and protect wildlife against threats from infrastructure development and illegal use or trade of natural resources. Component 2 was implemented through EPF’s Community and Biodiversity Investment (CBI) Window. The subprojects were to (a) strengthen the management of selected NPAs and wildlife in the participating provinces including design

<sup>8</sup> The Management Effectiveness Tracking Tool (METT) was developed by the World Wildlife Fund and the World Bank as a way to measure improvement in management effectiveness within protected areas over time. At the time of appraisal, it had been incorporated into a World Bank core sector indicator (CSI) on biodiversity and was mandatory for GEF projects supporting PAs.

<sup>9</sup> See Annex 3 for detailed cost by financing source. The estimated component costs at appraisal did not include unallocated financing of US\$6.4 million.



of protected area management plans, development and implementation of improved patrolling mechanisms, biodiversity monitoring, macro-zoning, awareness raising, community engagement, livelihood development, other activities related to the project's conservation engagement framework (CEF) and environmental and social management framework (ESMF), and implementation of cross-border cooperation and twinning arrangements; and (b) strengthen the capacity of provincial and district authorities and other stakeholders to coordinate and support the management of protected areas and to control the illegal wildlife and timber trade.

14. Component 2 had an initial portfolio of 10 subprojects supporting management of two NPAs (Nakai Nam Theun and Nam Et Phou Louey), provincial NPA management in five provinces (Bolikhamxay, Khammouane, Houaphan, Luang Prabang, and Xiengkhouang), and wildlife law enforcement in three provinces (Bolikhamxay, Khammouane and Houaphan). As in Component 1, additional subprojects would be approved by the EPF Board and World Bank, with subgrant agreements signed between each SDA and EPF.

15. **Component 3: Project Administration and Capacity Building (US\$3.2 million).** Component 3 sought to deliver the project's outputs within the allocated time frame and with satisfactory planning, procurement, financial management (FM), monitoring and evaluation (M&E), and communication. Component 3 supported the administration of the subproject mechanism by EPF.

## B. SIGNIFICANT CHANGES DURING IMPLEMENTATION

16. **LENS2 was first restructured in April 2015 with additional financing of US\$15 million, and was restructured four more times between February 2018 and December 2022.** Table 2 summarizes these changes, which are discussed in further detail in subsequent sections.

**Table 2. Key Elements of LENS2 Restructurings**

### April 29, 2015

- Increased scope of PDO and components, including renaming project from PAW to LENS2.
- Revision of PDO Indicators (two revised, two new).
- Additional financing (US\$15 million IDA credit).
- Safeguard policy on international waterways (OP/BP 7.50) triggered due to possible small-scale village water supply and irrigation investments on tributaries of the Mekong River.

### February 14, 2018

- Redistribution of funds across components 1 and 2 (to reflect actual costs).
- Reallocation of unused project preparation advance (PPA) refinancing balance to implementation budget.
- Revision of results indicators (all five PDO indicators and several Intermediate Indicators).
- Increase ceiling for advance disbursement to designated account (from US\$1.5 million to US\$3 million).
- Partial cancellation of DFRM subproject activities for re-delineation of forest boundaries and concessions.

### August 28, 2020

- One-year project extension (to June 30, 2022).

### March 21, 2022

- Six-month project extension (to December 31, 2022).
- Revised disbursement percentages of the GEF grant and IDA credit to ensure full utilization of funds.



December 23, 2022

- Six-month project extension (to June 30, 2023).
- Revised disbursement percentages to ensure full utilization of IDA credit after GEF grant is fully disbursed.

Revised PDOs and Outcome Targets

17. A restructuring and additional financing (AF) in April 2015 broadened the scope of the original PDO. The revised PDO and GEO was “to help strengthen selected environmental protection management systems, specifically for protected areas conservation, enforcement of wildlife laws, and environmental assessment management.”

Revised PDO Indicators

18. The PDO indicators were revised in the first (2015) and second (2018) restructurings. The 2015 restructuring (a) revised the targets for PDO Indicators 1 and 3, and (b) added PDO indicators 4 and 5. The 2018 restructuring revised all five PDO Indicators. These changes are summarized below in Table 3.

Table 3. Summary of Changes to the PDO Indicators

Original Indicator	Amended Indicator	Rationale
<b>Indicator 1.</b> Area brought under enhanced biodiversity protection measured by the score of management effectiveness (hectares); Target: 858,000 ha	<b>2015</b> - Increased target to 1,250,000 ha  <b>2018</b> - Revised wording and changed measurement and corresponding targets from number of hectares to amount of METT score increase for protected areas (covering the same area): “Increased score on protected area (METT)” Baseline: 0, 2016; Target: 10	<b>2015</b> – Increased to include watershed protection forests.  <b>2018</b> — Directly uses amount of increase in METT scores to measure outcome rather than hectares of PAs that graduated from one METT score range to a higher range.
<b>Indicator 2.</b> International illegal trade information reports submitted by DOFI to international law enforcement or monitoring agencies (annual); Baseline: 0; Target: 5	<b>2018 Revision</b> – Revised to “Wildlife trafficking cases involving CITES I listed species that are referred to the national and/or provincial public prosecutor office (cumulative),” Target: 75  Added sub-indicator for “Number of wildlife trafficking cases involving CITES I and non-CITES listed species opened for investigation (cumulative).” Target: 250	<b>2018 Revision</b> — Focuses on CITES I cases and prosecution referrals. The revised indicator is more specific and objective and was considered realistic given improved DOFI and POFI capacity supported by the project.
<b>Indicator 3.</b> Aggregate index of functional capacity of selected protected area and wildlife management institutions; Targets by institution: DFRM (22%), Lao WEN (36%), WMPA (40%), NEPL MU (36%)	<b>2015</b> – Revised to “Percentage increase of the score of functional capacity of SDAs and EPF.” Target changed to 20-point average increase for all SDAs and EPF (rather than final scores).  <b>2018</b> – Reflected 20-point increase in baseline and target: “Score of functional capacity of Environment Protection Fund (EPF) and key institutions implementing subprojects.” Baseline: 11, Target: 31  Added six sub-indicators with specific targets for EPF and 18 SDAs (in groups).	<b>2015</b> —Measures average increase based on underlying target scores of expanded number of SDAs.  <b>2018</b> —Customized functional capacity indexes developed for each SDA because the original standardized index was not well-suited to the diverse range of SDAs. Sub-indicators added with targets for logical groups of SDAs.



<p><b>Indicator 4.</b> Added in 2015</p>	<p><b>2015</b> — New indicator for “Percentage of projects registered in environment impact Category 1 that have up-to-date compliance monitoring report published on the DESIA website.” Targets: hydropower 60%, mining 40%, roads 40%.</p> <p><b>2018</b> — Revised to “Up-to-date reports published on relevant government websites including (i) compliance monitoring for projects registered in environment impact Category 2, (ii) state of air and noise quality, and (iii) national pollution inventory (number).” Target: 87</p>	<p><b>2015</b> — Added to reflect expanded scope of project.</p> <p><b>2018</b> — Corrected project reference from Category 1 (low impact) to Category 2 (potentially high impact requiring environmental impact assessments). Changed percentage targets to number of reports. Added sub-targets for environmental quality and pollution reports (in addition to compliance monitoring of projects).</p>
<p><b>Indicator 5.</b> Added in 2015</p>	<p><b>2015</b>— New indicator for “Number of village organizations supported by the project that meet the terms of conservation agreements (CAs).” Target: 140 villages.</p> <p><b>2018</b> — Previous indicator moved to intermediate level and replaced with new PDO indicator for “5-year provincial or sectoral development plans that include environmental planning, monitoring, assessment, or management components supported by MONRE or MPI.” Baseline: 0; Target: 20. Three sub-indicators included to track type of environmental components incorporated in plans.</p>	<p><b>2015</b> — Reflects stronger emphasis in AF on consultation, planning, empowerment, and project support for community led livelihood and ecosystem management.</p> <p><b>2018</b> — Indicator on village CAs did not directly measure PDO outcome.</p> <p>New cross-cutting indicator reflects fuller scope of GoL objectives through integration of environmental policies and management into planning.</p>

Revised Components

19. The 2015 AF (US\$15 million) and restructuring increased the scope of all three components to (a) include capacity building for environmental and social assessment management, (b) incorporate new protected areas for forested watersheds, and (c) increase the number of project provinces from five to eight. The additional activities and scope are summarized below:

- **Component 1 (Increase from US\$8.9 million to US\$14.4 million)** – Renamed to delete the word “national” to reflect additional activities supporting provincial and district offices (*Institution Development and Capacity Building*). Component 1.2 (Institutional capacity building for protected area and protection forest management and wildlife conservation, implemented by DFRM) expanded to include forest protection in addition to forest conservation. Component 1.4 (Human resources development for protected area and wildlife management),<sup>10</sup> expanded to develop bachelor courses and training modules in forested watershed management and to support scholarships and grants to study watershed management. Component 1.5 (Constituency building of high-level officials on biodiversity and wildlife),<sup>11</sup> activities expanded to include national and local seminars and workshops to build knowledge on Lao PDR decrees, international treaty commitments, strategies and action plans for green growth, environmental risk management, biodiversity conservation, and wildlife trafficking.

<sup>10</sup> Implemented by the Faculty of Social Science (FSS) of the National University of Laos (NUOL).

<sup>11</sup> Implemented by Government’s Office Department of Public Relation (DPR).



- **Component 2 (Increase from US\$12.6 million to US\$20.6 million)** – Component 2.1 (Capacity building for participatory management of the Nam Thuen watershed<sup>12</sup>) expanded to finance legal review of current fishing regulations for reservoirs and upstream river areas affected by the dam and the preparation and implementation of a reservoir resources management plan.
- **Component 3 (Increase from US\$3.7 million to US\$6.8 million)** – Component renamed to add “EPF” to reflect the focus on EPF (*Project Administration and EPF Capacity Building*). Component 3 financing increased to help the EPF administer the expanded project and strengthen its own capacity especially in management, administration, fund raising, and finance.

### Other Changes

20. **The 2015 restructuring renamed the project from Protected Area and Wildlife Project (PAW) to Second Lao Environment and Social Project (LENS2) to reflect the broadened scope of the project and alignment with the first LENS project.** The first LENS project (2006–13), supported EPF on many of the same agenda items as PAW through a similar demand-driven subproject approach (LENS1 subprojects included strengthening capacity for environmental and social policy and implementation, conservation practices and protected area management, and capacity building). Rather than approving both PAW and a separate proposed LENS2 follow-on project, PAW was restructured with additional activities that would have fallen under the proposed LENS2 project (which was dropped) and PAW became LENS2.

### Rationale for Changes and Their Implication on the Original Theory of Change

21. **The 2015 restructuring and AF combined two closely related projects that were to be implemented by the same agency into a single project well aligned with other World Bank-financed projects.** PAW belonged to a set of complementary and coordinated operations financed by the World Bank that supported the natural resources agenda of the CPS, as noted. The restructuring and AF was designed to supplement this portfolio and continue the work of LENS1 by addressing key issues including (a) the financing capacity of the EPF, (b) the capacity of national, provincial, and district institutions to implement legislation on environment and social impacts, (c) the university-level environment and social curriculum, and (d) conservation of forested upper watersheds important to hydropower, agriculture irrigation, and flood prevention.

22. **The 2018 restructuring addressed challenges and opportunities identified during the 2017 mid-term review. While the review found that the project was generally on track toward achieving its objectives, it also identified several key challenges and areas for improvement.** These included (a) many subprojects for protected areas management that were delayed in moving into implementation, (b) lack of consistent indicators for capturing outcomes from subprojects that focus on environmental and natural resource planning and pollution reduction, (c) constrained M&E implementation due to a lack of capacity in reporting on selected indicators, and (d) reorganization of government agencies affecting a selected set of SDAs in MAF and MONRE. Changes to the PDO Indicators (a) simplified the results framework, (b) made the indicators more precise and better aligned with subproject activities and results, and (c) captured the outcomes of new subprojects involved in environment planning and pollution control.

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<sup>12</sup> Implemented by the Watershed Management Protection Authority (WMPA).



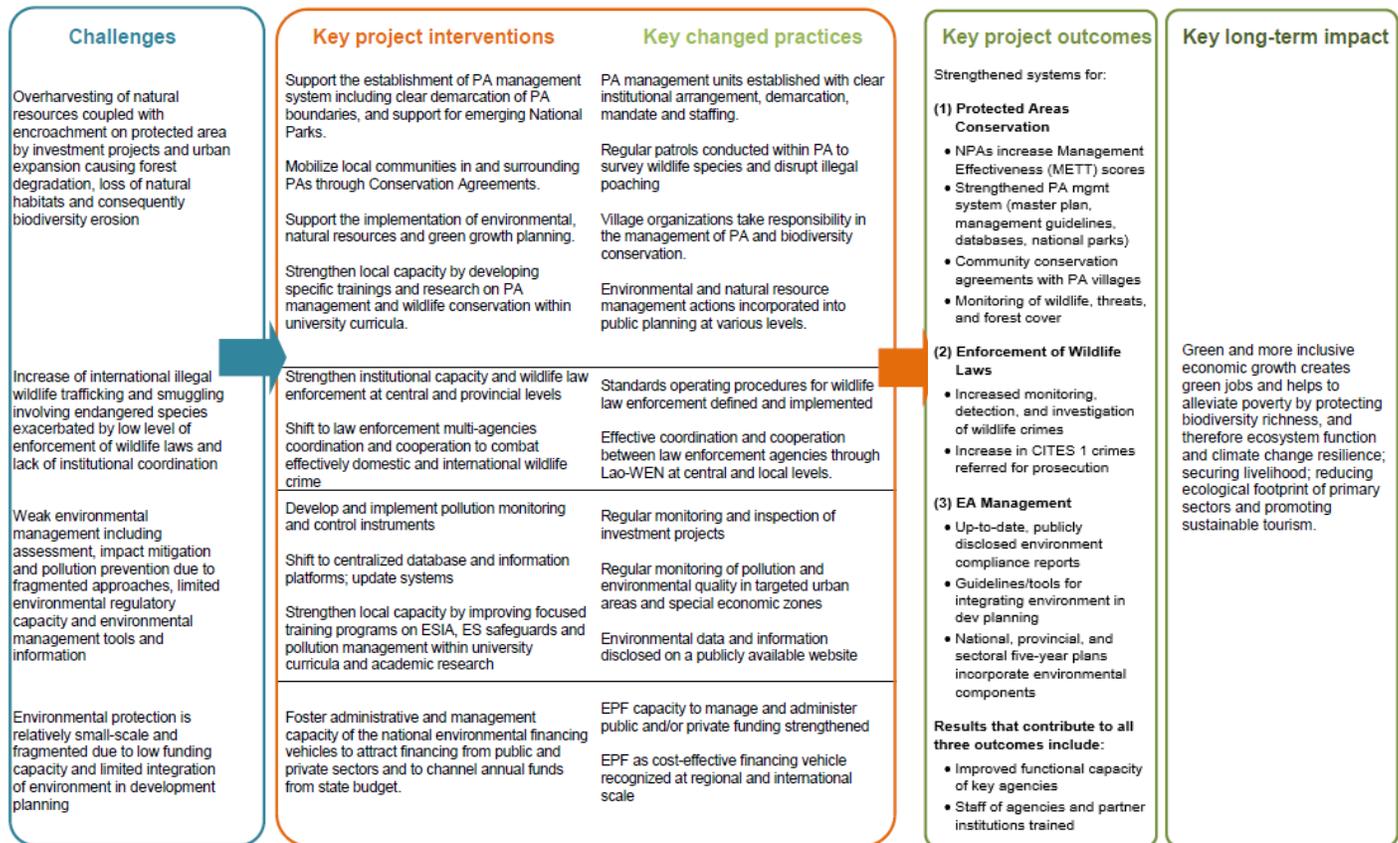
23. **The project closing date was extended three times, for a total of 24 months, resulting in a final implementation period of nine years.** The extensions (in August 2020, March 2021, March 2022, and December 2022) allowed the GoL to complete remaining project tasks in accordance with the agreed activities under the available IDA and GEF resources. The first extension (12 months) was due to (a) restrictions on travel and implementation activities due to COVID-19, (b) delayed approval of the Nam Et-Phou Louey National Park subproject while an external infrastructure risk was being resolved, and (c) reorganization of MONRE departments in December 2019 that delayed some key environmental management subprojects. The March 2021 extension (6 months) was required to complete implementation of 16 ongoing subprojects, again largely due to COVID-19 restrictions which prevented SDA staff from undertaking consultations, providing inputs, and visiting project sites, etc. The extensions approved in the restructurings of March 2022 (6 months) and December 2022 (6 months) included realignment of GEF and IDA disbursement percentages to allow full disbursement of project financing and completion of unfinished activities that would further strengthen the sustainability of project outcomes and deepen the capacity of EPF to carry out its mandate and to implement future projects.

24. **The main implication of project changes on the theory of change (ToC) was that a third outcome and corresponding results chain was added, and the geographic scope of the project was increased from five to eight provinces.** The 2015 AF and restructuring included revision of the PDO by slightly rewording the original objectives related to protected areas conservation and wildlife law enforcement, and adding a third objective for environmental assessment management. All three outcomes were supported by a cross-cutting outcome indicator for institutional capacity building, which for practical purposes appears in the results framework as a fourth outcome but is not assessed as a separate outcome in the ICR. The revised theory of change, first presented graphically in the 2018 restructuring paper, is slightly modified in the ICR to make the PDO more explicitly visible in the column showing key project outcomes (Figure 2).



Figure 2. Revised Theory of Change for LENS2

Revised PDO: To help strengthen selected environmental protection management systems, specifically for protected areas conservation, enforcement of wildlife laws and environmental assessment management



## 2. OUTCOME

### A. RELEVANCE OF PDOs

#### Assessment of Relevance of PDOs and Rating

25. **Relevance of the project objectives is “High” given its strong alignment with the current World Bank Country Partnership Framework (CPF) for FY23-26, as well as responsiveness to changing Bank priorities across the previous two country strategy documents.** At the time of project approval, Strategic Objective 2 of the FY12–16 Country Partnership Strategy (CPS) was on sustainable natural resource management, primarily strengthening governance and management of the hydropower and mining sectors and bringing in investors to develop the country’s natural resources while mitigating associated environmental and social issues. Outcome 2.2 focused on sustainable, environmental, social, and water resource management; and Outcome 2.3 focused on sustainable management and protection of forests and biodiversity. The LENS2 objectives on strengthening conservation, protecting wildlife, and environmental assessment



management were directly aligned with these two CPS outcomes. The subsequent CPF for FY17-21 included a Focus Area on protecting the environment, with Objective 3.1. on promoting environmental protection and sustainable natural resources management. The CPF relied on LENS2 to deliver on Objective 3.1. Finally, the FY23–26 CPF has three high-level outcomes and nine CPF objectives, two of which are fully aligned with the LENS2 PDO: High-Level Outcome 3 (sustainable livelihoods through better management of natural resources) and CPF Objective 8 (improved and climate-adaptive management of forests, biodiversity, and protected areas). Across these three strategy documents, a gradual shift can be seen from maximizing the benefits of Lao PDR’s rich natural resources while mitigating environmental and social risks, to an approach focused more on environmental protection and sustainable livelihoods (i.e., shifting from environmental safeguarding to a more comprehensive green growth approach). LENS2 followed this shift, as reflected in the broadened focus of the project after the 2015 restructuring and AF with its increased emphasis on green growth activities.

26. **The system level institution-building approach for strengthening protected areas conservation, enforcement of wildlife laws and environmental assessment management was appropriate for Lao PDR’s environmental protection challenges.** At the time of project approval, overall environmental protection was small-scale and fragmented, largely due to low funding, weak legislations and capacity for relevant government institutions, and limited integration of the environment in development planning. To address these challenges, system approaches needed to be strengthened. National policies, standards, procedures established and strengthened, enforcement agencies on the ground to receive capacity building support, a strong pipeline of qualified staff to be created, coordination mechanism amongst government agencies to be strengthened, and information sharing system to be established. Addressing these activities in parallel was considered the most effective way to close gaps, address weaknesses, and achieve sustainable improvements. The process-oriented objective of strengthening systems is appropriate because, as presented in the theory of change (Figure 2), longer term objectives such as measurable improvements in biodiversity richness, ecosystem function of protected areas, reduced environmental health risks, and inclusive economic growth, is not realistic without first strengthening capacity in Lao PDR to detect and investigate crimes, integrate environmental dimensions into development planning, enforce compliance with environment reporting requirements for development projects, and better manage protected areas. Achieving or measuring such long-term outcomes can be challenging at any time scale, and, like many other projects, was not considered feasible over the course of a single project that is aimed at an earlier intervention point in the results chain.

27. **The project’s 37 SDAs were aligned with addressing the priority institution building needs identified at appraisal.** The project’s activities at the national level under MAF, MONRE, MPI, MOF, and NUOL were designed to improve the enabling environment and regulatory framework under which both central and provincial agencies operate. The activities at the provincial level (PA management, development planning, community conservation and action plans, and subnational wildlife law enforcement and monitoring) were aimed at the sustainability of development activities and mitigation of their impacts, the well-being of communities that are dependent on forest-related livelihoods, and stronger front-line capacity in wildlife law enforcement. The NUOL and NAPA activities were included in the project design mainly to expand the knowledge base, human capital, and staffing pipeline that are integral to the sustainability of strengthened environmental protection management systems.



## B. ACHIEVEMENT OF PDOs (EFFICACY)

### Assessment of Achievement of Each Objective/Outcome

28. **The project achieved its development objective with moderate shortcomings in some aspects of efficacy.**<sup>13</sup> The amended PDO consists of three core outcomes: (i) strengthen systems for protected area conservation; (ii) strengthen systems for wildlife law enforcement; and (iii) strengthen systems for environmental assessment management. A cross-cutting indicator on institutional capacity building is listed as a fourth outcome in the results framework for system purposes but is not assessed as a separate outcome, as noted. Each of these three outcomes is assessed for efficacy below, with the cross-cutting indicator briefly discussed at the end of this section and in more detail in the Institutional Strengthening section of the ICR. Efficacy was assessed based on the level of achievement of the PDO and intermediate indicators as per the project's results framework as well as other relevant information not measured directly in the project indicators. The analysis by the ICR team included review of the borrower's project completion report (PCR), the borrower's final report on the completion of subprojects, project aide-memoires, project progress reports, and the discussions and findings during the World Bank's completion mission. The efficacy assessment was also supplemented with relevant data and evidence from analytical and research papers featuring LENS2. Data sources and references are listed in Annex 6.

#### Outcome 1: Strengthened Capacity for Protected Area Conservation

29. **The project substantially strengthened Lao PDR's capacity for protected area conservation. When the project began, PA management lacked sufficient funding, national coordination and planning, technical expertise, and clear policies and guidelines.** Lao PDR's decentralized PA management system, heavily reliant on poorly capacitated environment district officers, was not effective and had limited equipment, coordination, best practices and policies, communication, and training. LENS2 interventions helped address these constraints by investing in a comprehensive set of capacity building activities at the national and provincial levels, including centralizing management of the national protected area system, promoting good governance practices, and delivering technical and management training to relevant national and subnational agencies. These interventions have helped establish PA management units with clear institutional arrangements, demarcations, mandates, and staffing. In addition, the project helped increase emphasis on maintaining and expanding sustainable livelihoods for local communities and brought village organizations more fully and formally into the PA conservation process.

30. **LENS2 interventions helped improve the management of 11 targeted PAs spanning almost 1.3 million hectares (PDO indicator 1 on protected areas).** Management Effectiveness Tracking Tool (METT) scores across the 11 PAs increased by an average of 25 points from their project baseline (from 22 to 47), well exceeding the PDO-level target of a 10-point average increase (and the original target of 15). METT scoring was done through a self-assessment, entailing a detailed questionnaire with 30 questions covering a broad range of management effectiveness issues including (a) management planning, (b) resource protection, (c) infrastructure and facilities, (d) law enforcement, (e) stakeholder engagement, (f) visitor management, and (g) budget and financial management. Each PA was evaluated separately with their baseline

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<sup>13</sup> While the PDO and scope of the project changed during implementation, a split rating was not used. This is because the project became more ambitious in scope after the Additional Financing and restructurings. The project's more ambitious outcomes and outcome targets were seen as appropriate for assessing the entirety of the project. Furthermore, given that the project's scope was increased early in implementation (about 1 year after approval and with disbursements just over US\$1 million), application of split ratings would not have materially affected the final ratings.



scores ranging from 6 to 46 and individual targets of increasing scores by between 13 to 30 points.<sup>14</sup> To address shortcomings in some of the METT reporting, in 2020 DOF hired an expert in METT assessments to help improve the quality and consistency of the scoring.

31. **Only one PA fell short of its individual target and all the PAs exceeded the average target, with METT score increases of 13 to 34 points (Table 4).**<sup>15</sup> This demonstrates the project's success in enhancing the capacity and organizational structure of protected areas staff for effective management. In addition to the increased METT scores, notable improvements reported by protected area staff consulted during the PCR include the adoption of the internationally recognized SMART platform for patrol systematization, improved record-keeping, and improved quality of internal reports following patrolling and awareness sessions.<sup>16</sup>

32. **The project also exceeded targets for functional capacity of individual PA management units and development of the NPA system.** The cross-cutting PDO indicator for customized functional capacity scores of various agencies includes targets for the PA management units and the DOF's new Protected Areas Management Division (PAMD). An intermediate indicator tracked development of the NPA system, awarding points for specific outputs and management goals. These indicators are included in the RF and specific elements and outputs related to them are reflected in the discussions below.

33. **Activities implemented by the Department of Forestry (DOF) played a crucial role in establishing centralized and coordinated PA management.** The DOF subproject developed Lao PDR's first *Master Plan for National Protected Areas (2020–25)*. The plan provides long-term direction for NPA management and was supplemented by a report on *Optimization of the NPA Management System* that provides important guidance on institutional arrangements and responsibilities for NPA management. Critically, the DOF subproject also supported establishment of the PAMD which centralized responsibility for management of PAs. These outputs created a strong plan for improving PA management, backed by institutional analysis and a new agency to lead the effort.

34. **The DOF subproject also developed and disseminated guidelines to build the technical and organizational capacity of provincial offices and protected areas management units, supported the creation of PA management plans, and promoted engagement with local communities on PA conservation.** The subproject developed 15 management guidelines providing basic guidance to both senior management and field-based staff. The NPA guidelines were approved by MAF in 2019 and 2020 and covered: (1) zoning for conservation and development; (2) participatory management planning; (3) forest and land use planning; (4) outreach and conservation awareness raising; (5) livelihood development; (6) biodiversity monitoring; (7) law enforcement, (8) establishing the NPA management offices; (9) collaborative management; (10) NPA assessment categories; (11) supervision of the NPA by its director; (12) ecotourism; (13) administration; (14) forest fires; and (15) NPA regulation. These guidelines were widely circulated and socialized with provinces, including the first gathering of all PA managers to present the Master Plan and discuss challenges and training opportunities for their implementation. The subproject also created a protected areas website in Lao and English.<sup>17</sup>

<sup>14</sup> An aggregate average METT score baseline of 22 and target of 32 was established in the February 2018 restructuring. Baseline data used in this ICR for each PA is primarily from the February 2023 ISR as data elsewhere is not consistent.

<sup>15</sup> There are variances and gaps in the reporting of PA METT scores in different EPF and World Bank project documents. Data in the ICR is primarily from DoF reporting to GEF in 2023, supplemented by the February 2023 ISR and inputs from the World Bank task team. Despite these discrepancies, the scores show a clear trend for purposes of assessing efficacy.

<sup>16</sup> SMART is the "Spatial Monitoring and Reporting Tool," a set of software and analysis tools developed and maintained by a partnership of prominent international and national wildlife and zoological organizations.

<sup>17</sup> Website URL: <https://npadof.maf.gov.la/>



35. **Notably, LENS2 PA engagements at the national level set the foundation for improved planning and engagement for conservation activities at the provincial and local level.** Fifteen out of the 24 NPAs in Lao PDR now have management plans. The DOF also developed procedures for implementing the LENS2 Conservation Engagement Framework (CEF) and the related Community Action Plans (CAPs) and Community Conservation Agreements (CCAs). These procedures led to 191 villages signing CCAs and CAPs, and subsequently benefiting from grants allocated through the LENS2 Village Conservation Fund (VCF) as well as the development of participatory land use planning (PLUP) in 148 areas. Short surveys and field visits conducted by PA management units to selected communities have found villagers who participated in the CEF have been much more aware of conservation principles and boundaries of different zones within PAs, with encroachment for hunting and logging greatly reduced, and free grazing of cattle better controlled. Surveys conducted before and after the outreach campaigns of the NEPL subproject found that there was an average increase of 29 percent in stakeholder knowledge about the national park.

36. **Improved PA capacity is evident in SDA subproject completion reports for the PAs.** All 11 project PAs benefited from technical assistance that including training, study tours, and cross-agency coordination meetings for district staff covering project management, accounting, procurement, evaluation, forest protection management, GPS use, and other topics. The project promoted good governance and reporting practices, and PA committees were established to provide management oversight.

37. **LENS2 played a pivotal role in establishing the first six national parks in Lao PDR.** The DOF subproject developed 24 NPA factsheets, covering general information, brief history, current management, biophysical environment, main threats, infrastructure and mining projects, socioeconomic situation, tourism, management plans, and zoning. These factsheets laid the groundwork for establishment of the Nakai Nam Thuen (NNT) and Nam Et-Phou Louey (NEPL) national parks in 2019, followed by the Hin Nam No (HNN), Dong Hua Sao, Xe Pian, and Phou Khao Khouay national parks in 2020-21. The GoL has nominated NNT and HNN as candidates for the International Union for the Conservation of Nature’s (IUCN) Green List of protected areas that meet 17 criteria for fair, effective, and sustainable results for both people and nature (currently only 59 areas are listed). The national park distinction comes with stricter protection (aligned with Category II of IUCN standards), enhances the international recognition of the parks (potentially leading to increased visibility and funding), and establishes national park Management Offices to improve the protection and management of their respective park.

38. **In addition to technical and organization strengthening, PA subprojects have provided much needed resources for rangers and operational staff.** All PAs were able to sustain or increase their number of vehicles and equipment, enabling more patrol and control operations in the field. For example, the NEPL subproject was able to train, equip, and fund 11 new rangers to conduct regular patrols, contributing to an increase in area covered from 60 percent to over 80 percent of the park.

**Table 4. PDO Indicator 1: Protected Area Management Effectiveness Tracking Tool (METT) Scores**

Protected Area	Area (ha)	METT score			
		Baseline	Target	Actual	Increase
Nakai-Nam Theun (NNT)	438,000	35	50	63	28
Nam-Et Phou Louey (NEPL)	420,000	44	64	57	13
Upper Nam Mouane (Bolikhambxay (BLX) PAFO)	107,000	26	38	42	16
Dong Natad (Savannakhet (SVK) PAFO)	6,300	20	37	38	18



Phoumeuth-Phousankheuan (Phou San Keuan Provincial PA, Vientiane PAFO)	24,307	20	33	33	13
Nam Xam (Huaphanh (HUA) PAFO)	70,000	10	34	40	30
Tad Kuang Xi (Luang Prabang (LPB) PAFO)	34,934	9	39	43	34
Phou Saboth Pong Chong (Xiengkhuang (XKG) PAFO)	149,030	6	35	38	32
Nam-In Phou Hinleckfai (Khammouane (KHA) PAFO)	16,898	8	37	40	32
Phou Chomvoy (Faculty of Economics and Business Management (FEB), National University of Laos (NUOL) <sup>a</sup>	23,000	39	NA <sup>b</sup>	60	21
Phou Khao Khoay (FEB, NUOL)	8,000	33	NA <sup>b</sup>	60 <sup>c</sup>	27
<b>Aggregate Average METT Score</b>		<b>22</b>	<b>41<sup>d</sup></b>	<b>47</b>	<b>25</b>

a. As reported in the February 2023 ISR as Phou Chomvoy was not reported in DoF reporting to GEF.

b. Project documents did not indicate a target for the two PAs under the FEB, NUOL subproject.

c. GEF reporting indicated a final score of 76 while the project team reported a final score of 60 in the February 2023 ISR. To be conservative, the lower score is used for this assessment.

d. The nine subproject level targets average 41 (increase of 19), although the PDO target was an increase of 10 and therefore the actual target is 32 based on the baseline of 22.

## **Outcome 2: Strengthen Systems for Wildlife Law Enforcement**

### **39. LENS2 made substantial progress on some aspects of wildlife law enforcement, but modest progress in others.**

Overall, there is more work to be done. Although achievement of PDO Indicator 2 on wildlife trafficking cases involving CITES I listed species referred to public prosecutor offices was only 55 percent, the detailed data paint a mixed picture, with strong progress on crime detection, weaker than expected success in opening formal investigations, but a very good rate of referral for prosecution from the investigations that were opened. Six of the LENS2 subprojects were implemented by law enforcement agencies to increase capacity to combat national and international wildlife trafficking, and the 11 PA subprojects also included wildlife crime training and increased patrolling to detect wildlife crimes. The project helped clarify the wildlife crime roles and functions among relevant agencies at the national and sub-national levels, improve collaboration among agencies, raise awareness and capacity to enforce laws among police divisions, establish key policies and guidelines for law enforcement, and improve capacity at the provincial level. However, these activities only partly achieved Outcome 2 and some of the gains made, such as frequency of patrols, began slipping after related subprojects closed. The wildlife law enforcement systems in Lao PDR are more robust than before the project but still require continued enhancement, along with sustainable budget resources, to foster more responsive agencies with stronger effectiveness in prosecuting crimes and achieving the longer-term goal of disrupting trafficking.

### **40. A key achievement was operationalizing the Lao-WEN, a national network of enforcement agencies that existed but had never been fully operationalized.**

The DOFI/MAF subproject developed key strategic and operational documents, including the Lao-WEN Strategic Plan, Lao-WEN Standard Operating Procedures, Lao Wildlife and Forest Law Enforcement Network Operation Manual, and the National Wildlife and Aquatic Crime Response Action Plan. Together, these documents helped create milestones for operationalizing Lao-WEN, defined roles and mandates for each law enforcement agency, and helped Lao-WEN member agencies develop strategies and plans aligned with the Lao-WEN Strategic Plan. The Lao-WEN standard operating procedures have helped increase enforcement activity, investigations, reporting, intelligence sharing, and interagency collaboration that in turn is expected to help achieve the longer-term goal of reducing wildlife trade and trafficking itself.



41. **Coordination and cooperation among wildlife crime agencies, internationally and locally, was significantly improved.** Under the DOFI/MAF subproject, cooperation between Thailand and Viet Nam was consolidated through bilateral meetings arranged by Lao-WEN agencies and joint memoranda of understanding focused on intelligence sharing and joint operations. The project introduced the submission of information reports for international law enforcement and monitoring agencies, and between 2015–21, DOFI submitted 27 international illegal trade information reports to organizations such as TRAFFIC and INTERPOL. Under the Lao Customs Department (LCD)/Ministry of Finance (MOF) subproject, the LCD was advised on improving information exchange with international agencies including the Regional Intelligence Liaison Office, the World Customs Organization, and INTERPOL. Locally, the Provincial-Wildlife Enforcement Network (P-WEN) was strengthened and operationalized, with each of the three Provincial Offices of Forest Inspection (POFIs) supported under LENS2 developing their own P-WEN operational guidelines (Bolikhamxay, Khammouane, and Houaphan provinces). These provinces also established District Wildlife Enforcement Networks (D-WEN) in all their districts.
42. **The establishment of Provincial Environmental Police Divisions (PEPDs) created provincial ownership and capacity to address wildlife crimes.** The Department of Combating Natural Resources and Environmental Crime (DCNEC)/Ministry for Public Safety (MPS) subproject supported establishment of PEPDs in Provincial Police Command Headquarters. By 2020, all provinces in Lao PDR successfully established PEPDs compared to only two in 2016. The PEPDs improved coordination and reporting, helped establish working P-WENs, and raised awareness within police departments.
43. **Customs capacity on combatting illegal wildlife, timber, and non-timber forest products (NTFPs) was improved through activities under the LCD/MOF subproject.** This subproject supported development of the Customs Law Wildlife Law Enforcement and Anti-Smuggling Development Plan, standard operating procedures for the Investigation and Suppression Division of the LCD, and the amended Customs Law No.81/NA which integrated wildlife law enforcement into the existing law. These efforts helped improve intelligence collection, assessment, and dissemination regarding anti-smuggling and wildlife crime, customs enforcement operations, interagency information sharing, and anti-smuggling operations. Although some enforcement activities and outputs increased, it is too early to determine what direct or indirect impact this might have on wildlife crime itself.
44. **LENS2 activities also created specific tools to collate information and data and support law-enforcement officers.** Under the DOFI/MAF subproject, an Information Management System was developed to collect records and report information about wildlife law violations, enabling more systematic monitoring wildlife crimes. Wildscan software was also deployed to help law enforcement officers identify trafficked species.
45. **The enforcement subprojects significantly exceeded the target for staff and officer training.** The DOFI/MAF subproject provided training at the central and local levels (Lao-WEN and P-WEN) to 648 people, well above the target of 400, on theory and practical knowledge regarding on law, patrol inspection, investigation, and prosecution of crimes related to aquatic animals, fish, and forests. The LCD/MOF subproject provided training to 288 staff, above the subproject target of 120, and the DCNEC/MPS subproject trained 412 officers, above the subproject target of 95. At the provincial level, the Huapuanh subproject trained 601 people and Khammouane subproject 254 people.
46. **The PDO-level indicator for wildlife trafficking was only about 55 percent achieved, but still reflected notable capacity building progress.** The PDO-level indicator target was referral of 75 cases involving CITES I species to national and/or provincial public prosecutor offices (after detection and investigation). Only 41 cases were referred and none of the five Lao-WEN agencies responsible for this target (DOFI, DCNEC, BLX PFO, KM POFI, and HP POFI) met their individual



targets. The project also fell short of its target for investigations of all wildlife crimes, reaching only 116 out of a target of 250. The opened investigations involved species listed under CITES I, II, III as well as non-CITES species (52 out of the 116 opened investigations were on CITES I). The wider range of crimes included in the investigation versus referral indicators obscures to some extent the rate of transformation of investigations into legal cases. The overall referral rate of 35 percent was higher than the 30 percent expected in the indicator. More notable is that the rate of referrals for CITES I investigations was an impressive 79 percent. Importantly, at the first stage of the enforcement process (monitoring and detection), a total of 5,593 wildlife crime cases were detected, greatly exceeding the project target of 3,100. From 2018 to 2022, 4,755 cases were detected, representing an average of 940 cases per year compared to 188 wildlife crimes detected in 2016. This suggests that opening investigations of detected crimes might be a more important bottleneck for future attention than the ability to build referrable cases from the investigations opened.

47. **The shortfall in cases investigated and referred for prosecution helped pinpoint challenges that the GoL is now trying to address.** Despite improvement in interagency coordination, there are still inefficiencies and lack of coordination among central and provincial Lao-WEN agencies, limited cooperation with rangers and anti-poaching teams, weak web presence for detecting online trafficking, limited proficiency of personnel on wildlife crime investigation. Local practices aimed at resolving wildlife crime cases and discouraging trafficking without formal prosecution might also be a contributing factor. Recognizing these challenges, DOFI/MAF, initiated the development of a cooperation framework in 2021. This document operationalizes interagency cooperation through the establishment of multi-agency task forces. The framework has been expanded to include forest task force units, broaden intervention in national protected areas and parks, and establish an online task force. The final document, completed in December 2022 and promulgated as a ministerial decision, is expected to improve the effectiveness of current wildlife trafficking enforcement. Furthermore, in early 2023 MOF issued a decision on revised inspection procedures for DOFI, building on lessons learned and challenges seen under LENS2.

48. **At project closing, wildlife enforcement capacity has notably improved, but needs further strengthening to be effective and sustained.** The capacity for wildlife enforcement has improved through the activities of the six subprojects, with the significant increase of detected crimes being a notable indicator for progress. However, important gaps remain that need to be resolved. Due to limited government budget, the frequency of POFI patrols declined from 36-40 per year during LENS2 to only 10-15 after the related subprojects (and subgrant financing) closed in April 2021. The P-WEN coordination committee has also stopped meeting regularly. Not only are additional resources needed to maintain achievements, but more work is needed to reach effective wildlife enforcement in the future. International and national wildlife trade remains dynamic and is governed by ever-changing international networks that adapt rapidly, necessitating Lao-WEN agencies to enhance their agility for more effective detection, investigation, and disruption of wildlife trafficking. This will require significant resources that are currently not available nor planned. The recent efforts by DOFI/MAF to improve interagency cooperation and inspection procedures have yet to demonstrate success but they are expected to help solidify and improve on the results of LENS2 going forward. Importantly, the ongoing Lao Landscapes and Livelihoods Project (LLL) (P170559) is supporting further capacity building on wildlife crime, including strengthening the Lao-WEN and P-WEN networks, network members, and other relevant agencies.

### **Outcome 3: Strengthen Systems for Environmental Assessment Management**

49. **LENS2 made substantial progress in strengthening systems for environmental assessment management.** The project played a pivotal role in increasing the low initial capacity of national, provincial, and district institutions to implement environmental laws and regulations, perform government environmental assessment (EA) functions, assess and report on environmental quality, integrate environmental monitoring and assessment into development plans,



implement EA requirements in both private and public sector works, and monitor and report on the compliance of development projects with their environmental compliance certificates.

50. At least 19 LENS2 subprojects contributed to this outcome, including: 7 subprojects for capacity enhancement in the Provincial Offices of Natural Resources and Environment (PONREs); 6 MONRE subprojects for central institution support; 1 subproject in the National Institute for Economic Research (NIER)/Ministry of Planning and Investment (MPI) to promote green growth; 1 subproject in the Department of Energy Policy and Planning/Ministry of Energy and Mines (MEM) on sustainable hydropower development; and 4 carried out by National University of Laos (NUOL) faculties to improve curricula and education related to environmental science, impact, and assessment. All the subprojects had important achievements, but given their diversity and number, the ICR focused on selected highlights in this section.

51. **The subprojects developed key environmental planning and management guidelines on topics including integrated spatial planning (ISP), land use planning, solid waste management, pollution control, and strategic environmental assessment (SEA).** The Department of Environmental Quality and Promotion (DEQP)/MONRE subproject developed an ISP manual that enabled zoning in all provinces and the listing of allowed and not-allowed activities. Because land use planning was a new administrative element in Lao PDR, this was a transformational change to existing management practices and plans. The DEQP subproject also developed SEA guidelines to help introduce strategic impact assessment (negative and positive) and identification of possible remedial actions into Lao PDR planning, policy, and programs. The first SEAs were conducted on the National Green Growth Strategy and the National Power Development Plan. The MONRE/Department of Natural Resources and Environment Inspection (DNEI)<sup>18</sup> subproject developed technical guidelines on control and management of air pollution, water pollution, solid waste, and toxic chemicals. These guidelines helped establish a system for monitoring key air and water quality parameters, compiling pollution inventories, and disclosing monitoring and inventory data. They also strengthened the government's capacity to both monitor and support small and medium enterprises on pollution and waste management issues.

52. **Building on these new guidelines, LENS2 supported the integration of environmental planning, monitoring, assessment, and management into 46 provincial and sectoral development plans, well above the PDO Indicator 3 target of 20.** The Department of Planning and Cooperation (DPC)/MONRE subproject alone helped incorporate environmental monitoring arrangements into the five-year action plans of 13 MONRE departments, 18 PONREs, and MONRE's own action plan for 2021–25. The Department of Environmental Quality and Promotion (DEQP)/MONRE subproject helped seven provinces integrate ISP and SEA sections into their five-year Provincial Socio-Economic Development Plans. The NIER/MPI subproject supported the inclusion of indicators related to national green growth priorities in the five-year plans of five ministries and three provinces.

53. **The Department of Natural Resources and Environment Policy (DNEP)/MONRE subproject played a critical role in strengthening the legal framework for compliance monitoring of investment projects.** The subproject developed tools to collate data and information in the Initial Environmental Examinations (IEEs)/Environmental and Social Impact Assessments (ESIAs) of investment projects and share the information with other key ministries. The subproject also delivered training to the staff of PONREs and the Natural Resources and Environment Inspection Office (NEIO) to build capacity for monitoring the compliance of investment projects with the terms of their Environment Compliance Certificates (ECCs). This helped strengthen the ECC process, including regulations related to pollution control and IEE/ESIA

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<sup>18</sup> During implementation of the project, MONRE reorganized departments twice. DNEI was formerly the Pollution Control Department (PCD) and later the Department of Pollution Control and Monitoring (DPCM).



implementation. Though not a project initiative, the government's reorganization of some MONRE agencies also consolidated and strengthened the ECC process and its compliance monitoring.

54. **Disclosure of environmental information and the percentage of projects with valid ECCs improved substantially during LENS2.** By project closing, 117 up-to-date ECC compliance reports for Category 2 projects and 29 environmental quality and pollution reports were published on relevant Lao government websites, well above the project PDO Indicator 4 target of 87. MONRE substantially improved efforts to disclose the ECC compliance reports of Category 2 hydropower, mining, and roads project (the category with potentially high impacts) as well as the environmental impact assessments (EIA) reports of investment projects. The project was able to increase the percentage of Category 1 and Category 2 projects under design, construction, or operation with valid ECCs from 19 percent in 2016 to 85 percent in 2022 (well above the target of 50 percent). In total, 730 out of 863 projects (both Category 1 and 2) in the seven targeted provinces were reviewed between 2017 and 2021, showing a highly improved capacity and ability of MONRE and PONREs to enforce environmental laws and regulations and to monitor and control investment projects.

#### **Cross-Cutting Activities and Indicators on Institutional Capacity**

55. **All three project outcomes benefited from and are reflected in the activities tracked in the cross-cutting indicators for functional capacity, training, and mobilization of financing.** The outcomes measured in these indicators are detailed in the *Results Framework* and in the table of *Key Outputs by Component* in Annex 1 and woven into the discussion of the three outcomes in the efficacy assessments above. The subprojects implemented by various faculties of the NUOL also do not fall clearly under a single PDO outcome, but rather contributed training, research, and academic programs and curricula that spanned the topics of protected areas conservation, wildlife trafficking and control, and environmental assessment management.

56. **Nearly all agencies exceeded their functional capacity score targets (one agency fell short by one point).** PDO Indicator 5 that tracks scores for the functional capacity of EPF and other key institutions began as a standardized index for only four agencies. During implementation, with the addition of numerous subprojects and SDAs, the indicator evolved to cover a wider range of agencies and to use functional capacity indexes (FCIs) customized to the needs and goals of each agency or group of agencies. Scores were calculated as a percentage of each index (the baseline and achieved scores were measured as a percentage of the highest possible score for each FCI) because the indexes had different scales. Sub-indicators measured targets for EPF, the Department of Public Relations of the Prime Minister Office, five NUOL faculties, seven PA management offices, and the National Academy of Public Administration. The EPF exceeded its target by 20 points. See the results framework (Annex 1) for detailed results and analysis.

57. **Short-course training (16-80 hours) for the staff of SDAs and partner institutions was more than five times the indicator target.** Training covered various aspects of protected areas management, habitat and biodiversity monitoring and conservation, wildlife law and enforcement, community development in PAs, environmental assessment and compliance, and other topics. Short-course training was delivered to 16,246 participants, of which 4,405 were women (27 percent). The number of distinct individuals trained is lower than the reported number of participants because some staff are counted as participants in multiple courses. All SDAs exceeded their individual training targets.

58. **The combined financing mobilized by EPF from public and private sources increased by 85 percent more than expected.** Financing mobilized by EPF contributes to all three outcomes because of the EPF's key role across multiple environmental areas. The target was to increase annual financing by US\$0.8 million to US\$1.6 million (an increase of US\$350,000 from public sources and US\$450,000 from private sources), doubling the baseline amount of US\$0.8 million.



Annual financing mobilized in the final year of the project was close to US\$2.28 million. EPF only made incremental gains in mobilizing public financing, falling well short of that sub-target, but mobilized so much more from private sources that the combined *increase* was nearly US\$1.48 million.

59. **LENS2 investments in the National University of Laos (NUOL) and National Academy of Public Administration (NAPA) have been transformational for Lao PDR's capacities on all three PDO outcomes.** Because the subprojects for NAPA and the five NUOL faculties do not fall clearly within a single outcome, it is considered a cross-cutting activity. The five NUOL faculties—Economics and Business Management (FEB), Environmental Sciences (FES), Forest Science (FFS), Natural Science (FNS), and Social Science (FSS)—were able to build institutional and academic capacity, enhance technical skills, improve curricula on environmental management and biodiversity conservation, and provide training for government staff.

60. **The NUOL subprojects enhanced and broadened the environmental content of their curricula, including developing or updating dozens of specific modules and courses.** The FFS subproject developed and updated 31 modules of courses related to PA and wildlife management and social safeguards. The FNS subproject improved four curricula related to biodiversity conservation and environmental management and helped fund the writing of 18 textbooks and procurement of scientific equipment. The FES subproject developed five specific modules on project EIA for hydropower, mining, agriculture, industrial/factory, and infrastructure. The FSS subproject improved curricula on Social and Cultural Impact Assessments (SCIAs), social safeguards, and resettlement management. The NAPA subproject incorporated environmental and social modules into its curriculum for future high-level government officers.

61. **The NUOL and NAPA subprojects trained hundreds of students and academics over the course of the project.** The FFS subproject trained 604 government staff through short training courses on PA management, wildlife management, and community development in PAs, enrolled 60 students in a new bachelor's specialization in PA and wildlife management, and awarded seven scholarships at NUOL and other universities (1 PhD, 1 MSc, and 5 BSc level). The FNS subproject supported 37 lecturers in textbook writing and editing seminars, 39 lecturers in lesson plan development, and many more in other technical seminars. A total of 877 students benefited from the upgraded curricula, including 446 women. The other faculties also trained students and staff and organized several international study tours. Employment outcomes were not tracked although it is likely that students continued their professional development in related areas.

62. **The NUOL subjects also funded innovative research that yielded important findings, some of which were documented in academic research papers and journal publications.** Several academic research appears were published and some presented internationally (e.g., three papers published by FNS academics were presented at an international research forum on science and technology). FEB and FSS conducted research on natural capital valuation and payment for biodiversity and ecosystem services in NPAs as well as a new environmental tax on wastewater.

### Justification of Overall Efficacy Rating

63. **Overall efficacy is rated Substantial.** The project achieved its objectives with only moderate shortcomings. Efficacy in achieving the objectives for protected areas conservation and environmental assessment management was substantial. However, efficacy in the outcome related to wildlife law enforcement was modest. The project outcomes represent important contributions toward Lao PDR's longer-term environmental, green-growth, and inclusive development objectives.



## C. EFFICIENCY

### Assessment of Efficiency and Rating

64. **The project's efficiency was Substantial.** LENS2 had high benefits considering its budget of less than US\$40 million, delivering a diverse range of benefits across all the subprojects. An ex-post cost-benefit analysis found the project's capacity building and livelihood benefits are likely to far exceed the project costs (see Annex 4). Implementation efficiency and unit costs also met or exceeded appraisal expectations despite an extended implementation period that was largely due to COVID-19-related disruptions, and some activities delivered substantially more outputs or results than initially planned, such as protected area patrolling, environment-related training, finance mobilization, and incorporation of environmental elements into strategic development plans. Longer term outcomes such as increased biodiversity, disruption of wildlife trafficking, protected areas conservation (rather than management capacity), avoided impacts of projects subject to EIA and reporting requirements (as opposed to compliance reporting rates), stronger academic programs, and related global benefits were not expected to be clear or measurable by the end of the project nor subject to cost-benefit analysis (see Annex 4).

65. **The PA management activities invested US\$9.17 per hectare for METT score improvements that were twice the project target,** while the estimated mean monetary value of annual ecosystem services per hectare of tropical forests is at a far greater US\$5,264. Community grants were given to 43 communities and benefited 33,703 people by supporting sustainable livelihoods development. Initial results from a pilot project for coffee harvesting estimated that household incomes increased by 114 percent. Although it is difficult to quantify the benefit of the 16,264 staff trained under the project, delivery of the training was cost-effective, and the benefits are likely much more valuable than the investment cost. Finally, US\$11.27 million was mobilized for EPF during project implementation, with US\$2.28 million mobilized in the last year of implementation, bringing in significant benefits during the project and likely for many years to come.

66. **The project was efficiently implemented, delivering an impressive 47 subprojects and their outputs, at the cost estimated at appraisal and the increased financing and scope under the AF, despite the challenge of strengthening the limited initial capacity of EPF and the SDAs, and the disruptions and delays caused by COVID-19.** For example, the subprojects under the NUOL were able to establish and exponentially improve research and courses on environmental issues with small subproject budgets, and the benefits of the newly established curriculums and programs have been critically important for strengthening environmental protection capacity and knowledge in the country. Regarding overall project implementation efficiency, implementation progress never fell below Moderately Satisfactory, highlighting the project's steady progress towards achieving the PDO. Procurement issues were also limited, with delays under the control of the World Bank and SDAs not creating major cost implications and disruptions to meeting the PDO. The most notable challenge affecting efficiency was high staff turnover, particularly within EPF, which did create delays and additional costs but were mitigated to an acceptable level.

## D. JUSTIFICATION OF OVERALL OUTCOME RATING

67. **The overall outcome rating is "Moderately Satisfactory" based high relevance, substantial efficacy (with mixed results on the second objective), and substantial efficiency.** Together these reflect moderate shortcomings overall. The project remains highly relevant and delivered transformative results for environmental governance across Lao PDR in an efficient manner.



## E. OTHER OUTCOMES AND IMPACTS

### Gender

68. **The project supported participation of women in project activities, exceeded its training targets for women, and ensured that women benefitted from the project's livelihood grants and were represented in village committees involved in development of community land use plans, action plans, and conservation agreements.** Women accounted for 4,405 (27 percent) of the 16,246 participants in project-supported training courses and study tours for SDA and SDA partner institutions. This exceeded both the target for women trained (600) and for representation of women (20 percent). All village organizations receiving subgrants under community conservation agreements included women, and 184 of the 191 recipient organizations had at least 40 percent female participation, exceeding the target of 160. However, while women did have high representation rates, they often were not deeply involved in discussions. Women also benefitted equitably from livelihoods development activities financed through the Community and Biodiversity Investment Window (CBI) under Component 2. This included training programs and community funds that supported beekeeping, animal husbandry, vegetable gardening, community market activities, weaving, and other livelihood activities in which women are typically engaged. The CBI subprojects also worked with provincial and district Lao Women's Unions to better support and reach women in target communities. In projects that provided benefits broadly to households within a community or protected area, women were not necessarily targeted but comprised roughly 50 percent of the household members who benefitted. Lastly, under Component 3, EPF hired a national gender specialist to develop a gender strategy for EPF, outlining how EPF could mainstream gender in its own subprojects and those financed by other international funding sources. However, this gender strategy has yet to be implemented.

### Institutional Strengthening

69. **LENS2 was fundamentally an institutional strengthening project that developed environmental management capacity and institutions.** As detailed in the efficacy section, the average FCI score of EPF and other key institutions implementing subprojects increased from a baseline of 11 in 2016 to 46 at project closing. This increase of 35 points easily surpassed the project's goal of increasing average scores by 20 points. All SDAs except for the Department of Public Relations of the Prime Minister Office achieved their end target for functional capacity improvement (targets ranged from 12 to 30 percentage points). The NUOL faculties, PAFOs, DOF, and NAPA all exceeded their targets, and their improved capacity is discussed further in the efficacy section.

70. **Most importantly, the project made major strides in improving EPF's institutional capacity.** EPF's functional capacity index score increased from 22 to 72, exceeding the target of 52. Improvement was strongest in the index categories for (a) governance, (b) vision, strategy, and business plan, and (c) and general administration. EPF improved its ability to develop proposals, appraise and evaluate subprojects, and manage M&E, procurement, financial management, and other project functions. EPF also prepared five operations manuals (covering subproject processing, M&E, financial management, procurement, and safeguards) and decided to apply the LENS2 project's implementation procedures and templates in all future activities. The government's 2017 revision the EPF Decree (see paragraph 80) in some ways weakened the autonomous character and authority of EPF, but also strengthened its mandate to tap additional financing sources and function as an entity to channel funds for sustainable natural resources management and environmental protection. In addition to its normal budget allocation and revenue from investment projects, three



new EPF funding sources were identified: (a) payment for ecosystem services, (b) collection of fee/fines, and (c) indemnity from environmental damages.

71. **However, EPF will require continued institutional strengthening to perform effectively in the long-term.** One of EPF's challenges has been high staff turnover (including during LENS2), likely due to low salaries, well-trained staff being hired by other development institutions and government agencies, and a general shortage of qualified experts in Lao PDR. M&E capacity, though improved, needs further strengthening. These and other issues are discussed in the Risk to Development Outcome and the Lessons Learned sections.

72. **LENS2 institutional strengthening contributed to meeting Prior Actions included in the Lao PDR First and Second Programmatic Green Growth Development Policy Operations (DPOs) in 2017 and 2019 (P159956 and P166839).** Prior Actions in these DPOs that were supported by LENS2 included strengthening the capacity of EPF, (PA 3 under 1<sup>st</sup> GG DPO and PA 6 under 2<sup>nd</sup> GG DPO), developing Strategic Environment Assessments (SEAs) and Environment and Social Impact Assessments (ESIAs) (PAs 7 and 8 under 2<sup>nd</sup> GG DPO), preparing environmental monitoring reports, (PA 9 under 1<sup>st</sup> GG DPO and PA 14 under 2<sup>nd</sup> GG DPO), and upgrading Nakai Nam Theun from a NPA to a National Park (PA 12 under 2<sup>nd</sup> GG DPO). These policy reforms have played a notable role in improving the capabilities and efficacy of EPF, MAF, MONRE, and provincial agencies.<sup>19</sup>

### Mobilizing Private Sector Financing

73. **The project supported EPF in attracting funds from the private sector, mobilizing nearly US\$1.9 million in the final year of implementation.** This is well above the end-of-project target of mobilizing US\$0.9 million from private sources per year. This funding is from concession agreements, which in 2015 began flowing to EPF as the designated financial agent to receive such payments from hydropower and infrastructure projects. Recruitment of a fundraising officer under LENS2 was instrumental to enabling EPF to activate these payments. The officer negotiated with private sector developers regarding their environmental obligations, supported EPF in applying for Green Climate Fund (GCF) accreditation, and conducted studies to explore additional funding avenues. There is significant potential for identifying and accessing additional private sector funds, which EPF is currently exploring, and which will require capable resource development staff specifically dedicated to the task.

### Poverty Reduction and Shared Prosperity

74. **Under the protected area related subprojects, poor communities were directly and indirectly supported, through the Community Engagement Framework (CEF) process.** Overall, 191 villages with an estimated 6,596 households (30,275 people) directly benefited from conservation and livelihoods subgrants through the CEF process, including 1,893 vulnerable households. An additional 22,572 households (130,348 people), of which 5,714 were vulnerable households, are estimated to have received indirect benefits. About 8 percent of poor households in the project area benefited directly from revolving funds under the Village Conservation Fund (VCF) and about 25 percent benefited indirectly from protected area subprojects.<sup>20</sup> The VCF channeled US\$2.76 million to 1,177 households representing 7,393 direct beneficiaries (51 percent women); an average of US\$14,469 per village and US\$2,348 per household. The village funds supported both

<sup>19</sup> See the First and Second GG DPO ICR for more details.

<http://documents.worldbank.org/curated/en/099435009202238942/BOSIB088df34cb0f00b2de0df80f94e3d22>

<sup>20</sup> Data from Final Report on the Safeguard Implementation Review for LENS2 (June 2023).



sustainable livelihoods consistent with conservation agreements (such as animal husbandry, handicrafts, and sustainable agriculture) and critical infrastructure (such as water supply) that strengthens community resilience.

### Other Unintended Outcomes and Impacts

75. There were no notable unintended outcomes or impacts.

## 3. KEY FACTORS THAT AFFECTED IMPLEMENTATION AND OUTCOME

### A. KEY FACTORS DURING PREPARATION

76. **Preparation of LENS2 benefitted from previous experience working with EPF, including through LENS1 and NT2.** The LENS1 project in particular helped understand risks and challenges, leading to more effective project design and implementation arrangements, and realistic objectives and targets. LENS1 demonstrated the effectiveness of a demand-driven subgrant model with EPF as the main implementing partner in raising capacity at the national, provincial, and district levels in Lao PDR. LENS1 also showed that medium size subgrants were preferable to small grants, which had high transaction costs and scattered impacts. It also identified institutional capacity as a key limitation in effective environment management, leading to the focus of LENS2 on building capacity and measuring outcomes in terms of strengthened management systems rather than long-term environment and conservation goals.

77. **LENS2 preparation (and early implementation) would have been smoother if it had been conceived from the outset as a follow-on to LENS1 rather than as a distinct project (PAW).** Combining the design and implementation approaches of the two projects, accomplished through additional financing and restructuring less than a year into implementation, was challenging and the process contributed to delays in early implementation.

78. **Risks were well assessed during preparation.** At appraisal, overall implementation risk was rated as High. This included a high stakeholder risk, substantial implementing agency capacity risk, substantial project design risk, high social and environmental risk, moderate program and donor risk, and high delivery monitoring and sustainability risk. The PAD identified challenges around stakeholder readiness for the transformational agenda on wildlife trade and PA management, the limited planning and management capacity of EPF and implementing agencies, insufficient experienced staff, and weak cooperation with and between international agencies involved in the sector as well as between government agencies within Lao PDR. The project design and supervision helped mitigate many of these risks through recruitment of key staff for EPF, financing training and technical assistance, supporting development of EPF's business plan, and other measures (see PAD Annex 4: Operational Risk Assessment Framework).

### B. KEY FACTORS DURING IMPLEMENTATION

#### ***(A) Factors Subject to Government Control***

79. **Limited human and financial resources affected EPF's ability to implement the project smoothly.** During project implementation, EPF struggled to hire, train, and retain staff. There was limited pool of candidates in Lao PDR qualified to effectively fill some roles in EPF. Those who were hired tended to require years of on-the-job training, after which they were often able to leave EPF for jobs offering higher salaries. As a result, significant World Bank and EPF time and resources were invested in staff with high turnover, slowing down the capacity building process. In addition,



despite efforts made under the NT2 and LENS1 projects, EPF was not able to secure funding from NT2's hydropower concession, which could have mobilized significant funding (NT2 generated over US\$170 million in revenue between 2010 and 2017). As a result, despite the achievements noted earlier, EPF has yet to establish a sufficient and sustainable source of funding, undermining the objectives of LENS2 to establish a well-capacitated environmental fund in Lao PDR.

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80. **The 2017 EPF Decree changed the institutional arrangements of EPF.** EPF was established in 2005 as an autonomous agency to help the government access environmental funding in an effective, transparent, and sustainable manner. The creation of EPF, with a board appointed by the prime minister and appropriate staffing, was an effectiveness condition of LENS1 in 2005. EPF's role as an autonomous entity was later reaffirmed in 2013 by the EPF Board, chaired by the Deputy Prime Minister. However, the 2017 EPF Decree reorganized the EPF board by: (a) changing its chair from the deputy prime minister to the minister of MONRE; (b) changing the board's vice-chair positions from ministerial level (Minister of Finance and Minister for the Prime Minister Office/President of the Science Technology and Environment Agency) to vice-ministerial (MOF, MEM, and MONRE); (c) replacing members nominated by the Prime Minister with vice-ministers of specific line ministries; and (d) removing board members representing nongovernmental sectors (research institutes, civil society, private, commercial/industrial). These shifts reduced the breadth of representation and viewpoints on EPF's board and the degree of its independent authority, tending to make EPF more focused on MONRE's agenda rather than the Lao PDR's broader environmental agenda. It would be important to maintain strong, long-term commitment to EPF's mission and autonomy.

81. **During the project, SDAs were reorganized/restructured several times by both MAF and MONRE, complicating implementation.** In 2011, MONRE established the Department of Forest Resource Management (DFRM) and tasked it with overseeing PAs. In 2018, DFRM was remapped under MAP and changed to the Department of Forest (DOP), helping centralize the responsibility and management of PAs under MAF. Similarly, the current Department of Natural Resources and Environment Inspection (DNEI) was formerly the Department of Pollution Control (DPCM), and before that the Pollution Control Department (PCD). While these reorganizations and realignment of responsibilities resulted in a clearer and more rational structure, they also were disruptive and delayed implementation.

### ***(B) Factors Subject to World Bank Control***

82. **In FY18, the supervision budget for LENS2 was reduced by half, introducing avoidable implementation challenges.** Prior to FY18, the World Bank had doubled its own budget for supervising LENS2 to account for the de facto merging of two projects (PAW and the proposed follow-on project for LENS1), the low existing capacity of the client (requiring more support by the Bank than usual), and the high cost of supervising a project with 47 subprojects and 37 SDAs in eight provinces. In FY18 the World Bank reverted its supervision costs to normal levels, while also aiming to increase EPF's implementation responsibilities. However, this abrupt change led to major implementation challenges for EPF given its own ongoing capacity strengthening needs. EPF had to perform its implementation functions without as close supervision and guidance as it had enjoyed previously on the part of the World Bank's

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<sup>21</sup> When the NT2 project was approved in 2005, The GoL committed to using all net revenue for poverty reduction and environmental protection programs, with an indicative list of eligible programs that included EPF (which was being established at the time). At the time, annual NT2 revenues to the government were projected to average US\$30 million during the first ten years of operation and US\$110 million from 2020 to 2034, accounting for 3 to 5 percent of total revenues up to 2020. LENS1 had targeted securing 3 percent of NT2 revenue for the environment sector, to be shared evenly between MONRE and the forestry sector. However, the final revenue sharing agreement did not include EPF, and MONRE was able to negotiate access to the entire 3 percent allocation.



project task team. This shift relative to what EPF had come to expect slowed implementation while EPF adjusted to managing the project and reporting SDA subproject progress without the benefit of more intensive World Bank supervision and guidance.<sup>22</sup> A more phased approach to reducing the supervision budget accompanied by additional implementation support activities as part of the project design could have helped avoid this issue.

***(C) Factors Outside the Control of Government and World Bank***

83. **The COVID-19 pandemic led to unavoidable implementation delays.** Lao PDR had national lockdowns in March-May 2020 and August-October 2021, and international travel restrictions from March 2020 to May 2022. As a result of pandemic restrictions, many of the project activities were delayed and disbursements were lower than planned. COVID-19-related restrictions delayed recruitment of staff in Nakai Nam Theun National Park, disrupted ecotourism activities in Nam Et-Phou Louey National Park, and delayed many subproject activities as meetings, consultations, site visits, and other in-person activities in many subprojects were postponed or cancelled. This led to the closing date extensions discussed earlier.

**4. BANK PERFORMANCE, COMPLIANCE ISSUES, AND RISK TO DEVELOPMENT OUTCOME**

**A. QUALITY OF MONITORING AND EVALUATION (M&E)**

**M&E Design**

84. **Measuring capacity building outcomes is often challenging and, in this respect, the LENS2 project was not an exception.** Although the project description and detailed activities in the PAD laid out a logical approach to strengthening the targeted environmental management systems, it did not include a graphic representation or dedicated explanation of the theory of change (ToC), which would have helped articulate more specifically the connection between the project investments and activities and its expected outputs and outcomes. The PDO indicators selected reasonable measures from among the many possible aspects of protected area and wildlife law enforcement capacity. However, an inherent limitation is that while these measures are logically assumed to contribute to achievement of the project's longer-term objectives, it is not feasible to directly measure conservation or wildlife crime outcomes during the lifetime of the project (nor attribute them directly to the project's capacity strengthening outcomes). With the expansion of the project's activities and objectives through additional financing in early 2015, the statement of objectives and results framework were augmented and improved. A major revision of the results framework in 2018 still left room for improvement but addressed most of the M&E shortcomings identified during the early years of implementation and developed a TOC figure that captured the result chain more clearly.

85. **The mandatory core sector indicator (CSI) was not a good fit for the project.** The PDO outcome indicator for enhanced biodiversity protection in protected areas was the then-mandatory CSI for area enhanced based on ranges of underlying METT scores rather than amount of improvement in scores, which might count areas with only minor

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<sup>22</sup> EPF was established with the support of the World Bank and Asian Development Bank as an administrative and financially autonomous organization to strengthen environmental protection, sustainable natural resource management, biodiversity conservation, and community development in Lao PDR. The objective was to create a vehicle for sustainable funding of environmental investments in Lao PDR. Although LENS1 helped build the capacity of the new agency, at project completion it was determined that EPF's institutional maturation still required greater technical and administrative development. This continued capacity building support to EPF and other national and subnational institutions was a key motivation for LENS2.



improvements that graduated to a higher range while not counting those with substantial improvements within the same range of scores. In 2018, after the CSI had been retired, the project used a more appropriate NPA indicator based on meeting targets for specific increases in METT scores.

86. **Despite a recognition of limited M&E capacity at the national and subnational levels, M&E arrangements and indicators did not fully mitigate the institutional capacity constraints of the client.** During project preparation and within the PAD, the M&E capacity of both EPF and the SDAs was recognized to be low and would require enhanced training during the first years of implementation. However, considering the lessons learned from LENS1 and the technical analysis in the LENS2 PAD, the M&E design could have been more pragmatic. The bottom-up approach of SDAs collecting and reporting data to be consolidated by the EPF into semi-annual reports, required more capacity than existed during much of the project, including capacity to carry out consistent and reliable METT score evaluations.

### M&E Implementation

87. **M&E implementation performance by both the EPF and SDAs was inconsistent, particularly during the early years of implementation, but improved considerably toward the end of the project.** Annual and semi-annual reports were often submitted late and found to have inconsistencies. At the subproject level, many SDAs provided reporting with key information lacking or outdated, and indicator data with poor accuracy and verification. Despite several rounds of training organized by the World Bank, M&E implementation challenges continued, including (a) high turnover of staff, (b) limited M&E capacity and support, particularly at the SDA level, and (c) poor internal M&E arrangements and governance. Support to the SDAs from the central planning departments at MAF and MONRE was limited and in the SDAs the M&E staff were often separate from operational staff which reduced effective information sharing and coordination. The SDA M&E staff were also not accountable to EPF, making oversight more difficult. EPF also relied on complex Excel sheets rather than M&E software to manage results reporting, making indicator management and verification unnecessarily complicated, particularly considering the high staff turnover.

88. **M&E implementation improved towards the end of implementation after years of strong support from the World Bank and capacity building within EPF.** The revision of indicators in the 2018 restructuring improved the outcome indicators related to protected areas (measuring improvements in METT score directly), wildlife crime enforcement (defining a better indicator in consultation with EPF and other key agencies), institutional capacity (creating custom functional capacity indexes tailored to each agency), and environmental assessment management (correcting a technical error in the indicator and capturing a fuller range of data). By 2020, the timeliness of annual reports and subproject briefs as well as accuracy of indicators had greatly improved. A new M&E officer, M&E assistant, and consultant specifically for assessing METT scores were hired in 2020, creating a much stronger EPF M&E team that was able to better manage M&E needs and support the SDAs that had limited capacity. The World Bank also provided close supervision, including support for EPF's internal M&E governance analysis in 2018, development and execution of its M&E action plan in 2019, and several rounds of training for M&E staff.

### M&E Utilization

89. **M&E often informed project management and decision making in ways that helped address shortcomings and improve implementation and outcomes, including improvements to the M&E and indicators themselves.** The demand-driven subproject model meant new subprojects were designed and implemented based on learning from ongoing subprojects, and course corrections were made as needed at the project level to help achieve the PDO. Notably, when



there was sufficient supervision capacity, the World Bank produced comprehensive subproject monitoring briefs or “report cards” after each implementation support mission. These subproject briefs covered LENS2 and subproject indicators, provided key progress updates and budget data, rated each subproject on key metrics with comments (contribution to LENS2 objective, implementation performance, safeguards, FM, procurement, M&E, gender, EPF commitment), along with agreed action items. The level of engagement by the SDAs during supervision missions, both in presentation of their own reports and responding to the Bank’s subproject briefs, spoke to the value of both the reports and the process itself.

90. **Together, the mission subproject briefs typically ran to 50 pages and provided clear action plans for the SDAs.** The information gathered allowed EPF and the SDAs to adjust subproject activities and strengthen coordination and support, as well as improve the M&E reporting itself. For example, in the case of METT score reporting, identifying problems related to inconsistent evaluations and M&E staff turnover prompted the hiring of a METT score consultant to improve consistency and reliability of the reports. Reliable METT reporting and the METT analysis process itself helped the NPA offices better understand their own capacity needs and to better align their strategies and resources to address those needs.

#### Justification of Overall Rating of Quality of M&E

91. **The quality of M&E is rated as Substantial based on the above discussion.** Although at the time of project closing there continued to be gaps and shortcomings in client reporting on results, they were not significant enough to materially compromise assessment of the project’s efficacy. There were discrepancies and inconsistencies identified in EPF’s final implementation progress report, its post-closing project completion report, and some of the SDA subproject reports, but none were significant enough to undermine overall trends or lead to uncertainty over the achievement of project targets.

### B. ENVIRONMENTAL, SOCIAL, AND FIDUCIARY COMPLIANCE

92. The project was classified as EA Category B (partial assessment) and triggered seven environmental and social safeguards policies. Safeguards instruments and plans complied with World Bank safeguards and Lao PDR laws and regulations. There were no significant safeguards-related issues or complaints, and compliance ratings were satisfactory throughout implementation.

93. **Environmental.** The project was expected to have positive medium- and long-term environmental impacts resulting from sustainable land management, biodiversity protection, and avoided deforestation. Negative environmental impacts were primarily associated with small civil works within and near the NPAs and posed minor, temporary, and manageable adverse effects. The project triggered environmental safeguard policies (some as precautionary measures) for Environmental Assessment (OP 4.01), Natural Habitats (OP 4.04), Forests (OP 4.36), Pest Management (OP 4.09), and Physical Cultural Resources (OP 4.11). During preparation, the MAF prepared an Environmental and Social Management Framework (ESMF) and a Community Engagement Framework (CEF) to guide screening, assessment, and mitigation of the project’s environmental and social impacts, and the preparation of subproject-specific Environmental and Social Assessments (ESAs) and Environmental and Social Management Plans (ESMPs). The draft ESMF and CEF were disclosed by the GoL on December 9, 2013 and through the Bank’s InfoShop on December 12, 2013. The final ESMF and CEF were disclosed on January 27, 2014.

94. A negative list was developed for screening project investments, excluding activities that could pose significant potential negative environmental and/or social impacts and risks. This negative list was incorporated into the project



implementation manual (PIM), ESMF, and CEF. Among other things, the list barred procurement of weapons, training in their use, or any other expenditures related to military or paramilitary activities. All subproject proposals were screened and approved by the Bank to ensure they met the eligibility criteria. A Pest Management Plan was included in the ESMF, providing screening procedures and a negative list to prevent the use of pesticides. Screening of physical cultural resources was applied to all subprojects. A “chance find” provision for cultural resources discovered during implementation was included in the ESMF and construction contracts. The EPF also organized training and shared experiences in implementing environmental safeguards for subproject implementing units. No incidents or complaints on environmental risks and impacts were reported during implementation.

95. **Social.** The project triggered two social safeguard policies: Involuntary Resettlement (OP 4.12) and Indigenous Peoples (OP 4.10). During preparation, MAF prepared a Resettlement Policy Framework (RPF) and a CEF. The CEF served as a process framework for purposes of OP 4.12 and as an Indigenous Peoples (ethnic groups) Planning Framework for purpose of OP 4.10. As it happened, during implementation, there was no need for land acquisition or physical relocation under the project. The CEF addressed potential economic displacement caused by access restrictions by providing detailed steps to ensure the full and informed participation of local people in the participatory land use planning (PLUP) process and in the development of alternative, sustainable income streams. Free, prior, and informed consent consultations were carried out with project affected people, and broad community support for project activities was confirmed and documented in the ESMPs. CAPs were developed through a participatory process and project grants helped finance the CAPs, with the aim of maintaining or increasing pre-project income levels.

96. **Procurement.** There were no major procurement issues. Minor issues included delays in processing procurement in the STEP system and errors in consultant selection that required correction. The key lesson learned was the importance of capacity building. Capacity-building measures were implemented, including assessment of the client's capacity during appraisal. Recommendations for local or international consultants were included in the procurement plan, and the World Bank provided regular procurement training and clinics. Procurement performance and compliance by EPF and the SDAs was satisfactory.

97. **Financial Management (FM).** There were several challenges related to FM during implementation, including high turnover among FM staff and weaknesses in capacity. The high staff turnover, particularly among FM officers, necessitated more frequent training than usual. The numerous subprojects and SDAs often required close review and support because of limited FM capacity. FM software issues arose that were only fully resolved toward the end of the project, emphasizing the need for efficient technical solutions to effectively manage grants and subgrants. Lessons learned from these experiences highlighted the importance of better management and capacity building. Notwithstanding these shortcomings and challenges, there were no qualified audit reports.

## C. BANK PERFORMANCE

### Quality at Entry

98. **LENS2 was a timely engagement in the environment sector and built on a growing and complementary portfolio of projects in Lao PDR.** LENS2 was a much-needed project to address weak capacity in Lao PDR's environmental management systems. The project design included appropriate activities and set pragmatic goals based on needs identified through previous engagements. The project was well-aligned with the government's desire to centralize management of the national protected area system and link forest protection with rural livelihoods, which is a success factor in conservation projects. In addition, the demand-driven subproject model, while challenging to



implement given capacity constraints, was an effective way to support a large number of SDAs that all required support to become more effective, and their combined effectiveness was critical for achieving the PDO (see Lessons and Recommendations section for more details). The World Bank also secured GEF grant financing to complement the IDA credit and grant, supporting both national and global objectives and providing the financing required to implement a complex project addressing a broad range of agencies involved in environmental management.

99. **LENS2 recognized the political economy forces behind forest encroachment and wildlife crimes, and did well to include activities and subprojects that aimed to comprehensively address the drivers.** The subprojects supporting national and regional planning to improve environmental outcomes (e.g. integrated spatial planning, green growth policies, and strategic environmental assessments) helped create an overarching approach and strategy towards protecting the environment. Subprojects on EIAs, IEEs, and ECCs helped ground environmental considerations in individual development projects, a much-needed intervention given the development trends. The provincial subprojects worked closely with local communities to keep them engaged in PA management while providing for sustainable livelihood opportunities.

100. **The project was originally conceived as the fourth phase of the Adaptable Program Lending on Strengthening Regional Cooperation for Wildlife Protection in Asia, as noted.** The regional IDA program was aimed at protecting vulnerable species in South and Southeast Asia, particularly tigers, in line with World Bank's priorities reflected in adoption of the St. Petersburg Declaration on Tiger Conservation in 2010, the Global Tiger Initiative, and the Global Tiger Recovery Program (GTRP). As part of the St. Petersburg Declaration the World Bank committed US\$100 million in IDA financing for a regional project supporting the GTRP's goal of doubling the wild tiger population to 7,000 by 2022. The original project also targeted management of Lao PDR's two largest protected areas, NNT and NEPL. However, the transition into LENS2, the project reduced its focus on tigers and shifted to a strengthening a broader range of national and subnational environmental management systems, including a larger group of NPAs.

### Quality of Supervision

101. **The World Bank provided high-quality supervision that exceeded the level typical of projects with similar financing amounts.** The task team supervised 47 subprojects implemented through 37 SDAs, including 19 provincial authorities (7 PONREs, 7 PAFOs, 3 POFIs, NNT, and NEPL). Many subprojects effectively functioned as standalone projects for supervision purposes and during much of the project a member of the LENS2 task team was detailed to each subproject to provide close supervision and technical guidance. The task team also organized or supported regular training for SDA staff on M&E, procurement, FM, and other aspects of project management. The World Bank's intensive support was downscaled following the decision to reduce its supervision budget to project norms starting in 2018.

102. **Communication between the World Bank and EPF could have been improved.** EPF flagged issues caused by lack of communication and common understanding regarding the shared disbursement financing percentages of GEF and IDA. Initially, disbursements were made under a single category financed 71 percent by IDA and 29 percent by GEF. The percentage was revised during multiple restructurings, eventually leading to an imbalance in undisbursed funds that required a final adjustment in December 2022 to ensure full disbursement of IDA funds. This diverted some EPF time and resources. Improved communication would have helped avoid this issue.

### Justification of Overall Rating of Bank Performance

103. **The overall rating of Bank performance is Moderately Satisfactory based on the above.**



#### D. RISK TO DEVELOPMENT OUTCOME

104. **Although the project made considerable progress in building EPF's capacity, there is risk that EPF's development will not be continued or sustained.** EPF has gained in terms of its staff training and capacity, project management experience, and strengthened role as a funding mechanism for Lao PDR environmental activities. However, as in many capacity building projects, there is a risk that these gains will not be sustained after direct external support has ended. EPF needs new sources of international funding as well as strong domestic political support to ensure it can retain the gains made under LENS2 and continue delivering on its mandate, including long-term regional and global outcomes related to international wildlife trafficking. As part of the drafting of EPF's LENS2 Project Completion Report, a separate *Exit Strategy and Beyond* report was written to explore the potential paths for EPF and the necessary actions for ensuring its long-term sustainability and effectiveness. Building upon the report's findings, EPF is working with MONRE and other key agencies to identify a path forward for new and additional EPF funding support, continued EPF capacity building, and the implementation of priority activities related to climate change and environmental management. However, this strategy is still a proposal rather than a firm commitment.

105. **The current macroeconomic situation in Lao PDR could exacerbate unsustainable use of natural resources and limit funding for continued environmental protection.** Year-on-year inflation was 36 percent from May 2022 to May 2023, among the higher rates in the world. While inflation pressures eased in the second half of 2023, it still poses a significant concern. The Lao kip lost substantial value over the course of the project's implementation, dropping from about 8,000 kip in 2014 to 19,000 kip in 2023. In surveys conducted in June and July 2023, 87 percent of households reported being somewhat or significantly affected by inflation, leading them to cut spending on food, health, and education.<sup>23</sup> The government also faces solvency and liquidity challenges due to a combination of high financing needs, limited financing options, low foreign exchange reserves, and depreciation pressures. Lao PDR's uncertain economic outlook, challenges, and risks could weaken its ability to sustain and scale up the results of LENS2.

106. **Government budget limitations present a significant challenge, especially for sustaining and scaling up wildlife enforcement activities.** Sustaining the patrolling levels achieved during the LENS2 project is not feasible without continuing financial support. Staff retention and skill development are a challenge, and maintenance due to limited funding support and staff turnover. Additionally, the P-WEN coordination committee is no longer meeting regularly. In FY23, the World Bank and EPF provided supplementary budgetary support for the transformation of the cooperation framework into a Lao-WEN regulation, as well as for printing and information dissemination workshops. In early 2023, the Ministry of Finance (MOF) issued a decision regarding inspection procedures for the Department of Forest Inspection (DOFI), which are to be applied nationwide. The ongoing, IDA-financed Lao Landscape and Livelihoods Project (P170559) approved in February 2021 is expected to further enhance the investigative capabilities of provincial agencies, improve cross-border coordination, and increase public awareness and education. However, budget limitations remain a risk for the long-term sustainability of the LENS2 outcomes.

107. **Continued encroachment and land use change pressures to convert forest lands for other economic uses could threaten the project's outcomes.** At the national level, forest loss has trended upwards, with primary forest loss increasing from 47,000 ha lost in 2014 to 93,000 ha in 2022, and tree cover loss increasing from 244,000 ha in 2014 to

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<sup>23</sup> <https://www.worldbank.org/en/news/press-release/2023/09/19/food-prices-affect-families-in-lao-pdr-despite-easing-inflation>



322,000 in 2022.<sup>24</sup> Commodity driven deforestation has been the lead driver of this tree cover loss, followed by forestry and shifting agricultural practices. These pressures could increase under the current macroeconomic crisis in Lao PDR.

## 5. LESSONS AND RECOMMENDATIONS

108. **The demand-driven subproject model of LENS2 was effective in addressing very limited capacity across a range of national and subnational institutions, although subproject preparation and early implementation required strong technical support.** The design recognized the importance of raising the capacity of agencies and institutions for the PDO to be achieved. For example, improved forest management required the involvement of SDAs at the national level to establish policies and create standards and guidelines; provincial agencies to build capacity for on-the-ground activities; and NUOL for creating the knowledge base and pipeline for well-trained future staff. Without covering this full scope of activities and SDAs, individual agencies would face major roadblocks in delivering results. Furthermore, by spreading resources and investment activities to a total of 37 SDAs, LENS2 understood that some subprojects would struggle to meet objectives, but more importantly, gave an opportunity for many others to succeed. As a result, rather than having a limited set of government agencies with capacity improvements while others remained very low, LENS2 helped raise capacity across the country. An additional benefit of this approach is the economy of scale advantage from working with many related government agencies and NUOL faculties in a single project. When complementary work was identified, different SDAs could collaborate, support, and cross-learn from one another. For example, under Component 1, the 14 subprojects led by the PAFOs and PONREs were able to visit and learn from one another throughout implementation. However, the preparation of subproject concept notes and proposals by SDAs with wide variations in technical capacity slowed the process of subproject approval and overall implementation. Sufficient support and attention should be given during preparation and early in implementation to allow for timely initiation of subprojects.

109. **With appropriate capacity and support, EPF can be an effective and efficient financing vehicle for environmental projects in Lao PDR.** Despite human and financial capacity challenges, EPF was able to deliver 47 subprojects under 37 SDAs, including 19 provincial authorities (7 PONREs, 7 PAFOs, 3 POFIs, NNT and NEPL). A total of 191 local communities received grants to implement conservation action plans. Through years of hands-on support from the World Bank, LENS2 strengthened EPF's project management capacity, including in M&E, financial management, fiduciary requirements, etc. To sustain and build on this success, it will be critical for the GoL to properly resource and empower EPF. Specific recommendations along these lines are included in the EPF's "Exit Strategy and Beyond" report, as mentioned earlier. Actions highlighted include improving staff competency, organization management, and Board leadership. The report identified 12 action items costing about US\$200,000–US\$250,000 per year that could yield a return of US\$1–US\$1.5 million annually through improved functions and enhanced credibility. At the time of the ICR and building upon this report, EPF was developing a concept note to the EPF Board to ensure funding support and EPF capacity building over the next two decades.

110. **Projects designed to have numerous subprojects in low-capacity contexts should prioritize having a robust and participatory process for identifying indicators and M&E arrangements.** While M&E was found to be sufficient for assessing the project's achievement of objectives, throughout implementation the project struggled to meet the M&E expectations set at project appraisal. EPF struggled to play its role as the central aggregator and reporter of all indicators, and SDAs often could not report on their indicators in a robust and timely manner. Due to the demand-driven approach,

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<sup>24</sup> Global Forest Watch. <https://www.globalforestwatch.org/dashboards/country/LAO/>



a robust participatory process during project preparation might not have been feasible. However, more effort should have been made to develop indicators and M&E arrangements that were more manageable for the expected counterparts, particularly EPF. In the case of METT scores, most PAs took years to establish baselines and had consistency and accuracy challenges throughout implementation, mainly due to high staff turnover and the subjective nature of the indicator. Despite these challenges, the process of METT analysis and reporting itself helped improve the capacity of PA management units to engage stakeholders, identify and assess their own needs and priorities, and track progress in improving aspects of management effectiveness. PDO Indicator 2 on wildlife trade would have also benefited from a more in-depth exploration of assumptions built into the indicator. It was assumed that cases referred to the prosecutor would be a strong indicator, even though this was the last step of the law enforcement cycle and would be limited by the success of earlier stages, particularly investigation of crimes detected.

111. **A programmatic approach in the natural resource sector in low-capacity environments is critical to ensure comprehensive and sustained outcomes.** LENS2 focused on capacity building and unsurprisingly experienced many challenges associated with low capacity at the national and subnational levels. While significant progress was made on institutional capacity building and improving the quality of environmental management systems in Lao PDR, these project-level outcomes do not immediately translate into measurable achievement of the longer-term goals of improved conservation, biodiversity protection, enhancement of ecosystem services, and reduced wildlife trafficking. For this reason, it will be important to engage in the sector with a clear long-term vision so that capacity is built progressively over time and hard-earned development gains are retained and amplified. Stand-alone projects with uncertain plans for subsequent support involve inherent substantial risk related to achievement of intended long-term outcomes. While the World Bank has a long-standing and continued engagement in the sector, these engagements should be informed by a strategic programmatic approach that provides greater certainty and clarity from one operation to the next.



**ANNEX 1. RESULTS FRAMEWORK AND KEY OUTPUTS**

**A. RESULTS INDICATORS**

**A.1 PDO Indicators**

**Objective/Outcome:** Strengthen systems for protected areas conservation

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Increased score on Protected Area Management Effectiveness Tracking Tool (METT) (cumulative)	Number	0.00	15.00	10.00	24.00
		30-Dec-2016	30-Jun-2021	30-Jun-2021	30-Jun-2023

**Comments (achievements against targets):**

Exceeded. The average METT score increase achieved for the 11 protected areas (PAs) was 24. Individual increases ranged from 13 to 34. All PAs exceeded the revised target of 10 points and only two fell short of the original target of 15 (and in those cases by only 2 points). The average baseline METT score for the 11 PAs was 23 and the average score achieved was 47. Details for the 11 PAs, including their sizes and METT scores, are presented in Table 4.

PDO Indicator 1 was originally a mandatory Core Sector Indicator (CSI) for "Area brought under enhanced biodiversity protection measured by METT" with a target of 858,000 hectares (420,000 ha for NEPL and 438,000 ha for NNT). Although the CSI measured hectares of protected areas that graduated from one range of METT scores to another regardless of the amount of increase, the project set its own supplemental target of increasing METT scores by 15 points. The 2014 METT baselines were 38 for NEPL and 35 for NNT. The 2015 restructuring added 400,000 ha of watershed protection forests for a total area of 1,280,000 ha. In the 2018 restructuring, after the CSI had been retired by the World Bank, the project adopted a custom indicator that (a) set



targets measured directly in METT score increase rather than in hectares meeting underlying METT score targets, (b) lowered the METT target from 15 to 10 points, and (c) revised the area covered to 1,297,469 ha across 11 protected areas.

**Objective/Outcome:** Strengthen systems for enforcement of wildlife laws

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Wildlife trafficking cases involving CITES 1 listed species that are referred to the national and/or provincial public prosecutor office (cumulative)	Number	0.00 30-Dec-2016	75.00 30-Jun-2021		41.00 30-Jun-2023
Number of wildlife trafficking cases involving CITES1 and non-CITES listed species opened for investigation (cumulative)	Number	0.00	250.00		116.00

**Comments (achievements against targets):**

Partially Achieved. The project only achieved 54 percent of the target. However, the rate of referral for all investigations was 35 percent (exceeding the expected rate of 30 percent) and the rate of referral for CITES I investigations was almost 79 percent. Evaluating the achievement is complicated by the fact that prosecution referrals only counted CITES I species, while the investigations in the sub-indicator included all CITES species (appendixes I, II, and III) and non-CITES species. The main constraint for most agencies appears to have been the number of investigations opened rather than capacity to conduct an investigation that can lead to prosecution referral.

None of the five Lao Wildlife Enforcement Network (Lao-WEN) agencies were able to achieve their individual CITES I referral targets. Four agencies (DOFI POFI-KM, POFI-HP, and DCNEC) achieved 55-78 percent of their targets, while one (POFI-BLX) only achieved 22 percent.



Referral to the prosecutor is the last step of the law enforcement cycle (detection, investigation, prosecution) and demonstrated the capacity of the Lao-WEN agencies to collect and analyze evidence and prepare prosecution files. Of the 116 wildlife cases, 52 involved CITES I species, of which 41 were referred for prosecution. The referral rate for non-CITES I species (64 cases) was not available at the time the ICR was finalized. This suggests that for most agencies the main challenge was not in bringing opened investigations to prosecutors, but rather failure to open investigations. The number of wildlife crimes detected (including non-CITES) increased sharply during the project, from 188 per year in 2016, to an average of 621 per year over the entire project implementation period. The lack of a correspondingly high number of investigations is likely due to challenges identified during implementation that included (a) limited cooperation with rangers and anti-poaching teams from protected areas and national parks, (b) weak web presence to detect and disrupt online traffic, and (c) local practices to resolve wildlife crime cases without involving relevant authorities. To address these challenges, MAF/DOFI initiated the development of the Lao Wildlife Enforcement Network co-operation framework in 2021 to operationalize interagency Lao-WEN cooperation by establishing a multi-agency task force. This document was completed in December 2022 and promulgated as a ministerial decision to be fully implemented.

While four of the agencies (POFI-HP, POFI-BLX, POFI-KM, and DCNEC) achieved 58-122 percent of their targets for investigations opened, one agency (DOFI) only achieved 26 percent of its target. It is notable that while POFI-BLX had had one of the highest achievement rates for opening investigations (88 percent) it had the lowest rate of investigations referred for prosecution (22 percent). Without more detailed information it is difficult to determine for each agency the reasons for falling short of targets for investigations versus referrals (for example, POFI-BLX might have had fewer investigations involving CITES I species).

**Objective/Outcome:** Strengthen systems for environmental assessment management

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
5-year provincial or sectoral development plans that include environmental planning, monitoring, assessment, or management components supported by MONRE or MPI (cumulative)	Number	0.00 30-Dec-2017	20.00 30-Jun-2021		46.00 30-Jun-2023



Plans supported by MONRE departments on environmental monitoring arrangements (cumulative)	Number	0.00 30-Dec-2017	8.00 30-Jun-2021		32.00 30-Jun-2023
Plans supported by MONRE departments on ISP and/or SEA (cumulative)	Number	0.00 30-Dec-2017	7.00 30-Jun-2021		6.00 30-Jun-2023
Plans supported by MPI or NIER on GG M&E (cumulative)	Number	0.00 30-Dec-2017	5.00 30-Jun-2021		8.00 30-Jun-2023

**Comments (achievements against targets):**

Exceeded. PDO Indicator 5 was added in the 2018 restructuring. The project was able to significantly exceed the original target in large part due to the development and adoption of the National Green Growth Strategy (NGGS) during implementation, which allowed the MPI/NIER and MONRE departments to integrate NGGS principles and objectives into various 5-year sectoral and provincial plans. The MONRE subproject alone helped strengthen environmental monitoring arrangements in 32 of the 46 plans achieved. The 5-year plans supported included the sector strategic plans of central government ministries and departments, the provincial sector strategic plans of provincial environment and natural resources agencies, and provincial socioeconomic development plans.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Up-to-date reports published on relevant government websites including (i) compliance monitoring for Category 2 projects, (ii) state of	Number	0.00 30-Dec-2017	87.00 30-Jun-2021		146.00 30-Jun-2023



air and noise quality, (iii) national pollution inventory (cum.)					
Compliance monitoring reports for hydropower projects registered in environment impact Category 2 published on the MONRE website (cumulative)	Number	0.00 30-Dec-2017	40.00 30-Jun-2021		45.00 25-May-2022
Compliance monitoring reports for mining projects registered in environment impact Category 2 published on the MONRE website (cumulative)	Number	0.00 30-Dec-2017	24.00 30-Jun-2021		66.00 30-Jun-2023
Compliance monitoring reports for road projects registered in environment impact Category 2 published on the MONRE website (cumulative)	Number	0.00 30-Dec-2017	7.00 30-Jun-2021		6.00 30-Jun-2023
State of air and noise quality report published on the MONRE website (cumulative)	Number	0.00 30-Dec-2017	7.00 30-Jun-2021		18.00 30-Jun-2023
National pollution inventory	Number	0.00	9.00		11.00



report published on the MONRE website (cumulative)		30-Dec-2017	30-Jun-2021		30-Jun-2023
<p><b>Comments (achievements against targets):</b>                  Exceeded. The original indicator was "Projects registered in environment impact Category 1 that have up-to-date compliance monitoring reports published on the DESIA website." The initial targets were 40% for mining, 60% for hydro, and 40% for roads. The 2018 restructuring (a) changed the targets from percentages to numbers of projects, (b) specified Category 2 projects (potentially high impact projects requiring EIA).rather than Category 1 (low impact projects) to correct an error in the original indicator, and (c) added public disclosure of air and noise quality reports and national pollution inventory to the indicator.</p> <p>At project completion, the up-to-date reports totaled 146, with MONRE making particularly strong gains in disclosure of compliance reports for Category 2 hydropower and mining projects (as well as disclosure of the EIA reports of investment projects for public comment on DNEP's website). Targets were exceeded for all five subcategories of reports, except for Category 2 road projects, which fell short by only one report.</p> <p>This outcome was achieved in part because of the strong increase in the percentage of Category 2 projects with valid Environmental Compliance Certificates (ECC), particularly for mining and road projects as reflected in the intermediate indicators.</p>					

**Objective/Outcome:** Strengthen institutional capacity

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Score of functional capacity of EPF and key institutions implementing subprojects	Number	11.00	31.00		46.00
		31-Dec-2016	30-Jun-2021		30-Jun-2023
Score of functional capacity of Environment Protection Fund	Number	22.00	52.00		72.00
		31-Dec-2015	30-Jun-2021		30-Jun-2023



Score of functional capacity of Department of Public Relation of the Prime Minister Office	Number	11.00 31-Dec-2015	34.00 30-Jun-2021		33.00 30-Jun-2023
Average of score of functional capacity of Faculties (NUOL FFS, FSS, FNS, FES and FEB) (number) (annual)	Number	11.00 31-Dec-2016	28.00 30-Jun-2021		31.00 30-Jun-2023
Average of score of functional capacity of Protected Area Management Units (NEPL, WMPA and 7 PAFOs) (number) (annual)	Number	11.00 31-Dec-2016	31.00 30-Jun-2021		33.00 30-Jun-2023
Score of functional capacity of MAF DOF Protected Area Management Division (number) (annual)	Number	10.00 31-Dec-2014	22.00 30-Jun-2021		69.00 30-Jun-2023
Score of functional capacity of National Academy of Public Administration (NAPA) (annual) (Number)	Number	1.00 30-Dec-2016	13.00 30-Jun-2021		40.00 30-Jun-2023

**Comments (achievements against targets):**

Exceeded. The index of functional capacity (FCI) is based on self-defined capacity criteria and scoring systems customized to the needs and priorities of each entity or group of entities. The indexes, baselines, and targets for each entity were developed in consultation with the EPF and World Bank project teams. Because the total number of points varies between the indexes, for purposes of the indicator the FCI score is the points achieved as a percent of the



maximum possible score for that index. While the index is tailored to each entity rather than using standardized criteria, the indexes typically include criteria related to factors such as (a) existence of a functional board, (b) staffing, (c) fiduciary system, (d) budget, etc.

The original indicator included only four entities with an average increase target of 18.5 points using an index with 10 criteria each of which was scored from 1 to 10. Through the 2015 additional financing and subsequent restructurings, the indicator evolved and was refined to (a) include the additional subproject agencies added to the project, (b) set an overall target of increasing average scores by 20 points, (c) revise the grouping of entities into more logical subsets, and (d) develop detailed and individualized criteria and targets suitable for each entity or grouping. The main indicator values are measured as the average across all institutions, with a final target of 33 points (an increase of 20 over the baseline of 11 points).

Targets for the increase of scores in individual entities ranged from a low of 12 points to a high of 30 points. At project completion the average functional capacity was 46 (increase of 35 points), well above the target of 31 for average score (increase of 20 points). All SDAs exceeded their targets except the Department of Public Relations of the Prime Minister Office (DPR PMO), which only fell short of its target by one point. EPF achieved an increase of 50 points, well above its already ambitious target of 30 points. This is an important outcome because EPF is considered the single most essential agency for achievement and sustainability of project capacity strengthening objectives.

### A.2 Intermediate Results Indicators

**Component:** Protected area management system and biodiversity conservation

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Score tracking the development and management of a NPA system (point) (cumulative)	Number	0.00 30-Dec-2014	90.00 30-Jun-2021		100.00 30-Jun-2023

Comments (achievements against targets):



Exceeded. This indicator measured progress toward developing and managing an effective NPA management system with points awarded in seven categories (target of 90 out of 100 possible points):

- Final report on optimization of the NPA management system, including legal, policy, institutions, and financing (15 points)
- Baseline NPA information available (1 point of each of 24 final NCF reports, 24 points total)
- NPA Master Plan approved (21 points)
- NPA management guidelines officially approved by MONRE (1 point for each of 15 guidelines, 15 points total)
- MAF DOF (ex-DFRM) or successor department website operational (7 points)
- Database for tracking investments in NPAs (8 points)
- Draft decrees formulated to establish two national parks (5 points for each decree, 10 points total)

The project achieved a score of 100 points, including development of key guidelines, strategic documents, and management systems:

1. NPA optimization reports
2. Fact sheets and baseline information for 24 NPAs with up-to-date data and information on village/community profiles and infrastructure in the surrounding NPA
3. NPA Master Plan
4. Fifteen NPA management guidelines on (a) zoning for conservation and development, (b) participatory management planning, (c) forest and land-use planning, (d) outreach and conservation awareness, (e) livelihood development, (f) biodiversity monitoring, (g) law enforcement, (h) establishment NPA management offices, (i) collaborative management, (j) NPA assessment categories, (k) supervision by NPA directors, (l) ecotourism, (m) administration, (n) forest fire, and (o) NPA regulation.
5. MAF/DOF website with specific information on PAs and information for visitors
6. Database (managed by CDE) that provides the SDAs with data on infrastructure projects in NPAs
7. PM decrees in 2019 establishing Lao PDR's first two national parks (Nakai-Nam Theun and Nam Et-Phou Louey).

It should be noted that in addition to these two flagship national parks (included in the target at appraisal), the project contributed to the establishment of four more national parks in 2020 and 2021 that are not counted toward the point score in the indicator (Hin Nam No, Dong Hua Sao, Xe Pian, and Phou Khao Khouay).

In addition, 15 of the 24 project NPAs now have management plans, which also are not formally counted in the indicator but did help improve their METT scores in the first PDO indicator.



Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Village organizations that meet the terms of Conservation Agreements, and as a result, receive grants for implementing their action plans (cumulative)	Number	0.00 30-Dec-2014	140.00 30-Jun-2021	190.00 30-Jun-2023	191.00 30-Jun-2023
Village organizations with at least 40% female participation (cumulative)	Number	0.00 30-Dec-2014	160.00 30-Jun-2021		184.00 30-Jun-2023
<b>Comments (achievements against targets):</b>					
Achieved. This indicator was added as a PDO indicator in 2015, but was modified and moved to the intermediate level in the 2018 restructuring. This was to simplify the results framework and put the indicator in a more appropriate part of the causal chain. The original target was 140 village organizations, which was increased to 190 in the 2020 restructuring. By then, the project had already provided grants to 189 villages. The subprojects responsible for this indicator were closed by December 2021.					

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Area within selected PAs where	Hectare(Ha)	242,000.00	242,000.00	634,000.00	643,678.00



the status of selected wildlife population and threats are measured (annual)		30-Dec-2016	30-Jun-2021	30-Jun-2021	30-Jun-2023
<p><b>Comments (achievements against targets):</b>            Achieved. This indicator was originally "Area within PAs where (a) the status of the population of selected mammals and threat (b) gross forest loss rate are measured (hectare in thousand)". The 2018 restructuring revised this target to simplify the M&amp;E and split the original indicator into two (one on wildlife and the other on forest loss). This revised indicator enlarged the scope of the indicator from mammals to any wildlife fauna species.</p> <p>Overall, this target was slightly exceeded. However, while some PAs exceeded their sub-project targets (most notably Nam Et Phou Louey, PAFO BLX, and PAFO XKG), others fell short of their targets.</p>					

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Area within selected PAs where the gross forest loss rate is measured	Hectare(Ha)	305,000.00 30-Dec-2016	1,250,000.00 30-Jun-2021		1,250,385.00 30-Jun-2023
<p><b>Comments (achievements against targets):</b>            Achieved. The 1,250,385 hectares is across 9 Protected Areas and 2 National Parks. Overall, the target was met although some PAs were below their sub-project targets while others were above. Nam Et-Phou Louey notably almost doubled its target, reaching 498,000 ha compared to its 290,000 target.</p>					

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
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Wildlife crime cases detected by law enforcement officers of SDAs supported by the project (cumulative)	Number	188.00 30-Dec-2016	3,100.00 30-Jun-2021		5,593.00 30-Jun-2023
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**Comments (achievements against targets):**

Exceeded. The number of cases detected continued to increase through the course of the project, averaging 621 per year over the entire implementation period, including the two years prior to establishment of the baseline of 188 in December 2016. The cases detected exceeded the target by 80 percent.

**Component:** Environmental management and pollution control

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Category 1 and Category 2 projects that are under design, construction or operation that have a valid Environmental Compliance Certificate (ECC) (cum.)	Percentage	19.00 30-Dec-2016	50.00 30-Jun-2021	50.00 30-Jun-2021	82.00 30-Jun-2023
Category 1 hydropower projects with ECC (cumulative)	Percentage	35.00 30-Dec-2016	50.00 30-Jun-2021		79.00 30-Jun-2023
Category 1 mining projects with ECC (cumulative)	Percentage	11.00 30-Dec-2016	50.00 30-Jun-2021		90.00 30-Jun-2023



Category 1 road projects with ECC (cumulative)	Percentage	0.00 30-Dec-2016	50.00 30-Jun-2021		65.00 30-Jun-2023
Category 2 hydropower projects with ECC (cumulative)	Percentage	65.00 30-Dec-2016	85.00 30-Jun-2021		87.00 30-Jun-2023
Category 2 mining projects with ECC (cumulative)	Percentage	10.00 30-Dec-2016	50.00 30-Jun-2021		84.00 30-Jun-2023
Category 2 road and railway projects with ECC (cumulative)	Percentage	0.00 30-Dec-2016	50.00 30-Jun-2021		95.00 30-Jun-2023

**Comments (achievements against targets):**

Exceeded. The increase in percent of projects with ECCs increased 63 points from the baseline of 19 percent, more than twice the amount of increase set in the target. The targets were also exceeded in each of the three subcategories of projects (hydropower, mining, and roads) for both Category 1 and Category 2 projects. This indicator was added in the 2015 additional financing/restructuring to help measure environmental assessment management. In 2018, revisions were made to the targets based on the size and design of MONRE and PONRE subprojects. The initial target of 50% for hydropower, mining, and roads was established in 2015 with no baselines measured. The 2018 revision thus created targets disaggregated by Category 1 and Category 2 projects and targets based on baselines identified in 2016.

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Score tracking the	Number	0.00	90.00		80.00



development of national, provincial or sectoral guiding documents and planning tools that integrate environment into development planning (point) (cumulative)		30-Dec-2017	30-Jun-2021		30-Jun-2023
<p><b>Comments (achievements against targets):</b></p> <p>Mostly Achieved (89 percent of target). This indicator tracked the delivery of specific guiding documents and planning tools supported by MPI/NIER and relevant MONRE (DPC and DEQP) subprojects and submitted to relevant authorities or processes for approval. The target was 90 points out of a possible 100 point system for the following outputs: (a) National GG Strategy (15 points), (b) Integrated Spatial Planning guidelines (15 points), (c) SEA Guidelines (10 points), (d) 6 Provincial Integrated Spatial Plans (5 points each for 30 points total), (e) 2 SEAs (10 points each for 20 points total), and (f) ENR M&amp;E Guidelines (10 points).</p> <p>The project score was 80 points, having delivered all outputs except the two SEAs worth 20 points that were developed but not yet approved at closing. Several national, provincial and sectoral guiding documents and planning tools that integrate environment into development planning have been developed all along the implementation of the LENS2 project. At national level, the National Green Growth Strategy (NGGS), a key policy document guiding the economic reforms toward green, clean and resilient pathway, was promulgated by PM Office early in 2019. At sectoral level, various guidelines supporting the integration of environment into development planning were developed and/or approved, including:</p> <ul style="list-style-type: none"> <li>• ENR M&amp;E Guidelines - Approved in 2017 (Departmental Decision)</li> <li>• Strategic Environmental Assessment (SEA) Guidelines - Approved in 2018 (Ministerial Instruction)</li> <li>• Integrated Spatial Planning (ISP) Guidelines - Approved in 2019</li> <li>• SEA for the National Green Growth Strategy (developed, not yet approved)</li> <li>• SEA for Hydropower Sector (developed, not yet approved)</li> </ul>					
<b>Indicator Name</b>	<b>Unit of Measure</b>	<b>Baseline</b>	<b>Original Target</b>	<b>Formally Revised Target</b>	<b>Actual Achieved at Completion</b>



Score tracking the design and adoption of pollution management instruments (point) (cumulative)	Number	0.00 30-Dec-2017	80.00 30-Jun-2021		80.00 30-Jun-2023
<p><b>Comments (achievements against targets):</b>                  Achieved. This indicator was added in the 2018 restructuring and is part of the results framework of the relevant MONRE departments subprojects. The indicator is based on a point system measured as follows: (a) Pollution Prevention and Control Regulation submitted for approval (30 points), (b) Waste and Hazardous Chemical Management Regulation submitted for approval (20 points); (c) National Environmental Standard Regulation submitted for approval (30 points); (d) National Pollution Control planning documents approved (20 points) including: Vision to 2030, 10-Year Strategy (2016-2025), and 5-Year Action Plan (2016-2020).</p> <p>MONRE departments were able to develop key pieces of regulations that strengthened the legal framework on pollution management, including: (i) the Decision on National Environmental Standard (approved in February 2017), (ii) the Pollution Prevention and Control Regulation (adopted and promulgated in April 2021), (iii) the Decision on Waste and Hazardous Chemical Management regulation (approved in August 2021). These policies established more stringent environmental standards to reduce the high level of key harmful pollutants to human health and minimize public health risks as well as individual worker hazards. In addition, the parallel Green Growth DPO series created additional momentum and support for the strengthening of the environmental protection legal framework.</p>					

**Component:** Institutional capacity enhancement and sustainable financing development

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Staff of SDA and SDA partner institutions that received formal short courses or participate in study tours under the project (cumulative)	Number	0.00 30-Dec-2015	3,000.00 30-Jun-2021		16,246.00 30-Jun-2023



Female staff (cumulative)	Number	0.00	600.00		4,405.00
		30-Dec-2015	30-Jun-2021		30-Jun-2023
<b>Comments (achievements against targets):</b>					
Exceeded. This indicator measured the number of individual staff of SDAs and SDA partner institutions that have received eligible training, thereby strengthening SDA and partner institutional capacities. A formal short course was defined as training longer than 16 hours and less than 80 hours. Training participants were counted more than once if they attended multiple courses.					
By project closing, 16,246 staff had been trained, including 4,405 women (27% of the total vs original target of 20%). These numbers were more than five times the overall target and more than seven times the target for women. All of the SDAs had achieved their planned targets of numbers trained by the end of LENS2, the large majority, had also exceeded their targets for the numbers of women trained.					
This indicator, from the 2018 restructuring, replaced an original training-related indicator (with a target of 1,000) by increasing the target to 3,000, defining the trainee target group more specifically, and also defining more clearly which training counted toward the indicator target.					

Indicator Name	Unit of Measure	Baseline	Original Target	Formally Revised Target	Actual Achieved at Completion
Financing mobilized by EPF each year from (a) public sources and (b) private sources (annual)	Amount(USD)	800,000.00 30-Dec-2014	1,600,000.00 30-Jun-2021		2,278,975.00 30-Jun-2022
Funds from public sources (annual)	Amount(USD)	350,000.00 30-Dec-2014	700,000.00 30-Jun-2021		396,781.00 30-Jun-2023
Funds from private sources	Amount(USD)	450,000.00	900,000.00		1,882,194.00



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(annual)		30-Dec-2014	30-Jun-2021		30-Jun-2023
<b>Comments (achievements against targets):</b> Exceeded. The total amount of funds mobilized by the EPFO from 2015 through 2022 was US\$11.269 million. While there were fluctuations from year to year, the EPFO achieved its targets and the annual average amount of funds mobilized was US\$1.6 million. Financing from public sources did not reach the level in the sub-target due to interest rates and persistent challenges within the national budget. However, the private sector target was overachieved and more than offset the lower than expected financing from public sources.					



**B. KEY OUTPUTS BY COMPONENT**

<b>Objective/Outcome 1 – Strengthen capacity on protected area management</b>	
Outcome Indicators	1. Increased score on Protected Area Management Effectiveness Tracking Tool (METT) (cumulative) (Number)
Intermediate Results Indicators	<ol style="list-style-type: none"> <li>1. Score tracking the development and management of a NPA system (cumulative) (Number)</li> <li>2. Village organizations that meet the terms of Conservation Agreements, and as a result, receive grants for implementing their action plans (cumulative) (Number) <ul style="list-style-type: none"> <li>• Village organizations with at least 40% female participation</li> </ul> </li> <li>3. Area within selected PAs where the status of selected wildlife population and threats are measured (annual (Hectare)</li> <li>4. Area within selected PAs where the gross forest loss rate is measured (Hectare)</li> </ol>
Key Outputs by Component (linked to the achievement of the Objective/Outcome 1)	<ol style="list-style-type: none"> <li>1. Increased score on Protected Area Management Effectiveness Tracking Tool of 24</li> <li>2. 191 Village organizations that met the terms of Conservation Agreements, and as a result, received grants for implementing their action plans</li> <li>3. 184 village organizations with at least 40% female participation</li> <li>4. 643,678 hectares within selected PAs where the status of selected wildlife population and threats were measured</li> <li>5. 1,250,385 hectares within selected PAs where the gross forest loss rate was measured</li> </ol>
<b>Objective/Outcome 2 – Strengthen systems for wildlife law enforcement</b>	
Outcome Indicators	1. Wildlife trafficking cases involving CITES 1 listed species that are referred to the national and/or provincial public prosecutor office (cumulative) (Number)



	<ul style="list-style-type: none"> <li>Number of wildlife trafficking cases involving CITES 1 and non-CITES listed species opened for investigation (cumulative) (Number)</li> </ul>
Intermediate Results Indicators	1. Wildlife crime cases detected by law enforcement officers of SDAs supported by the project (cumulative) (number)
Key Outputs by Component (linked to the achievement of the Objective/Outcome 2)	<ol style="list-style-type: none"> <li>41 wildlife trafficking cases involving CITES 1 species referred to national or provincial prosecutor’s office by 5 Lao Wildlife Enforcement Network (Lao-WEN) agencies.</li> <li>116 wildlife trafficking cases involving CITES 1 and non-CITES listed species opened for investigation.</li> <li>5,593 wildlife crime cases detected by law enforcement officers of SDAs supported by the project</li> </ol>
<b>Objective/Outcome 3– Strengthen capacity on environmental and natural resource management</b>	
Outcome Indicators	<ol style="list-style-type: none"> <li>5-year provincial or sectoral development plans that include environmental planning, monitoring, assessment, or management components supported by MONRE or MPI (cumulative) (Number) <ul style="list-style-type: none"> <li>Plans supported by MONRE departments on environmental monitoring arrangements (cumulative) (Number)</li> <li>Plans supported by MONRE departments on ISP and/or SEA (cumulative) (Number)</li> <li>Plans supported by MPI or NIER on GG M&amp;E (cumulative) (Number)</li> </ul> </li> <li>Up-to-date reports published on relevant government websites including (i) compliance monitoring for Category 2 projects, (ii) state of air and noise quality, (iii) national pollution inventory (cumulative) (Number) <ul style="list-style-type: none"> <li>Compliance monitoring reports for hydropower projects registered in environment impact Category 2 published on the MONRE website (cumulative) (Number)</li> </ul> </li> </ol>



	<ul style="list-style-type: none"> <li>• Compliance monitoring reports for mining projects registered in environment impact Category 2 published on the MONRE website (cumulative) (Number)</li> <li>• Compliance monitoring reports for road projects registered in environment impact Category 2 published on the MONRE website (cumulative) (Number)</li> <li>• State of air and noise quality report published on the MONRE website (cumulative) (Number)</li> <li>• National pollution inventory report published on the MONRE website (cumulative) (Number)</li> </ul>
Intermediate Results Indicators	<ol style="list-style-type: none"> <li>1. Category 1 and Category 2 projects that are under design, construction or operation that have a valid Environmental Compliance Certificate (ECC) (cumulative) (Percentage) <ul style="list-style-type: none"> <li>• Category 1 hydropower projects with ECC (cumulative) (Percentage)</li> <li>• Category 1 mining projects with ECC (cumulative) (Percentage)</li> <li>• Category 1 road projects with ECC (cumulative) (Percentage)</li> <li>• Category 2 hydropower projects with ECC (cumulative) (Percentage)</li> <li>• Category 2 mining projects with ECC (cumulative) (Percentage)</li> <li>• Category 2 road and railway projects with ECC (cumulative) (Percentage)</li> </ul> </li> <li>2. Score tracking the development of national, provincial, or sectoral guiding documents and planning tools that integrate environment into development planning (cumulative) (Number)</li> <li>3. Score tracking the design and adoption of pollution management instruments (cumulative) (Number)</li> </ol>
Key Outputs by Component (linked to the achievement of the Objective/Outcome 3)	<ol style="list-style-type: none"> <li>1. 145 up-to-date reports published on relevant government websites</li> </ol>



2. 45 compliance monitoring reports for hydropower projects registered in environment impact Category 2 published on the MONRE website
3. 66 compliance monitoring reports for mining projects registered in environment impact Category 2 published on the MONRE website
4. 6 compliance monitoring reports for road projects registered in environment impact Category 2 published on the MONRE website
5. 18 state of air and noise quality reports published on the MONRE website
6. 11 national pollution inventory reports published on the MONRE website
7. 46 5-year provincial or sectoral development plans that include environmental planning, monitoring, assessment, or management components supported by MONRE or MPI
8. 32 plans supported by relevant MONRE departments on environmental monitoring arrangements
9. 6 plans supported by relevant MONRE departments on ISP and/or SEA
10. 8 Plans supported by MPI or NIER on Green Growth M&E
11. Score of 100 for tracking development and management of the national protected area system
12. 85% of Category 1 and Category 2 projects that were under design, construction, or operation had a valid ECC
13. 79% of Category 1 hydropower projects had an ECC
14. 90% of Category 1 mining projects had an ECC
15. 65% of Category 1 road projects had an ECC
16. 87% of Category 2 hydropower projects had an ECC
17. 84% of Category 2 mining projects had an ECC
18. 95% of Category 2 road projects had an ECC
19. Score of 80 for tracking the design and adoption of pollution management instruments



	20. Score of 80 for tracking the development of national, provincial, or sectoral guiding documents and planning tools that integrated environment into development planning
<b>Cross-Cutting Theme– Strengthen institutional capacity</b>	
Outcome Indicators	<p>1. Score of functional capacity of EPF and key institutions implementing subprojects (Number)</p> <ul style="list-style-type: none"> <li>• Score of functional capacity of Environment Protection Fund (Number)</li> <li>• Score of functional capacity of Department of Public Relation of the Prime Minister Office (Number)</li> <li>• Average of score of functional capacity of Faculties (NUOL FFS, FSS, FNS, FES, and FEB) (annual) (Number)</li> <li>• Average of score of functional capacity of Protected Area Management Units (NEPL, WMPA, and 7 PAFOs) (annual) (Number)</li> <li>• Score of functional capacity of MAF DOF Protected Area Management Division (annual) (Number)</li> <li>• Score of functional capacity of National Academy of Public Administration (NAPA) (annual) (Number)</li> </ul>
Intermediate Results Indicators	<p>1. Staff of SDA and SDA partner institutions that received formal short courses of participate in study tours under the project (cumulative) (Number)</p> <ul style="list-style-type: none"> <li>• Female staff (cumulative) (Number)</li> </ul> <p>2. Financing mobilized by EPF each year from (a) public sources and (b) private sources (annual) (Amount USD)</p> <ul style="list-style-type: none"> <li>• Funds from public sources (annual) (Amount USD)</li> <li>• Funds from private sources (annual) (Amount USD)</li> </ul>
Key Outputs by Component (linked to the achievement of the Objective/Outcome 4)	1. Score of functional capacity of EPF and key institutions implementing subprojects was 46, with EPF at 72, DPR PMO at 33, NUOL Faculties at 31, Protected Area Management Units at 33, MAF



DOF Protected Areas Management Division at 69, and National Academy of Public Administration at 40.

2. 16,246 staff of SDA and SDA partner institutions received formal short courses or participated in study yours under the project; of which 4,405 were female

3. \$2,278,975 million mobilized by EPF in last year of project implementation; of which \$396,781 was from public sources and \$1,882,194 from private sources.

**ANNEX 2. BANK LENDING AND IMPLEMENTATION SUPPORT/SUPERVISION****1. TASK TEAM MEMBERS**

<b>Name</b>	<b>Role</b>
<b>Preparation</b>	
Jean-Michel G. Pavy	Task Team Leader(s)
Khamphet Chanvongnaraz	Procurement Specialist(s)
Malarak Souksavat	Financial Management Specialist
Satoshi Ishihara	Social Specialist
James Orehmie Monday	Social Specialist
Viengkeo Phetnavongxay	Environment Specialist
Manoly Sisavanh	Team Member
<b>Supervision/ICR</b>	
Viengkeo Phetnavongxay	Task Team Leader(s)
Khamphet Chanvongnaraz	Procurement Specialist(s)
Siriphone Vanitsaveth	Financial Management Specialist
Anorath Douangphachanh	Team Member
Luck Bounmixay	Team Member
Jethro Allan Stern	Team Member
Arturo Bolondi	Team Member
Alina Phonvisay	Procurement Team
John William Kenneth Parr	Team Member
Maurice Andres Rawlins	Team Member
Kaysone Vongthavilay	Team Member
Souksavanh Sombounkhanh	Procurement Team
Konesawang Nghardsaysone	Team Member



Adu-Gyamfi Abunyewa	Procurement Team
Sybounheuang Phandanouvong	Social Specialist
Malarak Souksavat	Team Member
Martin Fodor	Environmental Specialist
Peter M. Brandriss	Team Member

**2. STAFF TIME AND COST**

Stage of Project Cycle	Staff Time and Cost	
	No. of staff weeks	US\$ (including travel and consultant costs)
<b>Preparation</b>		
FY12	22.472	89,367.02
FY13	38.545	147,027.62
FY14	31.642	107,823.33
FY15	0	- 0.42
<b>Total</b>	<b>92.66</b>	<b>344,217.55</b>
<b>Supervision/ICR</b>		
FY14	2.725	31,218.46
FY15	31.704	109,684.50
FY16	36.982	121,446.95
FY17	33.166	169,298.56
FY18	23.430	128,492.39
FY19	37.314	155,022.84
FY20	27.078	99,203.35
FY21	27.510	102,934.59
FY22	35.990	143,626.05
FY23	33.232	118,961.99



FY24	22.182	95,737.10
<b>Total</b>	<b>311.31</b>	<b>1,275,626.78</b>



**ANNEX 3. PROJECT COST BY COMPONENT**

**Table 3.1. Cost by Component**

<i>Component</i>	<i>Amount (US\$M)<sup>b</sup></i>			<i>Percentage of (%)</i>	
	<i>Approval</i>	<i>Revised (AF)</i>	<i>Actual</i>	<i>Approval</i>	<i>Revised<sup>c</sup></i>
Institution Development and Capacity Building	6.50	14.40	19.20	295	133
Management of Wildlife and Protected Areas	8.60	20.60	13.11	152	64
Project Administration and EPF Capacity Building <sup>a</sup>	3.20	5.40	7.43	232	138
Refinancing of PPA	0.53	1.43	0.69	130	48
Unallocated	6.40				
<b>Total</b>	<b>25.23</b>	<b>41.83</b>	<b>40.43</b>	<b>160</b>	<b>97</b>

a. The cost of refinancing for the original PPA (IDA Q843) was: \$0.53 million at approval; \$0.27 million actual. The cost of the PPA for the 2015 AF was: \$0.90 million at approval; \$0.42 million actual.

b. The original \$1.40 million of GoL in-kind co-financing was increased to \$3.0 million with the AF approval. Because the in-kind contributions were not closely accounted during implementation, the revised amounts are included in the actual costs for comparative purposes (\$0.4 million in Component 1, \$1.2 million in Component 2, and \$1.4 million in Component 3). This likely understates the GoL contributions, given the additional two years of implementation and the reduction in World Bank supervision budget in 2017 that in effect meant more management intensity was required from EPF. Furthermore, the baseline financing that the SDAs included in their 47 subproject proposals is not counted as part of the GoL co-financing (except the EPF subproject).

c. Virtually all IDA and GEF financing was disbursed (99.91%). The actual costs are lower than the revised costs because the US\$ value of SDRs at the time of disbursement (historic value) was \$1.36 million less than at appraisal (and \$0.03 million was undisbursed).

**Table 3.2. Cost by Financing Source (Appraisal)**

<i>Component</i>	<i>Amount (US\$M)</i>			<i>Total</i>
	<i>IDA</i>	<i>GEF</i>	<i>GoL</i>	
Institution Development and Capacity Building	4.30	1.80	0.40	6.50
Management of Wildlife and Protected Areas	5.50	2.30	0.80	8.60
Project Administration and EPF Capacity Building	2.12	0.88	0.20	3.20
Refinancing PPA	0.53			0.53
Unallocated	4.55	1.85		6.40
<b>Total</b>	<b>17.00</b>	<b>6.83</b>	<b>1.40</b>	<b>25.23</b>

**Table 3.3. Cost by Financing Source (Actual)**

<i>Component</i>	<i>Amount (US\$M)</i>			<i>Total</i>
	<i>IDA</i>	<i>GEF</i>	<i>GoL</i>	
Institution Development and Capacity Building	15.42	3.38	0.40	19.20
Management of Wildlife and Protected Areas	9.77	2.14	1.20	13.11
Project Administration and EPF Capacity Building	4.73	1.30	1.40	7.43
Refinancing PPA	0.69			0.69
<b>Total</b>	<b>30.63</b>	<b>6.83</b>	<b>3.00</b>	<b>40.43</b>

*Note: See notes in Table 3a regarding (a) government of Lao PDR co-financing, (b) details of PPA refinancing, and (c) actual financing by source as a percentage of appraisal. IDA and GEF disbursed all but about \$33,000 of the combined commitment amounts. The actual amount in US\$ equivalent of IDA's SDR-denominated financing is about \$1.36 million less than the approved amounts (original and AF) due to change in the SDR exchange rate. The revised amounts for GoL co-financing in the 2015 AF approval are entered in Table 3a and 3c as conservative estimates, which likely underestimates actual GoL in-kind financing.*



#### ANNEX 4. EFFICIENCY ANALYSIS

- 1. The value of ecosystems and biodiversity is not recognized sufficiently in economic markets, government policies, or land management practices, and particularly in low-capacity environments.** Underestimation of ecosystems is often due to many of their benefits valued outside of markets and considered as non-tradable public benefits. The sum total of ecosystem services from provisioning services (food, water, raw materials, genetic resources, medicinal resources, etc.) regulating services (air quality, climate, water flow regulation; , waste treatment, erosion prevention, pollination, etc.), habitat services (nursery service, gene pool protection), and cultural services have been valued between \$490 to \$350,000 per year per average hectare depending on the biome.<sup>25</sup> In addition, valuing all the above ecosystems services is challenging, particularly in low capacity and data scarce countries like Lao PDR. In Lao PDR, one study examined the economic benefits within Sekong Forest, estimating that the forest offered approximately US\$400-500 per hectare per year in direct use benefits from NTFP and timber revenue, over US\$1,200 in benefits from carbon sequestration, approximately US\$100 from watershed protection and biodiversity conservation, and US\$200-\$1,500 from potential hydropower supply.
- 2. At the time of appraisal, a full economic analysis was not completed due to data constraints and the indirect use values of many benefits associated with the conservation of protected areas and biodiversity.** The limited economic and financial analysis found that project's interventions in the Nam Et – Phou Louey (NEPL) National Protected Area (NPA) could have a net present value (NPV) as high as US\$8.3 billion over 10 years. This was based on benefits derived from biodiversity conservation, consumption uses, including non-timber forest products (NTFPs) and ecotourism, watershed protection, and carbon sequestration. For improved wildlife law enforcement, illegal wildlife trade in Southeast Asia was estimated to be within the range of US\$2.6 to \$US3 billion, with simulations for project interventions conservatively indicating benefit-cost ratios above 1, and in some cases reaching above 40, showing very high benefits compared to the investment costs.
- 3. In the 2015 Additional Financing and restructuring, the economic analysis was refined, with an estimated NPV of the ecosystem services being protected of \$12 billion over 10 years, much higher than the cost of the improved protected area management under the project (\$13.7 million).** Based on the forest cover loss at the time of 3,500 ha per year, equivalent to \$38 million per year in ecosystem services benefits, a breakeven point of reducing the loss of ecosystem services by \$15.1 million or one third of the current loss was identified (an Economic Rate of Return of 12%). Under DOF/MAF subproject (*PICE-LENS2-001*), a report on the economic value of NTFPs and management implications was to be completed. Terms of Reference were drafted, but the activity was cancelled in 2018 due to a difficulty in finding a qualified expert and identifying an appropriate scope for the work within the budget.

<sup>25</sup> Global estimates of the value of ecosystems and their services in monetary units (De Groot, et al). Ecosystem Services Volume 1. Issue 1. July 2012. <https://doi.org/10.1016/j.ecoser.2012.07.005>. US\$ value is as of 2007.



### Cost-Benefit Analysis

4. **An ex-post cost-benefit analysis attempted to evaluate the project's economic viability.** The project generated several benefits including establishing policies, guidelines, procedures; training staff, capacitating relevant institutions, providing community grants, developing national university programs, etc. Given the challenges in measuring monetary value of the benefits to the whole range of the benefits generated by the project and the limited attention given during implementation to quantifying benefits, LENS2 benefits have been benchmarked against existing studies in the ex-post economic assessment wherever possible.
- a. **Protected Area Management** – The project disbursed \$13.7 million for PA management, covering 11 Protected Areas. Among the many outcomes, these disbursements led to an average METT score increase of 24 across 1,297,469 hectares in 11 targeted protected areas. This improvement corresponds to \$9.17 invested per hectare for METT score improvements over double the project target. Recognizing that improved METT scores have no inherent economic value and quantifiable benefit, the \$9.17 per hectare investment can be compared to an estimated mean of \$5,264 for the total monetary value of ecosystem services per year in a tropical forest.<sup>26</sup> Within Lao PDR, since relevant data is very sparse, the Sekong Forest economic benefits study can be used as a benchmark, which estimated that the forest offered approximately US\$400-500 per hectare per year in direct use benefits from NTFP and timber revenue, over US\$1,200 in benefits from carbon sequestration, approximately US\$100 from watershed protection and biodiversity conservation, and US\$200-\$1,500 from potential hydropower supply. As such, the project's \$9 investment per acre to improve PA management is significantly less than the benefits accrued.
  - b. **Wildlife Law Enforcement** – The project disbursed \$4.4 million for wildlife law enforcement, leading to 5,593 wildlife crime cases detected, 116 cases investigated, and 41 cases referred to prosecutors. The World Bank has estimated that globally, illegal logging, fishing, and wildlife trade costs between \$1 trillion and \$2 trillion, with 90 percent of those losses coming from ecosystem services that are provided by forests, wildlife, and coastal resources but not priced by markets.<sup>27</sup> Southeast Asia is a major hotspot for illegal wildlife trade, with ASEAN accounting for an estimated 25 percent of global illegal wildlife trade despite having less than 3 percent of the world's land mass. Considering the scale of the challenge and the investment size of LENS2, the benefits of improved wildlife law enforcement achieved under LENS2 significantly outweighs the costs.
  - c. **Environmental Management** – The project disbursed \$7.3 million under the environmental management subprojects. Given their diverse scope of activities and capacity building focus, a quantification of benefits cannot be done.

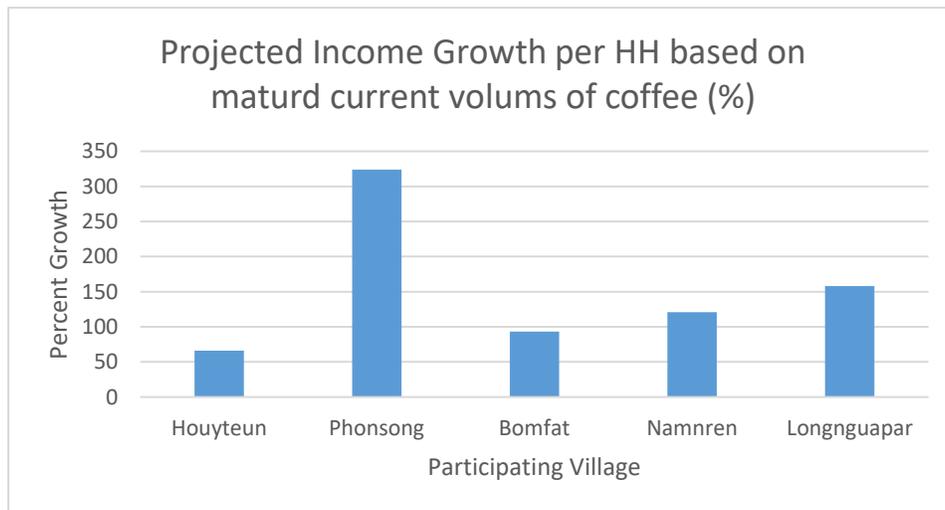
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<sup>26</sup> Global estimates of the value of ecosystems and their services in monetary units (De Groot, et al). Ecosystem Services Volume 1. Issue 1. July 2012. <https://doi.org/10.1016/j.ecoser.2012.07.005>. US\$ value is as of 2007.

<sup>27</sup> Illegal Logging, Fishing, and Wildlife Trade: The costs and how to combat it. World Bank. October 2019. <https://thedocs.worldbank.org/en/doc/482771571323560234-0120022019/original/WBGReport1017Digital.pdf>



d. **Community Grants** – Under the Department of Forestry subproject (*CBI-LENS2-020-NEPL*) a total of 43 communities and 33,703 people benefited from grants through the Village Conservation Fund (VCF) (linked to the terms of the CCAs), with a total of US\$353,842 given out as grants for selected livelihood improvement activities. Grants covered small livestock production (goat, pig, and chicken), large livestock production (cattle), paddy field extension, irrigation system improvements, women’s health, child education, village conservation activities (fish and NTFP conservation zone signage and regulations), village development activities (repairs and maintenance to village water supply, fencing of communal village cattle areas). In addition, a total of 90 participating households signed household coffee grower and conservation agreements, planting a total of 129,634 coffee seedlings, leading to 1,928 kg of cherries harvested, processed, and sold through LENS2. Also, 25 households signed agreements and became participants of a honey production trial project, developing a total of 75 hives. Data on the overall impact of these grants is limited, in part because the livelihood activities take years to mature. Nonetheless, investment in coffee harvesting is leading to increased harvesting of coffee in 5 villages and household incomes are expected to increase by 114 percent. At full production, households participating in the project are expected to receive an additional \$1,400 per ha for coffee production, leading to the average HH income increasing to \$1,910.





- e. **Ecotourism Benefits** – Also under the DoF subproject, a total of 165 eco-tourism service providers from 4 communities were employed and received US\$91,000 in benefits from their involvement in ecotourism products. Furthermore, 26 communities with a population of 11,456 received \$19,000 in direct benefits through the ecotourism benefit fund which incentivized the number of wildlife observed during ecotourism tours. Finally, \$8,000 was paid directly to the NEPL Management Unit as entrance fees, and local tourism offices in 3 districts received revenues of \$2,500. These measured benefits are well below the subproject’s overall investment of US\$2.6 million (although much of that amount was spent on other activities). However, the capacity building done for ecotourism has created improved ecotourism opportunities and livelihood benefits that will likely grow well beyond the project’s lifetime.
  - f. **Staff Training** – Altogether, 16,246 staff of SDA and SDA partner institutions received short courses or participated in study tours (defined as 16-80 hours of study). These trainings were delivered across most of the subprojects, covered a wide range of topics supporting the PDO, and varied in delivery mode and cost (e.g., international study tours, small-scale workshops in provinces, seminars held in Vientiane, etc.), and therefore an accurate cost of these trainings is difficult to quantify. Similarly, quantifying the benefits of such trainings is difficult to capture and not part of the results framework. Estimating the cost of all trainings at 20 percent of the project, US\$7.5 million was spent on training 16,246 staff. Assuming a benefit of US\$500 per staff trained, the benefit of this investment was over \$8 million, slightly above the cost.
  - g. **EPF funding** --- The project helped mobilize a total of US\$11.269 million over 2015 to 2022 for EPF, hitting \$2,278,975 in public and private funds mobilized annually by project closing. This was a major economic benefit of the project that will provide for accruing benefit long after the project has closed.
5. **While a cost-benefit ratio cannot be determined under LENS2, the scale of the benefits during implementation and expected based on the capacity building achieved is well above the costs.** The investments in PA management, wildlife law enforcement, and environmental management were fundamentally needed to protect Lao PDR’s environmental resources and are magnitudes lower than the economic value of the ecosystem services that are being protected and/or improved through the project’s activities.

#### **Cost-Effectiveness**

6. **LENS2 was able to overdeliver on several outputs, demonstrating high cost-effectiveness.** Most notably, the project provided trainings to 16,246 SDA and SDA partner institution staff, over 5 times higher than the target of 3,000. For wildlife law enforcement, the project overachieved its target for the total area where selected wildlife population and threats were measured, rising from a baseline of 242,000 ha in 2016 to 643,678 ha at project closing (target was 634,000 ha). Similarly, the project slightly overachieved the total area where gross forest loss rate was measured, rising from a baseline of 305,000 ha in 2016 to 1,250,385 ha (target was 1,250,000 ha). Finally, the total number of wildlife crime cases detected increased from a baseline of 188 in 2016 to 5,593 (target was 3,1000).



- 7. To illustrate the high cost-effectiveness of the project, one can look at are the capacity building activities under subprojects within the National University of Laos (NUOL).** The Faculty of Forest Science (FFS) (*PICE-PAW-003*) utilized \$2.3 million to train over 600 government staff in protected area management, wildlife management, and community development areas; create or upgrade 31 course manuals; enroll 88 students over four batches for a new Bachelors specialization in Protected Area and Wildlife Management; establish the first Forestry journal by the FFS; provide 28 research grants; deliver 1 study tour to a Thai University; host 3 annual excursions and study tours to Thailand, Bhutan, and Indonesia; and provide 7 scholarships for PhD, BSc, and MSc degrees. Another subproject by the NUOL Faculty of Natural Science (FNS) (*PICE-LENS2-010*) used \$700,000 to support lecturer training and study tours in 6 foreign universities, upgraded 4 undergraduate curriculums and 1 master curriculum, wrote 18 textbooks, organized 19 technical trainings and seminars for a total of 916 participants. Utilizing a relatively small budget, these and other capacity building subprojects have been transformative for establishing higher education capacity and expertise within Lao PDR and creating a much-needed pipeline of nationally trained environment specialists.

## ANNEX 5. BORROWER, CO-FINANCIER AND OTHER PARTNER/STAKEHOLDER COMMENTS

### Comments from EPF

On behalf of EPF, we think that the ICR is comprehensive and useful for EPF office (EPFO) to understand in depth on the results-based M&E requirements and the whole project development cycle. However, the planning and implementation of LENS2 also suggested that the results-based design and results measuring process is very time consuming and require significant efforts and inputs to manage the activities, especially when it involves local communities in remote area. Active engagement with key agencies during the implementation of LENS2 provided opportunities for EPFO to establish connections and good relationships with key agencies of MONRE, MAF, and other ministries as well as to demonstrate its ability to facilitate active discussion among sector agencies including active engagement with the private sector.

We fully agreed with the key findings of the ICR especially on the lessons and recommendations provided in Section V. The recommendations provided through the LENS2 exit strategy was presented to the EPF Board in July 2023 and EPFO is working closely with DPF of MONRE as well as other key agencies and identify ways to move forward tapping EPF funding support for building EPFO capacity as well as provide funding support to DPF of MONRE to work more closely with the key sector agencies to implement priority activities related to climate change and environmental management taking into account LENS2 outcome as well as other on-going activities at EPF that could lead to achievement of the net zero greenhouse gas emission of Lao PDR. In addition, EPF is also making efforts to complete the accreditation process for EPF to be direct access entity of the GCF microproject and developing 1-2 project proposals to be submitted to GCF.



## ANNEX 6. SUPPORTING DOCUMENTS

### **Key Documents Referenced for this ICR**

- Borrower's Project Completion Report (PCR)
- Borrower's Subproject Completion Reports
- Project Aide Memoires (AMs)
- Project Implementation Status and Results Reports (ISRs)
- Department of Forestry METT Score Reporting to GEF Excel File



**ANNEX 7. List of LENS2 Subprojects and Project Map**

	Project ID	Subproject Name	SDA	Ministry/Province	Theme
<b>PICE: Policy Institutional and Capacity Enhancement</b>					
1	PICE-LENS2-001	Institutional capacity building for PA and PF management and wildlife conservation	DOF, MAF	MAF	Protected Areas
2	PICE-LENS2-002	National-level capacity building in wildlife law enforcement	DOFI, MAF	MAF	Wildlife Law - LAO-WEN
3	PICE-LENS2-003	Human Resources Development for Protected Area and Wildlife Management	FFS, NUOL	NUOL	Capacity Building
4	PICE-LENS2-004	Constituency Building of Public Administration on Environment, Biodiversity and Wildlife Issues	DPR, PMO	PMO	Capacity Building
5	PICE-LENS2-005	Capacity building for Natural Resources and Environmental Management in Department of Planning and Cooperation (DPC).	DPC, MONRE	MONRE	Environmental Management
6	PICE-LENS2-006	Capacity Building Project on Social Safeguard Education for the Faculty of Social Sciences	FSS, NUOL	NUOL	Capacity Building
7	PICE-LENS2-007	Capacity Building to Mainstreaming Green Growth Development Framework into National Socio-Economic Development Strategy and Plan	PPA	MPI	Capacity Building
8	PICE-LENS2-008	Human resources development in environmental & natural resources economics relevant to PA and wildlife	FEB, NUOL	NUOL	Capacity Building
9	PICE-LENS2-009	Building country capacity for technical knowledge of Environmental Impact Assessment (EIA)	FES, NUOL	NUOL	Capacity Building
10	PICE-LENS2-010	Capacity Enhancement of Laos's Natural Science Related to Environmental Protection	FNS, NUOL	NUOL	Capacity Building
11	PICE-LENS2-011	Customs capacity building on combating illegal wildlife and timber trade and law enforcement	LCD, MOF	MOF	Wildlife Law - LAO-WEN
12	PICE-LENS2-012	Strengthening capacity of wildlife and aquatic law enforcement in of DCNEC	DCNEC, MPS	MPS	Wildlife Law - LAO-WEN
13	PICE-LENS2-013	Capacity building for enforcement of environmental and social impact legislation	DNEP, MONRE	MONRE	Environmental Management
14	PICE-LENS2-014	Capacity building for environment promotion and scaling up integrated spatial planning (ISP)	DEQP, MONRE	MONRE	Environmental Management
15	PICE-LENS2-015	PCD Capacity Building for Pollution Control, Waste and Hazardous Chemicals Management	PCD, MONRE	MONRE	Environmental Management
16	PICE-LENS2-016	Institutional strengthening on air and noise quality monitoring and the improvement of resources efficiency and transfer appropriate technology for waste management in SMEs	NRERI, MONRE	MONRE	Environmental Management
17	PICE-LENS2-017	Capacity Building to Mainstreaming Green Growth Development Framework into National Socio-Economic Development Strategy and Plan	NIER	NIER	Environmental Management
18	PICE-LENS2-018	Mainstreaming Environment Protection into the National Academy for Politic and Administration (NAPA) Training Curriculum	NAPPA	NAPPA	Capacity Building
19	PICE-LENS2-019	Capacity enhancement of HUA PONRE related to IEE / ECC and compliance monitoring	PONRE-HP	HP	Environmental Management



20	PICE-LENS2-020	Capacity enhancement of XNG PONRE related to IEE / ECC and compliance monitoring	PONRE-XK	XK	Environmental Management
21	PICE-LENS2-021	Capacity enhancement of LPB PONRE related to IEE / ECC and compliance monitoring	PONRE-LPB	LPB	Environmental Management
22	PICE-LENS2-022	Institutional capacity building for PA and PF management and environment conservation	PONRE-VTP	VTP	Environmental Management
23	PICE-LENS2-023	Capacity enhancement of BLX PONRE related to IEE / ECC and compliance monitoring	PONRE-BLX	BLX	Environmental Management
24	PICE-LENS2-024	Capacity enhancement of KHA PONRE related to IEE / ECC and compliance monitoring	PONRE-KAM	KAM	Environmental Management
25	PICE-LENS2-025	Capacity enhancement of SVK PONRE related to IEE / ECC and compliance monitoring	PONRE-SAV	SAV	Environmental Management
26	PICE-LENS2-026	Capacity building for Natural Resources and Environment Inspection Office (NEIO) in Environment and Social Compliance Monitoring and Inspection	NEIO, MONRE	MONRE	Environmental Management
27	PICE-LENS2-027	Enhancing MAF's DOPF Capacity on Coordination, Monitoring, and Evaluation of Investment Projects Focusing on those with LENS2 Support	DOPF, MAF	MAF	Environmental Management
28	CBI-PAW 001 (Closed)	Coordination for protected area and protection forest management in Bolikhamxay Province	PFRM/BLX	BLX	Protected Areas
29	CBI-PAW 002 (Closed)	Coordination for protected area and protection forest management in Huaphanh Province	PFRM/HP	HP	Protected Areas
30	CBI-PAW 003 (Closed)	Strengthening PA and PF management in Luang Prabang Province	PFRM/LPB	LPB	Protected Areas
31	CBI-PAW 004 (Closed)	Capacity building for management of PA and PF in Xiengkhuang Province	PFRM/XK	XK	Protected Areas
32	CBI-PAW 005 (Closed)	Coordination for protected area and protection forest management in Khammouane Province	PFRM/KM	KAM	Protected Areas
33	CBI-LENS2-006	Strengthening capacity of wildlife and aquatic law enforcement in Bolikhamxay Province	POFI-BLX	BLX	Wildlife Law - LAO-WEN
34	CBI-LENS2-007	Strengthening capacity for wildlife and aquatic law enforcement in Khammouane Province	POFI-KHA	KAM	Wildlife Law - LAO-WEN
35	CBI-LENS2-008	Strengthening capacity for wildlife and aquatic law enforcement in Houaphanh Province	POFI-HP	HP	Wildlife Law - LAO-WEN
36	CBI-009	Management of Nakai Nam Theun Watershed	NT2-PPA	KAM	Protected Areas
37	CBI-010	Management of Nam Et Phou Louey	NEPL	HP	Protected Areas
38	CBI-LENS2-011	Sustainable Management of Nam Mouane-Nam Gnouang National Protection Forest, Upper Nam Mouane Watershed (NM-NG NPF)	PAFO-BLX	BLX	Protected Areas
39	CBI-LENS2-012	Strengthening the management capacity of the Savannakhet PFRM as well as building local support for the enhanced protection of Dong Na Tard Provincial Protected Area	PAFO-SAV	SAV	Protected Areas
40	CBI-LENS2-013	Community-Based Management of Phou Meud-Phou San Kheuan Provincial Protected Area (PMPSK-PPA) of Vientiane Province	PAFO-VTE	VTP	Protected Areas

41	CBI-LENS2-014	Strengthening the capacity of the WMPA to effectively manage the NT2 Watershed and Nakai-Nam Theun NPA	WMPA	KAM	Protected Areas
42	CBI-LENS2-016	Sustainable Management of the Nam-In Phouhinleckfai Provincial Protection Forest	PAFO-KM	KAM	Protected Areas
43	CBI-LENS2-017	Strengthening the collaborative management of Nam Xam National Protected Area, Huaphanh Province	PAFO-HP	HP	Protected Areas
44	CBI-LENS2-018	Strengthening the collaborative management of Phoupheung-Phouphathoun-Tad Kuang Se Provincial Protected Forest, Luang Prabang	PAFO-LPB	LPB	Protected Areas
45	CBI-LENS2-019	Strengthening Collaborative Management of Phousabot Pongchong National Protected Area, Xieng Khouang Province	PAFO-XK	XK	Protected Areas
46	CBI-LENS2-020	Strengthening the Capacity and Management of the Nam Et-Phou Louey National Protected Area, in the face of Expanding Infrastructure Development	NEPL	HP	Protected Areas

**Figure 3. Eleven Protected Areas Targeted for Improved Management**

