

**Document of
The World Bank**

FOR OFFICIAL USE ONLY

Report No. 108168-LA

INTERNATIONAL DEVELOPMENT ASSOCIATION
PROGRAM DOCUMENT FOR A PROPOSED CREDIT

IN THE AMOUNT OF SDR 28.5 MILLION
(US\$38.6 MILLION EQUIVALENT)

TO THE
LAO PEOPLE'S DEMOCRATIC REPUBLIC
FOR THE
FIRST PROGRAMMATIC GREEN GROWTH
DEVELOPMENT POLICY OPERATION

May 3, 2017

Environment and Natural Resources Global Practice
Macroeconomics and Financial Management Global Practice
East Asia and Pacific Region

This document has a restricted distribution and may be used by recipients only in the performance of their official duties. Its contents may not otherwise be disclosed without World Bank authorization.

LAO PDR GOVERNMENT FISCAL YEAR

January to December

CURRENCY EQUIVALENTS

(Exchange Rate Effective as of March 30, 2017)

Currency Unit Lao Kip (LAK)

1 SDR US\$ 1.35389

US\$ 1 LAK 8,200

ABBREVIATIONS AND ACRONYMS

| | |
|---------|--|
| ASEAN | Association of Southeast Asian Nations |
| BOL | Bank of the Lao PDR |
| CPF | Country Partnership Framework |
| DALYs | Disability-adjusted life years |
| DEQP | Department of Environmental Quality Promotion |
| DESIA | Department of Environment and Social Impact Assessment |
| DFRM | Department of Forest and Resources Management |
| DPF | Development Policy Financing |
| DSA | Debt Sustainability Analysis |
| DWR | Department of Water Resources |
| EAP | East Asia and Pacific |
| EIA | Environmental Impact Assessment |
| EPF | Environment Protection Fund |
| ESIA | Environmental and Social Impact Assessment |
| EU | European Union |
| FDI | Foreign Direct Investment |
| FMU | Forest Management Unit |
| FY | Fiscal Year |
| GDP | Gross Domestic Product |
| GFIS | Government Financial Information System |
| GG | Green Growth |
| GGNSC | Green Growth National Steering Committee |
| GHG | Greenhouse Gas |
| GIZ | Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH |
| GNI | Gross National Income |
| GNP | Gross National Product |
| GoL | Government of the Lao People's Democratic Republic |
| IBRD | International Bank for Reconstruction and Development |
| IDA | International Development Association |
| IFC | International Finance Corporation |
| IMF | International Monetary Fund |
| IUCN | International Union for Conservation of Nature |
| IWRM | Integrated Water Resource Management |
| Lao PDR | Lao People's Democratic Republic |
| LENS2 | Second Lao Environment and Social |
| LDC | Least Developed Country |
| LDP | Letter of Development Policy |

| | |
|-------------------|---|
| LENS2 | Second Lao Environment and Social Project |
| MAF | Ministry of Agriculture and Forestry |
| MDG | Millennium Development Goals |
| M&E | Monitoring and Evaluation |
| MEM | Ministry of Energy and Mines |
| METT | Management Effectiveness Tracking Tool |
| MOF | Ministry of Finance |
| MOF DFP | Department of Fiscal Policy of the Ministry of Finance |
| MOF DOT | Department of Tax of the Ministry of Finance |
| MONRE | Ministry of Natural Resources and Environment |
| MPI | Ministry of Planning and Investment |
| MPI DOP | Department of Planning of the Ministry of Planning and Investment |
| MPWT | Ministry of Public Works and Transport |
| NDC | Nationally Determined Contributions |
| NEQS | National Environmental Quality Standards |
| NGGS | National Green Growth Strategy |
| NO _x | Nitrogen oxides (combustion product emitted into environment) |
| NIER | National Institute for Economic Research |
| NSCC | National Strategy on Climate Change |
| NSEDP | National Socio-Economic Development Plan |
| PCD | Pollution Control Department |
| PDO | Program Development Objective |
| PEFA | Public Expenditure and Financial Accountability |
| PFA | Production Forest Areas |
| PIP | Public Investment Project |
| PM | Prime Minister |
| PM _{2.5} | Particulate matter 2.5 micrometers or less in diameter |
| PM ₁₀ | Particulate matter 10 micrometers or less in diameter |
| PRSO | Poverty Reduction Support Operation |
| PSEA | Policy Strategic Environmental Analysis |
| PSIA | Poverty and Social Impact Analysis |
| RBMP | River-Basin Management Plans |
| SAO | Supreme Audit Office |
| SCD | Systematic Country Diagnostics |
| SDG | Sustainable Development Goal |
| SDR | Special Drawing Rights |
| SEPSA | Strategic Environmental, Poverty, and Social Analysis |
| SO _x | Sulphur oxides (combustion product emitted into environment) |
| UNFCCC | United Nations Framework Convention on Climate Change |
| WBG | World Bank Group |
| WMPA | Watershed Protection and Management Authority |

| | |
|----------------------------------|--|
| Vice President: | Victoria Kwakwa |
| Country Director: | Ulrich Zachau |
| Senior Global Practice Director: | Karin Kemper |
| Practice Manager: | Christophe Crepin |
| Task Team Leaders: | Ernesto Sánchez-Triana / Tijen Arin / Evgenij Najdov |

LAO PEOPLE’S DEMOCRATIC REPUBLIC

FIRST PROGRAMMATIC GREEN GROWTH DEVELOPMENT POLICY OPERATION
TABLE OF CONTENTS

| | |
|---|----|
| SUMMARY OF PROPOSED CREDIT AND PROGRAM | v |
| 1. INTRODUCTION AND COUNTRY CONTEXT | 1 |
| 2. MACROECONOMIC POLICY FRAMEWORK..... | 3 |
| 2.1 RECENT ECONOMIC DEVELOPMENTS..... | 3 |
| 2.2 MACROECONOMIC OUTLOOK AND DEBT SUSTAINABILITY | 6 |
| 2.3 IMF RELATIONS..... | 10 |
| 3. GOVERNMENT’S PROGRAM | 10 |
| 4. THE PROPOSED OPERATION | 11 |
| 4.1 LINK TO GOVERNMENT PROGRAM AND OPERATION DESCRIPTION | 11 |
| 4.2 PRIOR ACTIONS, RESULTS AND ANALYTICAL UNDERPINNINGS | 12 |
| 4.3 LINK TO CPF, OTHER BANK OPERATIONS AND THE WBG STRATEGY | 25 |
| 4.4 CONSULTATIONS AND COLLABORATION WITH DEVELOPMENT PARTNERS | 29 |
| 5. OTHER DESIGN AND APPRAISAL ISSUES | 30 |
| 5.1 POVERTY AND SOCIAL IMPACT..... | 30 |
| 5.2 ENVIRONMENTAL ASPECTS | 31 |
| 5.3 PFM, DISBURSEMENT AND AUDITING ASPECTS..... | 31 |
| 5.4 MONITORING, EVALUATION AND ACCOUNTABILITY | 34 |
| 6. SUMMARY OF RISKS AND MITIGATION | 35 |
| ANNEX 1. POLICY AND RESULTS MATRIX | 37 |
| ANNEX 2. DPF1 PRIOR ACTIONS AND ANALYTICAL UNDERPINNINGS | 43 |
| ANNEX 3. LETTER OF DEVELOPMENT POLICY..... | 48 |
| ANNEX 4. FUND RELATIONS | 59 |
| ANNEX 5. POVERTY AND SOCIAL ASPECTS | 63 |
| ANNEX 6. ENVIRONMENTAL, FORESTS, AND OTHER NATURAL RESOURCES ASPECTS..... | 70 |
| ANNEX 7. LINKAGES BETWEEN THE NSEDP, SDGS, NDC, AND THE DPF SERIES..... | 79 |

The First Programmatic Green Growth Development Policy Operation was prepared by a team consisting of Ernesto Sánchez-Triana (Task Team Leader, Lead Environment Specialist, GENGE); Tijen Arin (Co-TTL, Senior Environmental Economist, GEN2B); Evgenij Najdov (Co-TTL, Senior Economist, GMF02); Heejoo Lee (Environment Specialist, GEN2B); Ana Luisa Lima (Environmental Specialist, GEN04); Ulf Gerrit Narloch (Economist, GGSCE); Manush A. Hristov (Senior Counsel, LEGES); Jean-Michel Pavy (Senior Environmental Specialist, GEN2B); Greg J. Browder (Lead Water Resource Management Specialist, GWA02); Henrike Brecht (Senior Infrastructure Specialist, GSU08); Sombath Southivong (Senior Infrastructure Specialist, GTI02); Robert Ragland Davis (Senior Forestry Specialist, GEN2B); Daryl Fields (Senior Water Specialist GWA02); Sergiy Zorya (Senior Economist, GFA02); Binh Thang Cao (Senior Agriculture Specialist, GFA02); Chanhson Manythong (Agriculture Specialist, GFA02); Peter William Crawford (Environment Specialist, GEN2B); Thongdeuane Nanthanavone (Consultant, GEN2B); Fernando Loayza (Senior Environmental Specialist, GEN04); Amphavanh Sisouvanh (Associate Operations Officer, CRKE1); Viengsamay Srithirath (Country Officer); Carmenchu D. Austriaco (Finance Officer, WFALN), Ricardo Alfredo Habalian (Operations Analyst, EACTF); Mombert Hoppe (Senior Economist, GTC02); Anders Jensen (Senior Monitoring and Evaluation Specialist, GENGE); Soudalath Silaphet (Consultant, GEN2A); Ngozi Blessing Obi Malife (Program Assistant, GEN2B); Anita Soukhaseum (Program Assistant, EACLF); Martin Henry Lenihan (Senior Social Development Specialist, GSU04); Satoshi Ishihara (Senior Social Development Specialist, GSU03); Sybounheung Phandanouvong (Senior Social Development Specialist, GSU02); Franz Gerner (Lead Energy Specialist, GEE02); Morten Larsen (Senior Mining Specialist, GEEX2); Siriphone Vanitsaveth (Senior Finance Management Specialist, GGO20); Simon Chirwa (Senior Procurement Specialist, GGO08); Jie Pan (Consultant, GEN2B); Bjorn Larsen (Environmental Economist, GEN4); Nils Bull (Consultant, GEN2B) and Tom Callander (Consultant, GEN2B). The team acknowledges the guidance from Ulrich Zachau (Country Director, EACTF); Sally L. Burningham (Country Manager, EACLF); Christophe Crepin (Practice Manager, GEN2B); Mathew A. Verghis (Practice Manager, GMF02); and Louise F. Scura (Program Leader, EACTF). Stephen Danyo (Senior Natural Resources Management Specialist, GEN01); Marianne Fay (Chief Economist, GGSCE); Yewande Awe (Senior Environmental Engineer, GEN03), and Dan Biller (Sector Manager, MIGEC) contributed as peer reviewers.

SUMMARY OF PROPOSED CREDIT AND PROGRAM
LAO PEOPLE’S DEMOCRATIC REPUBLIC
FIRST PROGRAMMATIC GREEN GROWTH DEVELOPMENT POLICY OPERATION

| | |
|----------------------------------|---|
| Borrower | Lao People’s Democratic Republic (Lao PDR) |
| Implementation Agency | Ministry of Planning and Investment |
| Financing Data | IDA Credit Amount: SDR 28.5 million (US\$38.6 million equivalent) IDA blend terms (25 years maturity, 5 years grace, 1.25% interest charge per year and 0.75% service charge per year) |
| Operation Type | First in a series of three single-tranche programmatic Development Policy Financing operations |
| Program Development Objective(s) | The PDO is to support the Government of Lao PDR in achieving fiscal stability and consolidating its pathway towards green growth |
| Result Indicators | <p><i>Pillar 1. Strengthening prospects for fiscal sustainability and financial sector stability</i></p> <ul style="list-style-type: none"> - Fiscal consolidation supported by higher tax revenues (Baseline: 14.6% of GDP [FY15/16]; Target: 16.7% of GDP [FY20]) - Fiscal consolidation supported by lower wage bill (Baseline: 8.4% of GDP [FY15/16]) Target: 7.4% of GDP [FY20]) - Reduction in public debt (Baseline: 68% of GDP [2016]; Target: 65% of GDP [2020]) - Public reporting of compliance with regulations on the Capital Adequacy Ratio, by type of banks (Baseline: Not reported [January 2017]; Target: At least regulatory minimum). <p><i>Pillar 2. Consolidating green growth principles across the national development strategy</i></p> <ul style="list-style-type: none"> - Disclosure of monitoring and evaluation results of the green growth priorities established in the National Green Growth Strategy, as part of the public consultation process of the 9th National Socio-Economic Development Plan (2021–2025) (Baseline: No [January 2017]; Target: Yes). - Increase in number of revenue sources of the Environment Protection Fund (EPF) (Baseline: 3 – contributions from development partners, contributions from business, and endowment fund [January 2017]; Target: 5). - Disclosure of annual financial audit of the EPF (Baseline: No [January 2017]; Target: Yes). - Number of strategic environmental assessments (SEAs) undertaken for public policies, programs, and strategic plans (Baseline: 0 [January 2017]; Target: 1). - Share of investment projects in the mining, energy, and transport sectors that require an Environmental and Social Impact Assessment (ESIA) (Group 2 Projects listed in Ministerial Agreement No. 8056/MONRE 2013), with complete disclosure of relevant information (that is, screening, scoping, impact assessment, and approval), through the integrated database and public information platform, prior to approval of concessional agreements (Baseline: 0 [January 2017]; Target: 70% of Group 2 projects). - Share of approved road maintenance projects with climate resilience and disaster risks considerations envisaged in the Annual Road Maintenance Plan and Budget that are verified by technical audits. (Baseline: 0 [January 2017]; Target: 50% of approved road maintenance projects). |

| | |
|----------------------------|--|
| | <p>Pillar 3. Incorporating green growth in selected sectors</p> <ul style="list-style-type: none"> - Number of river basins that meet the minimum flow requirements set out in their respective River Basin Plan (Baseline: 0 [January 2017]; Target: 1). - Increase in hectares of production forest areas (PFAs) with certified Sustainable Forest Management operations based on Lao PDR regulations (Baseline: 10,949 hectares in two forest management units [January 2017]; Target: 230,000 hectares in four PFAs certified). - Number of national parks where progress in reaching management objectives is at least moderately satisfactory, as measured by the Management Effectiveness Tracking Tool. (Baseline: 0 [January 2017]; Target: 2 - Nakai Nam Theun and Nam Et-Phou Louey). - Number of inspections by the Ministry of Agriculture and Forestry (MAF) of pesticide sellers for compliance with pesticide regulations per year (Baseline: 0 [January 2017]; Target: 140) - Number of Priority Pollution Watch Sites for which monitoring reports (including at least PM2.5, arsenic, lead, and pathogens concentrations) are regularly updated and publicly disclosed (Baseline: 0 [January 2017]; Target: 3) - Percentage of legally imported paint brands offering unleaded paint in the national market (Baseline: 0 [January 2017]; Target: 100%) |
| Overall risk rating | High |
| Climate and disaster risks | Are there short and long term climate and disaster risks relevant to the operation (as identified as part of the SORT environmental and social risk rating)? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| Operation ID | P159956 |

**IDA PROGRAM DOCUMENT FOR A PROPOSED FIRST PROGRAMMATIC GREEN GROWTH
DEVELOPMENT POLICY OPERATION
TO THE LAO PEOPLE’S DEMOCRATIC REPUBLIC**

1. INTRODUCTION AND COUNTRY CONTEXT

1. **This program document describes a proposed Development Policy Credit in the amount of SDR 28.5 million (US\$38.6 million equivalent) to the Government of the Lao People’s Democratic Republic (GoL), the first in a series of three single-tranche programmatic Development Policy Financing (DPF) operations.** The proposed operation aims to support the GoL in achieving fiscal stability and consolidating its pathway towards green growth.¹

2. **Lao PDR has achieved rapid economic growth in recent years and poverty has declined, but inequality has increased and natural resources are being depleted.** With an average annual growth rate of 8% since 2000, Lao PDR was the second fastest growing economy in the rapidly growing East Asia and Pacific (EAP) region. Gross National Income (GNI) per capita reached US\$1,740 in 2015, making Lao PDR a lower-middle-income country. The poverty rate²—based on the national poverty line—declined from 34% in 2002/03 to 23% in 2012/13 (around 1.5 million people). While notable and welcome, this reduction in poverty was modest, relative to the high aggregate growth over that period, when compared to regional peers. Inequality widened, with the Gini coefficient increasing from 32.5 to 36.2, since the gains for the bottom 40% were lower than for the rest of the population. The Lao PDR’s dependence on natural assets and on economic and social legacies together has shaped a development experience of strong growth with limited inclusion and considerable macroeconomic and environmental risks to sustainability.

3. **Economic growth in Lao PDR has relied on the exploitation of its natural resources and is not sustainable because of the depletion of the resources and increasing adverse environmental effects.** Mining was the driver of growth in the mid-2000s. Later on, hydropower projects, largely expected to meet demand in neighboring countries, were the main source of growth. Recently, a limited structural transformation to service sectors, especially in tourism³, has broadened the growth base. While illegal logging and less well planned agricultural expansion contributed to economic growth, they are also associated with negative environmental impacts. These impacts can be a constraint for new growth opportunities, including tourism or green products that depend on environmental quality. At the same time, the unsustainable use of natural resources, such as water and forests, can impede the generation of future growth from these resources.

4. **Accordingly, environmental indicators for Lao PDR indicate growing pressures, including increasing public health impacts and economic costs.** In the 2016 Environmental Performance Index, Lao PDR ranks 148th out of 180 countries. For ambient and household air pollution, Lao PDR is among the five lowest-ranking countries. The estimated annual cost of environmental health effects in Lao PDR was equivalent to 12.8% of GDP (2015). Household air pollution (HAP) accounts for 38% of these costs, followed by water pollution, sanitation and hygiene (WSH) at 22%, outdoor PM_{2.5} ambient air pollution (AAP) at 21% and lead (Pb) exposure at 19%⁴. Lao PDR’s estimated forest cover has declined to around 40 percent of the territory in 2010 (from 70 percent in 1940 and 47 percent in 1992). In addition, annual

¹ Green growth is defined as a growth pattern that is efficient in its use of natural resources, clean in that it minimizes pollution and environmental impacts, and resilient in that it accounts for natural hazards and the role of environmental management and natural capital in preventing disasters (World Bank 2012).

² Based on estimates from the most recent Lao PDR Expenditure and Consumption Survey (LECS 5); NSEDP 2015.

³ NSEDP, 2015.

⁴ World Bank team estimates.

expected losses from natural disasters are equivalent to a range between 3.3% and 4.1% of GDP, which climate change could further exacerbate.

5. **This unsustainable and highly vulnerable growth pattern is also a risk for the country's poor people.** A significant part of the population, especially the rural poor, depends on natural resources including timber and non-timber forest resources and fish for their income and nutrition. Poor people are often highly exposed to environmental pollution and its health effects due to their reliance on wood and charcoal for cooking, limited access to safe drinking water and adequate sanitation, and living closer to contaminated soil and surface water. Those environmental health risks affect development and productivity, making it harder for vulnerable groups to overcome poverty. Accordingly, an earlier study finds that poverty is correlated with deforestation, fragile soils, indoor air pollution, unsafe water and sanitation, and outdoor air pollution at the district level. At the same time, climate events and natural disasters disproportionately affect poor people, who often have limited means to cope and adapt.

6. **A transition to green growth will be key for Lao PDR, while maintaining strong economic growth, promote equal opportunities and income growth for more people, and protect the environment and human health.**⁵ Green growth is cleaner, more resource-efficient, and more resilient. It reduces the environmental impact of economic activities, such as hydropower, mining, logging, and agriculture, thereby reducing the economic costs associated with health effects and loss of ecosystem functions. Enhanced environmental quality can help to generate new growth opportunities from activities that depend on a green vision, such as tourism and the production and export of green agricultural and forestry products. Green growth also generates opportunities for sustaining economic benefits in the long term by more efficiently managing the resources these sectors depend on, such as water and forests. Many of these benefits can directly benefit poorer people, who often directly depend on, and work in, natural resource sectors, or they can be channeled towards actions that help to make growth more inclusive.

7. **There is a strategic opportunity to support the GoL to promote a greener growth path and help the country meet sustainable development goals (SDGs).** The Vision 2030 and the National Socio-Economic Development Strategy (2016–2025), by providing the guidepost for five-year National Socio-Economic Development Plans (NSEDP), seek to attain the level of an upper-middle-income country through a green growth orientation. Similarly, the SDGs are being mainstreamed into the 8th NSEDP, with Lao PDR being one of the first countries to “localize the SDGs.” With a number of ongoing investment projects and advisory services that are supportive of the green growth agenda, there is a strong basis for scaling up this support. Transitioning towards green growth also contributes to climate action in Lao PDR and the broader Mekong region. The reduction of many air pollutants (such as black carbon) and improved forest management are related to climate change mitigation co-benefits. Hydropower generated in Lao PDR is also a crucial element of the emissions-reduction trajectory not only in Lao PDR, but also in Vietnam and Thailand.

8. **At the same time, macroeconomic risks are high, with the poor likely to be most vulnerable to macroeconomic disturbance.** With public debt estimated to have increased to 68% of GDP at the end of 2016 and the concessionality of new borrowing declining, the latest Debt Sustainability Analysis reclassified Lao PDR into high risk of debt distress. At the same time, parts of the financial sector remain

⁵ A transition to green growth requires actions to reduce pollution and emissions (for example, air, water and soil pollutants) through cleaner consumption and production patterns, to manage natural capital (for example, land, forests and water) more sustainably and efficiently, and reduce vulnerabilities to climate and disaster risks (for example, flooding, storms, and warming temperatures). Green growth is a pathway towards sustainable development.

undercapitalized and at risk while international reserves, covering around 2 months of goods imports and one quarter of the foreign currency deposits in the banking sector, provide a limited buffer against foreign currency liabilities. Failure to address these issues may put into question the delivery of basic services, could threaten price stability, and undermine confidence in the banking sector, with long-term consequences for livelihoods and growth prospects. Furthermore, the close link between green growth and macroeconomic stability come fully at play in Lao PDR. Natural resources are key drivers of economic growth, source of export proceeds and provide livelihoods for a large part of the population. Failure to make economic growth greener—that is, ensure sustainable expansion of the power sector, resilient agriculture, protect natural sights—will reduce potential growth and could trigger instability.

9. **The DPF series is expected to support a package of reforms to strengthen GOL’s capacity to consolidate its pathway towards clean, resource-efficient, and resilient growth.** The reforms program will incorporate green growth principles across the national development strategy and selected sectors. Pillar 1 will support economic management actions aimed at addressing key macroeconomic risks. Pillar 2 will provide the cross-sectoral foundation for improved direction, planning, and accountability to make the sectors of growth cleaner, more resource-efficient, and resilient. Pillar 3 will initiate implementation of targeted actions to reduce the environmental impacts of hydropower, logging, and agriculture, and ensure that growth generated from these sectors is sustainable in the long term. Pillar 3 will also initiate implementation of targeted actions to control air, water, and soil pollution, and improve environmental quality. In addition, the DPF series is expected to contribute to strengthening the green growth dialogue and accountability mechanisms and, consequently, to the country’s branding as “Green, Clean, and Beautiful Lao PDR,” which can help promote new growth sectors such as tourism or green agricultural and forestry products.

10. **Advisory services will complement the DPF series to mitigate the risks posed by constraints in institutional capacity and the program’s moderate complexity.** The advisory services will entail sharing of technical expertise to develop the policy and institutional framework, and facilitating interagency coordination and consultation, all of which will be instrumental for operationalizing green growth across key sectors and oversight ministries. The broad World Bank-financed portfolio will provide technical and financial support in this regard. Substantial upstream dialogue with the GoL aims to ensure solid ownership of reform and realization of prior actions.

2. MACROECONOMIC POLICY FRAMEWORK

2.1 RECENT ECONOMIC DEVELOPMENTS

11. **The Lao PDR economy expanded strongly in recent years, to a large degree driven by the country natural resources (accounting for 44% of total wealth in 2014).** Mining drove growth in the mid-2000s; however, mining’s contribution declined in recent years reflecting the decline in prices as well as weak regulatory environment. In addition, mining may have resulted in unmitigated environmental and social impacts in some cases. Later on, hydropower projects were the main source of growth with Lao PDR increasing installed capacity ten-fold between 2000 and 2016 to above 6,000 MW; this was also through engagement with the private sector. The power sector facilitated investments and export proceeds, and enabled a very successful electrification effort (around 90% of households are connected to the electricity grid). However, it may have expanded with limited consideration of the impact over the broader water basin (catchment management, other water uses, and social aspects) and transboundary issues.

12. **Growth has recently become somewhat more broad-based.** Services expanded, including wholesale and retail trade, as well as tourism and transport due to spillovers from natural resource projects, some liberalization of the economy, as well as fiscal expansion. Tourism revenues increased from US\$173 million in 2006 to US\$725 million in 2016⁶ (5.4% of GDP) as the number of visitors grew by 14% per year on average during this period to reach 4.2 million visitors in 2016. However, growth remains concentrated in low-value-added sectors. Agriculture, where two-thirds of the labor force was engaged in 2012, remains characterized by low productivity, despite some diversification from subsistence (largely) rice production towards commercial cash crops, including vegetables, maize, beans, coffee, banana, rubber, and so forth. There is evidence that, in some cases, adverse environmental and social effects, including the impact from improper pesticide use, have accompanied these current circumstances in the agriculture sector. Significant irregular logging generated large exports receipts, but at a significant cost to the quality of forest cover and with very little contribution to the budget. Manufacturing grew, albeit from a low base and mostly confined to the special economic zones. Rapid growth and a growing consumer base also boosted construction of commercial and residential real estate.

13. **While remaining robust, GDP growth during 2015 and 2016 has been below historical averages.** The decline in commodity prices, unfavorable weather, and some fiscal consolidation resulted in GDP growth moderating to around 7.4% in 2015. The prolonged weakness in commodity prices and the completion of few large projects lowered the growth rate for 2016 to around 7%.

14. **Accommodative macroeconomic policies have contributed to challenges for economic management.** Substantial fiscal expansion in FY12/13,⁷ including significant public sector wage-bill increases and a surge in public investments, replaced what had been a generally sound fiscal policy up to FY11/12. Combined with falling commodity prices, the fiscal deficit widened to 6% of GDP, arrears emerged (on public sector wages and on contracts with the private sector) and public debt, measured as a percentage of GDP, started to increase after bottoming out at 57% of GDP at the end of 2012. Around the same time, direct lending by the Bank of Lao PDR (BOL) to state-owned enterprises, limited oversight over the rapidly growing banking sector as well as tight management of the exchange rate against the US dollar added to demand, kept the current account deficit high and the reserves low, while also increasing the risks in the financial sector. Inflation pressures have been low largely due to the lower oil price. Average inflation declined from 6% in 2013 to 4% in 2014 and to below 2% in 2015 and 2016.

15. **The authorities have recently taken some steps to consolidate the fiscal position.** Moderation of wage increases, slowdown in public recruitment, spending cuts in other categories as well as efforts to improve tax collection reduced the deficit to below 4% of GDP in FY13/14 and FY14/15. However, the reliance on ad hoc fixes rather than systemic solutions as well as prolonged weakness in commodity prices resulted in widening of the deficit to above 6% of GDP in FY15/16. Public debt increased further to around 68% of GDP in 2016 (see table 1). The 2016 Joint International Monetary Fund–World Bank Debt Sustainability Analysis moved the country into the category of high risk of debt distress. However, the high risks are somewhat mitigated as around 20% of the external public debt is for projects, mostly in the energy sector, which are expected to be economically viable and self-financing.

⁶ In 2014, there were a total of 1,916 tourist attractions, of which, 1,093 are natural attraction sites, 541 are cultural attraction sites and 282 are historical attraction sites (Government of Lao PDR, 8th NSEDP, 2015).

⁷ Until 2016, the Lao fiscal year was from October 1 to September 30. Since January 2017, the Lao fiscal year is from January 1 to December 31.

Table 1 Lao PDR: Selected Economic Indicators
(in percent of GDP unless otherwise indicated)

| | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|---|-------|-------|---------------|-------|-------|-------|-------|
| | | | Prel. Est. | Proj. | Proj. | Proj. | Proj. |
| Real sector | | | | | | | |
| Annual percentage change, unless otherwise indicated | | | | | | | |
| GDP, in US\$ billion | 11,8 | 12,4 | 13,4 | 14,6 | 16,0 | 17,5 | 19,2 |
| GNI per capita, in US\$ | 1,660 | 1,740 | 1,839 | 1,954 | 2,105 | 2,265 | 2,431 |
| GDP growth, in percent | 7.5 | 7.4 | 7.0 | 7.0 | 6.8 | 7.2 | 7.2 |
| Fiscal accounts⁸ | | | | | | | |
| Percent of GDP | | | | | | | |
| Revenues and grants | 24.1 | 22.9 | 19.0 | 19.5 | 20.2 | 20.8 | 21.5 |
| Expenditures | 28.0 | 26.6 | 25.2 | 25.7 | 25.0 | 24.3 | 24.0 |
| Balance | -3.8 | -3.7 | -6.2 | -6.2 | -4.8 | -3.5 | -2.5 |
| Public debt | 64.9 | 65.8 | 68.2 | 70.2 | 70.2 | 68.3 | 65.0 |
| External accounts | | | | | | | |
| Percent of GDP, unless otherwise indicated | | | | | | | |
| Exports of goods and services | 40 | 36 | 35 | 34 | 33 | 34 | 35 |
| Imports of goods and services | 56 | 51 | 46 | 49 | 50 | 49 | 48 |
| Current account balance | -17.9 | -17.5 | -14.0 | -18.4 | -19.8 | -19.1 | -17.6 |
| External debt | 93 | 96 | 98 | 104 | 105 | 105 | 104 |
| Gross reserves, in US\$ million | 816 | 987 | 1,002 | 1,129 | 1,259 | 1,371 | 1,506 |
| In months of imports | 1.7 | 2.2 | 2.0 | 1.9 | 1.9 | 1.9 | 2.0 |
| Prices and exchange rates | | | | | | | |
| Inflation, period average | 4.2 | 1.3 | 1.8 | 3.0 | 3.0 | 3.0 | 3.0 |
| Exchange rate, Kip/US\$ | 8,035 | 8,117 | 8,198 | ... | ... | ... | ... |

Source: Lao PDR Ministry of Finance and World Bank staff calculations and projections as of May 2017.

16. **The financial sector has developed but significant parts of the banking sector continue to face challenges.** The financial sector has grown rapidly from a low base, outpacing the regulators' capacity to monitor and mitigate risks. The number of banks has grown from 12 in 2006 to 42 now, and credit growth averaged more than 35% for a decade before slowing to around 17% for 2014–2016. While direct lending by BOL to state-owned enterprises has slowed, BOL has expanded lending to banks and encouraged commercial banks to stimulate credit growth. BOL actions included reducing the discount rate 75 basis points since mid-2015 and introducing caps to commercial banks' deposit and lending rates. The sector's rapid expansion in an environment of nascent supervisory and regulatory capacity created challenges in monitoring bank performance. Capital buffers are thin in some banks, including a capital-to-asset ratio of 2.9% for the group of state-owned banks in mid-2014, while nonperforming loans started rising in 2014, especially at the state-owned banks (SOBs). Around 50% of loans and deposits in the banking sector are denominated in foreign currency, exposing the sector to significant exchange rate risk.

17. **The central bank continues to tightly manage the exchange rate.** The strengthening of the US dollar against currencies in the region resulted in appreciation of the Kip's real effective exchange rate, with the appreciation over the last five years reaching around 30%. The continued real appreciation of

⁸ This macroeconomic framework assumes implementation of fiscal policy measures supported by the DPF series, which will help bring the public debt to 65% of GDP by 2020. In the absence of these policies, the baseline scenario projects public debt at 69% percent of GDP by 2020. The medium-term fiscal framework endorsed by the National Assembly in October 2016 envisages a similar adjustment in the overall fiscal deficit, but has a much stronger emphasis on expenditure consolidation. The tax revenue and administration reforms supported by the DPF series are expected to allow for stronger revenue performance and a more balanced adjustment.

the exchange rate signals a loss of competitiveness of Lao PDR's exports, though wage and unit labor costs indicators remain below what is expected at the country's income level.

18. **The current account improved, however the external deficit remains high and foreign exchange reserves remain low.** Lao PDR exports of metals and timber have stagnated recently in response to lower metal prices and stricter enforcement of regulations on illegal logging. This was offset by growing exports of electricity from new capacity coming on stream, as well as from agriculture and manufacturing products. Lower fuel prices and completion of fewer large projects lowered imports, with the current account deficit projected to narrow to 14% of GDP in 2016. Continued strong foreign direct investment financed the deficit on the current account, but there has also been growing indebtedness, with total public and private external debt increasing to around 98% of GDP in 2016. At around US\$1 billion in December 2016, reserves remain low by most metrics, covering around 2 months of goods imports and one quarter of the foreign currency deposits in the banking sector. Low buffers expose Lao PDR to significant risks from external (terms of trade and capital flows) and confidence shocks, especially in an environment of a tightly managed exchange rate and high dollarization.

2.2 MACROECONOMIC OUTLOOK AND DEBT SUSTAINABILITY

19. **The economic outlook for the medium term remains broadly positive, subject to improved macroeconomic management, strengthened planning and management in the power sector, and reforms that improve the business environment.** In the baseline scenario, growth is expected to average around 7% per year as a favorable regional economic outlook provides an important pull factor for the Lao PDR economy. China's growth rates are expected to moderate but remain high, and economic growth in Thailand is expected to recover.⁹ At the same time, copper prices are expected to edge up. A number of power projects are expected to come on stream over the medium term, adding around 500–1,000MW of installed capacity annually. This should ensure a robust outturn for Lao PDR exports and FDI. The non-resource sector is expected to remain dynamic as rents from the resource sector trickle down into higher domestic demand, and reform efforts to improve the business environment—also resulting from the closer integration under the ASEAN Economic Community—open opportunities for the private sector. Improved governance of natural resources, including through measures supported by the proposed DPF series, will support continued growth in tourism.

20. **Fiscal policy over the medium term will aim to gradually improve the sustainability of public accounts.** The medium-term fiscal framework was revised in October 2016 to reflect assumptions that are more realistic regarding the growth outlook. On the revenue side, since early 2016, import duties on fuel imports have been calculated on actual invoice price rather than outdated reference prices, while most fuel tax exemptions for investment projects, which cost the budget around 0.1% of GDP per year, were removed in August 2016. To improve tax administration, the authorities revised the value-added tax law to simplify filing and amended the implementing instruction to ensure enforcement that is more effective (the latter is supported by the proposed DPF). Proceeds from electricity exports and contribution to GoL revenue are also expected to increase. Some efforts supported by the proposed DPF (measures to define and collect financing sources for the Environment Protection Fund as well as to introduce an environment tax) are also likely to help strengthen the fiscal position in outer years. These adjustments envisioned to be supported by the proposed DPF are expected to reduce the fiscal deficit to below 3% of GDP by 2020, which would help bring public debt to GDP down to 65% in the same period (See table 2). In addition, the authorities will complete a Comprehensive Tax Review by mid-2018, covering both tax policy and

⁹ World Bank Group. 2017. Global Economic Prospects, January 2017 Weak Investment in Uncertain Times. Washington, DC: World Bank.

administration, and will implement its key recommendations by 2020. At the same time, the restructuring of the Tax Department is expected to be completed by 2020 (proposed DPF3 trigger), including the operationalization of key functions such as compliance, risk monitoring, large tax payers office and so on. At the same time, the GoL intends to keep tight control over spending, including through control over employment and moderate wage increases. Renegotiating existing contracts, as well as the requirement to allocate 30% of capital spending allocations for clearance of arrears, is expected to gradually resolve the arrears issue. This will create some fiscal space (estimated at up to 1 percentage point [pp] of GDP in 2017); however, it will be absorbed by the GoL's contribution to the Lao PDR section of the proposed Kunming–Singapore rail line (see table 2 and Box 1), with the deficit projected to remain at 6.2% of GDP. The deficit is expected to gradually decline to around 2.5% of GDP by 2020.

21. **Adjustments in monetary and exchange-rate policies can help Lao PDR in achieving the objective of preserving stability.** Keeping credit expansion at sustainable rates remains essential to lower pressure on external balances and the exchange rate, especially in an environment of high fiscal deficits. In this regard, it will be important to ensure that the authorities' policies to increase credit (BOL lending to banks, interest rate caps) do not result in excessive domestic demand. BOL aims to phase out its direct lending activities. The amendments to the Law on Bank of Lao PDR and the Law on Commercial Banks, which are planned to be introduced by 2020 and proposed to be supported by this series (DPF3), are expected to align BOL with good international practice in this area. Similarly, promotion of a more market based monetary framework by BOL instead of applying direct instruments could better steer economic activity. The authorities agree that greater exchange rate flexibility and higher reserves would safeguard stability and help Lao PDR adjust to external shocks. While a sharp adjustment in the exchange rate could have a significant negative impact, given the foreign currency liabilities in both the public and private sector, using the flexibility of the current exchange rate regime (+/- 5% band), as well as introducing supportive monetary and fiscal policies to manage kip liquidity, could help. Once a more credible monetary framework is in place and economic agents are better prepared to manage greater exchange rate volatility, Lao PDR could move to greater exchange rate flexibility. Under a scenario of gradual fiscal consolidation and sustainable credit expansion, inflationary pressures are expected to remain manageable, with inflation rates of around 3%.

Table 2 Fiscal Accounts (in percent of GDP)¹⁰

| | 13/14 | 14/15 | 15/16 Est. | 2017 Proj. | 2018 Proj. | 2019 Proj. | 2020 Proj. |
|-------------------------------------|-------|-------|---------------|---------------|---------------|---------------|---------------|
| Total revenue and grants | 24.1 | 22.9 | 19.0 | 19.5 | 20.2 | 20.8 | 21.5 |
| Tax revenues | 15.6 | 15.8 | 14.6 | 14.9 | 15.5 | 16.1 | 16.7 |
| Non-tax revenues | 2.9 | 2.5 | 2.5 | 2.4 | 2.5 | 2.4 | 2.5 |
| Grants | 5.6 | 4.6 | 2.3 | 2.2 | 2.2 | 2.1 | 2.1 |
| Total expenditure | 28.0 | 26.6 | 25.2 | 25.7 | 25.0 | 24.3 | 24.0 |
| Current expenditure | 14.7 | 15.0 | 15.5 | 14.8 | 14.7 | 14.5 | 14.5 |
| Wages | 9.3 | 8.7 | 8.4 | 8.0 | 7.8 | 7.7 | 7.4 |
| Transfers and subsidies | 2.6 | 2.5 | 3.1 | 2.8 | 2.8 | 2.7 | 2.8 |
| Interest | 1.0 | 1.1 | 1.4 | 1.3 | 1.4 | 1.4 | 1.5 |
| Purchases of goods and services | 1.8 | 2.8 | 2.7 | 2.7 | 2.7 | 2.7 | 2.7 |
| Capital expenditure and net lending | 10.4 | 9.8 | 8.1 | 9.2 | 8.8 | 8.4 | 8.2 |
| Other, including arrears clearance | 2.8 | 1.8 | 1.7 | 1.6 | 1.5 | 1.4 | 1.3 |
| Overall balance | -3.8 | -3.7 | -6.2 | -6.2 | -4.8 | -3.5 | -2.5 |

Source: Lao PDR Ministry of Finance and World Bank staff calculations as of May 2017.

¹⁰ Please see footnote 8.

22. **In the financial sector, the BOL aims to strengthen the supervisory and regulatory frameworks.** A new capital adequacy regulation is planned to be adopted in 2017, while amended Bank of Lao PDR Law and Commercial Bank Law, in line with good international practice, are planned to be in place by 2020. Furthermore, the authorities have recently started to explore options for the restructuring of two state-owned banks (improving governance and recapitalization) which should help keep risks manageable. A high-level inter-agency committee already produced an options paper for restructuring, and a final decision on the option is expected in 2017. The BOL has also requested private banks with weak capital levels to develop and submit for BOL approval plans to increase capital to minimum required levels over the medium term.

23. **The current account deficit is expected to widen as the railway project increases imports over the medium term.** Exports will grow as a number of hydropower projects are completed and start generating export proceeds and offset the gradual decline in mining exports which are expected to peak (in volume terms) by 2019. Improved water resource management, supported by the proposed DPF, is important to ensure sustainable development of the hydropower potential in Lao PDR. The anticipated fiscal consolidation and continuation of recent trends in agriculture and manufacturing exports are expected to help. However, the large import content of the railway project is expected to widen the current account deficit by around 3–5 percentage points of GDP. FDI is expected to cover around half of the deficit, with debt financing, increasingly on less concessional term, covering the remaining financing requirements (see table 3). Foreign exchange reserve levels are expected to increase, though import coverage will only gradually improve.

Table 3: Financing Requirements and Sources (in percent of GDP)

| | Fiscal financing | | | | | External Financing | | | | |
|--------------|------------------|------|------|------|------|--------------------|------|------|------|------|
| | 15/16 | 2017 | 2018 | 2019 | 2020 | 2016 | 2017 | 2018 | 2019 | 2020 |
| Requirements | 7.9 | 8.1 | 7.2 | 5.8 | 5.3 | 15.9 | 21.3 | 22.7 | 22.2 | 21.0 |
| Deficit | 6.2 | 6.2 | 4.8 | 3.5 | 2.5 | 14.0 | 18.4 | 19.4 | 19.1 | 17.5 |
| Amortization | 1.7 | 1.9 | 2.4 | 2.3 | 2.8 | 1.8 | 2.1 | 2.5 | 2.5 | 2.8 |
| | | | | | | 0.1 | 0.9 | 0.8 | 0.6 | 0.7 |
| Sources | 7.9 | 8.1 | 7.2 | 5.8 | 5.3 | 15.9 | 21.3 | 22.7 | 22.2 | 21.0 |
| Ext. fin. | 4.3 | 6.7 | 5.6 | 4.1 | 3.5 | 8.7 | 10.8 | 12.5 | 12.7 | 10.7 |
| Dom. fin. | 3.6 | 1.4 | 1.6 | 1.7 | 1.8 | 6.0 | 7.9 | 6.2 | 5.3 | 5.0 |
| | | | | | | 1.2 | 2.6 | 4.0 | 4.2 | 5.3 |

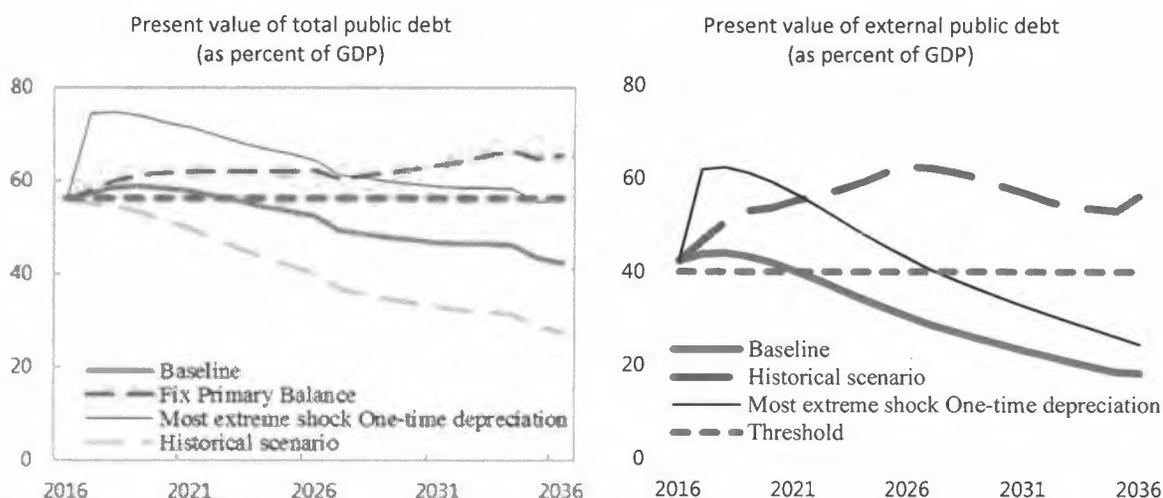
Source: Lao PDR Ministry of Finance and World Bank staff calculations and projections.

24. **The 2016 Joint IMF –World Bank Debt Sustainability Analysis (DSA) moves Lao PDR to high risk of debt distress in response to growing public debt combined with reduction in the concessionality of new borrowing, including significant issuance of market-based bonds at the Thai capital market.**¹¹ Lao PDR's public debt has been rising over the last few years, with increasing amounts contracted on more commercial terms, including through sovereign bond issuance in the Thai market. Combined with weak performance of government revenues, the public debt burden increased and Lao PDR breached few debt distress thresholds triggering the change in the risk of debt distress. Without a sharper adjustment in policies, Lao PDR will breach the thresholds on debt-to-GDP, as well as debt and debt-service-to-revenue

¹¹ Lao PDR first issued bonds at the Thai capital market in 2013. By the end of 2015, the outstanding amount of bonds reached around US\$840 million, or around 13% of the total external public debt stock. With the first 3-year bond issued in 2013 maturing in 2016 and the issuance of a US\$310 million bond in late-2016, the stock of bonds issued at the Thai market at the end of 2016 is estimated to reach around US\$1.1 billion. The maturities range from 3 to 12 years, with coupon rates ranging from 3.5% to around 6%.

ratios for an extended period (see Figure 1). However, with the stronger adjustment envisioned to be supported by the proposed DPF that would reduce the fiscal deficit to below 3% of GDP by 2020 and limit off-budget borrowing, Lao PDR is projected to return to moderate risk of debt distress by the end of the proposed DPF series (2020) (see table 2). In addition, risks are mitigated somewhat as around 20% of the external public debt is for projects, mostly in the energy sector, which are expected to be economically viable and self-financing. So far, the final beneficiaries have regularly serviced their liabilities, and World Bank supported efforts to improve the governance and operations of Électricité du Laos (EDL) are expected to improve the sector’s viability and lower the risks to the budget.

Figure 1 DSA Summary Chart



Source: 2016 Joint World Bank–IMF Debt Sustainability Analysis.

25. **With Lao PDR moving above the threshold for high risk of debt distress, the fiscal space for future borrowing has narrowed significantly.** This is raising concerns over debt sustainability and over the country’s capacity to absorb new financial commitments. While the development needs are high, the authorities need to make important trade-offs when considering the large number of proposed projects, such as the railway, roads, airports and bridges. Ensuring that the debt burden remains sustainable will require increased awareness of risks of non-concessional borrowing, as well as prioritization to ensure borrowing for priority and credible projects with the highest rates of return. This will require enhanced capacity in debt management, debt sustainability analysis, and project viability appraisal. In this regard, the revised budget law and the upcoming public debt law, which increases the reporting and analytical requirements, are a welcome improvement. In addition, the public debt law, expected to be promulgated during 2017, will strengthen the role of the Ministry of Finance (MOF) in managing public debt. In response, the MOF is undergoing a restructuring that will merge all debt related functions in an empowered department. The MOF will require significant technical assistance in this process and the World Bank Group is ready to provide support.

26. **While the macroeconomic environment remains challenging, the evolving macroeconomic framework has improved compared to a few years ago and can be considered adequate for the purposes of the proposed DPF series.** On the one hand, the fiscal and current account deficits and debt levels are high and will remain elevated in the near term. On the other hand, the proposed fiscal measures (removal of exemptions, expanding the tax base, and strengthening tax administration) and financial sector policies (restructuring of weak banks, and better regulation and supervision of banks) are

consistent. Those measures, together with a stronger debt management function, can stabilize and lower debt levels and improve sustainability prospects over the medium term. Recent efforts on the public finance management agenda, the elimination of some tax exemptions and the establishment of a National Economic Steering Committee to better coordinate economic policies are strengthening the credibility of the program. Admittedly, the track record is yet to be firmly established, and the proposed programmatic series provides an important opportunity to advance the policy dialogue, including through inclusion of selected measures in the DPF program.

27. **The risks to this outlook are significant.** The ongoing uncertainty in the global economy and related enhanced volatility in commodity prices could negatively affect the Lao economy by reducing demand for its exports and put further pressure on the GOL revenues and the already low reserves. Similarly, realizing the opportunities for the private sector would require reforms in a range of areas that would move Lao PDR from the current, very low, rankings on international measures of competitiveness. In addition, liquidity and solvency of fiscal accounts can be tested in case the announced fiscal consolidation is derailed. If not addressed, continued pressures on the exchange rate risk igniting inflation, testing the stability of the financial sector and sustainability of public debt. Similarly, failure to keep credit growth at manageable levels and address weaknesses in the financial sector can trigger a larger instability and create a significant fiscal burden in case risks materialize.

2.3 IMF RELATIONS

28. **The WBG maintains close collaboration with the IMF on macroeconomic monitoring in Lao PDR resulting in a joint Debt Sustainability Analysis and largely shared views on developments and outlook.** The IMF Board discussed the latest Article IV on January 30, 2017, and noted similar concerns on the fiscal, financial, and exchange-rate policies (see annex 4 for the Public Information Notice). Furthermore, there is strong cooperation between World Bank Group and IMF teams providing technical assistance, including in financial sector, public finance management, macroeconomic framework and statistics. This has resulted in largely shared view on the economic management priorities, including on the need for fiscal consolidation, managing the risks in the financial sector and strengthening buffers.

3. GOVERNMENT'S PROGRAM

29. **The GoL program was consolidated in the 8th National Socio-Economic Development Plan (2016–2020), which draws extensively on the reflection of 7th NSEDP (2010–2015) implementation and MDG progress, particularly on the shortcomings in inclusion, environmental protection, and human development.** With high pressure from investors and neighboring countries, and rapid development in Lao PDR, the rapid increase in investment activities has led to a culture of an ad hoc and reactive approach to development and a weak focus on sustainability. Illicit activities related to natural resource use contribute to labor exploitation and threaten the safety and health of workers, communities, and the environment. These shortcomings have resulted in an increased emphasis on better management of natural capital and expansion of opportunities for cleaner and sustainable growth. Lao PDR is aiming to undercut a high-impact growth path and leapfrog to brand the nation as “Green, Clean, and Beautiful Lao PDR.” Furthermore, increasing fiscal difficulties, a growing public debt and weaknesses in the financial sector have elevated the importance of macroeconomic stability as a necessary precondition for sustainable growth.

30. **Lao PDR's medium-term development program towards 2030 aims to reach the status of an upper-middle-income country with a green growth orientation.** The Vision 2016–2030, formally adopted by the National Assembly during the April 2016 Session, envisages Lao PDR to become an upper-middle-

income country through sustainable agriculture and forestry, effective environmental protection, and natural resource use, and green and environmentally friendly industrialization and modernization. This vision is complemented by the National Socio-Economic Development Strategy 2016–2025, which describes the goal for graduating from LDC status by 2020 “through continuous and inclusive development, along with sustainable and green growth.” The sustainable and green growth dimension of the goal is supported through Outcome 3 of the 8th NSEDP (2016–2020), which states that *natural resources and the environment are effectively protected and utilized according to green growth and sustainable principles*. This is further supported by Outcome 1 on *continued, firm, and inclusive growth* emphasizing the requirement for macroeconomic stability and improvement of the quality of investment by applying policies to reduce environmental degradation and ensure long-term environmental benefits.

31. **The new government has demonstrated, at the highest level, a strong commitment and leadership on green growth. Additionally, Lao PDR’s national actions to contribute to global goals and agreements, such as the SDGs and the Paris Agreement, further underpin the transition towards green growth.** Transitioning from the MDGs to the SDGs, the GoL recognized the increased relevance of environmental sustainability and mandated the Ministry of Natural Resources and the Environment (MONRE) with a more prominent oversight role of SDGs. Lao PDR is one of the first countries preparing to implement the global agenda by localizing the SDGs. Lao PDR is also increasingly committed to addressing climate change, as expressed in the 2010 National Strategy on Climate Change (NSCC), sectoral climate change action plans for 2013–2020, the Nationally Determined Contributions (NDC) submitted to the COP21 of the UNFCCC, and the ratification of the Paris Agreement on September 17, 2016. With clear support from the National Assembly and leadership of the Prime Minister, the GoL has endorsed green growth as an overarching framework and is seeking support to take the agenda forward on the policy, institutional and financing fronts. The Party Congress, which convenes every five years, adopted the 10th Party Resolution on January 23, 2016, that committed to the new SDGs and prioritized effective utilization of natural resources, and industrialization and modernization with principles of green development. On macroeconomic management, the authorities are aware of the risks and are responding with an evolving set of policies aimed at lowering risks to macroeconomic stability, including in fiscal policy public debt management and the financial sector.

4. THE PROPOSED OPERATION

4.1 LINK TO GOVERNMENT PROGRAM AND OPERATION DESCRIPTION

32. **The reforms supported by this DPF series are closely linked with the strategic priorities set by the 8th NSEDP (2016–2020), supporting the GoL in strengthening the foundations and accelerating implementation of its green growth agenda.** The reform program is directly linked to Outcome 3 to effectively protect and utilize natural resources and the environment according to green growth and sustainability principles. It also supports Outcome 1 to promote continued, firm and inclusive growth through maintaining macroeconomic stability, diversification into non-extractive resource sectors (such as nature-based tourism), and improved market access (by improving regional agriculture standards). Annex 7 provides a summary of the links between the government program, SDGs and the DPF series.

33. **The Program Development Objective of the DPF series and its first operation (DPF1) is to support the Government of Lao PDR in achieving fiscal stability and consolidating its pathway towards green growth.** The reform program consists of three pillars. Pillar 1 supports efforts to reduce risks to macroeconomic stability. Pillar 2 establishes the foundations of and cross-sectoral instruments for green growth planning, financing and monitoring, including decision making processes to make economic activities and investments cleaner, more resource-efficient, and more resilient. Pillar 3 aims to consolidate

green growth principles in selected sectors, promoting sustainable use of the country's key natural assets, water and forests, while developing cleaner production and consumption systems through less polluting agricultural production and improved management and monitoring of pollution.

34. **Based on lessons of the previous DPF series in Lao PDR, the World Bank's engagement on green growth in the country prioritizes focused support across key sectors.** Lessons learned from the Poverty Reduction Support Operation (PRSO) in Lao PDR and other World Bank financed operations, including environmental DPF in general,¹² have informed the specific policy actions selected for this DPF series. The lessons from the PRSO led the operation design to (i) emphasize horizontal inter-ministerial cooperation; (ii) seek fluid vertical communication within ministries and departments; (iii) identify a lead agency and build on high-level leadership from the Prime Ministers' Office; (iv) keep adequate intervals between operations and take into account the time needed to achieve the results of long-term environmental policies; and (v) complement the DPF series with a package of technical assistance in combination with ongoing and planned investment projects to ensure active engagement and ownership by line ministries (see section 4.3, table 5). The operation also takes into account institutional fragmentation, challenges to draw substantive collaboration at the decision-maker level, and frequent government restructuring and personnel reshuffling by emphasizing process and intermediate steps in identifying policy actions.

35. **The proposed green growth DPF series is expected to support Lao PDR in achieving the twin goals of poverty eradication and shared prosperity in a sustainable manner.** In a resource-dependent economy like Lao PDR, a transition to green growth will enable a more sustainable growth path, which can provide the basis for poverty eradication and shared prosperity in the longer term. A focus on lowering risks to macroeconomic stability is critical to growth and poverty reduction. Similarly, some of the policy measures can also directly strengthen economic benefits in the short term, like those that aim at greater efficiency in the use of water and forest resources. Other policy measures can indirectly increase revenues from activities that depend on a green image, such as tourism and exports of agricultural produce. These actions can enhance growth and job creation. Poor people in Lao PDR are most exposed to inflation shocks and impact from macroeconomic instability, and they depend mainly on natural assets for their livelihoods and are disproportionately exposed to environmental risks. Consequently, these policy actions are expected to bring direct benefits for poorer groups.

4.2 PRIOR ACTIONS, RESULTS AND ANALYTICAL UNDERPINNINGS

Pillar 1. Strengthening prospects for fiscal sustainability and financial sector stability

Policy Track 1.1. Lowering Risks to Macroeconomic Stability

36. **A range of macroeconomic risks threaten development progress in Lao PDR.** The fiscal deficit widened to around 6% of GDP and public debt increased to 68% of GDP in 2016. Parts of the banking sector have weak buffers and pressures emerged on the exchange rate. Improving sustainability prospects will depend on fiscal consolidation, improved public debt management and lowered risks in the financial sector. Progress on fiscal consolidation will require efforts to strengthen revenue performance while more effectively managing expenditures.

37. **In order to take a faster fiscal adjustment path, the GoL has taken actions to phase out tariff exemptions on fuel imports for investment projects, limit civil service intake and improve the value-**

¹² IEG, 2016. Lessons from Environmental Policy Lending. IEG Learning Product. World Bank Group, Washington, DC, USA.

added tax (VAT) collection. The DPF series is supporting the GoL's efforts in eliminating the tariff exemptions on fuel imports for investment projects as well as in improving enforcement of the value-added tax through adopting a new VAT Implementing Instruction. On the expenditure side, the proposed DPF supports the government policy to keep the civil service intake quota to 5,000 workers (gross).

***Prior Action #1:** The Recipient, through the Prime Minister, has taken steps to support fiscal consolidation, through (i) eliminating tariff exemptions on fuel imports for investment projects, as evidenced by Notification No. 1152/PM dated 9 August 2016; and (ii) limiting the intake of civil servants to up to 5,000 in 2017, as evidenced by Decision No. 73/PM dated 29 August 2016; and through the Ministry of Finance (iii) has revised the Implementing Instructions for the Value-Added Tax as evidenced by Instruction No. 0077/MF dated 11 January 2017.*

38. **Indicative DPF2 and DPF3 triggers.** For the DPF2, the authorities intend to advance fiscal consolidation, including through continued efforts to increase revenues (for example, through higher excise rates), and adopting an overall fiscal framework that will lower the deficit to 4.8% of GDP in FY18 and further to 3.5% of GDP by FY19. Under DPF3, the deficit is expected to be reduced to around 2.5% of GDP (FY20). To support these efforts, the authorities will complete a comprehensive tax review (DPF2 trigger), implement its key recommendations (DPF3 trigger), and restructure the Tax Department to operationalize key functions such as compliance, risk monitoring, and an office on large taxpayers (DPF3 trigger). These efforts are expected to be complemented with improved public debt management and strengthened financial sector stability in outer operations. Under public debt management, the authorities plan to adopt a medium-term debt strategy, DSA and a borrowing plan consistent with lowering of public debt to 65% of GDP by 2020 (DPF2 trigger) and to enhance reporting on debt and risk indicators (DPF3 trigger). On financial sector stability, the authorities are committed to producing and publishing financial soundness indicators (DPF2 trigger) as well as bringing critical pieces of legislation (Bank of Lao PDR law and/or Commercial Bank Law) in line with good international practice (DPF3 trigger). During this period, the authorities are also committed to advancing with the restructuring of the weak state-owned banks and some steps in this process could be supported under the proposed DPF series.

39. **Expected results.** The results will be measured through (i) fiscal consolidation supported by higher tax revenues (Baseline: 14.6% of GDP in FY15/16; Target: 16.7% of GDP in FY20); (ii) fiscal consolidation by lower wage bill (Baseline: 8.4% of GDP in FY15/16; Target: 7.4% of GDP in FY20); (iii) reduction in public debt (Baseline: 68% of GDP in 2016; Target: 65% of GDP by 2020); and, (iv) public reporting of compliance with regulations of the Capital Adequacy Ratio by type of banks (Baseline: Not reported [January 2017]; Target: At least regulatory minimum).

Pillar 2. Consolidating green growth principles across the national development strategy

Policy Track 2.1. Building the Foundation for Green Growth Planning and Monitoring

40. **The GoL has taken preliminary steps to incorporate green growth principles into national strategy and development planning, focusing on institutions and processes for planning and monitoring.** The National Assembly has adopted the 8th NSEDP (2016–2020) that set forth outcomes and outputs associated with environmental protection and sustainable natural resources management. These outcomes and outputs signal a transition to greener growth integrating the principles of clean and resource-efficient growth into the development plan. The Ministry of Planning and Investment (MPI) is in charge of designing a “Green Growth Strategy” and a “Green Growth Development Center” for green

growth planning and implementation.¹³ Based on an overall strategy, green growth priorities can then be reflected in planning and budgeting instructions for national annual development and investment plans, and for sector strategies and plans. In addition, the GoL has established the Green Growth National Steering Committee (GGNSC) to guide green growth planning, implementation, monitoring and reporting. The GGNSC is chaired by the Deputy Prime Minister/Minister of Finance, operationalized by MPI as Secretariat, and coordinated by the MIP Department of Planning (MPI DOP). Members of GGNSC include representatives from several ministries including MONRE, MAF, MEM, MOIC, and MPWT. It is mandated to lead and oversee the country's broad green growth agenda. The GGNSC will also be responsible for ensuring that the progress and lessons learned inform subsequent NSEDPs and longer term plans.

41. **This DPF series and its first operation (DPF1) are expected to build on and strengthen these efforts by supporting the development of the institutions for planning and monitoring of green growth actions.** DPF1 will support the GoL on development planning by (i) integrating green growth principles into the NSEDP, and (ii) establishing cross-sectoral policies aimed at reducing environmental impacts of key economic activities and creating opportunities for sustained growth from the sustainable use of natural resources and a greener image of the country. To foster the transparency and accountability of monitoring actions, DPF1 will build a results-based monitoring and reporting system. As an example, results from the 8th NSEDP will be evaluated to underpin the formulation of the next five-year plan. As such, DPF1 will contribute to progress on the SDGs, implementation of the NDC, and advancing towards upper-middle-income country status.

Prior Action #2: The Recipient has incorporated the principles of green growth in national development planning through (i) the National Assembly adopting the 8th NSEDP (2016–2020) that sets forth Outcome 3 and Outputs 1 to 3 associated with environmental protection and sustainable natural resources management as evidenced by Resolution No. 9/NA dated 22 April 2016; and (ii) the Prime Minister establishing the National Green Growth Steering Committee to oversee the planning, implementation, monitoring, and evaluation of the country's green growth agenda, as evidenced by Agreement No. 95/PM dated 8 December 2016.

42. **Indicative DPF2 and DPF3 triggers.** Before DPF2, the GoL expects to adopt a National Green Growth Strategy, including a specific monitoring and evaluation framework for green growth priorities established in such strategic plan. The strategy will present a 10-year agenda for a transition to greener growth, including implementable actions, targets, and indicators to measure progress. Subsequently, before DPF3, the GoL plans to establish and start implementing a transparency mechanism to (i) report the monitoring results of green growth priorities, and (ii) set the basis for green growth planning in the NSEDP (2021–2025).

43. **Expected results.** The results will be measured through the disclosure of monitoring and evaluation results of the green growth priorities established in the National Green Growth Strategy, as part of the public consultation process of the 9th NSEDP 2021–2025 (Baseline: No [January 2017]; Target: Yes).

¹³ Arrangement No. 1751/GO dated December 8, 2014

Policy Track 2.2. Strengthening Country Instruments for Cleaner and Resilient Green Growth Financing

44. To strengthen its financing ability to support the transition towards cleaner and resilient growth, the GoL has taken preliminary steps to strengthen green fiscal policies. In 2016, GoL terminated tariff and tax exemptions for fuel imports and is making renewed progress on elaboration of the environmental tax provisions first introduced in the 2011 Amended Tax Law¹⁴. In addition, a multi-sector body under MOF'S leadership is overseeing the development of a roadmap to identify pollution problems to address through environmental taxes, charges, fees and fines, and how they can be coordinated and applied in Lao PDR, taking into account potential distributional impacts.

45. The DPF series is expected to support the GoL to augment the available funding for green growth priorities through the Environment Protection Fund by enhancing the fund's management and operationalizing green fiscal instruments. The EPF has been set up as one of the financing vehicles for environmental protection and rehabilitation. Currently, the EPF has three revenue sources: (i) grants or credits from international development partners; (ii) national budget, including resources from soft loans; and (iii) voluntary contributions by the private sector as compensation for infrastructure projects. The latter, however, represents a small portion of EPF revenues. For instance, only 1.9% of the EPF resources originated from the private sector between 2006 and 2010.¹⁵ Throughout the DPF series, the GoL will seek to diversify and expand the EPF funding sources—ranging from donor contributions to environmental taxes, charges, fees and fines, through (i) strengthening the complementarities between different fiscal instruments; (ii) improving the enforcement of existing legislation on selected taxes, charges, fees, or fines; and (iii) strengthening the transparency for the resources collected for the EPF and their uses. Beyond the EPF revenue sources, the GoL will consider interventions to encourage private sector investments in green growth in the NGGS. A more stable financial sector, which is expected to result from the policy measures supported under Pillar 1, will increase the private sector's ability to undertake such investments. With the support of DPF1, the GoL will strengthen the EPF through streamlining its operations in line with the Environmental Protection Law.¹⁶

Prior Action #3: *The Recipient, through the Prime Minister, has restructured the Environment Protection Fund (EPF) with provisions that (i) create an inter-ministerial governance mechanism to manage the EPF operations and resources, (ii) require revenues and expenditures to be operated by the National Treasury System, and (iii) specify eligible revenue sources, as evidenced by Decree No. 94/PM dated 8 March 2017.*

46. **Indicative DPF2 and DPF3 triggers.** In DPF2, the GoL will establish the legal framework to (i) increase the EPF revenue generation, including from environmental fiscal instruments, and (ii) mechanisms for prioritizing the EPF resource allocation. Those legal instruments will regulate the revenue sources and create mechanisms of improving collection. With this purpose, the GoL will identify pollutants

¹⁴ As per the Amended Tax Law No.05/NA dated December 20, 2011, Chapter 4 on Environmental Tax introduced environmental tax based on the polluter pays principle and ascribes the environmental tax to the purpose of treatment, rehabilitation or cleaning of the pollution and waste (Article 58).

¹⁵ Irawan, S., S. Vichit, B. Phothisane, D. Lopaying, S. Ounniyom, and A. Heikens. 2012. *Case Study Report: Environmental Protection Fund in Lao PDR*. UNDP/EPF working paper. <http://www.adaptasiapacific.org/sites/default/files/events/Lao%20EPF%20Case%20Study%20report%20-%20final.pdf>

¹⁶ As per Environment Protection Law No. 29/NA dated December 11, 2012, Articles 52, 55 and 56 introduce obligations and responsibilities of natural resource users and entities implementing investment projects – including paying environmental royalties, ecosystem services and protection fees in accordance to specific regulations, remunerating damages resulting from natural resource uses and investment activities.

or activities to address and the payment levels to be levied through green fiscal instruments. The GoL will also set up a transparency mechanism to disclose publicly, on a regular basis, the EPF resources collected through each revenue source and the selection and justification for resource allocation to environmental priorities.

47. **Expected results.** The results will be measured by the number of revenue sources of the EPF (Baseline: 3 – contributions from development partners, contributions from business, and endowment fund [January 2017]; Target: 5) and disclosure of annual financial audits of the EPF (Baseline: No [January 2017]; Target: Yes).

Policy Track 2.3. Shifting towards Decision Making Informed by Priorities for Environmental Protection and Climate Resilience

48. **Current planning and decision making on public and private investments lack rigorous integration of relevant green growth considerations.** Development plans and decision making for investments are mainly driven by fiscal costs and benefits without adequately internalizing environmental and social externalities or consider potential risks from unforeseen events such as climate change and disasters. Mitigating potential impacts will lead to reduced degradation, a healthier environment, and lower capital losses. The 2012 Environmental Protection Law recognizes the need for mainstreaming environmental considerations into policies, strategies, and plans with tools such as Strategic Environmental Assessment (SEA). Yet, these tools have not been fully developed, institutionalized, or are facing a quality control, budgeting, and planning challenges in implementation.

49. **The DPF series is expected to address policy, legal, and regulatory gaps that have prevented the integration of green growth-related assessments and information into investment planning.** The GoL has started to strengthen the legal framework for upstream planning with tools such as the SEA. In particular, the DPF series will assist the GoL in introducing a legal requirement for SEA to include environmental considerations in policies, strategies, programs, and plans. This regulation, jointly prepared by the environment, planning and economic sector ministries, defines the roles, responsibilities and main procedural steps for establishing an SEA system in Lao PDR. DPF1 will enable inter-ministerial discussion and awareness about the value of improved investment planning based on international good practices. In particular, DPF1 will support the GoL's efforts to introduce SEA for integrating environmental considerations into policies, strategies, plans, and program decision making processes.

Prior Action #4: *The Recipient, through the Prime Minister, (i) has mandated MONRE to collaborate with key line sectors in the preparation of sectoral Strategic Environmental Assessments, as evidenced by Decree No. 445/PMO dated 19 December 2016, and, through MONRE, (ii) has required Strategic Environmental Assessments in the formulation of all policies, programs, and strategic plans, to incorporate environmental and social sustainability considerations, and the SDGs in public planning, as evidenced by Ministerial Decision No. 483/MONRE dated 6 February 2017.*

50. **Indicative DPF2 trigger.** In DPF2, the GoL will issue a ministerial decision from MONRE (in consultation with MPI) to establish detailed procedures for information disclosure and public participation in SEAs.

51. **Expected results.** The results will be measured through the number of SEAs of public policies, programs, and strategic plans undertaken (Baseline: 0 [January 2017]; Target: 1). The target refers to the complex and transformational policy level SEA of the National Green Growth Strategy (NGGS). This will be the first time that the GoL leads a non-traditional SEA. As such, the target SEA will not only contribute to

the design of the NGGS, but also enhance the government's capacity to conduct this type of analytical work. Through this pioneer exercise, the GoL will also refine the methodologies and detailed guidelines to conduct SEA of other policies, programs and strategies.

52. **In parallel, improved application of the Environmental and Social Impact Assessment (ESIA) system is expected to help make growth more resource-efficient and cleaner, by minimizing the environmental impacts of investment projects.** The GoL will design and adopt new regulations to help strengthen the effective application of ESIA legislation by improving coordination among key agencies during the review, approval, and monitoring of ESIA on investment projects, including notably through improved disclosure of information to the public. As in many developing countries, ESIA procedures in Lao PDR have been designed to safeguard the environment from damages by investment projects. Through ESIA, environmental and sectoral authorities often establish design and operation conditions that aim to tailor regulations on standards and limits to specific investments. Responsibility for environmental compliance falls on project developers, who must meet ESIA-related requirements that the relevant government authority evaluates and enforces. To improve the application of ESIA, the GoL will carry out a comprehensive review of the existing ESIA system and design complementing regulations to improve its effectiveness, including on information disclosure. With this purpose, on December 6, 2016, the GoL established a multi-sector ESIA legislation drafting committee and working group responsible for development of a new ESIA decree.

53. **Indicative DPF2 and DPF3 triggers.** There will be no prior action associated with the ESIA system in the first DPF operation. In DPF 2, the GoL will regulate ESIA with provisions on screening, scoping, public participation, public information disclosure, assessment requirements, reviewing and approval of ESIA report, and budgetary allocation for compliance monitoring. These elements of an ESIA process are essential for ensuring resource efficiency and pollution/impact minimization in development projects. As an indicative trigger for DPF 3, the GoL will issue a ministerial decision from MONRE (in consultation with MPI) to create an integrated database and public information platform to disclose relevant information on ESIA, such as screening, scoping, impact assessment, approval, and post-decision implementation.

54. **Expected results.** The results will be measured by the share of investment projects in the mining, energy, and transport sectors that require an ESIA (Group 2 Projects listed in Ministerial Agreement No. 8056/MONRE 2013), with complete disclosure of relevant information (that is, screening, scoping, impact assessment, and approval), through the integrated database and public information platform, prior to approval of concessional agreements (Baseline: 0 [January 2017]; Target: 70% of Group 2 projects).

55. **Despite increasing frequency and intensity of climate-related events and disasters, such risks are not yet systematically integrated into public investment project (PIP) planning.** The failure to account for such risks already results in considerable impacts on projects and increased budget needs. These impacts are partly due to difficult access to official hydro-meteorological information on climate and disaster risks and a lack of standard procedures for their use for the prioritization, preparation and implementation of PIP proposals. In the transport sector, providing adequate maintenance and improving climate vulnerable road sections up to appropriate standards are the most critical and efficient way to reduce climate and disaster impacts on the road system. A growing maintenance backlog and increased need for emergency repair account for roughly 30% of the Lao PDR road maintenance budget. Identification of the most climate and disaster risk prone segments of the road network and design of maintenance projects, including standards, materials and methods, will enhance the efficiency of PIP resource use. Proper maintenance of existing roads will also reduce public investment needs.

56. **The DPF series is expected to fill the regulatory gaps that prevent the systematic integration of climate and disaster risks into PIPs by building on ongoing GoL initiatives.** With the DPF series support, the GoL will adopt new regulations for systematically integrating climate and disaster risk management into the PIP planning processes. An information platform is being established at MONRE that will allow the improved storage, access and usage of such data. Yet without guidelines and protocols for data use and sharing, ministries, organizations/agencies or local governments will lack understanding of how to analyze and interpret such information. A systematic approach across ministries is needed to mainstream climate and disaster risk management into investment planning, from the assessment of PIP proposals to the actual design and implementation of these investments. This policy track will contribute to green growth by enhancing the resilience of the country's public infrastructure to climate and disasters and thereby, supporting a more resilient growth through more reliable service provision, helping mitigate fatalities and injuries, and reducing fiscal outlays on maintenance and repair.

57. **With the DPF series support, the GoL plans to adopt new regulations for systematically integrating climate and disaster risk management into the PIP planning processes.** Under DPF1, an MPI decision will establish requirements for inclusion of climate and disaster risk considerations into the MPI assessment of project proposals for the annual PIP budget, including through modifications of the formats in the PIP manuals. Among several other requirements, the regulation will require the project proponent to describe how climate and disaster hazards are integrated in the preliminary selection of the project's location and area, as well as engineering designs. These requirements will guide national ministries, organizations/agencies or local governments in the preparation of additional information to integrate climate and disaster risks into PIP proposals. However, specific sector applications require more detailed technical guidelines and support in selected sectors. Hence, the DPF series support will focus on the road maintenance. Under DPF2, MPWT will adopt road maintenance procedures that integrate climate and disaster risk considerations into the planning and budgeting for PIP proposal for road maintenance. The procedures will include identification of climate vulnerable and disaster prone segments of the road network, and improved road design standards. DPF3 will ease access to and systematic use of hydro-meteorological information and guidelines to use them. Improved availability of hydro-meteorological information and regulations for use in the prioritization and preparation of budget proposals for road maintenance will improve the planning processes for road maintenance projects to make the road system more resilient.

58. **The policy track on climate and disaster risks management is expected to contribute to the Sustainable Development Goal No. 11 and to the Lao PDR's NDC.** Specifically, by making public infrastructure more resilient to natural disasters and climate effects, the DPF-supported policy actions will help reduce the number of deaths and people affected, and substantially decrease the direct economic losses caused by disasters (SDG Target 11.5). With regard to the NDC, the DPF series will directly contribute to the realization of Adaptation measure #4: "increasing the resilience of urban development and infrastructure to climate change."

Prior Action #5. *The Recipient, through MPI, has established the public investment project (PIP) review process that takes into account climate resilience and disaster risk considerations, as evidenced by Ministerial Decision No. 0645/MPI dated 28 March 2017.*

59. **Indicative DPF2 and DPF3 triggers.** DPF2 is expected to support the application of the regulation to the road maintenance sector. Hence, for DPF2, the indicative trigger is the adoption of road maintenance procedures that integrate climate resilience and disaster risk considerations into planning and budgeting, including identification of vulnerable sections and improved design standards. These

procedures will build on the broader technical and strategic guidelines developed for the road sector and directly contribute to the realization of the NDC Adaptation Measure #4 “increasing the resilience of urban development and infrastructure to climate change.” For DPF3, the GoL will establish a protocol for sharing and using hydro-meteorological data to improve the integration of climate resilience and disaster risk considerations into planning and budgeting of PIPs. This measure will ease line ministries’ access to and use of hydro-meteorological data that will be available from an information platform set up by MONRE.

60. **Expected results.** The result will be measured through the share of approved road maintenance projects with climate resilience and disaster risks considerations envisaged in the *Annual Road Maintenance Plan and Budget* that are verified by technical audits. (Baseline: 0 [January 2017]; Target: 50%).

Pillar 3. Incorporating green growth in selected sectors

Policy Track 3.1. Shifting towards Integrated and Sustainable Water Resources Management and Uses

61. **While water and water resources are among the key natural assets underpinning Lao PDR’s economic growth, an organized regime to manage them sustainably is lacking.** With growing demand and multiple transboundary users, the competition for water among power generation, irrigation, drinking water, fisheries, biodiversity, and cultural heritage is high and expected to grow significantly further. In the absence of a clear management regime, investment incentives are weakened due to limited predictability, but also the pressure on the quantity and quality of water will be exacerbated. The GoL is preparing to introduce a governance regime that is based on the integrated river-basin management (IWRM) approach, which is a departure from the current scheme in which the government grants “water rights” to commercial users. At the same time, MONRE’s Department of Water Resources is embarking on an initiative to develop river-basin management plans (RBMP) for priority river basins, as indicated in the 8th NSEDP in order to resolve issues specific to river basin in a multi-sectoral manner. The 2016 MONRE Natural Resources and Environment Strategy 2025, which outlines MONRE’s strategy and an action plan, prioritizes the establishment of an IWRM system.

62. **This DPF series is expected to help strengthen the regulatory basis for IWRM and integration of IWRM principles into current planning and usage of water resources.** The legal basis and capacity to support IWRM tends to be insufficient dating back to the 1996 Water Law. The DPF will further ensure core principles to guide IWRM by overcoming institutional constraints for the usage and exchange of data and information among different agencies and stakeholders, the formulation of RBMP and the issuance of water use certificates to define their rights and responsibilities of water users.

63. **Indicative DPF2 and DPF3 triggers.** There will be no prior action associated with this component in the first DPF operation. For DPF 2, the GoL will adopt a Ministerial Decision from MONRE to establish Guidelines for Water Resource Assessment in river basins, including analysis of water balance among all major water users (ecological flows, hydropower, irrigation, domestic water supply, and recreational use) and evaluation of water quality in accordance with standards methods. The indicative trigger for DPF3 will be the issuance of a Ministerial Decision from MONRE to establish Guidelines for River Basin Planning, including institutional responsibilities, budgets, and milestones.

64. **Expected results.** The results will be measured by the number of river basins that meet the minimum flow requirements set out in their respective river basin plan (Baseline: 0 [January 2017]; Target: 1). The target reflects the complex process required to establish minimum flow requirements, involving

both basin planning and regulatory actions. It is envisioned that the priority basin selected will include hydropower reservoirs and this process will involve discussion with multiple stakeholders and potential economic costs.

Policy Track 3.2. Improving Forest Resources Management

65. **Lao PDR's forests and their biodiversity are threatened and degraded, with infrastructure areas being the largest source of exported timber, enabled by conflicting, discretionary, or ambiguous regulations on logging.** At 40%, Lao PDR has one of the highest ratios of natural forested area over total land area in the region. Natural forests provide significant ecosystem services, including fuelwood and food to forest dwellers, wood for local construction, hosting unique flora and fauna, carbon storage, and erosion control for hydropower. Yet many of these forests are now highly degraded. However, to stem the sale of illegal timber, the Lao government has temporarily stopped exports of round wood. Until recently, the majority of Lao timber was exported to neighboring Thailand, Vietnam, and increasingly China in the form of logs and sawn wood, without regard to its legality. The value of Lao wood exports regardless of their legality was estimated at US\$1,675 million in 2014, which represented a five-fold increase from 2010 estimates. Unfortunately, taxes did not seem to be properly levied or collected on these transactions. Yet, annual exports declined in 2015 and 2016, which may reflect diminishing stocks. In fact, some 80% of the once pristine forests is estimated to be already degraded. Moreover, clearing for agriculture and industrial plantations, infrastructure development, such as hydropower and highways, mining, and urban expansion are causing deforestation at rates exceeding 1% per year. Certification of legal logging has been limited mostly to development partner funded voluntary efforts, though some private firms have small areas of both sustainable forest management and chain of custody certification. Nevertheless, many major final export markets increasingly demand proof of legality or sustainability of the timber used in the products they import. Therefore, regardless of the level of value-addition in the final product generated in Lao PDR, access of the final products to the European Union (EU), the United States and Japanese markets will increasingly depend on Lao PDR's ability to demonstrate that its timber was produced in a legal and sustainable manner. These markets are considered some of the largest in the world, totaling over three times China's annual wood imports.

66. **The DPF series is expected to support the GoL's efforts to strengthen the control of illegal logging in infrastructure areas.** The DPF series will support regulations designed to overcome the weaknesses in the existing regulations that have contributed significantly to excessive logging by infrastructure areas, including the lack of clarity on what is illegal, the failure to adequately specify the physical limits of the logging area, and ineffective law enforcement. Importantly, MAF will take measures to institutionalize certification, which will contribute to green growth by bringing extensive tracks of productive forests under sustainable management and securing Lao PDR's market share in a global market for timber products in the long run.

67. **As part of the reform program supported by the DPF series, under DPF1, the GoL has adopted a regulation on logging in infrastructure areas, timber harvest, processing, and trade through Prime Minister Order No. 15 (PMO15).** PMO15 generally defines the parameters for the exploitation of timber in infrastructure development areas, lays the basis for enforcement, and supports management planning in production forest areas. These steps are important preconditions for a workable certification system and defining legal wood. Subsequently, four regulations were already issued stipulating intensified action against illegal logging and export. All of these regulations also emphasize wood-processing, good manufacturing practice for the timber supply chain, and reform of the National Wood Processing Industry Association and Lao Furniture Association to augment the value-added produced in Lao PDR.

68. **In addition, this policy track is expected to contribute to the SDGs No. 6 and No. 15 and to Lao PDR's NDC.** Specifically, the DPF-supported policy actions will promote sustainable forest management and thus contribute to Target 15.1 “By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally.” With regard to the NDC, the DPF-supported actions will help Lao PDR implement Mitigation #2—Promote climate resilience in forestry production and forest ecosystems; Promote technical capacity in the forestry sector for managing forest for climate change adaptation; Implement guidelines for sustainable forest management; and Adaptation #2—Forest and land use change—Promote integrated actions on watersheds, reservoir management, water storage for agro-forestry, wildlife management, fisheries and tree varieties, and prevention of drought..

Prior Action #6: The Recipient, through the Prime Minister, has strengthened strictness of timber harvest management and inspection, timber transport and trade in order to control illegal logging in infrastructure areas and timber harvesting, processing, and trade, as evidenced by Order No. 15/PM dated 13 May 2016.

69. **Indicative DPF2 and DPF3 triggers.** For DPF2, the GoL plans to develop a regulation instituting an assurance system on timber legality. The regulation will introduce a definition of legality for forest products and a methodology for “legality acquisition findings” and “non-detrimental findings” that meet international standards. In parallel, although not a trigger, the GoL will draft the revised Forest Law, strengthen controls over salvage logging, implement the forest certification scheme with third-party certification and train certified inspectors. For DPF3, the GoL is expected to issue a regulation to establish an effective and transparent third-party Sustainable Forest Management certification procedure for PFAs that includes group certification. During DPF3, though not a trigger, GoL is also expected to regulate logging in infrastructure areas. The resulting regulatory system will be based on the principles of good forest governance, rule of law, participatory management, tenure and benefits with communities, and certification of production forest areas (PFA) as well as some non-PFA forests. In parallel, GoL is expected to complete the reform and adopt a new Forest Law. MAF will also present a Report to the National Assembly showing progress on the control of logging in infrastructure areas and on the pilot third-party forest certification scheme. This Report will reflect on the goal of 70% forest cover in the medium term as well as the re-delineation of the three forest categories.

70. **Expected results.** The results will be measured by the increase in the number of hectares within PFAs with certified Sustainable Forest Management operations based on Lao PDR regulations (Baseline: 10,949 in two forest management units (FMU) [January 2017]; Target: 230,000 hectares in four PFAs certified).¹⁷

71. **Lao PDR's national protected areas (NPAs) hold substantial potential for increased nature-based tourism, enhancing local communities' livelihoods and increasing the health of its exceptional biodiversity resources; however, there are institutional constraints.** Lao PDR's NPA system represents a respectable 15% of total land area and has an excellent representation of the country's distinct biogeographic regions. The potential biodiversity in this system is tremendous, with thousands of regionally endemic species of international conservation concern. In one NPA alone, Nakai Nam Theun, over 430 bird species are recorded, which represents approximately 5% of the global total. However, despite these natural assets, nature-based tourism remains rare and biodiversity is being rapidly degraded, with tigers, rhinoceros, and dolphins already extirpated. Unlike many countries where a

¹⁷ Production forest areas (PFAs) are composed of smaller units referred to as “forest management units (FMUs)”.

specialized national agency manages NPAs, Lao PDR delegates the management of NPAs to district authorities. Many NPAs cover multiple districts, and sometimes multiple provinces, making coordinated management challenging. Furthermore, district government officials often have negative perceptions towards NPAs despite the fact that nature-based tourism empirically has proven capability of reducing poverty, including in neighboring Thailand (where poverty rates are around 10% lower in villages next to NPAs) and China (with >1 billion visitors to protected areas per year)¹⁸. Poor NPA management not only puts potential tourism revenues at stake, but also jeopardizes food security.

72. The DPF series is expected to support the GoL in putting in place a stronger institutional setup for PA management for effective conservation and nature-based tourism development. DPF1 will support the upgrade of Nam Theun 2 Watershed Area—which the Nam Theun 2 Watershed Management and Protection Authority (WMPA) currently manages—to a national park with a dominant role for nature-based tourism, as per the 8th NSEDP. The DPF series will also support the establishment of a national park and wildlife conservation authority or department for centralized coordination of the management of national protected areas, including tourism activities. The DPF series is also expected to contribute to eco-tourism growth in NPAs. By generating employment and income opportunities for the local communities, ecotourism activities will contribute to reducing unsustainable use and promote conservation of the natural resources in NPAs. As such, eco-tourism constitutes an inclusive path to green growth.

73. For DPF1, the GoL plans to pilot the national park reform by revising the decree that originally established the WMPA. The new decree pilots a national park reform by establishing the process to upgrade the conservation standing of Nam Theun 2 (NT2) Watershed to a national park; clarifying rights of enclave communities over resources of protected areas; and adjusting the organizational structure of the WMPA to anchor its responsibilities under MAF.

***Prior Action #7:** The Recipient, through the Prime Minister, has adopted the legal framework to pilot a national park reform by (i) establishing a process to upgrade the conservation standing of Nam Theun 2 (NT2) Watershed to a national park, (ii) establishing the legal status of enclave communities and their access rights to protected area resources, and (iii) adjusting the organizational structure of the NT2 Watershed Management and Protection Authority (WMPA) to anchor its responsibilities under MAF, as evidenced by Decree No. 122/PM dated 21 April 2017.*

74. Indicative DPF2 and DPF3 triggers. DPF2 is expected to support a policy reform on the organization and activities of a new department or authority tasked with national park and wildlife conservation taking into account principles of effective and centralized authority, delegated accountability, standardized and collaborative management, benefit sharing, and community and private sector partnerships for ecotourism. For DPF3, the GoL plans to issue a Ministerial Decision from MAF to set forth (i) guidelines on organizational structure and responsibilities of management authorities of natural protected areas, and (ii) measurement criteria for assessing management effectiveness and conservation status in natural protected areas.

75. Expected results. Results will be measured by the number of national parks where progress in reaching management objectives is at least moderately satisfactory, as measured by the Management

¹⁸ Wang, G., J. L. Innes, S. W. Wu, J. Krzyzanowski, Y. Yin, S. Dai, X. Zhang, S. Liu, et al. 2012. "National Park Development in China: Conservation or Commercialization?" *AMBIO: A Journal of the Human Environment* 41: 247–61. Zhong, L., R. C. Buckley, C. Wardle, and L. Wang. 2015. "Environmental and Visitor Management in a Thousand Protected Areas in China." *Biological Conservation* 181: 219–25.

Effectiveness Tracking Tool (METT)¹⁹ (Baseline: 0 [January 2017]; Target: 2 - Nakai Nam Theun and Nam Et-Phou Louey).

Policy Track 3.3. Leveraging Green Growth Policies to Control Non-point Source Pollution

76. **Improper management of pests and use of toxic pesticides in agriculture hinder the access of Lao produce to lucrative export markets and damage public health and the environment, which of which are detrimental to economic growth and disproportionately affect the poorest and most vulnerable groups.** Pesticide application in commercial farms and plantations in Lao PDR is often excessive, includes banned highly hazardous substances, and is carried out with insufficient or no protective gear. Waste packaging materials are disposed of, stored, or reused improperly, often within easy reach of children. Numerous studies have documented farmer and hospital reports about environmental health impacts, for example, blood tests have shown elevated levels of harmful substances, including in children. Food safety studies have found pervasive contamination of a broad range of fruits and vegetables with pesticide residues. Repeated failure of pesticide residue test led the EU to ban the import of Lao produce in June 2016. Since Lao PDR does not produce any pesticides, these products are acquired from neighboring countries through legal imports by registered companies, smuggling, or direct import by plantation operators. Most pesticides on the market are labeled in foreign languages or even mislabeled to cover up banned substances, and often sold by non-licensed businesses. For example, Department of Agriculture inspections in 2016 in four provinces found that only 13% of 208 inspected agricultural suppliers had a license to sell pesticides.

77. **This DPF series is expected to gradually help reduce the availability on the market of banned and prohibited pesticides by establishing a stronger regulatory framework, which will translate to less application of such substances in agriculture, and will contribute to enhanced management, monitoring, and inspection of pesticides.** DPF1 supports the Law on Chemicals, which, adopted by the National Assembly in November 2016, establishes provisions on the management, monitoring, and inspection of chemicals for minimizing health risks and promoting cleaner production. This Law represents the first unified overarching regulation of all chemicals in Lao PDR, including pesticides and entrusts MAF with the right and duty to manage and monitor chemicals used as pesticides. DPF1 also supports the Law on Plant Protection and Quarantine, which the National Assembly also adopted in November 2016 and which introduces international standards on phytosanitary measures, including pest management. By supporting these policies, the DPF series will complement recent GoL regulatory efforts. Notably, in 2016, MAF also issued a regulation on labeling to counteract the pervasiveness in the market of pesticides that are labelled inaccurately or in a foreign language. As a result, the DPF-supported policies will contribute to (i) addressing weaknesses in the registration of permissible pesticides, (ii) strengthening the licensing of businesses to sell registered pesticides, and (iii) strengthening the system of penalties and sanctions against offenders. As such, the DPF series aims to help increase the export potential of Lao produce, reduce human exposure to environmental health risks, and reduce water and soil pollution. The DPF series is also expected contribute to the achievement of SDG Target 3.9: “By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and oil pollution and contamination.”

¹⁹ The Management Effectiveness Tracking Tool (METT) is a tool to assess in a qualitative manner and overtime the management effectiveness in protected areas. Details may be seen at: [https://www.protectedplanet.net/system/comfy/cms/files/files/000/000/045/original/WWF METT Handbook 2016 FINAL.pdf](https://www.protectedplanet.net/system/comfy/cms/files/files/000/000/045/original/WWF_METT_Handbook_2016_FINAL.pdf). For the purposes of results measurement under this DPF series, a METT score of 40 is considered moderately satisfactory.

Prior Action #8: *The Recipient, through the National Assembly, has established legal provisions (i) for the management, monitoring, and inspection of chemicals for minimizing health risks and promoting cleaner production as evidenced by the Law on Chemicals, No. 07/NA dated 10 November 2016, and Promulgation Decree No. 202/President dated 12 November 2016, and (ii) on phytosanitary management, including pest management, as evidenced by the Law on Plant Protection and Quarantine, No. 13/NA dated 15 November 2016, and Promulgation Decree No. 197/President dated 28 November 2016.*

78. **Indicative DPF2 and DPF3 triggers.** The GoL plans to adopt a prime-ministerial decree on pesticides setting a high-level regulatory foundation for the management and monitoring of pesticides in line with the Law on Chemicals. The DPF series is expected to support a series of implementing regulations to operationalize this decree. In particular, DPF2 is expected to focus on the registration of pesticides and licensing of pesticide businesses, as well as on the adoption of penalties and sanctions for violators. Building on these regulations, the priority under DPF3 will be establishing regulations on (i) manufacturing, processing, import, distribution, and use of pesticides; and (ii) inspection and disclosure of registered, prohibited, and banned pesticides. Licensing of businesses for selling pesticides is a crucial step in MAF's ability to control pesticides since it provides MAF a basis for regular inspections with regard to compliance with regulations, in particular, the sale of registered pesticides.

Expected results. The results will be measured by the annual number of inspections by MAF of pesticide sellers for compliance with pesticide regulations (Baseline: 0; Target: 140).

Policy Track 3.4. Strengthening Pollution Monitoring and Management

79. **Lao PDR's pollution management agenda, an environmental priority for green inclusive growth, is rising fast. Inadequate environmental conditions lead to serious health effects and contribute to trap people in the vicious cycle of poverty.** Pollution causes illnesses that mainly affect low-income people, children, the elderly, and other vulnerable groups. These illnesses reduce the productivity of adults and, in the case of children, affect their ability to attend school and learn, which subsequently limits their opportunities for professional and human development. Thus, efforts to reduce pollution are an investment in human capital, leading to higher productivity and economic growth. In Lao PDR, the largest environmental health risk factors are air pollution, lead (Pb) and arsenic (Ar) pollution, and inadequate water, sanitation, and handwashing (WSH). Total deaths from air pollution in Lao PDR were 6,820 in 2015. Over 97% of the deaths from ambient air pollution are from exposure to ambient fine particulate matter (PM_{2.5}). The cost of childhood lead exposure in Lao PDR is equivalent to 1.89 % of GDP. Childhood lead poisoning can have lifelong health impacts, including learning disabilities, such as reduction in intelligence quotient (IQ), anemia, and disorders in coordination, visual, spatial and language skills. High exposure to lead can result in behavioral and mental disorders. No safe threshold for blood lead level has been identified for children. Inadequate water, sanitation, and handwashing (WSH) is also a significant risk factor in disability-adjusted life years (DALYs) and deaths in the Lao PDR.

80. **This DPF series is expected to contribute to SDGs No. 3 "Good Health and Well-Being" and No. 6 "Clean Water and Sanitation" and to the Lao PDR's NDC.** The DPF series supports the GoL's actions establishing stringent air and quality standards and the legal basis for stronger enforcement authority, as well as information tools for pollution management. DPF1 supports the GoL in establishing more stringent air quality and water quality standards as part of the National Environmental Quality Standards (NEQS). Air quality standards for PM_{2.5} and Pb are particularly important to protect the population's health. Long term exposure to ambient PM_{2.5} concentrations of only 5 and 10 µg/m³ (0.005 mg/m³) increase the risk

of ischemic heart and cerebrovascular disease (stroke) mortality by 5–8% and 10–14% respectively. The risk of mortality from chronic obstructive pulmonary disease, lung cancer and lower respiratory infections (LRI) reaches 6–12% at 10 µg/m³ of PM_{2.5}. The World Health Organization sets its Air Quality Guideline for annual PM_{2.5} to 0.010 mg/m³ (10 µg/m³), based on studies of health effects from long term exposure. The GoL air quality standard for annual PM_{2.5} is being set at 0.010 mg/m³ (10 µg/m³). With regard to Pb, meta-analyses of research evidence indicate that neuropsychological impairment in children starts at blood lead levels well below 5 µg/dL. A one-year air quality standard for Pb in ambient air that corresponds to this BLL may be around 0.25 µg/m³. For this reason, the DPF1 supports the GoL's adoption of a one-year Pb air quality standard of 0.15 µg/m³.

Prior Action #9: *The Recipient, through the Prime Minister and MONRE, has established national air quality, water quality, and vehicle emissions standards, including lead in air and water as evidenced by Decree No. 81/PM dated 21 February 2017 and Ministerial Decision No. 0485/MONRE, dated 7 February 2017.*

81. **Indicative DPF2 and DPF3 triggers.** For DPF2, the GoL plans to adopt ministerial decisions from MONRE to regulate standard methods for analyses of air, water, and wastewater. These standard methods will be the basis for monitoring, inspection, and evaluation of environmental pollution. For DPF3, the GoL plans to adopt the legal framework to (i) define the identification criteria of Priority Pollution Watch Sites (PPWS); (ii) establish mechanism for public disclosure of monitoring results in PPWS; and (iii) reduce exposure to lead poisoning by phasing out manufacturing, import, sale, and use of lead-containing paints and children's products coated with lead-containing paints.

82. **Expected results.** The results will be measured by (i) the number of PPWS for which monitoring reports (including at least PM_{2.5}, arsenic, lead, and pathogens concentrations) are regularly updated and publicly disclosed (Baseline: 0 [January 2017]; Target: 3); and (ii) the percentage of legally imported paint brands offering unleaded paint in the national market (Baseline: 0 [January 2017]; Target: 100%).

4.3 LINK TO CPF, OTHER BANK OPERATIONS AND THE WBG STRATEGY

83. **The DPF series, by supporting the GoL to adopt policies and enhance capacities to transition to a greener growth, links to the World Bank Group Strategy and to the Country Partnership Framework (CPF) Focus Areas.** The new CPF for FY17–FY21 targets three focus areas for WBG engagement in Lao PDR namely, (i) supporting inclusive growth, (ii) investing in people, and (iii) protecting the environment. These focus areas are complemented by a cross-cutting theme of strengthening institutions to create a rules-based environment.²⁰ Table 4 shows the consistency between the DPF-supported policies and CPF objectives and outcome indicators. This DPF series is expected to most directly support the CPF's objective 1.1 of putting public finances on a sustainable path and supporting financial sector stability. Furthermore, this series is expected to directly support objective 3.1 of promoting environmental protection and sustainable natural resources management, and will also contribute to objective 3.2 of putting in place enhanced disaster risk management and climate and disaster resilience. Pillar 1 of the DPF series will contribute to GoL's efforts to improve fiscal sustainability. While Pillar 2 build the foundation for integrated planning and management under enhanced accountability to achieve these objectives, Pillar 3 implements sector-specific measures to achieve them. More broadly, the DPF series is expected to also improve the overall governance system by bringing multi-sectoral interests together towards a clear coordination mechanism thus improving the overall governance system. Introducing a management regime for resources that currently not managed or improperly managed, and introducing regulatory and

²⁰ Report No. 110813-LA. Discussed by the Board of Executive Directors on April 27, 2017.

incentive schemes to engage communities and businesses in cleaner and greener production is expected to support the agenda for inclusive growth.

Table 4 Lao DPR Green Growth DPF Series Support by CPF Objectives

| CPF Focus Area Protecting the Environment and Enhancing Governance and Creating a Rules-based Environment | | |
|--|--|--|
| CPF Outcome and Bank Environment Strategy Pillars | Relevant CPF Outcomes Indicators | Selected CPF Milestone Contributed by the DPF Series |
| <p>Focus Area 1: Supporting Inclusive Growth</p> <p>Objective 1.1: Putting public finances on a sustainable path and supporting financial sector stability</p> <p>Objective 1.2: Making it easier to do business and create good jobs</p> <p>Objective 1.3: Investing in infrastructure for growth and inclusion</p> | <p>Annual NSEDP is underpinned by a macroeconomic framework with prudent deficit target in order to keep debt on a sustainable time path</p> <p>Public reporting, and compliance with regulations of the Capital Adequacy Ratio, by types of banks</p> <p>Share of rural population with access to an all-weather road (SDG 9.1)</p> | <p>The DPF series supports policies to strengthen prospects for fiscal sustainability and financial sector stability.</p> <p>The DPF series supports institutionalizing the monitoring, evaluation, and reporting system for green growth, which is on a broader level establishing a transparency mechanism to report monitoring results and affect the NSEDP planning and monitoring process.</p> <p>The DPF series also supports policy oriented towards prioritizing climate-resilience in road maintenance with improved hydromet data and information.</p> |
| <p>Focus Area 2: Investing in People</p> <p>Objective 2.1.: Reducing prevalence of malnutrition</p> <p>Objective 2.2.: Improving quality of primary and pre-primary education and keeping girls in school</p> <p>Objective 2.3: Improving access to and quality of health services</p> <p>Objective 2.4: Reducing vulnerability and inclusive access to social services</p> | <p><i>(currently known indicators for objectives 2.1–2.4 are not directly relevant)</i></p> | <p>This focus area concerns with undernourishment, disease burdens, poor sanitation and unsafe water. The DPF series support to environmental quality standards and pollution control mechanisms contribute to the objectives under this focus area by setting ambitious safety standards as well as establishing methodical approach to monitoring and controlling pollution.</p> |
| <p>Focus Area 3: Protecting the Environment</p> <p>Objective 3.1: Promoting protection of the environment and responsible management of natural resources</p> <p>Objective 3.2: Putting in place enhanced disaster risk management and climate and Disaster Resilience</p> | <p>Area brought under enhanced biodiversity protection measured by the score of management effectiveness” (SDG 15.1)</p> <p>Forest area brought under forest landscape management plans (Hectare) (SDG 15.2)</p> <p>At least three river basin plans approved</p> | <p>The DPF series supports forest management plans, incentive schemes and regulations to engage communities and the private sector in improved management and sustainable business development in forest regeneration and conservation.</p> <p>The DPF supports</p> |

| CPF Focus Area Protecting the Environment and Enhancing Governance and Creating a Rules-based Environment | | |
|--|---|---|
| CPF Outcome and Bank Environment Strategy Pillars | Relevant CPF Outcomes Indicators | Selected CPF Milestone Contributed by the DPF Series |
| | <p>by MONRE</p> <p>Number of publicly available annual reports on the implementation of policy on sustainable hydropower development (2016–2021)</p> <p>Number of Priority Pollution Watch Sites for which monitoring reports are regularly updated and publicly disclosed.</p> <p>Length of road receiving periodic maintenance for climate resilience</p> <p>The Department of Meteorology and Hydrology of MONRE has enhanced the early warning system and climate information system (SDG 1.5 & SDG 13.1)</p> | <p>operationalizing a new water management regime that includes a certificate system for water use, and river-basin management plans. The water management regime covers multiple water users including for hydropower development and will improve the investment climate with more transparency and clear rules.</p> <p>The DPF series helps to introduce regulations to identify and designate priority watch sites on pollution and standard methods for quality monitoring.</p> <p>The DPF series supports mainstreaming climate-vulnerability as a consideration factor for road maintenance, complemented with improving the quality of and access to hydromet data and information.</p> |
| Cross-cutting theme: Strengthening Institutions to create a Rules-Based Environment | <p>Percentage of post-2018 Concession Agreements signed after MONRE issuance of ECC, and that include a simplified Standard Environment and Social Obligation (SESO) with budget aligned with Environmental and Social Monitoring and Management Plan requirements as appraised by the Department of Environment and Social Impact Assessment (DESIA) (NSEDIP indicator)</p> <p>Establishment of Standard Operation Procedure for Hydropower Plant Development</p> | <p>The DPF series supports inclusion in the ESIA legislation of provisions on the standardized terms and conditions on environmental and social obligations. The DPF series also supports an ESIA system that ensures synchronization across ministries to avoid premature signing of concession agreements. The entire reform process for ESIA including the issuance of ECC and subsequent monitoring and management will support hydropower development.</p> |

84. **A multi-sector portfolio of investment and technical assistance lending of the WBG supports the GG agenda.** This includes WBG operations that provide technical assistance to guide the improvement of the policy and regulatory framework for managing concession agreements, such as the IFC Environment and Social Standards in the Hydropower Sector Advisory Services and the NT2 Social and Environment Project (P049290). The Second Lao Environment and Social (LENS2) Project (P152066) channels financial

resources and technical support to various sector departments to build institutional and technical capacities with support from the Environment Protection Fund, whose capacity building is also part of the projects. The Mekong–IWRM Project (P148647 and P159447) finances national and regional policy and institution building to introduce IWRM. The Scaling-Up Participatory Sustainable Forest Management Project (P130222) is promoting sustainable management of production forests and improving sustainable livelihoods in over 900 villages. This project, which carbon funds also support, additionally aims to mitigate climate change. IFC complements by helping private sector forestry companies to establish viable business models involving communities, out-growers and supply chains. On integrating climate risks, together with Disaster Risk Management Project (P160930), the second Lao Road Sector Project (P158504) includes technical support on integrating climate vulnerability for planning climate resilient road maintenance. Furthermore, a Green Growth Advisory Service and Analytics (ASA) (P162394), including a “child” ASA focusing on nature-based tourism will support the implementation of the DPF series. The table below provides details on these supports by policy track. On economic management, the World Bank’s programmatic macroeconomic and financial sector monitoring programs—that is, Lao PDR Economic Monitoring Programmatic Approach (P148008) and Lao PDR Financial Sector Development (P160715)—complement the proposed DPF.

Table 5 WBG Support to Each Policy Track

| Policy Track | GoL agency in charge | WBG investment and technical assistance |
|--|------------------------------------|---|
| Macroeconomic management | MOF BOL | Economic Monitoring PA (P148008) Financial Sector Development (P160715) |
| Green growth planning | MPI DOP | LENS2 Project (P152066) Green Growth ASA (P162394) |
| Environmental financing | EPF, MOF DOT and MOF DFP | LENS2 Project (P152066) Green Growth ASA (P162394) |
| Strategic environmental assessment | MONRE DEQP | LENS2 Project (P152066) Green Growth ASA (P162394) |
| Environmental and social impact assessment | MONRE DESIA | LENS2 Project (P152066) Green Growth ASA (P162394) Hydro Mining Technical Assistance (HMTA) Project (P109736) |
| Climate and disaster risks integration into public investment projects | MPI DOP, MONRE DMH, MPWT DOR | Disaster Risk Management Project (P160930) Second Lao Road Sector Project (P158504) Green Growth ASA (P162394) |
| Water resources management | MONRE DWR | Mekong–IWRM Project (P148647 and P159447) IFC Environment and Social Standards in the Hydropower Sector Advisory Services |
| Production forests | MAF DOF | Scaling-Up Participatory Sustainable Forest Management Project (P130222) Green Growth ASA (P162394) |
| Conservation forests and national protected areas | MAF DFRM | LENS2 Project (P152066) Tourism ASA (under P162394) NT2 Social and Environment Project (P049290) |
| Environmental impact of agriculture sector and its chemical use | MAF DOA | Green Growth ASA (P162394) |
| Pollution control | MONRE PCD | LENS2 Project (P152066), Green Growth ASA (P162394) |

4.4 CONSULTATIONS AND COLLABORATION WITH DEVELOPMENT PARTNERS

85. In 2015, the World Bank was invited to advise the GoL, specifically the Economic and Finance Committee of the National Assembly and the Ministry of Planning and Investment (MPI) at the time of the development of the 8th NSEDP. MPI organized several workshops with staff from various departments to learn about GG and made several trips to Korea to learn from this country's experiences. From this consultation came both the strong departure of the 8th NSEDP from the agenda of the 7th NSEDP and the decision to request Bank assistance for a green growth DPF series to help materialize this transition. Consultations have taken place with all relevant ministries and departments, usually led by the MPI Department of Planning, appointed to lead the green growth DPF series, and with the MOF. The Party included Green Growth in its Party Resolution at the February 2016 Party Congress. The desire to transition to a greener economic development path was confirmed during the Systematic Country Diagnostic consultations held in early 2016.

86. In line with OP 8.60, MPI and the World Bank have organized several consultations with a focus on government departments that are proposing policy reforms for the DPF1 in particular, and with various stakeholders through the institutionalized working groups, such as the Environment and Natural Resources Sector Working Group—and the forest, water, disaster, and environment Sub-sector Working Groups. Other important sector working groups include the group on transport and macroeconomics. The Roundtable Implementation Meeting for 2016, an annual meeting convening all ten Sector Working Groups consisting of GoL and donors, dedicated a pre-consultation meeting and a panel discussion titled *Implementing Green Growth and Climate and Disaster Risk Management Strategies* on November 3 and 25, 2016, respectively, during which MPI presented the policy reforms. At MPI's invitation, the findings of poverty and social impact assessment as well as the policy environmental assessment were consulted with the representatives of the public sector on January 12, 2017. During the more upstream phase, the policy reforms were presented at the Lao PDR National Workshop on Green Growth, August 23, 2016, as well as in conjunction with CPF consultation for the public sector on October 21, 2016.

87. **Collaboration with Development Partners.** The DPF series policy interventions have been designed in consultation and collaboration with development partners to identify the most needed policy reform as well as to ensure coordinated and optimized support for implementing the new policy interventions. In planning and financing, the DPF series support to establish planning and reporting framework for green growth and financing is closely collaborated with Global Green Growth Institute, which is providing technical assistance to conduct green growth potential assessment and review options for green fiscal policies. The DPF series' support on the environmental and social assessment system builds on the basic regulatory tools and capacity-building projects that development partners introduced. These tools and projects include monitoring guidelines and tools for environmental compliance and procedure for conducting a strategic environmental assessment. The DPF series is expected to help institutionalize these initiatives, which were launched with support of the Swedish International Development Cooperation and the United Nations Development Programme, by regulating them through legal instruments and promoting inter-ministerial coordination for effective implementation. The DPF series is expected to also help coordinate various development partner supported activities. In sector-specific areas, the DPF series complements ongoing donor supported initiatives that are both upstream and downstream of the policy interventions. For the forest sector, the EU/GIZ-supported programs are helping to set up the upstream framework to establish the Lao assurance system for timber legality. Those

programs are also supporting protected-areas management that will help implement the policy intervention for conservation forest and protected areas. In the water sector, the DPF series is bringing a new momentum to the advisory services in improving the Water Law provided by the Department of Foreign Affairs and Trade of Australia and the International Finance Corporation. Similarly, the GoL's policy reform for the agriculture sector, which is supported by the DPF series, is expected to build on the longstanding cooperation of the Food and Agriculture Organization and Lao PDR, notably instituting a robust pesticide management system in Lao PDR and more recently supporting the drafting of the legislation regarding phytosanitary and sanitary measures under the World Bank-financed Trade Development Facility.

5. OTHER DESIGN AND APPRAISAL ISSUES

5.1 POVERTY AND SOCIAL IMPACT

88. **All policy actions supported by this operation are expected to have a positive impact in reducing poverty and social inequalities.** As envisaged in OP 8.60, the World Bank analyzed the operation's poverty and social aspects. The potential pro-poor and distributive effects of these policies have been assessed through a Poverty and Social Impact Analysis (PSIA) (annex 5).²¹ The PSIA identified key stakeholders that would be potentially benefitted or affected by the policy reforms, and obtained their inputs to the analysis of the potential poverty and social effects.

89. **The PSIA found that the adoption of Outcome 3 of the 8th NSEDP and new legal framework on strategic environmental assessments (that is, prior actions 2 and 4) are likely to cause significant positive poverty and social effects.** These significant effects are associated with the protection of natural assets and resources that are critical to livelihoods of the poor and vulnerable, through (i) better recognition of traditional use rights and better valuing of natural resources, (ii) participatory management and decision making and sustainable resource use, and (iii) pollution control resulting in better community health outcomes, particularly for those more exposed to contamination and reliant on natural resources (for example, local waterways), such as women and children. Significant positive effects also refer to the development of employment opportunities in green industries (for example, green jobs) required for more equitable growth and poverty reduction in the future, as well as increased resilience to natural hazards and climate change, resulting in more sustainable development outcomes. The PSIA also found potential short-term (and non-significant) negative effects, mostly associated with potential loss of jobs in unsustainable industries and logging activities, which may arise from prior actions 6 and 7 on logging control and the NT2 National Park, respectively. However, the latter set forth prohibited, restricted, and promoted activities in the total protection zones, the controlled-use zones, and the buffer zones of the NT2 National Park. In controlled use zones, where enclave villages are located, the GoL will restrict—but not totally prohibit—the customary utilization of natural renewable resources, agriculture and the raising of livestock, and development of housing and village infrastructure. Prior Action 7 also envisages that the GoL will promote activities for community development and livelihood improvement in village enclave zones, as well as promote activities for ecotourism and environmentally friendly production of agricultural and forestry products and goods in village enclave zones of the national park.

90. **Pursuant to OP 8.60, the PSIA analyzed the country's systems (for example, legal and institutional framework) and recommended prospective interventions to maximize the significant**

²¹ The World Bank defines PSIA as "...the analysis of the social and distributional impact of policy reform on the well-being of different stakeholder groups, with particular focus on the poor and vulnerable" (see World Bank. 2013. *Poverty and Social Impact Analysis (PSIA)*. Washington, DC: World Bank. p. 3).

positive effects of prior actions 2 and 4. In particular, the PSIA recommended additional analytical work on the distributive effects of the National Green Growth Strategy, including policy instruments to implement such strategy, and technical assistance to support the GoL in implementing the DPF-supported policies. Based on further analytical work, the GoL will incorporate social and distributional considerations in the design of the next stage of policy reforms, focusing on the poorest and most vulnerable groups and relying on policy interventions that are expected to enhance the positive impacts on social and productive inclusion.

5.2 ENVIRONMENTAL ASPECTS

91. **The policy actions supported by this operation are expected to have positive effects and no significant negative effects in Lao PDR's environment, natural resources and forests.** The effects of these policies on environmental, forests, and other natural resources have been assessed through a policy strategic environmental analysis (PSEA) prepared by the World Bank team (Annex 6). Pursuant to OP 8.60, the World Bank has conducted a three-step analysis aimed to: (i) identify whether the policies supported by the programmatic series, in general, and this operation, in particular, are likely to cause adverse or positive significant effects on the environment, forests, and other natural resources; (ii) analyze the country's systems (including legal and institutional framework) for reducing significant adverse effects and enhancing significant positive effects, and identify potential gaps or shortcomings in these systems; and (iii) identify the actions that the GoL is undertaking or is planning to undertake to address the gaps identified in the systems. For those gaps that the GoL has not yet considered or addressed, the PSEA has produced recommendations to incorporate environmental considerations in the DPF series or in the environmental dialogue between the GoL and the World Bank to close these gaps.

92. **The DPF series supports policies that are expected to significantly contribute to foster green growth and enhance environmental management in Lao PDR.** Policy reforms supported by DPF1 are expected to result in positive environmental effects and co-benefits in climate change mitigation and adaptation, as a result of updated laws and regulations on key environmental management issues, such as strategic environmental assessment, water management, chemicals, air and water pollution, and deforestation control. Environmental management will also benefit from the multi-sectoral actions envisaged in the 8th NSEDP and public investments financed through EPF projects. Likely positive effects also include increase in forest quality and cover, improvement in biodiversity standing and wildlife populations; maintenance of environment flow from watersheds, more-equitable use of water between users, decrease in pollution from pesticides and industrial discharges, and enhanced resilience of public infrastructure and production activities to natural disasters. Consequently, the policies supported by GG DPF1 are expected to contribute to improved environmental governance and green growth opportunities, improved public health, cleaner technologies and production, and climate change mitigation and adaptation.

5.3 PFM, DISBURSEMENT AND AUDITING ASPECTS

Accounting, Recording, and Reporting

93. **The GoL has taken steps to improve accounting, recording and reporting, but there is need for further efforts.** While the legislative framework is improving, important processes and systems are yet to be fully developed and put in place. The 2006 State Budget Law provided a solid foundation for the budget process, covering most budget-cycle issues. The 2015 amendments (to be effective as of January 2017) further clarified some responsibilities, elevated the role of the MOF and the National Assembly and strengthened the requirement for a credible medium-term macro-fiscal framework underpinning the budget process. Furthermore, the Public Sector Development Strategy to 2025, adopted in late 2015, lays

out the GoL's vision to strengthen public finances to ensure macroeconomic stability, while supporting social and economic development, through improved revenue collection, modernization of all stages of the budget process as well as improved debt management.

94. **The budget is comprehensive, covers most extra-budgetary funds, and incorporates a number of good practices in budget preparation.** Still, capacity constraints resulted in deadlines and some steps (for example, setting of ceilings) not being always met. The shift in the fiscal year introduced with the 2015 amendments to the Budget Law, will better align the Budget process to the other decision making processes, including the National Assembly sessions. Under an EU-funded TF for Public Finance Management, the World Bank is providing technical assistance to the MOF to meet the requirements for reporting to the National Assembly stipulated in the amended Budget Law.

95. **The budget execution systems have improved, but require important upgrades.** The treasury single account (TSA) has been gradually rolled-out and has helped the National Treasury better monitor accounts of budget users across the country. However, there has been less progress in enforcing zero-balance accounting while some accounts still remain outside of the Treasury' system. The Government Financial Information System (GFIS) is the core financial management system. While it provides budget execution, cash management and fiscal reporting functionalities, the lack of some important features (commitment module, timely bank reconciliation, inability to roll-out to district-level, lack of functional classification, and so forth) limits its effectiveness. An attempt to customize a commercial off-the-shelf package (Lao Financial Information System) has been delayed, with the GoL currently considering various options for next steps. Important improvements in the GoL's systems in recent years include the roll out of the customs operating system (ASYCUDA) and the debt management and financial analysis system. The implementation of a revenue administration system has been delayed.

96. **National accounting and reporting standards for the public sectors are yet to be fully developed.** The 2013 Amendments to the Accounting Law mandate the use of cash-basis International Public Sector Accounting Standards (IPSAS) (as a transition phase towards accrual-basis IPSAS); however, the actual implementation in practice continues to lag. Technical assistance from the IMF is supporting the GoL's efforts in this area, but additional efforts will be needed over the medium-term to ensure effective implementation.

97. **Budget transparency needs to improve and this agenda is on-going.** The main features of the budget (aggregate revenues and expenditures) are published and accessible to the public through the print media at the time of their approval by the National Assembly. Information that is more detailed is contained in the State Budget Plan, published in the Official Gazette, usually in the second quarter of the fiscal year and accessible in print to the public from the National Treasury offices and the NA. The 2015 Budget Law amendments expand the information that needs to be presented to the National Assembly to also include medium-term fiscal aggregates as well as public debt information. According to the 2010 Public Expenditure and Financial Accountability assessment, 65% of the budget is being disclosed by administrative and economic breakdown, a ratio that does not appear to have changed recently. MOF produces in-year budget executions reports; however, weaknesses in the functioning of the TSA/GFIS as well as the separation of the current and capital budgets limit its ability to produce timely and accurate reports. A midyear budget execution report is presented to the National Assembly at the time of presentation of following year's budget. A set of financial statement for the full year (summary of budget execution) is prepared within six months of the end of the fiscal year and submitted to the Supreme Audit Office. The full annual budget execution report is prepared with a time lag of 1.0–1.5 years and published in the Official Gazette. Looking ahead, the GoL could do more to publish more timely and comprehensive

in-year budget execution reports and end-of-year financial statements.

Public Sector Auditing

98. **The Supreme Audit Office (SAO) is the external auditor of the public sector.** Established in 2008, its capacity is gradually improving and it currently performs financial audits only. Since the budget cycle for fiscal year 2008/09, the SAO audits the set of financial statements prepared by the MOF and submits its findings to the National Assembly. A 2016 self-assessment of the SAO's 2009–2020 Action Plan, supported by the World Bank, identified improvements in the capacity of the SAO and its ability to monitor and follow up on recommendations, while noting relatively less progress in the ICT strategy, still limited number of qualified staff and the need to gradually improve standards.

99. **Internal review of public sector arrangements is underdeveloped.** In the absence of internal audit function, the assessment of the internal processes is performed through internal inspection bodies found in most public agencies with a mandate largely focusing on prevention of corruption and investigation of alleged cases. A centralized inspection agency coordinates the activities of inspection bodies across the administration.

Foreign Exchange Control Environment

100. With control mechanisms at the BOL in need of upgrading, the recipient will maintain a dedicated deposit account for the proceeds of the proposed budget support operation. The last IMF Safeguard Assessment of the BOL, conducted in 2003, classified risks as medium to high in the five categories.²² Progress on the safeguard recommendations has been uneven. The BOL accounts are audited by the SAO. These audit reports are submitted to the National Assembly, but are not available to the public.

Public Procurement

101. **The framework for public procurement has been slowly evolving but remains basic.** Public procurement is governed by a decree, with implementing rules and regulations, a standard procurement manual, and standard bidding documents providing further details. The Procurement Monitoring Division, a unit under the Budget Directorate in the MOF is responsible for oversight and regulation of procurement for the whole country; however, it has only few staff. As a result, there is little oversight over procurement in public sector institutions, staff capacity is weak, and there is no institution to provide training. Procurement markets are in nascent stage and conflict of interest is common resulting in low transparency and integrity in the award of contracts. The overall procurement related risks are high and would require a stronger regulatory and legal framework, increased transparency, capacity building of public procurement staff, and control of conflict of interest.

Disbursement and Auditing

102. **The proceeds of the proposed credit will be disbursed against satisfactory implementation of the policy program, and the stipulated release conditions.** A single-tranche IDA credit of SDR 28.5 million (US\$38.6 million equivalent) will be available upon effectiveness of the Financing Agreement for the GG DPF. In line with earlier practice, the recipient will maintain a dedicated deposit account in US dollars at the BOL, as part of the general foreign currency reserves of the GoL, and IDA will deposit the proceeds into that deposit account. An equivalent amount will be converted into local currency and credited to a

²² These medium to high risk categories are external audit mechanisms, legal structures and independence, financial reporting framework, internal audit mechanism and internal control systems.

central treasury account that is used to finance budget expenditures within 30 days.

103. **The administration and accounting of the credit will be the responsibility of the MOF.** Through the MOF, the GoL will report to IDA the amount received in the US dollar deposit account at the BOL, the amounts withdrawn from the deposit account and the equivalent amounts credited in local currency to the central treasury account available to finance budgeted expenditures. The report will also include the date and name/number of the GoL's bank account into which the local currency amount has been deposited. MOF will prepare the report on receipts and disbursements from the deposit account; this report is to be submitted to IDA within 45 days of the final disbursement of the proceeds from the deposit account. The proceeds will not be tied to any specific purchases; however, such proceeds will not be used for ineligible expenditures. If the proceeds are used for ineligible purposes, as defined in the Financing Agreement, the World Bank will require the GoL to refund the amount to IDA. This sum will be cancelled from the credit. Given the assessment above, if considered necessary by IDA, the GoL will allow an independent external audit of the dedicated foreign currency deposit account in accordance with terms of reference acceptable to IDA.

5.4 MONITORING, EVALUATION AND ACCOUNTABILITY

104. **The Secretariat of the National Steering Committee (NSC) on Green Growth will have the overall responsibility for monitoring the results indicators of the DPF series.** The M&E framework of the Green Growth DPF series will be synchronized with the M&E of the 8th NSEDP. A Working Group led by Department of Planning of MPI (MPI DOP) will be supporting the Secretariat. MPI is also in charge of M&E of the 8th NSEDP and will use its strong provincial and district level planning units in the M&E of the Green Growth DPF series. Line ministries will monitor progress towards the end-of-program (EoP) results in their respective policy tracks and report regularly to the Working Group. The reports will identify factors that may be constraining achievement of EoP targets and recommend remediation actions. The Working Group will consolidate these reports in semi-annual M&E reports for the DPF series. The Secretariat will use these reports for regular briefings to the NSC, which in turn will decide on actions to ensure that the DPF-series remains on track.

105. **Availability and the quality of the data to monitor progress may be an issue in some tracks, which will be mitigated through the involvement of the MPI DOP network, careful selection of result indicators, and provision of technical assistance.** The GoL's capacity building needs will be addressed through technical assistance provided by various World Bank Group country engagements lines, as detailed in section 4.3. Assistance to MPI is already in place through the Green Growth ASA and LENS2 Project and aims to build its capacity for planning and monitoring green growth in the 8th NSEDP.

106. **Grievance Redress.** Communities and individuals who believe that they are adversely affected by specific country policies supported as prior actions or tranche release conditions under a World Bank Development Policy Operation may submit complaints to the responsible country authorities, appropriate local/national grievance redress mechanisms, or the World Bank's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed to address pertinent concerns. Affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, because of World Bank non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit <http://www.worldbank.org/GRS>. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org."

6. SUMMARY OF RISKS AND MITIGATION

107. **The overall risk of the DPF series, with its significant potential positive payoff in quality of growth, is rated high.** Most critical risks relate to the achievement of the intended results of the series, notably macroeconomic risks and institutional capacity for implementation and sustainability. Risks of unintended adverse consequences to the client and stakeholders from the reforms supported by the program are low.

108. **Political and governance risks are high.** The GoL is committed to advance a development agenda based on green growth. The government has made some progress in strengthening governance, but continues to rank low on a number of governance indicators, notably voice and accountability, control of corruption and regulatory quality. Lao PDR's key institutional challenges stem from commercialization of the state, fragmentation of the government, nascent capacity of the administration, and limited checks and balances. The GoL has expressed its intention to address those governance shortcomings. The World Bank is addressing governance risks by designing programs to support the government in improving governance in sectors of WBG engagement and support. In order to support the GoL's efforts to mitigate those risks, the World Bank will provide technical assistance to support the government in strengthening its monitoring and accountability mechanisms. In addition, the policy track on protected areas lacks a clear leadership commitment due to the ongoing transition of the institutional mandate for protected areas from MONRE to MAF. In order to help build such leadership commitment, the World Bank is supporting the GoL to strengthen the capacity of governmental agencies involved in the protected areas management (including MAF), particularly through the LENS2 Project and the NT2 Social and Environments Project. The World Bank will continue providing technical assistance to design and later implement the national park reform pilot. In addition, the World Bank is providing support for strengthening governance in sectors targeted by the DPF. For example, both the HMTA and MIWRM projects provide support to improve management frameworks and governance structures for water resources. In the financial sector, governance issues related to banking supervision, accounting and auditing, bank resolution, and bank licensing.

109. **Macroeconomic risks are high.** Externally, while baseline growth projections for the region remain broadly favorable, growth has repeatedly underperformed in recent years. Greater disturbances in the region in response to a growing list of potential triggers could affect Lao PDR's main economic partners, and lower external demand and investment flows. Further weakening of copper, coffee, and rubber prices could lower mining and agriculture outputs, affect livelihoods negatively, and put further pressure on fiscal accounts. In addition, despite a favorable outlook, Lao PDR's difficult business environment may prevent business opportunities from materializing while the inability to match liabilities in the power sector with export opportunities may limit growth and further add to macroeconomic risks. However, risks from domestic economic management policies are probably greater at this moment. If not addressed, continued pressure on the exchange rate risks igniting inflation, testing the stability of the financial sector and the sustainability of public debt. With around 50% of loans and deposits in the banking sector denominated in foreign currency, growing foreign borrowing of non-bank private sector and significant public debt denominated in foreign currency, Lao PDR is exposed to significant macroeconomic risks resulting from sharper adjustment in the exchange rate and/or global financial conditions. Sustainability of fiscal accounts can also be tested in case the announced fiscal consolidation is derailed

and if the public debt management function is not upgraded promptly, including steps to limit the GoL’s exposure to contingent liabilities (off-budget spending or cost overruns). Similarly, failure to address weaknesses in the financial sector can trigger a larger instability, undermine confidence in the system, and create a fiscal burden that the budget cannot absorb. Recent stronger emphasis on economic management, including through the addition of measures to the GG DPF series that target some of the key macroeconomic vulnerabilities, is mitigating these risks; however, the residual risk remains high.

110. **Institutional capacity risks for implementation and sustainability are substantial.** Low institutional capacity affects the ability to design, implement, and enforce the policies that are adopted with the support of the DPF series. This low capacity may constrain the achievement of associated end-of-program results. This is true in all reform programs in Lao PDR but even more so in the environment and natural resources sectors, both at the central and provincial levels (decentralization has stretched human resources). In addition, while GoL is in spirit committed to green growth, the concept itself is new and represents a major diversion from its growth pattern to date, across a variety of sectors. As such, designing and implementing an effective monitoring and evaluation program will pose a challenge to policy makers. The policy track on chemicals and pesticides management also carries a risk that the limited number of DAF inspection staff and resources to travel for inspection will constrain agricultural suppliers compliance with the regulations, including the acquisition of a license. The DPF-series mitigates this risk by (i) identifying straightforward results indicators, (ii) setting realistic targets, and (iii) identifying other initiatives from the World Bank that can provide technical assistance to implementing agencies.

111. **The fiduciary risk is rated as substantial** due to the weaknesses in the public financial management system, including public procurement highlighted above and the absence of a recent IMF safeguard assessment of the Central Bank’s control environment.

Table 6 Summary of Risk Ratings

| Risk Categories | Rating (H, S, M, or L) |
|---|-------------------------------|
| 1. Political and governance | High |
| 2. Macroeconomic | High |
| 3. Sector strategies and policies | Moderate |
| 4. Technical design of project or program | Moderate |
| 5. Institutional capacity for implementation and sustainability | Substantial |
| 6. Fiduciary | Substantial |
| 7. Environment and social | Low |
| 8. Stakeholders | Low |
| Overall | High |

ANNEX 1. POLICY AND RESULTS MATRIX

| Policy Action | | | End of Program Results Indicators (Targets to be measured at the end of the DPF series) |
|---|---|--|---|
| DPF1 | DPF2 | DPF3 | |
| Pillar 1. Strengthening prospects for fiscal sustainability and financial sector stability | | | |
| <i>Policy Track 1.1. Lowering risks to macroeconomic stability</i> | | | |
| <p>Prior Action #1: The Recipient, through the Prime Minister, has taken steps to support fiscal consolidation, through (i) eliminating tariff exemptions on fuel imports for investment projects, as evidenced by <i>Notification No. 1152/PM dated 9 August 2016</i>; and (ii) limiting the intake of civil servants to up to 5,000 in 2017, as evidenced by <i>Decision No. 73/PM dated 29 August 2016</i>; and through the Ministry of Finance (iii) has revised the Implementing Instructions for the Value-added tax as evidenced by <i>Instruction No. 0077/MF dated 11 January 2017</i>.</p> <p>(MOF, BOL)</p> | <p>(Indicative) Trigger #1: The Recipient, through MOF, (i) approves the FY18 budget with a deficit target of up to 4.8% of GDP consistent with an MTFE with further consolidation (-3.5% of GDP in FY19); (ii) introduces in a stepwise manner higher excise tax rates on fuel, alcohol, and tobacco; (iii) completes audit of civil servants database; and (iv) completes comprehensive tax review.</p> <p>(Indicative) Trigger #2: The Recipient, through MOF, strengthens public debt management through producing a Medium-Term Debt Strategy and a DSA and implementing a medium-term borrowing plan covering all public debt instruments consistent with lowering public debt to 65% of GDP.</p> <p>(Indicative) Trigger #3: The Recipient, through BOL, prepares and publishes a set of core financial stability indicators.</p> <p>(MOF, BOL)</p> | <p>(Indicative) Trigger #1: The Recipient, through MOF, (i) approves FY20 budget with a deficit target of up to 3% of GDP; (ii) increases in a stepwise manner higher excise tax rates on alcohol and tobacco products; (iii) implements key recommendations from the comprehensive tax review; and (iv) completes reorganization of Tax Department and operationalizes key functions (compliance, risk monitoring, and office focused on large taxpayers).</p> <p>(Indicative) Trigger #2: The Recipients, through MOF, produces bi-annual debt bulletins with key debt and risk indicators including total debt (by instrument, interest rate, maturity, and so forth), guarantees and contingent liabilities, repayment schedules, debt, and debt service to revenues and to exports.</p> <p>(Indicative) Trigger #3: The Recipient (i) through MOF and BOL, approves a restructuring plan for two SOBs; (ii) through BOL, revises the Bank of Lao PDR Law in line with good practice, including on limiting lending, and restricting fiscal deficit financing by BOL, and auditing of BOL accounts; and (iii) revises the Commercial Banks Law to better regulate prompt corrective action, bank resolution power, related lending and bank insolvency.</p> <p>(MOF, BOL)</p> | <p>Results Indicator 1: Fiscal consolidation supported by higher tax revenues Baseline: 14.6% of GDP (FY15/16) Target: 16.7% of GDP (FY20)</p> <p>Results Indicator 2: Fiscal consolidation supported by lower wage bill Baseline: 8.4% of GDP (FY15/16) Target: 7.4% of GDP (FY20)</p> <p>Results Indicator 3: Reduction in public debt Baseline: 68% of GDP (2016) Target: 65% of GDP (2020)</p> <p>Result indicator 4: Public reporting of compliance with regulations of the Capital Adequacy Ratio, by type of banks Baseline: Not reported (January 2017) Target: At least regulatory minimum</p> |

| Policy Action | | | End of Program Results Indicators (Targets to be measured at the end of the DPF series) |
|---|---|---|--|
| DPF1 | DPF2 | DPF3 | |
| Pillar 2: Consolidating green growth principles across the national development strategy | | | |
| <i>Policy Track 2.1. Building the foundation for green growth planning and monitoring</i> | | | |
| <p>Prior Action #2: The Recipient has incorporated the principles of green growth in national development planning through (i) the National Assembly adopting the 8th NSEDP (2016-2020) that sets forth Outcome 3 and Outputs 1 to 3 associated with environmental protection and sustainable natural resources management <i>as evidenced by Resolution No. 9/NA dated 22 April 2016</i>; and (ii) the Prime Minister establishing the National Green Growth Steering Committee to oversee the planning, implementation, monitoring, and evaluation of the country's green growth agenda, <i>as evidenced by Agreement No. 95/PM dated 8 December 2016</i>.</p> <p>(MPI DOP)</p> | <p>(Indicative) Trigger #4: The Recipient, through the Prime Minister, has issued a decree establishing the National Green Growth Strategy, with a specific M&E framework for the green growth priorities established in the Strategy.</p> <p>(MPI DOP / NIER)</p> | <p>(Indicative) Trigger #4: The Recipient, through the Prime Minister, has issued an instruction establishing and has started implementing a transparency mechanism to (i) report the monitoring results of the green growth priorities, and (ii) set the basis for green growth planning in the 9th NSEDP (2021–2025).</p> <p>(MPI DOP / NIER)</p> | <p>Results Indicator 5: Disclosure of M&E results of the green growth priorities established in the National Green Growth Strategy, as part of the public consultation process of the 9th NSEDP (2021–2025)</p> <p>Baseline: No (January 2017) Target: Yes</p> |
| <i>Policy Track 2.2. Strengthening country instruments for cleaner and resilient green growth financing</i> | | | |
| <p>Prior Action #3: The Recipient, through the Prime Minister, has restructured the Environment Protection Fund (EPF) with provisions that (i) create an inter-ministerial governance mechanism to manage the EPF operations and resources, (ii) require revenues and expenditures to be operated by the National Treasury System, and (iii) specify eligible revenue sources, <i>as evidenced by Decree No. 94/PM dated 8 March 2017</i>.</p> <p>(EPF Board)</p> | <p>(Indicative) Trigger #5: The Recipient has established the legal framework to (i) increase the EPF revenue generation, and (ii) establish mechanisms for EPF to prioritize its resource allocation.</p> <p>(MOF Budget Department, EPF Board)</p> | | <p>Results Indicator 6: Increase in number of revenue sources of the Environment Protection Fund</p> <p>Baseline: 3 – contributions from development partners, contributions from business, and endowment fund (January 2017) Target: 5</p> <p>Results Indicator 7: Disclosure of annual financial audit of the EPF</p> <p>Baseline: No (January 2017) Target: Yes</p> |

| Policy Action | | | End of Program Results Indicators (Targets to be measured at the end of the DPF series) |
|---|--|---|---|
| DPF1 | DPF2 | DPF3 | |
| <i>Policy Track 2.3. Shifting towards decision making informed by priorities for environmental protection and climate resilience</i> | | | |
| <p>Prior Action #4: The Recipient, through the Prime Minister, (i) has mandated MONRE to collaborate with key line sectors in the preparation of sectoral Strategic Environmental Assessments, <i>as evidenced by Decree No. 445/PMO dated 19 December 2016</i>, and, through MONRE, (ii) has required Strategic Environmental Assessments in the formulation of all policies, programs, and strategic plans, to incorporate environmental and social sustainability considerations, and the SDGs in public planning, <i>as evidenced by Ministerial Decision No. 483/MONRE dated 6 February 2017</i>.</p> <p>(MONRE DEQP)</p> | <p>(Indicative) Trigger #6: The Recipient, through MONRE–in consultation with MPI– has issued a ministerial decision to establish detailed procedures for information disclosure and public participation on SEA.</p> <p>(MONRE DEQP)</p> | | <p>Results Indicator 8: Number of SEAs undertaken for public policies, programs, and strategic plans Baseline: 0 (January 2017) Target: 1</p> |
| | <p>(Indicative) Trigger #7: The Recipient has issued regulations on ESIA with provisions on screening, scoping, public participation, public information disclosure, assessment requirements, reviewing and approval of ESIA report, and budgetary allocation for compliance monitoring.</p> <p>(MONRE DESIA)</p> | <p>(Indicative) Trigger #5: The Recipient, through MONRE–in consultation with MPI–has issued a ministerial decision to create an integrated database and public information platform to disclose relevant information on ESIA, such as screening, scoping, impact assessment, approval, and post-decision implementation.</p> <p>(MONRE DESIA)</p> | <p>Results Indicator 9: Share of investment projects in the mining, energy, and transport sectors that require an ESIA (Group 2 Projects listed in Ministerial Agreement No. 8056/MONRE 2013), with complete disclosure of relevant information (that is, screening, scoping, impact assessment, and approval), through the integrated database and public information platform, prior to approval of concession agreements.</p> <p>Baseline: 0 (January 2017) Target: 70% of Group 2 projects</p> |

| Policy Action | | | End of Program Results Indicators (Targets to be measured at the end of the DPF series) |
|---|---|---|---|
| DPF1 | DPF2 | DPF3 | |
| <p>Prior Action #5: The Recipient, through MPI, has established the public investment project (PIP) review process that takes into account climate resilience and disaster risk considerations, as evidenced by Ministerial Decision No. 0645/MPI dated 28 March 2017. (MPI DOP)</p> | <p>(Indicative) Trigger #8: The Recipient, through MPWT, has issued a ministerial decision to adopt road maintenance procedures that integrate climate resilience and disaster risk considerations into the planning and budgeting of PIPs, including identification of vulnerable sections and design. (MPWT DOR)</p> | <p>(Indicative) Trigger #6: Recipient, through MONRE, has issued a ministerial decision to establish a protocol for sharing and using hydro meteorological data to integrate climate and disaster risk considerations into the planning and budgeting of PIPs. (MONRE DMH)</p> | <p>Results Indicator 10: Share of approved road maintenance projects with climate resilience and disaster risks considerations envisaged in the Annual Road Maintenance Plan and Budget that are verified by technical audits Baseline: 0 (January 2017) Target: 50% of approved road maintenance projects</p> |
| <p>Pillar 3. Incorporating green growth in selected sectors</p> | | | |
| <p><i>Policy Track 3.1. Shifting towards integrated and sustainable water resources management and uses</i></p> | | | |
| | <p>(Indicative) Trigger #9: The recipient, through MONRE, has issued a ministerial decision to establish Guidelines for Water Resource Assessment in river basins, including analysis of water users (ecological flows, hydropower, irrigation, domestic water supply, and recreational use) and evaluation of water quality in accordance with standards methods. (MONRE DWR)</p> | <p>(Indicative) Trigger #7: The recipient, through MONRE, has issued a ministerial decision to establish Guidelines for River Basin Planning, including institutional responsibilities, budgets, and milestones. (MONRE DWR)</p> | <p>Results Indicator 11: Number of river basins that meet the minimum flow requirements set out in their respective River Basin Plan Baseline: 0 (January 2017) Target: 1</p> |
| <p><i>Policy Track 3.2. Improving forest resources management.</i></p> | | | |
| <p>Prior Action #6: The Recipient, through the Prime Minister, has strengthened strictness of timber harvest management and inspection, timber transport and trade in order to control illegal logging in infrastructure areas and timber harvesting, processing, and trade, as evidenced by Order No. 15/PM dated 13 May 2016. (MAF DOF).</p> | <p>(Indicative) Trigger #10: The Recipient, through MAF, has issued a legal instrument requiring a Timber Legality Assurance System. (MAF DOF)</p> | <p>(Indicative) Trigger #8: The Recipient, through MAF, has issued a ministerial decision to establish an effective and transparent third-party certification procedure for Production Forest Areas (PFAs) that includes group certification. (MAF DOF)</p> | <p>Results Indicator 12: Increase in hectares of PFAs with certified Sustainable Forest Management operations based on Lao PDR regulations Baseline: 10,949 hectares in two forest management units (January 2017) Target: 230,000 hectares in four PFAs certified</p> |

| Policy Action | | | End of Program Results Indicators (Targets to be measured at the end of the DPF series) |
|---|---|--|--|
| DPF1 | DPF2 | DPF3 | |
| <p>Prior Action #7: The Recipient, through the Prime Minister, has adopted the legal framework to pilot a national park reform by (i) establishing a process to upgrade the conservation standing of Nam Theun 2 (NT2) Watershed to a national park, (ii) establishing the legal status of enclave communities and their access rights to protected area resources, and (iii) adjusting the organizational structure of the NT2 Watershed Management and Protection Authority (WMPA) to anchor its responsibilities under MAF, <i>as evidenced by Decree No. 122/PM dated 21 April 2017.</i></p> <p>(MAF)</p> | <p>(Indicative) Trigger #11: The Recipient, through the MAF, has issued a Ministerial Decision on the Organization and Activities of a new department or authority tasked with the national park and wildlife conservation taking into account principles of effective and centralized authority, delegated accountability, standardized and collaborative management, benefit sharing, and community private sector partnerships for ecotourism.</p> <p>(MAF)</p> | <p>(Indicative) Trigger #9: The Recipient, through the Director General DFRM/MAF has approved a set of 12 Guidelines that provide technical guidance on field activity implementation and include at least (i) guidelines on organizational structure and responsibilities for national park and wildlife management, and (ii) measurement criteria for assessing national park and wildlife management effectiveness and conservation status.</p> <p>(MAF)</p> | <p>Results Indicator 13: Number of national protected areas where progress in reaching management objectives is at least moderately satisfactory, as measured by the Management Effectiveness Tracking Tool</p> <p>Baseline: 0 (January 2017) Target: 2 – Nakai Nam Theun and Nam Et-Phou Louey</p> |
| <p><i>Policy Track 3.3. Leveraging green growth policies to control non-point source pollution</i></p> | | | |
| <p>Prior Action #8: The Recipient, through the National Assembly, has established legal provisions (i) for the management, monitoring, and inspection of chemicals for minimizing health risks and promoting cleaner production <i>as evidenced by the Law on Chemicals, No. 07/NA dated 10 November 2016, and Promulgation Decree No. 202/President dated 12 November 2016,</i> and (ii) on phytosanitary management, including pest management, <i>as evidenced by the Law on Plant Protection and Quarantine, No. 13/NA dated 15 November 2016, and Promulgation Decree No. 197/President dated 28 November 2016.</i></p> <p>(MOIC) (MAF)</p> | <p>(Indicative) Trigger #12: The Recipient, through MAF, has issued ministerial decisions to establish procedures for pesticide registration and licensing, and sanctions for violating those regulations.</p> <p>(MAF DOA)</p> | <p>(Indicative) Trigger #10: The Recipient, through MAF, has issued ministerial decisions on (i) manufacturing, processing, import, distribution, and use of pesticides; and, (ii) inspection and disclosure of registered, prohibited and banned pesticides.</p> <p>(MAF DOA)</p> | <p>Results Indicator 14: Number of inspections by MAF of pesticide sellers for compliance with pesticide regulations per year</p> <p>Baseline: 0 (January 2017) Target: 140</p> |

| Policy Action | | | End of Program Results Indicators (Targets to be measured at the end of the DPF series) |
|---|--|--|--|
| DPF1 | DPF2 | DPF3 | |
| <i>Policy Track 3.4. Strengthening pollution monitoring and management</i> | | | |
| <p>Prior Action #9: The Recipient, through the Prime Minister and MONRE, has established national air quality, water quality, and vehicle emissions standards, including lead in air and water as evidenced by Decree No. 81/PM dated 21 February 2017, and Ministerial Decision No. 0485/MONRE, dated 7 February 2017.</p> <p>(MONRE PCD)</p> | <p>(Indicative) Trigger #13: The Recipient, through MONRE, has regulated standard methods for sampling and analysis of air and water quality data.</p> <p>(MONRE PCD)</p> | <p>(Indicative) Trigger #11: The Recipient, through MONRE, has issued ministerial decisions to (i) define the identification criteria of Priority Pollution Watch Sites (PPWS); (ii) establish a mechanism for public disclosure of monitoring results in PPWS; and (iii) reduce exposure to lead poisoning by phasing out manufacturing, import, sale and use of lead-containing paints and children's products coated with lead-containing paints.</p> <p>(MONRE PCD)</p> | <p>Results Indicator 14: Number of PPWS for which monitoring reports (including at least PM2.5, arsenic, lead, and pathogens concentrations) are regularly updated and publicly disclosed</p> <p>Baseline: 0 (January 2017) Target: 3</p> <p>Results Indicator: Percentage of legally imported paint brands offering unleaded paint in the national market.</p> <p>Baseline: 0 (January 2017) Target: 100%</p> |

ANNEX 2. DPF1 PRIOR ACTIONS AND ANALYTICAL UNDERPINNINGS

| Prior Actions | Analytical Underpinnings |
|---|---|
| Pillar 1. Strengthening prospects for fiscal sustainability and financial sector stability | |
| <i>Policy Track 1.1. Lowering risks to macroeconomic stability</i> | |
| <p>Prior Action #1: The Recipient, through the Prime Minister, has taken steps to support fiscal consolidation, through (i) eliminating tariff exemptions on fuel imports for investment projects; and (ii) limiting the intake of civil servants to up to 5,000 in 2017; and through the Ministry of Finance, (iii) has revised the Implementing Instructions for the Value-added Tax.</p> | <p>The World Bank’s Systematic Country Diagnostics (SCD) for the Lao PDR has examined the alternatives for fiscal consolidation, including those that are being designed and implemented by the GoL (World Bank, 2016).²³</p> |
| Pillar 2. Consolidating green growth principles across the national development strategy | |
| <i>Policy Track 2.1. Building the foundation for green growth planning and monitoring</i> | |
| <p>Prior Action #2: The Recipient has incorporated the principles of green growth in national development planning through (i) the National Assembly adopting the 8th NSEDP (2016–2020) that sets forth Outcome 3 and Outputs 1 to 3 associated with environmental protection and sustainable natural resources management; and (ii) the Prime Minister establishing the National Green Growth Steering Committee to oversee the planning, implementation, monitoring, and evaluation of the country’s green growth agenda.</p> | <p>The World Bank’s SCD highlights weak institutional arrangements as one of the main constraints to achieve the countries development goals identifies enhancing governance and creating a rules-based environment as a main priority for the country (World Bank, 2016).²⁴</p> <p>There is a lack of specific institution to lead the agenda, the weaknesses of multi-sector coordination and the continuity and effectiveness of implementation, as particular challenges for achieving a more sustainable development path in Laos (GoL, 2012).²⁵</p> <p>Country experiences from all around the world show that it requires political leadership, policy measures, financial resource mobilization, effective policy planning and implementation, as well as monitoring and evaluation to translate GG visions into actions on the ground (GGBP, 2015)²⁶.</p> |
| <i>Policy Track 2.2. Strengthening country instruments for cleaner and resilient green growth financing</i> | |
| <p>Prior Action #3: The Recipient, through the Prime Minister, has restructured the Environment Protection Fund (EPF) with provisions that (i) create an inter-ministerial governance mechanism to manage the EPF operations and resources, (ii) require revenues and expenditures to be operated by the National Treasury System, and (iii) specify eligible revenue sources.</p> | <p>Countries can apply a number of fiscal instruments, such as taxes, fees and charges to stimulate the transition towards GG by providing the right price incentives (World Bank, 2012)²⁷ At the same time, such instruments generate revenues that can be reinvested in environmental protection and other development goals. Tax schemes to reduce environmentally harmful</p> |

²³ World Bank Group. 2016. *Lao People’s Democratic Republic Systematic Country Diagnostics. Priorities for Ending Poverty and Boosting Shared Prosperity*. Washington, DC: World Bank..

²⁴ Ibid.

²⁵ MONRE. 2012. *National Rio+20 Report for Lao PDR*.

²⁶ Green Growth Best Practice. 2015. *Green Growth in Practice. Lessons from Country Experiences*.

²⁷ World Bank. 2012. *Inclusive Green Growth: The Pathway to Sustainable Development*. Washington, DC: World Bank.

| | |
|--|---|
| | activities have been designed in various countries with different design elements (Heine et al. 2012). ²⁸ |
| <i>Policy Track 2.3. Shifting towards decision making informed by priorities for environmental protection and climate resilience</i> | |
| Prior Action #4: The Recipient, through the Prime Minister, (i) has mandated MONRE to collaborate with key line sectors in the preparation of sectoral Strategic Environmental Assessments and, through MONRE, (ii) has adopted the legal framework to require Strategic Environmental Assessments in the formulation of all policies, programs, and strategic plans, to incorporate environmental and social sustainability considerations, and the SDGs in public planning. | As shown by the Lao Development Report 2010, uncoordinated planning and development of mining and hydropower can have negative environmental and social impacts (World Bank 2010). ²⁹ Upstream and project-level planning processes need to be improved to minimize the environmental and social impacts of natural resource sectors (World Bank 2010). ³⁰ Strategic Environmental Assessments (SEA) are an important tool for incorporating environmental considerations into sectoral policies, plans and programs, such as those for hydropower development in the Mekong River Basin (ADB 2015). ³¹ |
| Prior Action #5: The Recipient, through MPI, has established the public investment project (PIP) review process that takes into account climate resilience and disaster risk considerations. | People and assets are exposed to high climate and disaster risks in South East Asia, including Lao PDR, which will increase further with climate change (World Bank 2013). ³² Three of the five costliest natural disasters have taken place since 2009, including two floods in a single year 2013 (CRED 2016). ³³ The 2015–2016 El Niño has been one of the strongest on record and has affected Lao PDR through lower yields, reduced hydropower production and damages from storms. By 2030, the economic losses in the Lower Mekong region could accumulate to at least \$16 billion per year in damage to natural resource assets and infrastructure services, and an additional \$18 billion per year in potential infrastructure damage or loss from flooding and other extreme weather events (USAID 2014). ³⁴ In Lao PDR specifically, floods, storms, and droughts are the most prevalent hazards, and they are expected to become more pronounced and severe under the influence of climate change. Lao PDR’s 2010 National Strategy on Climate Change (NSCC) estimated financial needs for implementing NSCC at approximately US\$2.4 billion until 2020. |

²⁸ Heine, D., Horregaard, J., & Parry, I., (2012). Environmental Tax Reform: Principles from Theory and Practice to Date. IMF Working Paper, WP/12/180/

²⁹ World Bank (2010). Lao PDR 2010 Development Report 2010: Natural resource Management for Sustainable Development: Hydropower and Mining. World Bank, Washington, DC.

³⁰ Ibid.

³¹ ADB (2015). Integrated Strategic Environmental Assessments Into Power Planning. Asian Development Bank, Manila.

³² World Bank. 2013. *Turn Down the Heat: Climate Extremes, Regional Impacts, and the Case for Resilience. A report for the World Bank by the Potsdam Institute for Climate Impact Research and Climate Analytics.* Washington, DC: World Bank.

³³ CRED (Center for Research on the Epidemiology of Disasters). 2016. International Disaster Database.

³⁴ USAID (U.S. Agency for International Development). 2014. *Climate Change in the Lower Mekong Basin. An Analysis of Economic Values at Risk.* United States Agency for International Development Mekong Adaptation and Resilience to Climate Change.

| | |
|---|--|
| | <p>As most recently stated in Lao PDR's NDC, the transport sector is a priority area for adaptation as the increased intensity and frequency of climate events have shown growing maintenance backlog and increased need for emergency repair, which is estimated to account for roughly 30% of Lao PDR's road maintenance budget. Identifying climate and disaster risks and integrating risks mitigation measures in transport design including strengthening vulnerable road sections will help make infrastructure systems more robust to forthcoming shocks and changes (World Bank 2015).³⁵</p> |
| <p>Pillar 3. Incorporating green growth in selected sectors</p> | |
| <p><i>Policy Track 3.2 Improving forest resources management.</i></p> | |
| <p>Prior Action #6: The Recipient, through the Prime Minister, has strengthened strictness of timber harvest management and inspection, timber transport and trade in order to control illegal logging in infrastructure areas and timber harvesting, processing, and trade.</p> | <p>The majority of Lao PDR's timber resource exports go to Thailand, Vietnam, and increasingly China, which in turn re-export manufactured forest products notably to the United States, Japan, and the European Union. Lao secondary wood processors are small to medium scale, and export-oriented, while its wooden furniture industry is almost entirely domestic in orientation.</p> <p>Infrastructure areas including hydropower, mining, plantation, and highway development are the largest source of exported timber. Mirror data (in the absence of official harvest data) from importing countries indicate Lao export volumes of 800,000 m³ to 1.1 million m³ per year between 2001 and 2007. This quantity far exceeds the national annual allowable cuts (from 600,000 m³ per year in the early 2000s to 150,000 m³ in 2008/09) and the MAF-estimated harvested volumes of 650,000 m³ in 2006/07.</p> <p>The legality of most exports is difficult to establish, due conflicting, discretionary, or ambiguous regulations on logging. The restriction of commercial logging to PFAs with completed pre-harvest inventories and approved management plans is contradicted by other legal documents, specifically, PMO No. 30, which only requires a logging survey in advance of harvesting development areas, and PMO No. 25, which only requires government endorsement. In addition, many key legislative documents relevant to the Lao forestry sector leaves significant room for selective interpretations with clauses such as "unless approved by the government."</p> <p>All three major final export markets increasingly demand third-party proof of legality or sustainability. Forest Stewardship Council (FSC) certification of fast-growing plantations could help Lao PDR capture a significant market share. Forest certification in Lao PDR has potential once two issues are dealt with: (i) there is a lack of linkage between certified forest management areas to domestic wood processors, and (ii) there</p> |

³⁵ World Bank. 2015. *Moving Toward Climate-Resilient Transport: The World Bank's Experience from Building Adaptation into Programs*. Washington, DC: World Bank.

| | |
|---|--|
| | is uncertainty in border delineation and management planning for the majority of 51 legal PFAs (Forest Trends 2011). ³⁶ |
| <p>Prior Action #7: The Recipient, through the Prime Minister, has adopted the legal framework to pilot a national park reform by (i) establishing a process to upgrade the conservation standing of Nam Theun 2 (NT2) Watershed to a national park, (ii) establishing the legal status of enclave communities and their access rights to protected area resources, and (iii) adjusting the organizational structure of the NT2 Watershed Management and Protection Authority (WMPA) to anchor its responsibilities under MAF.</p> | <p>There are overlapping mandates and a lack of coordination among the agencies involved in natural resource use and management and among the central, provincial, and district levels of government (World Bank 2010).³⁷</p> <p>The Mekong Basin makes up 88% of the land area of Lao PDR, and within that area, there are numerous streams and sub-catchments that support rich biodiversity and fisheries. Thus, Lao PDR has a pivotal role to play in the conservation of the Mekong River and its associated aquatic ecosystems. The mountainous topography that dominates the Lao landscape means that streams are widespread and are a key habitat. The mainstream Mekong supports a diversity of aquatic fauna. It is estimated to have over 450 fish species (World Bank 2005),³⁸ making it one of the most species-rich river systems in the world.</p> |
| <p><i>Policy Track 3.3 Leveraging green growth policies to control non-point source pollution</i></p> | |
| <p>Prior Action #8: The Recipient, through the National Assembly, has established legal provisions (i) for the management, monitoring, and inspection of chemicals for minimizing health risks and promoting cleaner production, and (ii) on phytosanitary management, including pest management.</p> | <p>Lao PDR's average application of pesticides rates grew by 55% per year since 2003 although from a very low base. In comparison, average application rate of registered quantities of imported pesticides per hectare of cropland is 0.1 kg/ha for Lao PDR, compared to 16.2 kg/ha for Vietnam, 8.4 kg/ha for Thailand, and 2.9 kg/ha for Cambodia. Some banned highly hazardous pesticides can still be found in the market and are frequently used in large amounts by commercial and contract farmers and plantations. In addition, appropriate protective gear is hardly used when applying pesticides and empty containers are often discarded at the border of fields or other inappropriate locations with easy access to children. Children accompanying parents on the fields are exposed. There is a need for stronger enforcement of existing regulations on pesticides, incorporation of pest and pesticide management in environmental impact assessments, inspections, and support to destroy pesticide packaging (NAFRI 2016).³⁹</p> <p>The success of farmer training in improving pesticide application behavior is questionable. Most farmers are taking calculated risks that produce quick returns. Consequently,</p> |

³⁶ Forest Trends. 2011. *Lao PDR: Overview of Forest Governance, Markets and Trade*.

³⁷ World Bank. 2010. *Lao PDR 2010 Development Report 2010: Natural Resource Management for Sustainable Development: Hydropower and Mining*. Washington, DC: World Bank.

³⁸ World Bank. 2005. *Lao PDR Economic Monitor 2005*. Vientiane, Lao PDR: World Bank.

³⁹ NAFRI (National Agriculture and Forestry Research Institute). 2016. *How Sustainable is Commercial Banana Production in Laos? A Case Study. Presentation on Research Findings by the Policy Think Tank*. NAFRI. http://rightslinklao.org/wp-content/uploads/downloads/2016/05/Banana_research_findings_-_PTT310316_E_Final.pdf

| | |
|--|--|
| | <p>there is a need for an integrated response, including consumer awareness and lobbying, support for development of organic and clean market systems, improved food safety regulations, monitoring of pesticide use, residues, health effects, enforcing pesticide regulations, education, land-use planning and zoning, education and training of farmers, and training of farmers to reduced risks (Bartlett 2016).⁴⁰</p> <p>The main challenges for the next five years in the management of pesticides include (i) consolidation of the inspection scheme, (ii) improvements to the licensing scheme for pesticide retailers, (iii) increasing the proportion of products with a label in the national language, (iii) increasing the proportion of registered products imported in accordance with government rules and requirements, (iv) stepping up farmer education in pesticide risk reduction (short 3-day courses), and (v) developing sustainable capacity within the government's extension services to provide Integrated Pest Management training through season-long Farmers Field Schools (Louanglath and van der Wulp 2014).⁴¹</p> |
| <p><i>Policy Track 3.4. Strengthening pollution monitoring and management</i></p> | |
| <p>Prior Action #9: The Recipient, through the Prime Minister and MONRE, has established national air quality, water quality, and vehicle emissions standards, including lead in air and water.</p> | <p>Air pollution is the second-largest risk factor in Lao PDR in DALYs, and the fourth largest in deaths. Inadequate water, sanitation, and handwashing is the sixth-largest risk factor in DALYs and seventh in deaths (Forouzanfar et al. 2016).⁴²</p> <p>Indoor air pollution is another problem in Lao PDR. About 76% of the population relied on wood and over 20% on charcoal as primary cooking fuel in Lao PDR according to the Lao Social Indicator Survey 2011–2012 (MICS/DHS). A recent study in three villages in Savannakhet found high 48-hour PM_{2.5} kitchen concentrations in a sample of 72 households cooking with solid fuels (UC Berkeley 2015).⁴³</p> <p>A study in six provinces in central and southern Lao PDR found that arsenic concentrations exceeded the WHO guidelines of 10 ppb in 56% of the included tube wells (Chanpiwat et al. 2011).⁴⁴</p> |

⁴⁰ Bartlett, A. 2016. "Pesticide Use in Xieng Khouang." Paper presented at the Institut Français, "Research Week for Development," November 16–18.

⁴¹ Louanglath, K., and H. van der Wulp. 2014. *Lao PDR. Pesticide Management Update*. Unpublished manuscript. Prepared with assistance of the Swedish-supported FAO project GCP/RAS/229/SWE on Pesticide Risk Reduction in South East Asia.

⁴² Forouzanfar, M., A. Afshin, L. Alexander, H. R. Anderson, et al. 2016. "Global, Regional, and National Comparative Risk Assessment of 79 Behavioural, Environmental and Occupational, and Metabolic Risks or Clusters of Risks, 1990–2015: A Systematic Analysis for the Global Burden of Disease Study 2015." *Lancet* 388: 1659–724.

⁴³ University of California, Berkeley, and Berkeley Air Monitoring Group. 2015. *Air Pollution and Impact Analysis of a Pilot Stove Intervention: Report to the Ministry of Health and the Inter-Ministerial Clean Stove Initiative of the Lao PDR*.

⁴⁴ Chanpiwat, P., S. Sthiannopkao, K. H. Cho, K. W. Kim, V., B. Suvanthong, and C. Vongthavady. 2011. "Contamination by Arsenic and Other Trace Elements of Tube-Well Water along the Mekong River in Lao PDR." *Environmental Pollution* 159 (2): 567–76.

ANNEX 3. LETTER OF DEVELOPMENT POLICY



LAO PEOPLE'S DEMOCRATIC REPUBLIC
Peace Independence Democracy Unity Prosperity

MINISTRY OF FINANCE

1232-- --

No. /MOF

Vientiane, date 25.03.2016

His Excellency Jim Yong Kim,
President of the World Bank Group

RE: LETTER OF DEVELOPMENT POLICY

Your Excellency,

The Government of the Lao People's Democratic Republic (PDR) would like to accord its highest respect and compliments to the World Bank Group for the ongoing assistance for the social-economic development of Lao PDR.

I am writing, on behalf of the Government of the Lao PDR, to request a Development Policy Operation of SDR 28.5 million (US\$38.6 million equivalent) to support our program that aims to lower the risks to macroeconomic stability and initiate the transition to green growth that is intended to improve the sustainability and quality of our growth.

Lao PDR has accomplished strong growth in the last two decades accompanied also with significant poverty reduction. This Letter of Development Policy sets out the key actions that our Government is committed to undertake to ensure strong, sustainable and inclusive growth in the future. Our growth has relied on our natural resources and we understand that more sustainable and efficient management of the natural resources is needed to preserve this engine of growth. We are also determined to pursue a green growth trajectory to reduce the impacts of pollution on the health of our population, particularly our children and other vulnerable groups. In addition, we are well aware of the importance of maintaining macroeconomic stability to promote strong, sustainable and inclusive growth. The proposed program is anchored in our 8th National Socio-Economic Development Plan (NSEDP) and our ambitions to increasingly mainstream the Sustainable Development Goals (SDGs) into our development agenda.

Country development goals

Our broader priorities and development objectives are guided by the Vision 2030, the ten-year Socio-Economic Development Strategy 2016-2025 and five year National Socio-Economic Development Plan 2016-2020 approved by the National Assembly in April 2016.

The Vision 2030 aims to transform Lao PDR into a upper-middle income developing country with innovative, green and sustainable economic growth; there is availability of industrial pillars

and a strong basic infrastructure system to support industrialization and modernization; the country systematically follows a socialist market economy; there is social justice, peace and order; people's livelihoods are improved and solidarity is promoted; there are improved development disparities between urban and rural areas; there is improved human development that ensures all have access to quality social services; people's rights are protected under the effective rule of law, the administrative system is enhanced by following the 3-builds directive; there is environmental protection through efficient utilization of the natural resources to ensure sustainability; there is political stability and strength; the country is actively moving toward regional and international integration.

Furthermore, the overall objective of the 8th NSEDP is to ensure stability, peace and order in the society; the poverty of the people is reduced significantly in all areas; the country is developed out of LDC status by 2020 through continuous, inclusive, and sustainable growth; there is effective management and efficient utilization of natural resources; development is enhanced through the national potential and advantages; Lao PDR participates in regional and international integration with ownership.

Recent Economic Developments

Our country has been among the fastest growing economies in the world over the last decade. Our economy expanded by 7.5-8 percent on average during 2005-2015, significantly outperforming global and developing country averages at a time when the global economy faced, and continues to face, numerous headwinds. The growth rate was driven by investment in mining and power sectors, but we are also seeing increasingly signs of greater diversification and growth in agriculture, services (trade, tourism, financial sector) and manufacturing.

The growth rate of the economy moderated this year, but at around 6.9 percent it remains robust. The moderation is mostly due to a slowing regional growth and weak copper and commodity prices which affected the mining sector and incomes in agriculture and a slowdown in budget spending as we adjusted our fiscal policy to the new realities. On the other hand, the power sector continued to expand vigorously with the installed capacity in the power system reaching 6,265 MW and with another 38 dams currently under construction. We also witnessed further expansion of services, including in trade, communication and financial (banking and insurance) services. The manufacturing sector also expanded, reflecting our success in attracting reputable investors in our special economic zones (SEZs). Based on preliminary data from the Lao Statistics Bureau, the GDP in Fiscal Year (FY) 2015/16 reached kip 108,709 billion (US\$ 13,348 million) with GDP per capita reaching US\$ 2,027.

On the expenditure side, investment remained high reflecting a strong pipeline of projects in the power sectors as well as increasing investment in non-resource sectors, including commercial and real estate. Consumption was also supported by stable growth rates of credit from the banking sector. Exports increased as the expansion of the power sector and manufacturing resulted in higher exports of electricity and parts and components, thus offsetting the impact from the reduction in timber exports following the Government's firm commitment to deal with non-regulated logging. Also, agriculture exports increased reflecting recent investment in

commercial projects. At the same time, lower oil prices resulted in lower imports and a significant improvement in our trade balance.

However, the weak commodity prices created challenges for our fiscal accounts. In the previous years, we took steps to consolidate the fiscal position and managed to reduce the fiscal deficit to 4.53 percent and 5.52 percent of GDP in FY13/14 and FY14/15, from 6.33 percent in FY12/13. However, in FY15/16, continued weakness in global copper and oil prices affected our key revenue sources (royalties and profit tax on copper exports and VAT and excises on oil imports). For instance, the revenue from Laosang Mineral Company and Phubia Mining was reduced by 30-40 percent and 10-20 percent, respectively when comparing to the previous year. The government took efforts to reduce on the expenditure side, including cutting non-productive spending; still, the deficit widened to 6.97 percent of GDP and public debt reached 68 percent of GDP.

Monetary and exchange rate policies continue to be guided by the objective of stability and growth. The rate of credit growth was 20 percent by September 2016. The value of the kip against the US dollar remained stable as Bank of Lao PDR (BOL) continues to use the exchange rate as a nominal anchor.

The financial sector continued to expand with assets reaching 92.90 percent of GDP. At the same time, it remained stable with non-performing loans at 3.04 percent of total loans, with regulatory capital to risk weighted assets ratio of 17.74 percent and profitable with return on assets of 0.22 percent. Still, a few banks with weaker capital buffers remain.

Low global food and energy price pressures, stable government spending and moderate growth rates of credit to the economy resulted in low inflation with annual inflation averaging 1.6 percent in 2016. At the same time, core inflation was 1.1 percent.

Outlook and macroeconomic policies to support stability and growth

The outlook for growth remains broadly positive. In light of the increased global uncertainty and the ongoing rebalancing in key trading partners, we recently lowered the targeted growth rate for the 8th NSEDP period from 7.5 percent per annum (on average) to 7.2 percent.

We fully appreciate the importance of macroeconomic stability for our development agenda. In this regard, our fiscal, financial, monetary and exchange rate policies will aim to achieve sustainable economic growth, low inflation and declining debt levels.

Table 1. Key targets for 2016-2020.

| Parameter: | Target: |
|--------------------------------|--------------------------|
| Average annual real GDP growth | 7.2% |
| Inflation | 5% |
| Fiscal deficit | 4.3% of GDP (on average) |
| Public debt | 65% of GDP by 2020 |
| Public external debt | 50% of GDP |

Fiscal Policy and public financial management

Fiscal policy will aim to ensure timely financing of all social obligations of the state, creation of favorable conditions for economic growth and lowering of the public debt (as percent of GDP). We recently (October 2016) revised our medium-term fiscal framework to reflect the lowered targeted growth rates. The framework envisages an increase in the deficit in FY17 to 6.52 percent of GDP (on the account of the start of the construction of one large investment project) and a gradual reduction afterwards to around 2.51 percent of GDP by 2020. This should help us ensure that public debt does not exceed 65 percent of GDP by the end of the NSEDP period (2020). We are striving to reduce the present value of external debt in percent of GDP to around 40 by mid-2020s. While we understand that the proposed adjustment is ambitious, we are confident that the set of policies considered make it credible and realistic.

On the revenue side, we are making changes to our tax policy to support the adjustment. At the start of 2016, we moved from valuation based on reference (and in most cases outdated) prices to valuation based on actual prices for fuel and vehicles. We plan further improvements in this area going forward, including the setting up a prices' dataset linked to our customs operating system (ASYCUDA) to allow our Customs officials to more accurately assess the value of imports. Also, as of August 2016, we eliminated the import duty and tax exemption on imports of fuel and vehicles for most investment projects. We will improve monitoring of the exemptions that remain (including setting up e-meters for fuel consumption) and intend to phase-out all remaining exemptions which are not envisioned in the Investment Law and the existing Concession Agreement. We also amended the Tax Law and increased the excise tax rates for a number of products (alcohol, fuels, vehicles etc.) to be effective as of 2018 and 2019. We also plan to introduce an environment tax in 2018, as part of this Green Growth Development Policy program, and are considering introducing land and property taxes. Our efforts will be guided by the findings of an Integrated Tax Review, covering both tax policy and administration, which we will complete by mid-2018 with support from the World Bank and the IMF. We are also committed to implementation of the key recommendations from the Review by 2020.

We also have an ambitious agenda on tax administration. Recent amendments to the VAT Law are expected to streamline the filing while the adoption of the Implementing Instruction in January 2017 is expected to further provide clarity on enforcement. We expect to complete the restructuring of the Tax Department by 2020 (proposed DPO3 trigger), including the operationalization of key functions such as compliance, risk monitoring, and large taxpayers. In customs, we are introducing post-clearance audits focusing on three critical risks, valuation, classification of products and rule of origin. We are also rolling out the Smart-tax system (cashless transactions at border crossing) to more major border crossing points and making steps to expand the use of Easy-tax (payment of taxes through ATMs and via internet).

At the same time, we understand the need for discipline on the expenditure side. We have been able to reduce our expenditures on the wage bill from above 11.1 percent of GDP in FY12/13 to 8.4 percent of GDP in FY15/16. We limited the intake of new staff in the civil service to 5,000 (gross) over the last few years. We intend to maintain the same quota in 2017. Depending on circumstances, we would be ready to further reduce the intake in later years. Following the

freezing of wages since 2013, we will allow a 6 percent increase in wages of the public administration in 2017. We will consider further wage increases in 2018 and 2019 only if the situation significantly outperforms our current expectations. At the same time, during 2018 we will also audit the civil servants database to remove any potential "ghost employees" and we have initiated a dialogue with the World Bank on measures that could help us in better managing the public service. As a result, by 2020, the wage bill is expected to decline to 7.5 percent of GDP. We will also be upgrading our public procurement function by upgrading the Decree on Public Procurement to a Law on Public Procurement. Further savings are expected from more detailed guidance being currently drafted on the use of public assets (vehicles, fuel, mobile phones etc.) by civil servants. Stronger controls over public investment, including better screening of proposals, ensuring strict adherence to Budget Law and Public Investment Law requirements should result in more effective spending. In case our revenues underperform, we are committed to identifying further savings in order to ensure that the targeted deficit levels are not breached.

At the same time, we recently finalized the Long-Term Public Finance Development Strategy, a blueprint for our reform efforts in public financial management areas. We are reforming the Budget process. The 2015 amendments (to be effective as of January 2017) of the Budget Law further clarified some responsibilities, elevated the role of the Ministry of Finance and the National Assembly and strengthened the requirement for a credible medium-term macro-fiscal framework underpinning the budget process and for public debt reporting and analysis. We are also changing the fiscal year which will allow for better coordination with the National Assembly session schedules.

We also expect the promulgation of the Public Debt Law during 2017 and are taking steps to establish a public debt management function. We are currently restructuring the External Finance Department of the Ministry of Finance into an External Finance and Public Debt Department which will bring together all debt management functions. We are also discussing potential World Bank support in this area, including the drafting of a medium-term debt strategy and improving capacity for debt sustainability analysis. As part of the efforts to improve public debt management, we will introduce explicit debt ceilings and adopt a borrowing plan which will cover the entire public sector and all debt instruments and will be consistent with lowering the public debt to 65 percent of GDP by 2020. We expect that by 2020, at latest, we will be able to provide regular (bi-annual) public debt reports providing detailed information on key debt and risk indicators. Additional specific policies to improve debt management include:

- All borrowing will be processed through a one-stop service at the Ministry of Finance, which means that the Ministry of Finance will coordinate with relevant authorities to record all projects which plan to have a medium-long term borrowing in order to report to the government to consider approving. This is stipulated in Article 68 of the State Budget Law;
- We will limit external borrowing for the non-self-financing projects (non-commercial projects) to up to US\$ 400 million per annum (around 3.5 percent of 2017 GDP). Furthermore, all new borrowing should be with maturity that shall not be less than 20 years, and with grace period more than 2 years and an interest rate that does not exceed 2.5 percent per annum;

- Commercial (self-financing) projects would need to be carefully scrutinized before requesting the Government's approval;

Financial sector policies

We are committed to strengthening the resilience and effectiveness of the banking sector to ensure that our financial sector remains healthy and profitable. We have made management and governance changes in some State-owned Banks (SOBs) and given the mandate to BOL to work on the restructuring of SOBs. As a result, we recently established a high-level committee which prepared options for restructuring of two SOBs. To improve transparency, SOBs (except Policy Bank) are requested to start publishing quarterly financial statement on their web-sites (currently, only one SOBs publishes reports). The Bank of Lao PDR has also advanced discussions with private banks that currently do not meet the capital requirements on steps needed to bring these banks above the regulatory minimum.

We are also improving the regulatory framework for the operation of commercial banks and upgrading the capacity of BOL to effectively enforce the regulation. We recently amended regulation on bank establishment to enhance bank licensing criteria as well as regulation on bank credit in foreign currency, requiring banks to have adequate risk management framework for their foreign currency lending in order to mitigate currency risk and to comply with the 2014 Law on the Supervision of Foreign Exchange.

The regulation on Capital Adequacy is currently being amended and we are well advanced in drafting on-site and off-site supervision manuals (with assistance from IMF) and revising the deposit insurance framework. The program in the years ahead is equally ambitious. We plan to adopt our first Payment System Law, amend Bank of Lao PDR's Law and Commercial Banks Law, which will bring Lao PDR's regulatory framework in line with good international practice.

For moving the supervisory regime from Compliance Based Supervision to Risk Based Supervision, the working committee has been assigned in order to shift forward the Basel II and some parts of Basel III implementation, and Basel Core Principles for Effective Banking Supervision within 2016-2020.

Monetary and exchange rate policies

Monetary and exchange rate policies will continue to be focused on stability. We are targeting growth rates of monetary aggregates of below 20 percent year-over-year, in line with the expected growth rates and inflation developments as well as gradual deepening of the financial sector. We are aware of the need to improve the functioning of the monetary transmission mechanism. Still, given significant levels of dollarization and dominance of cash based transactions, BOL has introduced caps on lending and deposit rates.

Our exchange rate policy will balance price stability and competitiveness of the private sector but also avoid disruptions to economic flows. We are aware that greater flexibility in the exchange rate could, on balance, lead in this direction and also help protect foreign exchange reserves and are committed to steps in this direction over the medium term. Still, decisions in this

area would also take into account the pass-through of the exchange rate developments over inflation, the impact over producers that rely on imported inputs as well as the foreign currency liabilities (both in the public sector as well as the banking sector) with only limited hedges.

The Green Growth program

Building the foundation for green growth planning and monitoring

Lao PDR's consolidation of a green growth pathway began with the incorporation of green growth principles at strategic planning and monitoring levels. In April 2016, the National Assembly adopted the 8th NSEDP (2016-2020), which establishes concrete environmental protection and sustainable natural resources management outcomes and outputs, and lays the foundations for a transition to a clean, resource-efficient, and resilient growth. To further advance in this transition, the Prime Minister has established the Green Growth National Steering Committee (GGNSC) to guide green growth planning, implementation, monitoring and reporting. The Deputy Prime Minister/Minister of Finance chairs the GGNSC, the MPI is its Secretariat, and DOP of MPI coordinate all GGNSC members, including representatives from MONRE, MAF, MEM, MOIC, and MPWT, among several ministries. The GGNSC will also be responsible for ensuring that the progress and lessons learned are monitored and transparently reported, and inform subsequent NSEDPs and longer term plans, including the 9th NSEDP (2021-2025). In addition, the government will design a "Green Growth Strategy" and will establish a "Green Growth Development Center" with a mandate to operationalize the strategy by incorporating the priorities defined by it in key planning and budgeting processes.

Strengthening country instruments for cleaner and resilient green growth financing

Our fiscal policy reforms will provide macroeconomic sustainability, as discussed above, but will also enable Lao PDR's transition towards green and resilient growth. The GOL has taken preliminary steps to strengthen green fiscal policies. We are in the process of strengthening the Environment Protection Fund (EPF), one of Lao PDR's key financing vehicles for environmental protection and rehabilitation. To this end, we have established an inter-ministerial governance mechanism that will strengthen EPF's management and operations. We have also taken steps to increase EPF's transparency by requiring that all income sources be deposited and debited through the National Treasury System, that EPF's assets be recorded in the National Registry, and specifying the eligible revenue sources. To move forward with this agenda, we will adopt additional reforms, including expanding the revenue base of environmental taxes and ensuring that EPF's resources are aligned with the country's environmental management framework.

Shifting towards decision-making informed by priorities for environmental protection and climate resilience

Lao PDR is fully committed to mainstreaming green growth principles across key economic sectors, particularly through tools such as policy strategic environmental assessment (SEA) that use analytical work and public participation to strengthen the design and implementation of public policies. While the 2012 Environmental Protection Law introduced SEAs into Lao PDR's legal framework, we recognize that additional steps were needed to ensure the effective use of SEAs. For this reason, in December 2016, the PM issued Decree No. 445/PMO, granting the

Ministry of Natural Resources and Environment (MONRE) the mandate to collaborate with all relevant sectors to conduct an SEA. Furthermore, MONRE adopted in February 2017 a Ministerial Instruction requiring SEAs to incorporate environmental and social sustainability considerations in the formulation of all policies and strategies. These reforms will be complemented with additional decisions defining concrete mechanisms to engage the public and to disclose key information during the SEA process.

We also recognize the need to better integrate environmental and social considerations in investment projects. Our Law on Environmental Protection introduced Environmental and Social Impact Assessment (ESIA) as a tool to identify, prevent, and mitigate the potential impacts of investment projects. After conducting a thorough review of Lao DPR's and other countries' experiences, we are in the process of developing an ESIA regulation that will incorporate international best practices in every stage of the ESIA process, including screening, scoping, public participation, information disclosure, assessment requirements, and criteria for approval of ESIA reports. To further increase accountability, transparency, and opportunities for improvement, we will establish a database and public information platform through which interested parties will be able to obtain relevant information on ESIA submitted for government approval and on the government's response.

Lao PDR's active engagement in international climate change negotiations is evidenced by the submission of our Intended Nationally Determined Contribution (INDC) to the United Nations Framework Convention on Climate Change (UNFCCC) and our ratification of the Paris Agreement in September 2016. We have adopted ambitious and fair mitigation goals spanning several sectors. However, our Contribution also emphasizes that we will increase resilience of key economic sectors and natural resources to climate change and its impacts, as part of our climate change adaptation efforts. To this end, the MPI approved in February 2017 a decision to establish a public investment project (PIP) review process that takes into account climate and disaster risk considerations to select a project's location and its engineering design. As a next step, we will focus on the transport sector, identified as a priority in our NDC because of its fundamental contributions to Lao DPR's economy and its high vulnerability to climate hazards. In particular, we will adopt road maintenance procedures that specifically aim to enhance resilience to climate change and reduce risks from natural disasters, such as the identification of vulnerable roads and improved design standards. This process will be later enhanced by establishing detailed protocols to share hydro meteorological data through an information platform develop by MONRE and use it to inform PIPs.

Shifting towards Integrated and Sustainable Water Resources Management and Use

Water is arguably one of the most valuable natural resources driving Lao PDR's economic growth. Managing water resources more efficiently and sustainably is evidently needed to address the diverse economic activities, ecosystems, and social groups that depend on them, particularly because water demand will continue to grow while climate change will alter the hydrological regime. In response to this challenge, in 2015 MONRE's Department of Water Resources formulated the National Water Resource Strategy to 2025 through a participatory process engaging concerned sectors at both central and local levels. The strategy constitutes a true paradigm shift for Lao PDR because it is informed by an integrated water resource management (IWEM) approach that will help overcome institutional constraints for the usage

and exchange of data and information among different agencies and stakeholders, formulate river basin management plans and issue water use certificates to define their rights and responsibilities of water users. Under our novel basin-centered approach, ecosystems will be recognized as an important water user. This approach is also aligned with our ongoing efforts to draft a revised Water Resources Management Law, which will provide the legal backbone to strengthen an integrated management of water resources. In addition, MONRE will adopt a ministerial decision establishing Guidelines for Water Resource Assessment in river basins to analyze water users (ecological flows, hydropower, irrigation, domestic water supply, and recreational use) and evaluate water quality using standard methods. Also, MONRE will formalize a ministerial decision with the Guidelines for River Basin Planning that will define institutional responsibilities, budgets, and milestones, among other key elements.

Improving forest resource management

Lao PDR's forests resources contributed meaningfully to our rapid economic growth and were one of our main exports, reaching a value of US\$ 1.67 billion in 2014. However, in the absence of an adequate regulatory and oversight framework, logging became a threat to our forests and the communities and biodiversity that depend on them. Infrastructure development in forested areas further aggravated this challenge. Protecting and restoring Lao PDR's forest ecosystems is a priority, as recognized in our NDC, which includes relevant actions that will contribute to both climate change mitigation and adaptation. To tackle this urgent issue, the Government temporarily stopped wood trade. However, our aim is to use forest resources as a cornerstone of green, resilient and inclusive growth. Through Prime Minister Order No. 15, the Government defined parameters to regulate timber exploitation in infrastructure development areas, enhance forest area management and planning, and bolster enforcement. Additionally, we have adopted four regulations with provisions to intensify our fight against illegal logging and export, emphasize wood-processing and good manufacturing practice for the timber supply chain, and reform the National Wood Processing Industry Association and Lao Furniture Association to augment the value-added produced in Lao PDR.

Our next policy actions in this area include the development of a regulation instituting a timber legality assurance system that will introduce a definition of legality for forest products and a methodology for "legality acquisition findings" and "non-detrimental findings" that meet international standards. Building on these reforms, we will then establish, through regulations, an effective and transparent third-party Sustainable Forest Management certification procedure for Production Forest Areas that includes group certification. These reforms are also aligned with our ongoing efforts to draft a revised Forest Law, which will provide the legal backbone to strengthen controls over salvage logging, implement the forest certification scheme through third-parties and trained certified inspectors. Also, to ensure the inclusiveness of our reform agenda in the forestry sector, we will regulate logging in infrastructure areas by adopting a regulatory system based on the principles of good forest governance, rule of law, participatory management, tenure and benefits with communities. As part of our commitment to increase transparency in natural resource management, we will present a Report to the National Assembly showing progress on the control of logging in infrastructure areas and on the pilot third-party forest certification scheme.

We are also committed to take advantage of non-extractive uses of our forest resources as part of our green growth pathway. In particular, we envision the development of nature-based tourism as an economic activity that can enhance communities' livelihoods and generate incentives for biodiversity conservation. Realizing this vision calls for transformational reforms in our institutional set up, particularly to entrust specialized agencies with the responsibility of managing key ecosystems, as has been done in countries across the globe.

To begin this new era of natural resource management, we have adopted a decree turning the Nakai Nam watershed area into a national protected area, with higher conservation standing and under the responsibility of the Ministry of Agriculture and Forestry (MAF), in which nature-based tourism will be the predominant vocation and local communities will have clearly delineated roles and rights. We are now preparing to establish a new department or authority with the mandate to conserve national parks and wildlife. The organization and activities of this new authority will reflect international best practices on areas such as effective and centralized authority, delegated accountability, standardized and collaborative management, benefit sharing, and community-private ecotourism. These reforms will be complemented with the guidelines that the Director of Forest Resources Management DFRM/MAF will issue to provide technical guidance on field activity implementation in key areas, such as the organizational structure and responsibilities for national protected areas and wildlife management, and measurement criteria to assess national protected area and wildlife management effectiveness and conservation status.

Leveraging green growth policies to control non-point source pollution

Reducing pollution is a priority element of our green growth pathway. Pollution affects Lao PDR's population through multiple channels, including by causing premature deaths and increased illnesses, loss of income, and decreased productivity. The impacts are particularly dramatic among the poor and other vulnerable groups, including young children, women, and the elderly. The impacts of pollution on children can have lifelong consequences and rob them of opportunities for personal advancement. Agrochemicals are a pollution source of particular concern to Lao PDR, both because of their effects on human health and ecosystems, and because their unregulated use has economic consequences and reduces our competitiveness, as illustrated by recent bans on our agricultural exports. Our country does not produce any pesticides, which means that they are introduced from neighboring countries, often without adequate control.

Lao PDR is determined to address this source of environmental health risks and promote cleaner production, as demonstrated by the National Assembly's adoption of a national Law on Chemicals establishing clear provisions regarding management, monitoring, and inspection of chemicals. The Assembly also approved a national Law on Plant Protection that constitutes the legal backbone for phytosanitary management, including concrete provisions on pest management. Building on these legislative achievements, MAF is currently developing procedures for pesticide registration and licensing, along with the sanctions that will be applied to those that fail to comply with them, both of which will be included in a ministerial decision to be issued soon. In addition, MAF is elaborating ministerial decisions on manufacturing, processing, import, distribution, and use of pesticides, as well as on inspection and disclosure of registered, prohibited and banned pesticides.

Lao PDR is also taking resolute actions to confront other types of pollution that pose severe threats to our population, including air pollution, exposure to lead and arsenic, and inadequate water supply, sanitation, and hygiene. Air pollution, including in outdoor environments and within households, caused an estimated 6,820 deaths in 2015, while limited water supply, sanitation and hygiene was directly associated with 2,347 deaths more. Together, air and water pollution caused almost 35 million days of illness that same year. Lead is poisoning our children and poses the risk of causing multiple and long lasting impacts, including learning disabilities, and mental and behavioral disorders that would limit children's opportunities to contribute to our nation's green growth when they grow up. In 2015, lead exposure caused a loss of 330,000 IQ points among children and 4.3 million days of illness among adults.

We have undertaken several actions to tackle these urgent challenges, which will also contribute to SDGs No. 3 "Good Health and Well-being" and No. 6 "Clean Water and Sanitation" and to the Lao INDC. Through MONRE, the Government has issued a ministerial decision establishing air quality standards, water quality standards, and vehicle emissions standards, including threshold parameters for air pollutants, chemical, and toxic substances in surface and underground water, and maximum concentration of lead in air and water. These instruments include an annual air quality standard for fine particulate matter (PM_{2.5}) of 0.010 mg/m³, as recommended in the World Health Organization's Air Quality Guideline, based on the negative effects of air pollution on human health. We also adopted a one-year lead air quality standard of 0.15 µg/m³, based on scientific evidence indicating that lead can harm children even at very low exposure levels.

As part of our next steps, MONRE will issue a ministerial decision to regulate standard methods for sampling and analysis of air and water quality data, which is essential to monitor compliance with the recently established pollution standards. We will center our efforts to tackle pollution in the geographic areas where environmental health risks are higher, and to that end, MONRE will issue a ministerial decision defining identification criteria of Priority Pollution Watch Sites (PPWS) and establishing public disclosure mechanisms to share the results of PPWS monitoring with potentially affected communities and other stakeholders. Also, to reduce exposure to lead poisoning, MONRE will issue regulations phasing out manufacturing, import, sale and use of lead-containing paints and children's products coated with lead-containing paints.

Sincerely yours,



Sindy Douangdy
Deputy Prime Minister
Minister of Finance
of the Lao People's Democratic Republic

ANNEX 4. FUND RELATIONS

IMF Executive Board Concludes 2016 Article IV Consultation with the Lao People's Democratic Republic February 15, 2017

On January 30, 2017, the Executive Board of the International Monetary Fund (IMF) concluded the Article IV consultation [1] with the Lao People's Democratic Republic.

Real GDP growth is expected to moderate from 7.5% in 2015 to 7% in 2016. Domestic activity has slowed following a less favorable external environment, and credit growth has also moderated from a high level. Inflation is expected to remain low and stable at around 2% at end-2016, aided by a strengthening kip exchange rate. The current account deficit is expected to remain high at 17% of GDP in 2016 but has narrowed from 20% of GDP in 2014. Gross international reserves, at 2 months of prospective imports of goods and services (US\$998.6 million, September 2016) remain low by partner country standards. While the overall banking system is well capitalized, state-owned bank balance sheets show signs of weakness, with rising nonperforming loans (NPLs) and weak capital and profitability. The fiscal deficit is expected to have widened to 6% in fiscal year 2016 owing to weak tax revenue growth and rising current spending. Public-and-publicly-guaranteed debt (excluding arrears) is projected at 68% of GDP in nominal terms (56% of GDP in present value terms) at end-2016, a level which elevates the risk of debt distress from medium to high.

As growth continues to moderate in the near-term, inflation is projected to remain in low single digits. The current account deficit is projected to widen to around 19% of GDP in 2017 due to the execution of large infrastructure projects with foreign direct investment, and reserves are expected to remain at around 2 months of imports. On current trends without the resumption of fiscal consolidation, the fiscal deficit is expected to remain at around 5% and the public debt could rise to around 70% of GDP. Risks are on the downside. A failure to consolidate the fiscal position and bring down public debt could undermine confidence in the government's macro policy framework, raise public debt further and worsen the external position. The economy is also exposed to external shocks, notably a further regional growth slowdown and a deterioration in terms-of-trade and capital inflows. Financial risks could also present risk to macroeconomic stability, particularly the growing foreign currency debt financed by foreign borrowing, and the existence of balance sheet currency mismatches in the private non-bank sector.

Executive Board Assessment [2]

Executive Directors commended the authorities for their strong macroeconomic performance and progress on poverty reduction despite economic challenges. Directors noted, however, that there are significant vulnerabilities in the external, fiscal, and financial sectors, and that risks to the outlook could materialize from a regional growth slowdown, tightening in global monetary conditions, and capital flow volatility. Against this background, Directors emphasized the need for resuming fiscal consolidation, tighter monetary conditions with gradually increased exchange rate flexibility over the medium-term, strengthened financial sector supervision, and reforms to support economic diversification and private sector development.

Directors considered that growth-friendly fiscal consolidation anchored on reducing public debt to 55% of GDP over the course of the next 5 years would reduce the risk of debt distress and help strengthen the external position. They welcomed efforts to contain the public sector wage bill, improve tax administration, and reduce non-concessional financing. To ensure successful consolidation and space for well-targeted social and capital spending, Directors recommended increased measures to mobilize tax

revenues, reduce exemptions, and rationalize current expenditures. Efforts to formulate a medium-term fiscal framework, enhance fiscal transparency, and reduce fiscal arrears were also encouraged.

Directors noted that the exchange rate remains overvalued and international reserves are low for precautionary purposes, particularly in the context of a large current account deficit, although they also noted that in the past the current account has largely been financed by foreign direct investment. They recommended the authorities continue allowing the exchange rate to move gradually within the official band, supported by tightening of kip liquidity, to help accumulate gross international reserves and reduce external vulnerabilities. Directors agreed that a cautious approach was warranted, given currency mismatches in the non-bank private sector, and the use of the exchange rate as an anchor for inflation. Further reform of the monetary and financial framework would help facilitate more flexibility in the future.

Directors noted the rise in nonperforming loans (NPLs) and undercapitalization of state-owned banks. To safeguard macro-financial stability, they recommended promptly addressing NPLs, phasing out regulatory forbearance, strengthening sound lending practices and supervision, and recapitalizing state-owned banks. Directors emphasized the importance of addressing supervisory weaknesses and developing a crisis management framework. They welcomed the AML/CFT law, and encouraged full implementation of the action plan as agreed with the Financial Action Task Force.

Directors welcomed progress on product and labor market openness and gains in poverty reduction. To support more inclusive and broad-based growth, they encouraged further reforms aimed at diversifying the economy, boosting private sector activity, and improving the business climate. In this context, trade integration and improvements in education and health infrastructure were encouraged. Enhancing financial deepening and financial access by small and medium-sized enterprises would also support macro stability and growth.

Directors welcomed the authorities' interest in improving the quality and publication of economic and financial data, with technical assistance from the Fund and other development partners as needed.

[1] Under Article IV of the IMF's Articles of Agreement, the IMF holds bilateral discussions with members, usually every year. A staff team visits the country, collects economic and financial information, and discusses with officials the country's economic developments and policies. On return to headquarters, the staff prepares a report, which forms the basis for discussion by the Executive Board.

[2] At the conclusion of the discussion, the Managing Director, as Chairman of the Board, summarizes the views of Executive Directors, and this summary is transmitted to the country's authorities. An explanation of any qualifiers used in summings up can be found here: <http://www.imf.org/external/np/sec/misc/qualifiers.htm>.

| Lao P.D.R.: Selected Economic and Financial Indicators, 2011–17 | | | | | | | |
|---|--------|--------|--------|--------|---------|---------|---------|
| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
| | | | | | | Proj. | Proj. |
| GDP and prices (percentage change) | | | | | | | |
| Real GDP growth | 8.0 | 7.9 | 8.0 | 8.0 | 7.5 | 6.9 | 6.8 |
| CPI (annual average) | 7.6 | 4.3 | 6.4 | 4.1 | 1.3 | 2.2 | 2.3 |
| CPI (end year) | 7.7 | 4.7 | 6.6 | 2.4 | 0.9 | 2.1 | 2.3 |
| Public finances (in percent of GDP) 1/ | | | | | | | |
| Revenue and Grants | 22.4 | 24.1 | 23.9 | 23.2 | 24.0 | 18.5 | 19.4 |
| <i>Of which</i> : Resources | 3.4 | 3.7 | 3.2 | 3.0 | 2.2 | 2.1 | 2.1 |
| <i>Of which</i> : Mining | 2.7 | 3.0 | 2.2 | 2.0 | 1.3 | 0.9 | 0.8 |
| <i>Of which</i> : Hydro power | 0.7 | 0.7 | 0.9 | 1.0 | 0.9 | 1.2 | 1.3 |
| <i>Of which</i> : Grant | 6.0 | 6.4 | 5.7 | 5.3 | 5.0 | 2.3 | 2.8 |
| Expenditure | 24.1 | 24.6 | 29.6 | 27.8 | 26.7 | 24.4 | 24.6 |
| Expense | 11.3 | 12.0 | 17.3 | 15.2 | 15.7 | 16.4 | 15.9 |
| Net acquisition of nonfinancial assets | 12.9 | 12.6 | 12.3 | 12.6 | 11.0 | 8.0 | 8.7 |
| 2/ | | | | | | | |
| Overall balance | -1.7 | -0.5 | -5.6 | -4.5 | -2.7 | -5.9 | -5.2 |
| Nonmining balance 3/ | -4.5 | -3.5 | -7.8 | -6.5 | -4.0 | -6.8 | -6.1 |
| Public and public guaranteed debt (in % of GDP) | 56.0 | 56.8 | 62.5 | 64.9 | 65.8 | 67.8 | 69.0 |
| Money and credit (annual percent change) | | | | | | | |
| Reserve money | 16.2 | 27.2 | 7.7 | 30.3 | 6.6 | 9.8 | 11.0 |
| Broad money | 28.7 | 31.0 | 18.8 | 23.4 | 14.7 | 13.0 | 16.0 |
| Bank credit to the economy 4/ | 45.8 | 26.6 | 34.5 | 14.2 | 16.8 | 17.2 | 15.0 |
| Bank credit to the private sector | 39.3 | 35.1 | 36.3 | 11.7 | 19.3 | 17.6 | 18.0 |
| Balance of payments | | | | | | | |
| Exports (in millions of U.S. dollars) | 3,120 | 3,323 | 3,883 | 4,687 | 4,387 | 4,804 | 5,124 |
| In percent change | 42.1 | 6.5 | 16.9 | 20.7 | -6.4 | 9.5 | 6.7 |
| Imports (in millions of U.S. dollars) | 4,642 | 6,382 | 7,352 | 8,017 | 7,533 | 7,684 | 8,708 |
| In percent change | 28.1 | 37.5 | 15.2 | 9.1 | -6.0 | 2.0 | 13.3 |
| Current account balance (in millions of U.S. dollars) | -1,502 | -2,808 | -3,195 | -2,450 | -2,116 | -2,351 | -2,813 |
| In percent of GDP | -18.6 | -29.9 | -29.6 | -20.7 | -16.8 | -17.1 | -19.0 |
| Gross official reserves (in millions of U.S. dollars) | 677 | 740 | 662 | 816 | 987 | 1,476 | 1,587 |
| In months of prospective goods and services imports | 1.2 | 1.1 | 0.9 | 1.2 | 1.5 | 1.9 | 1.9 |
| External public debt and debt service | | | | | | | |
| External PPG debt | | | | | | | |
| In millions of U.S. dollars | 3,666 | 4,262 | 5,489 | 6,061 | 6,495 | 7,422 | 8,240 |
| In percent of GDP | 45.5 | 45.3 | 50.9 | 51.1 | 51.7 | 54.1 | 55.6 |
| External PPG debt service | | | | | | | |
| In percent of exports | 2.7 | 4.2 | 5.1 | 5.6 | 5.2 | 7.1 | 7.7 |
| Exchange rate | | | | | | | |
| Official exchange rate (kip/U.S. dollars; end-of-period) | 8,019 | 7,982 | 8,030 | 8,096 | 8,119 | ... | ... |
| Real effective exchange rate (2005=100) | 135.0 | 136.3 | 144.9 | 153.5 | 166.6 | ... | ... |
| Nominal GDP | | | | | | | |
| In billions of kip | 64,727 | 75,251 | 84,572 | 95,406 | 102,543 | 112,188 | 122,518 |

| | | | | | | | |
|---|-------|-------|--------|--------|--------|--------|--------|
| In millions of U.S. dollars | 8,062 | 9,400 | 10,788 | 11,851 | 12,561 | 13,722 | 14,831 |
| Sources: Data provided by the Lao P.D.R. authorities; and IMF staff estimates and projections. | | | | | | | |
| 1/ Public finances are on a fiscal year (October to September) while other data are on a calendar year. | | | | | | | |
| 2/ Includes off-budget investment expenditures. | | | | | | | |
| 3/ Net lending/borrowing excluding mining revenue. | | | | | | | |
| 4/ Includes Bank of Lao P.D.R. lending to state-owned enterprises and subnational levels of government. | | | | | | | |

IMF Communications Department

MEDIA RELATIONS

PRESS OFFICER: Ting Yan

Phone: +1 202 623-7100

ANNEX 5. POVERTY AND SOCIAL ASPECTS

1. The World Bank's Operational Policy (OP) 8.60 requires the inclusion of a three-step set of analytical work on the operation's poverty and social effects, especially on poor people and vulnerable groups. First, the World Bank determines whether the DPF-supported policies are likely to cause significant poverty and social effects. Secondly, for policies with likely significant effects, the World Bank assesses in the Program Document the Member Country's systems (for example, policies and institutional framework) for reducing such adverse effects and enhancing positive effects. Thirdly, if there are significant gaps in the analysis or shortcomings in the country's systems, the World Bank describes in the Program Document how such gaps or shortcomings would be addressed before or during program implementation.

2. Pursuant to OP 8.60, the World Bank conducted a Poverty and Social Impact Analysis (PSIA) that followed the above-mentioned three-step guidance in preparation for the operation.⁴⁵ The PSIA was conducted to assess the poverty, distributional and gender effects of the DPF-supported policies. The PSIA aimed to help the government of Lao PDR (GoL) to better understand (i) how the proposed policy actions may likely affect poor and vulnerable people, and (ii) how to strengthen the country's systems to address potential negative impacts and maximize positive impacts that may arise from such policy actions. As part of the PSIA, the World Bank identified key stakeholders that would be potentially benefitted or affected by the DPF-supported policies (for example, rural communities, ethnic minority groups, and private companies). The PSIA incorporated a Gender Analysis (GA). In order to obtain inputs on the findings of the PSIA, the World Bank team carried out interviews with key stakeholders and a consultation session on January 12, 2017.

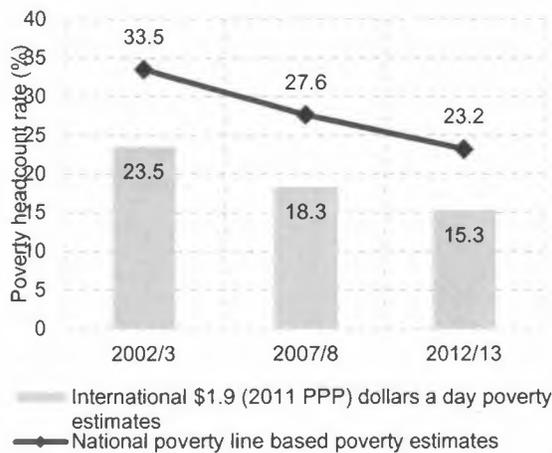
Context: The Need for Policy Reforms in Lao PDR

3. Lao PDR has made significant progress on economic growth in recent years. Economic growth during this period has contributed significantly to the decline of overall poverty in the country: absolute poverty based on national standard declined from 33.5 to 23.2% of the population from 2002/03 to 2012/13 (see figure A5.1). However, poverty reduction is not distributed evenly. The poor and vulnerable groups, including rural households and ethnic minorities (for example, Mon-Khmer and Hmong-Mien, and households with predominately agriculture-based livelihoods) experienced only modest declines in poverty reduction. As a result, consumption, especially by the poor, grew slower than economic growth (see figure A5.2).

4. In general, access to several key public services is still lagging, impairing poor people's ability to participate in the growing economy. The Lao PDR Socio Indicators Survey 2011/12 found that chronic malnutrition in young children stands at 44%, amongst the highest rates of stunting (too short for one's age) in the world. Life expectancy and under-5 mortality rates have improved. Still, facility-based delivery rates are low (38%) and—like most other health indicators—show a large difference between socioeconomic groups, indicating challenges related to access to public services and social inclusion. Lao PDR children spend fewer years in school compared to peers worldwide and the quality of education is low. For instance, in 2015, less than 39% of the Lao children aged 3–4 had access to school readiness and early childhood programs. This rate is even higher among ethnic minority groups and disadvantaged communities.

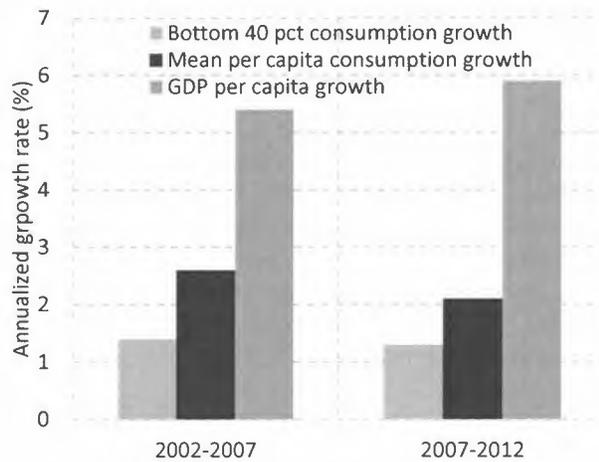
⁴⁵ World Bank. 2016. *Green Growth Development Policy Finance: Rapid Poverty and Social Impact Analysis*. Washington, DC: World Bank.

Figure A5.1 Poverty Trend in Lao PDR



Source: LECS 5.

Figure A5.2 Consumption Growth in Lao PDR



Source: LECS 5 and National Accounts data.

5. Gender gaps persist in various social aspects, including health, education, and career opportunities. Maternal mortality, early marriage and teenage pregnancy are persistently high. With an average fertility rate of approximately three, Lao PDR has one of the highest fertility rates in the East Asia and Pacific (EAP) region, posing health risks, reducing educational and employment opportunities for women, and contributing to a significant economic burden on the country. Lao PDR has the highest rate of adolescent pregnancies in Asia, with 4 in 10 Lao girls becoming pregnant before the age of 18. Women still have lower literacy rates than men, especially among poor households in rural areas, for whom the literacy gap between males and females is 23 percentage points and girls constitute the majority of those who have never been to school.

6. Access to basic services has improved over time but challenges remain. The electrification program in Lao PDR gave access to electricity for more than 90% of households. In addition, access to improved water supply and sanitation is improving. However, the gaps are disproportionately affecting different socioeconomic groups: Only 60% of primary schools have water supply and toilets; rural areas still account for the majority of seasonally or year-round unconnected areas. Additionally, road assets are vulnerable to natural disaster including flooding and landslides.

Identifying the potential poverty and social effects of the DPF-supported policies

7. The PSIA was based on the review of key policy reforms and other relevant literature; meeting with key informants from the government, World Bank, and other development partners; and an analysis of potential positive and negative poverty social impacts across five transmission channels (that is, employment, prices, assets, transfers and taxes, and authority). The PSIA assessed whether the proposed policy reforms are likely to cause significant poverty and social effects, in particular, their distributional effects on the poor and vulnerable groups, such as rural communities, ethnic minority groups, women, and disadvantaged households. Table A5.1 presents a summary of key DPF support areas and their potential social and poverty impacts, indicating when applicable how these policies can disproportionately affect women and girls.

Table A5.1 Summary of Key DPF-supported Areas and Their Potential Poverty and Social Impacts

| Policy Actions | Potential Poverty and Social Effects |
|---|---|
| <p>Prior Action #1: The Recipient, through the Prime Minister, has taken steps to support fiscal consolidation through (i) eliminating tariff exemptions on fuel imports for investment projects; and (ii) limiting the intake of civil servants to up to 5,000 in 2017; and through the Ministry of Finance (iii) has revised the Implementing Instructions for the Value-added Tax.</p> | <p>Positive effects:</p> <ul style="list-style-type: none"> • Additional analysis will determine the distributional price impacts on poor and vulnerable resulting from the tariff exemptions, and the need for social protection interventions and other pro-poor redistribution tools. <p>Negative effects:</p> <p>No significant negative effects identified.</p> |
| <p>Prior Action #2: The Recipient has incorporated the principles of green growth in national development planning through (i) the National Assembly adopting the 8th NSEDP (2016-2020) that sets forth Outcome 3 and Outputs 1 to 3 associated with environmental protection and sustainable natural resources management; and (ii) the Prime Minister establishing the National Green Growth Steering Committee to oversee the planning, implementation, monitoring, and evaluation of the country's green growth agenda.</p> | <p>Significant positive effects:</p> <ul style="list-style-type: none"> • Protection of natural assets and resources critical to livelihoods of the poor and vulnerable through better recognition of traditional use rights, participatory management and decision making and sustainable resource use. These effects may disproportionately benefit women whose livelihoods are reliant on natural resources. • Protection of natural assets and resources through pollution control resulting in better community health outcomes, particularly for those more exposed to contamination and reliant on natural resources (that is, local waterways) – such as women and children. • Development of green industries employment opportunities (that is, green jobs) required for more equitable growth and poverty reduction in the future. • Increased resilience to natural hazards and climate change, resulting in more sustainable development outcomes. <p>Negative effects:</p> <p>No significant negative effects identified.</p> |
| <p>Prior Action #3: The Recipient, through the Prime Minister, has restructured the Environment Protection Fund (EPF) with provisions that (i) create an inter-ministerial governance mechanism to manage the EPF operations and resources; (ii) require revenues and expenditures to be operated by the National Treasury System, and (iii) specify eligible revenue sources.</p> | <p>Positive effects:</p> <ul style="list-style-type: none"> • Protection of natural assets, associated livelihoods and community health through better valuing of natural resources and cost of pollution and redistribution of taxes / fees to facilitate better natural resource management and pollution control through the Environment Protection Fund (EPF). These effects may disproportionately benefit women whose livelihoods are reliant on natural resources. • Additional analysis will determine the distributional price impacts on poor and vulnerable populations resulting from direct and indirect taxes and fees (that is, NTFP royalties affecting small NTFP enterprises / cooperatives, many of which involve ethnic minority groups and large percentage of women; or Environmental Product Tax), and the need for social protection interventions and other pro-poor redistribution tools. <p>Negative effects:</p> <p>No significant negative effects identified.</p> |

| Policy Actions | Potential Poverty and Social Effects |
|---|---|
| <p>Prior Action #4: The Recipient, through the Prime Minister, (i) has mandated MONRE to collaborate with key line sectors in the preparation of sectoral Strategic Environmental Assessments and, through MONRE, (ii) has adopted the legal framework to require Strategic Environmental Assessments in the formulation of all policies, programs, and strategic plans, to incorporate environmental and social sustainability considerations, and the SDGs in public planning.</p> | <p>Significant positive effects:</p> <ul style="list-style-type: none"> • More informed public policy development and decision making based on SEA including social aspects such as livelihood and health, culture and landscape, living standards, gender and ethnic minorities as well as the interrelationship between social and environmental aspects. By establishing participation mechanisms, the SEA will contribute to overcome cultural barriers and allow women participation in the consultation process. • Increased public participation in public policy development and decision making through the SEA public participation mechanism and public disclosure (that is, published decision on the findings / recommendations of the SEA). • More-rigorous assessment, management, and monitoring of environmental and social aspects of development projects, resulting in better environmental and social outcomes communities affected by developments—particularly for poor and vulnerable groups (including women) often disproportionately affected. <p>Negative effects: No significant negative effects identified.</p> |
| <p>Prior Action #5: The Recipient, through MPI, has established the public investment project (PIP) review process that takes into account climate resilience and disaster risk considerations.</p> | <p>Positive effects: Public infrastructure that is more resilient, resulting in reduced risk of loss of life and personal injury during disaster events, reduced risk of disruption to essential services, reduced risk of negative impacts on economic activity, and reduced financial costs of emergency response and recovery—particularly for poor and disadvantaged groups (for example, women and other groups living in remote and precarious communities) whose traditional resilience is often negatively affected by development and the increased intensity and frequency of natural hazards caused by climate change.</p> <p>Negative effects: No significant negative effects identified.</p> |
| <p>Prior Action #6: The Recipient, through the Prime Minister, has strengthened strictness of timber harvest management and inspection, timber transport and trade in order to control illegal logging in infrastructure areas and timber harvesting, processing, and trade.</p> | <p>Positive effects:</p> <ul style="list-style-type: none"> • Protection and sustainable management of forest resources through more effective control of illegal and unsustainable forestry practices, better recognition of customary use rights and participatory forestry management, resulting in long-term benefits, for rural communities and particularly ethnic minorities and poor and vulnerable households reliant on natural forestry for livelihoods and income generation. • Timber legality assurance and third party certification helping to compliment national legislation aimed at protection and sustainable management of production forests and ensuring beneficial outcomes for communities. <p>Negative effects: Potential short-term transitional effects (that is, closure of logging and processing operations and loss of jobs) compounded by suspension of logging in production forests. This could put greater pressure on</p> |

| Policy Actions | Potential Poverty and Social Effects |
|--|---|
| | vulnerable groups, particularly female household heads to generate income from alternative livelihoods. However, the Law envisages an exception for the timber harvesting restriction, particularly for generating energy (such as firewood), in the allocated areas under management of local communities. |
| <p>Prior Action #7: The Recipient, through the Prime Minister, has adopted the legal framework to pilot a national park reform by (i) establishing a process to upgrade the conservation standing of Nam Theun 2 (NT2) Watershed to a national park, (ii) establishing the legal status of enclave communities and their access rights to protected area resource, and (iii) adjusting the organizational structure of the NT2 Watershed Management and Protection Authority (WMPA) to anchor its responsibilities under MAF.</p> | <p>Positive effects:</p> <ul style="list-style-type: none"> • Strengthening of Protected Area management through reclassification of some areas to IUCN Category II (and complemented by IUCN’s Green List certification) and promotion of ecotourism, leading to better conservation and management of natural resources, and better recognition of traditional resource-use rights for the livelihoods of communities located in and around these areas—often some of the poorest and most vulnerable in the country. • Ecotourism raising awareness of the value of protected areas, providing an economic alternative to unsustainable resource use practices and making a direct and positive contribution to poverty reduction for livelihoods of communities located in and around these areas. <p>Negative effects:</p> <ul style="list-style-type: none"> • Potential negative impacts on local communities currently reliant on non-sustainable resource extraction for livelihoods and income generation. However, the decree that established the national park set forth prohibited, restricted, and promoted activities in the total protection zones, the controlled-use zones, and the buffer zones. In controlled use zones, where enclave villages are located, the GoL will restrict—rather than prohibit—the customary utilization of natural renewable resources, agriculture and livestock raising, and development of housing and village infrastructure. |
| <p>Prior Action #8: The Recipient, through the National Assembly, has established legal provisions (i) for the management, monitoring, and inspection of chemicals for minimizing health risks and promoting cleaner production, and (ii) on phytosanitary management, including pest management.</p> | <p>Positive effects:</p> <p>Control of banned and extremely hazardous substances, the promotion of higher quality and safer products and the proper management of these products to (i) reduce the potential environmental and health impacts, and (ii) improve work conditions, particularly in the agriculture sector.</p> <p>Negative effects:</p> <p>No significant negative effects identified.</p> |
| <p>Prior Action #9: The Recipient, through the Prime Minister and MONRE, has established national air quality, water quality, and vehicle emissions standards, including lead in air and water.</p> | <p>Positive effects:</p> <ul style="list-style-type: none"> • Control of key pollutants leading to better protection of water, soil and air, improving health conditions and livelihoods of people—particularly poor and vulnerable groups, including women and girls. • Development of clean technology sector, including investments in clean technology and development of green jobs. <p>Negative effects:</p> <p>No significant negative effects identified.</p> |

8. The World Bank concluded that prior actions 2 and 4 are likely to cause significant positive poverty and social effects. Although prior actions 6 and 7 may cause negative social effects, these potential implications are not significant due to additional interventions that the GoL will carry out to (i) better understand those effects, and (ii) identify and design interventions to address those negative implications.

Assessing Lao PDR Systems for Enhancing Significant Positive Poverty and Social Effects of the DPF-supported policies

9. Pursuant to OP 8.60, the World Bank analyzed whether the Lao PDR systems were appropriate to maximize the significant positive effects of the DPF-supported policies, particularly prior actions 1 and 3. The PSIA looked into the legal framework and technical capacities of governmental agencies responsible for implementing those policy actions.

10. **Prior Action #2.** Overall, the GoL has been committed to the promotion of green growth over the last decade. Its most recent 8th NSEDP introduced green growth and sustainable development principles into the overall goal statement in Outcome 3. A broad range of governmental institutions is engaged in the implementation of the 8th NSEDP. The Plan set forth targets for each output, as well as policies and investments to achieve those goals. The proposed policy and legal instruments are coupled with a range of incentive-based mechanisms to encourage better management practices (that is, information sharing, training, technical support). The Plan also includes a monitoring and evaluation framework with clear targets, implementing measures and responsibilities for ministries and other agencies. This approach will facilitate the implementation of not only prior action 1, but also of other key policy reforms supported by the DPF.

11. The PSIA found that the institutional arrangements for implementing strengthened legislation need to be improved. All agencies face challenges to implement the proposed policies (including prior actions 1 and 3) due to limited awareness and technical capacity, budgetary constraints, data constraints, and lack of governance arrangements for stakeholders' participation. To some extent, these shortcomings will be addressed by the DPF-supported policies (for example, the creation of the National Green Growth Steering Committee), as well as investments and capacity-building activities envisaged in the NSEDP. The World Bank and other international development agencies will also contribute to enhance Lao institutions' capacity to implement green growth policies.

12. **Prior Action #4.** The current planning and decision making on public policies and investments still lack vigorous integration of green growth considerations due to the failure to adequately internalize environmental and social externalities. In order to design and implement key interventions envisaged in the NSEDP (as well as indicative triggers of DPF2 and DPF3), the GoL needs to conduct thorough analytical work on environmental, poverty and social effects of policies and investments. Prior Action 3, associated with strategic environmental and social assessments, can play a key role in identifying those externalities and proposing interventions to address them. For example, the PSIA identified the need to conduct a detailed analysis of potential environmental, poverty and social effects, including quantitative data and mechanisms for stakeholder participation, to design detailed green growth policies that will be articulated through National Green Growth Strategy. Additional analysis will be required to fill the information gaps of poverty and social effects on the indicative proposed triggers. For example, such analysis will be key to define how environmental taxes (Indicative Trigger #2) will generate revenues that can be redistributed for social protection and targeted environmental protection and pollution control in priority sectors and locations—with a focus on areas having a high incidence of poverty.

13. Since the GoL has recently regulated strategic environmental and social assessment, GoL's institutions need to strengthen their capacity to implement the new instrument. As part of the DPF2 preparation, the World Bank will provide technical support to the GoL's on alternative methodologies for strategic environmental, poverty and social assessments and analyses. The GoL has requested the World Bank's support to carry out a Strategic Environmental, Poverty, and Social Analysis (SEPSA) for the following DPF2 triggers: (i) National Green Growth Strategy (NGGS), including analyses of market-based and legal policy instruments to foster green growth (for example, environmental taxes and financial incentives); and (ii) regulations of the national system of protected areas, including an analysis of the poverty and social effects of prohibiting logging in those areas. The SEPSA is expected to ensure that critical elements for socially equitable green growth are integrated into the green growth strategy and other relevant policies, including equity in income distribution, social protection, targeted pro-poor employment, community participation in decision making, access to land and resource rights, pro-poor fiscal and financial tools and resilience and adaptive capacity of communities. As part of the SEPSA, the GoL expects to carry out a gender analysis (with the World Bank's support) to inform the development of engendered green growth policies and specific targets for gender equality outcomes of green growth are incorporated into the green growth strategy. In addition, women and other key stakeholders are expected to engage in the SEPSA consultation process.

14. Although not significant, potential negative poverty and social effects of prior actions 6 and 7 were considered in the country's systems analysis. The proposed SEPSA, expected to be conducted during the DPF2 preparation for NGGS, will thoroughly analyze these effects. The SEPSA aims to focus on technical and enforcement capacity shortcomings, and propose interventions to address them to ensure robust and effective management of environmental, poverty and social priorities in the country. In regards to the negative effects associated with the loss of jobs, the World Bank recommended the GoL to consider additional interventions to address the potential loss of jobs, such as financial incentives and training to workers leaving the logging sector, as well as partnerships with the private sector to create new job opportunities. In this regard, the decree that created the NT2 National Park states the GoL will promote activities for community development and livelihood improvement in village enclave zones, ecotourism, and the environmentally friendly output of agricultural and forestry products and goods in village enclave zones. After piloting those initiatives in the NT2 National Park, the GoL can replicate them, as applicable, in other protected areas. The GoL will also adopt the Third Party Forest Certification, which includes requirements for companies to promote gender equality in employment practices, training opportunities, awarding of contracts, processes of engagement and management activities.

15. In conclusion, the proposed policy reforms reviewed in this PSIA are likely to have an overall positive impact on people including poor and vulnerable households. The potential impacted identified through this PSIA will mainly occur during the policy implementation phase. Key barriers to effective implementation have been taken into account and additional analysis is expected to be conducted to make sure that critical elements for socially equitable green growth are considered during policy design.

ANNEX 6. ENVIRONMENTAL, FORESTS, AND OTHER NATURAL RESOURCES ASPECTS

1. The World Bank's OP 8.60 requires the inclusion of a three-step set of analytical work on the operation's environmental, forests, and other natural resources aspects. First, the World Bank determines whether the DPF-supported policies are likely to cause significant effects on the Member Country's environment, forests, and other natural resources. Secondly, for policies with likely significant effects, the World Bank assesses in the Program Document the Member Country's systems for reducing such adverse effects and enhancing positive effects, drawing on relevant country-level or sectoral environmental analysis. Thirdly, if there are significant gaps in the analysis or shortcomings in these systems, the World Bank describes in the Program Document how such gaps or shortcomings would be addressed before or during program implementation.

2. Pursuant to OP 8.60, the World Bank has conducted a policy strategic environmental analysis (PSEA) that follows the above-mentioned three-step guidance in preparation for the operation. The PSEA integrated rigorous analytical work and participatory mechanisms to identify environmental priorities, assess the institutional and governance context underlying decision making processes, and identify opportunities to mainstream environmental considerations in the design and implementation of the policies supported by this DPL. The PSEA has assessed whether DPF1 Prior Actions are likely to have a significant effect on Lao PDR's environment, forests, and other natural resources. The PSEA has also assessed Lao PDR's environmental regulations, environmental and social impact assessment (ESIA), monitoring, and enforcement systems, with a focus on the GoL's ability to deal with the potential effects that might result from the policy actions included in the proposed DPF. The participatory mechanisms integrated into the PSEA included consultations with key stakeholders. The GoL, with Bank support, met with multiple stakeholders to obtain their input into the analysis of the potential effects of policies to consolidate a green growth pathway.

Context and Identification of Environment, Forests, and Other Natural Resources Priorities

3. Lao PDR has an average growth rate of 7.8% per year over the last decade. Such high growth rate has come with considerable impacts on Lao PDR's environment caused by increasing pollution and depletion of natural resources, which the country depends on for sustained growth.

4. The largest environmental health risk factors in Lao PDR are household air pollution, inadequate water, sanitation, and handwashing (WSH), outdoor air pollution, lead (Pb) and arsenic (Ar) pollution, respectively. These health risk factors are estimated to have caused about 9,600 deaths and over 40 million days of illness in Lao PDR in 2015. Household air pollution (HAP) from the use of solid fuels is causing 45% of the deaths, while a quarter each is from (a) drinking water pollution, sanitation, and hygiene (WSH), and (b) outdoor PM_{2.5} ambient air pollution (AAP). Exposure to lead among adults is causing the remaining 5% of deaths, and lead exposure among children causes the loss of over 330,000 IQ points per year (table A6.1).

5. The annual cost of the health effects is estimated at LAK 11.1–14.7 trillion in 2015. This is equivalent to 11.1–14.6% of GDP, with a central estimate of 12.8%. Household air pollution (HAP) accounts for 38% of these costs, followed by water pollution, sanitation and hygiene (WSH) at 22%, outdoor PM_{2.5} ambient air pollution (AAP) at 21%, and lead (Pb) exposure at 19% of total cost (figure A6.1).

Table A6.1 Annual Deaths and Days of Illness from Environmental Risk Factors in Lao PDR, 2015

| | Deaths | | | Days of illness (million) | | |
|---|--------------|--------------|---------------|---------------------------|-------------|-------------|
| | Low | Central | High | Low | Central | High |
| Household air pollution | 4,036 | 4,388 | 4,739 | 12.1 | 13.1 | 14.2 |
| Water, sanitation and hygiene | 1,805 | 2,347 | 2,889 | 9.8 | 15.8 | 21.9 |
| Microbiological pollution | 1,563 | 2,060 | 2,557 | 8.0 | 13.0 | 18.1 |
| Arsenic in groundwater | 242 | 287 | 332 | 1.8 | 2.8 | 3.8 |
| Outdoor air pollution | 2,115 | 2,432 | 2,781 | 5.2 | 6.0 | 6.8 |
| Lead (Pb) exposure - children (IQ points) | | | | 0.3 | 0.3 | 0.4 |
| Lead (Pb) exposure – adults | 423 | 479 | 529 | 3.8 | 4.3 | 4.7 |
| | | | | | | |
| Total | 8,378 | 9,646 | 10,937 | 31.0 | 39.0 | 48.0 |

Source: Estimates by World Bank.

**Figure A6.1 Estimated annual cost of environmental health risks in Lao PDR, 2015
(LAK billions and % of GDP)**

| | Cost (billion LAK) | | | Cost (% of GDP) | | |
|-------------------------------|--------------------|---------------|---------------|-----------------|---------------|---------------|
| | Low | Central | High | Low | Central | High |
| Household air pollution | 4,507 | 4,900 | 5,293 | 4.49% | 4.88% | 5.27% |
| Water, sanitation and hygiene | 2,112 | 2,816 | 3,519 | 2.10% | 2.80% | 3.50% |
| Microbiological pollution | 1,819 | 2,453 | 3,088 | 1.81% | 2.44% | 3.07% |
| Arsenic in groundwater | 293 | 363 | 432 | 0.29% | 0.36% | 0.43% |
| Outdoor air pollution | 2,337 | 2,688 | 3,073 | 2.33% | 2.68% | 3.06% |
| Lead (Pb) exposure | 2,181 | 2,494 | 2,781 | 2.17% | 2.48% | 2.77% |
| Lead (Pb) exposure - children | 1,654 | 1,897 | 2,122 | 1.65% | 1.89% | 2.11% |
| Lead (Pb) exposure - adults | 527 | 597 | 659 | 0.53% | 0.59% | 0.66% |
| | | | | | | |
| Total | 11,137 | 12,898 | 14,666 | 11.09% | 12.84% | 14.60% |

Source: Estimates by the World Bank.

6. Particulate matter (PM), especially fine particulates (PM_{2.5}), is the air pollutant that is globally associated with the largest health effects. The burning of solid fuels for cooking emits PM_{2.5}, which coupled with the lack of ventilation results in high pollution levels within households. Approximately 95% of Lao PDR's population used such fuels as their primary cooking fuel in 2015 and were therefore exposed to PM_{2.5} levels 12 times higher than the World Health Organization's guideline, resulting in increased risks of acute lower respiratory infections (ALRI) in children and chronic obstructive pulmonary disease (COPD), chronic bronchitis (CB), and lung cancer in adults. It is estimated that, because of these conditions, 4,036–4,739 individuals died prematurely and 12–14 million days of illness occurred in Lao PDR in 2015. The annual cost of these health effects is estimated at 4,507–5,293 billion LAK in 2015, with a mid-point estimate of 4,900 billion LAK. Mortality accounts for 94% and morbidity for 6% of the estimated cost. Adult women and young children are mainly affected, since they spend more time in household environments.

7. Inadequate water supply, sanitation, and hygiene (WSH) constitute another pressing environmental challenge in Lao PRD. An estimated 76% of the population in Lao PDR had access to an improved drinking water source, 71% had access to improved sanitation, and 23% practiced open

defecation in 2015 according to the Joint Monitoring Programme of WHO/UNICEF (JMP). About 57% of the population reported to treat their water prior to drinking and 26% of the population purchased bottled water for drinking according to the Lao Social Indicator Survey 2011–12. The predominant type of sanitation facility is flush or pour-flush toilet connected to a septic tank or pit. Less than 5% uses another type of sanitation facilities such as a dry pit, VIP, bucket or composting toilet. WSH causes diarrhea and other infectious diseases, poor sanitation and hygiene increase the risk of parasite infestation, and inadequate handwashing practices are a major contributor to diarrhea and respiratory infections in children. Moreover, repeated diarrheal infections in early childhood contribute to poor nutritional status (for example, underweight). Inadequate drinking water, sanitation, and hygiene are estimated to cause 1,563–2,557 deaths and 8–18 million days of illness per year in Lao PDR. The health effects had a cost equivalent to 1.8–3.1% of GDP in 2015, with a midpoint estimate of 2.4%.

8. In addition, studies have found arsenic contamination in drinking water from tube wells in central and southern Lao PDR. This is a concern because research has found that arsenic can cause multiple types of health effects, including skin lesions, increased risks of lung and bladder cancer, and various neurological impairments. Arsenic in tube-well drinking water in the central and southern provinces of Lao PDR is estimated to cause 242–332 deaths and 1.8–3.8 million days of illness per year. The health effects had a cost equivalent to 0.29–0.43% of GDP in 2015, with a midpoint estimate of 0.36%.

9. Outdoor air pollution also results in significant health effects in Lao PDR. The limited data that are available suggest an average 24-hour concentration of PM_{2.5} in Vientiane Capital of 40 µg/m³ of PM_{2.5}, a magnitude 4 times higher than the World Health Organization (WHO) Air Quality Guideline. Ambient PM_{2.5} is likely to be lower in other urban and rural areas of Lao PDR, but still at levels exceeding the WHO guideline. Outdoor air pollution is estimated to cause 2,115–2,781 deaths and 5.6–6.8 million days of illness per year in Lao PDR.⁴⁶ The health effects had a cost equivalent to 2.3–3.1% of GDP in 2015, with a midpoint estimate of 2.7%.

10. Lead (Pb) exposure is another significant environmental health risk in Lao PDR. A well-established effect of lead exposure is neuropsychological impairment in children, measured as IQ losses.⁴⁷ The effect can occur even at very low blood lead levels (BLLs), and in fact, research has not found a BLL threshold below which there are no impacts on children's IQ. The PSEA estimated that 30–40% of children may have BLL in the range of 5–10 µg/dL, and 5–10% have BLL exceeding 10 µg/dL. The annual cost in lost lifetime income from IQ losses associated with this BLL is estimated at the equivalent of 1.7–2.1% of GDP in 2015, with a midpoint estimate of 1.9%. The main health effect of lead exposure among adults is the effect on systolic blood pressure and consequent risk of cardiovascular disease. An estimated 423–529 deaths and 3.8–4.7 million days of disease per year are caused by lead exposure among adults if BLLs in adults are similar to that of children. The health effects had a cost equivalent to 0.5–0.7% of GDP in 2015, with a midpoint estimate of 0.6%.

11. The GoL has recognized that growing development is the biggest challenge that Lao PDR has with regard to the management and protection of the environment and natural resources (air, land, water resources, forests, and minerals). Lao PDR has the highest percentage of forest cover in Southeast Asia and one of the world's highest rates of species endemism, making it a global priority for biodiversity conservation. Natural forests provide significant ecosystem services, including fuelwood and food to

⁴⁶ This is an estimate by the author based on health-risk methodology in Global Burden of Disease 2015. The GBD Project 2015 presents a central estimate of 3,026 deaths from AAP (PM_{2.5}) in Lao PDR in 2015, applying a population-weighted PM_{2.5} exposure level of nearly 30 µg/m³, based on satellite data and chemical transport modeling.

⁴⁷ Intelligence quotient (IQ) is a score on standardized tests designed to assess intelligence.

forest dwellers, wood for local construction, hosting unique flora and fauna, carbon storage, and erosion control for hydropower. However, deforestation and forest degradation are rapid: the estimated forest cover has declined to around 40% of the territory in 2010 (from 70% in 1940 and 47% in 1992). Uncontrolled logging has been one of the main drivers of deforestation and forest degradation. Until recently, most Lao timber was exported to Thailand, Vietnam, and increasingly China. Timber exports, consisting primarily of logs and sawnwood, had an estimated value of US\$1,675 million in 2014, which represented a five-fold increase from 2010 estimates. Exports declined in 2015 and 2016, which may reflect diminishing stocks. In fact, some 80% of the once-pristine forests is estimated to be already degraded. Moreover, clearing for agriculture and industrial plantations, infrastructure development, such as hydropower and highways, mining, and urban expansion are causing deforestation at rates exceeding 1% per year.

12. Wildlife is under increasing threat from illegal hunting and loss of habitat, and the rate of extinction of species is accelerating. Excessive salvage logging associated with mining and hydropower development, illegal logging, commercial and subsistence hunting, expansion of agriculture and urbanization and infrastructure development have all contributed to forest degradation. The decline of natural resources and biodiversity cause direct effects on local people, particularly poor people who depend mainly on the natural resources for food and incomes. Establishment of national protected areas has had limited success in reducing threats to wildlife. Lao PDR NPA system represents a 15% of the total land area and has an excellent representation of the country's distinct biogeographic regions. The potential biodiversity in this system is tremendous, with thousands of regionally endemic species of international conservation concern. In one NPA alone, Nakai Nam Theun, over 430 bird species are recorded, which represents approximately 5% of the global total. However, unlike many countries where a specialized national agency manages NPAs, Lao PDR has delegated the management of NPAs to district authorities. Many NPAs cover multiple districts, and sometimes multiple provinces, making coordinated management challenging. Furthermore, district government officials often have negative perceptions towards NPAs despite the fact that nature-based tourism empirically has proven capability of reducing poverty, including in neighboring Thailand (where poverty rates are around 10% lower in villages next to NPAs) and China (with >1 billion visitors to protected areas per year)⁴⁸. Poor NPA management not only puts potential sustainable livelihoods (such as nature-based tourism) at stake but also jeopardizes food security.

13. Lao PDR does not have proper systems to handle toxic waste, wastewater, and chemicals. The generation of solid waste in urban areas in Lao PDR is on the rise, and already degrading the landscape and the quality of surface and groundwater. Untreated wastewater from households and from some small industries release goes into open roadside drains and flow directly into a marsh or natural channels. Lack of proper sanitation and sewerage systems continues to have a detrimental impact on public health (WEPA 2010). Expanding urban populations, poor collection and largely inadequate disposal facilities are compounding the level of pollution. Hazardous and toxic wastes such as batteries, old paint cans and aerosols increase the environmental impact from the waste. The transition of the Lao PDR's agricultural sector from smallholder subsistence agriculture to greater commercial orientation has posed increasing environmental and community health risks in rural areas caused by the expanding use of chemicals fertilizers and the pesticide trade. The use of hazardous chemicals, including heavy metals such as

⁴⁸ Wang, G., J. L. Innes, S. W. Wu, J. Krzyzanowski, Y. Yin, S. Dai, X. Zhang, S. Liu, et al. 2012. "National Park Development in China: Conservation or Commercialization?" *AMBIO: A Journal of the Human Environment* 41: 247–61. Zhong, L., R. C. Buckley, C. Wardle, and L. Wang. 2015. "Environmental and Visitor Management in a Thousand Protected Areas in China." *Biological Conservation* 181: 219–25.

mercury, lead, cadmium, arsenic, chromium, copper, and zinc as well as persistent organic pollutants (POPs) such as dioxins and furans, polychlorinated biphenyls (PCBs), and various pesticides and herbicides used in agriculture, mining, and industries threaten the environment and human health. For instance, a study in six provinces in central and southern Lao PDR found that arsenic concentrations exceeded the WHO guidelines of 10 ppb in 56% of the included tubewells (Chanpiwat et al. 2011).

Identification of Effects of Policy Actions on Environment, Forests, and Other Natural Resources

14. Through the provision of updated laws and regulations (regarding SEA, water, chemicals, environmental standards, and logging), the policy reforms supported by DPF1 are expected to result in the NSEDP action plan, the implementation of watershed-management systems and public investment in particular EPF projects, improved environmental governance and green growth opportunities, improved public health, cleaner technologies and production, reforestation, and climate mitigation and adaptation. Table A6.2 below presents the results of the assessment of the nine Prior Actions in the Lao PDR Green Growth DPF Series. All nine are expected to have positive to significantly positive environmental effects. In addition, seven out of nine prior actions are expected to generate co-benefits in climate change mitigation and adaptation.

Table A6.2 Summary Table

| Policy Actions | Environmental Effects |
|--|--|
| <p>Prior Action #1: The Recipient, through the Prime Minister, has taken steps to support fiscal consolidation, through (i) eliminating tariff exemptions on fuel imports for investment projects; and (ii) limiting the intake of civil servants to up to 5,000 in 2017; and through the Ministry of Finance (iii) has revised the Implementing Instructions for the Value Added Tax.</p> | <p>Positive Effects: Potential reduction in fuel consumption in private investment projects, leading to a possible reduction in air pollutants and greenhouse gas (GHG) emissions—and consequent co-benefits for climate change mitigation.</p> <p>Negative Effects: Potential constraints to adequately staff key environmental management agencies.</p> |
| <p>Prior Action #2: The Recipient has incorporated the principles of green growth in national development planning through (i) the National Assembly adopting the 8th NSEDP (2016-2020) that sets forth Outcome 3 and Outputs 1 to 3 associated with environmental protection and sustainable natural resources management; and (ii) the Prime Minister establishing the National Green Growth Steering Committee to oversee the planning, implementation, monitoring and evaluation of the country’s green growth agenda.</p> | <p>Significant Positive Effects: Through the incorporation of green growth principles in NSEDP8 Outcome 3 and the establishment of the National Steering Committee (NSC), this prior action serves as the basis for effecting other seven policy actions (prior action 1 to 9) and sustaining the implementation of the GoL’s national development strategy. The NSEDP8 also envisages programs for climate change mitigation and adaptation.</p> |

| | |
|---|---|
| <p>Prior Action #3: The Recipient, through the Prime Minister, has restructured the Environment Protection Fund (EPF) with provisions that (i) create an inter-ministerial governance mechanism to manage the EPF operations and resources, (ii) require revenues and expenditures to be operated by the National Treasury System, and (iii) specify eligible revenue sources.</p> | <p>Significant Positive Effects:</p> <p>The EPF will fund projects and research regarding air, soil, and water pollution; environmental protection; green development models; cleaner technology and production; restoration of forests, soil, and water; reducing impacts of climate change; and development of policy, strategy, laws, and regulations on natural resource management and environmental protection, all of which are in line with the 8th NSEDP. Fiscal instruments, charges, fees, and other revenue mechanisms will generate incentives to reduce pollution and generate revenues for environmental management.</p> |
| <p>Prior Action #4: The Recipient, through the Prime Minister, (i) has mandated MONRE to collaborate with key line sectors in the preparation of sectoral Strategic Environmental Assessments and, through MONRE, (ii) has adopted the legal framework to require Strategic Environmental Assessments in the formulation of all policies, programs, and strategic plans, to incorporate environmental and social sustainability considerations, and the SDGs in public planning.</p> | <p>Positive Effects:</p> <p>By requiring SEAs in the formulation of public policies, programs, and strategic plans, this policy ensures stakeholder involvement; in particular, vulnerable stakeholders like ethnic minorities will have the possibility to be involved in plans, programs, and compensation or measures.</p> |
| <p>Prior Action #5: The Recipient, through MPI, has established the public investment project (PIP) review process that takes into account climate resilience and disaster risk considerations.</p> | <p>Positive Effects:</p> <p>Through a review process of public investment projects (PIPs), this policy will improve the relevance, efficiency, and effectiveness of PIP projects, and ensures that economic, social, and environment aspects, as well as climate resilience and disaster risk considerations, are all taken into account.</p> |
| <p>Prior Action #6: The Recipient, through the Prime Minister, has strengthened strictness of timber harvest management and inspection, timber transport and trade in order to control illegal logging in infrastructure areas and timber harvesting, processing, and trade.</p> | <p>Significant Positive Effects:</p> <p>This policy strengthens legal and regulatory robustness in forest and biodiversity preservation. By contributing to reducing deforestation, this policy will have positive effects on climate change mitigation and adaptation.</p> |
| <p>Prior Action #7: The Recipient, through the Prime Minister, has adopted the legal framework to pilot a national park reform by (i) establishing a process to upgrade the conservation standing of Nam Theun 2 (NT2) Watershed to a national park, (ii) establishing the legal status of enclave communities and their access rights to protected area resources, and (iii) adjusting the organizational structure of the NT2 Watershed Management and Protection Authority (WMPA) to anchor its responsibilities under MAF.</p> | <p>Significant Positive Effects:</p> <p>This policy will support a significant positive green growth and sustainable development effect that is expected to be used as a model for other areas.</p> |

| | |
|--|--|
| <p>Prior Action #8: The Recipient, through the National Assembly, has established legal provisions (i) for the management, monitoring, and inspection of chemicals for minimizing health risks and promoting cleaner production, and (ii) on phytosanitary management, including pest management.</p> | <p>Significant Positive Effects: This policy is expected to support and promote individual, legal entities or organizations to invest in the development of chemicals with high value in the socioeconomic development and environmentally friendly technology, thus protecting the safety of health, life, property, and environment.</p> |
| <p>Prior Action #9: The Recipient, through the Prime Minister and MONRE, has established national air quality, water quality, and vehicle emissions standards, including lead in air and water.</p> | <p>Significant Positive Effects: This policy will provide the proper basis for enforcement, permits, and lawful identification of violation of laws and regulations, and support cleaner operation, better planning in cities, and reduction of health impact on humans. While contributing to reducing air pollution, this policy will also contribute to reduce GHG emissions and, therefore, will have co-benefits to climate change mitigation.</p> |

16. To identify environmental effects of the policy reforms supported by the DPF, the PSEA examined the relation between the prior actions and the Lao PDR's environmental priorities (see table A6.3). The PSEA found that all these prior actions are (strong) conditions to respond to national environmental priorities.

Table A6.3 DPF Prior Actions and Lao PDR's Environmental Priorities

| Prior Actions | National Environmental Priorities | | | | | | |
|--|---|----------------|--------------------------|-------------------------------|--------------------------|---|---------------------------|
| | Air Quality | Lead Poisoning | Water Quality & Quantity | Waste & Wastewater Management | Control of Deforestation | Climate Change & Disaster Risk Management | Biodiversity Conservation |
| 1 Fiscal policies | | | | | | | |
| 2 NSEDP | | | | | | | |
| 3 EPF | | | | | | | |
| 4 SEA | | | | | | | |
| 5 Climate Change | | | | | | | |
| 6 Forest Resources | | | | | | | |
| 7 Protected Areas | | | | | | | |
| 8 Agricultural Practices and Pesticides | | | | | | | |
| 9 Pollution Management | | | | | | | |
| Response to Environmental Priorities: | | | | | | | |
| | Prior action is a condition to respond to the environmental priorities | | | | | | |
| | Prior action is a strong condition to respond to the environmental priorities | | | | | | |

Assessing Lao PDR's Systems to Maximize Significant Positive Environmental Effects

17. Pursuant to OP 8.60, the World Bank analyzed whether the Lao PDR's systems were appropriate to maximize the significant positive effects of the DPF-supported policies. The PSEA looked into the legal framework and technical capacities of government agencies responsible for implementing those policy actions.

18. The PSEA found that Lao PDR's environmental management system is under continuous development. In the past decade, the GoL adopted key rules, regulations, and instructions in the environmental and natural resources sector (for example, Law on Land, Law on Forest, Law on Water and Water Resources, and Law on Environment Protection), and improved other instruments such as the Decree on Social-Environmental Impact Assessment and Decree on Compensation and Relocation of Population. Regarding mandates and responsibilities, the Ministry of Natural Resources and Environment (MONRE) is undergoing restructuring, with changes in the ministry's mandate and management system. For example, responsibilities for protected areas have been moved to the Ministry of Agriculture and Forestry. Other responsibilities were transferred to the Ministry of Energy and Mines.

19. The policy reforms supported by the DPF series will complement the existing legal framework. The first stage of green growth policies supports the establishment of the institutional and regulatory conditions such as stricter control regulations of timber harvest management, strengthening of protected areas systems, the legal framework for chemicals management and improved standards to control air and water pollution. These are preconditions for establishing incentive structures based on market instruments, such as green taxes or pricing of natural resources, which are expected the second stage transformation for green growth.

20. The PSEA found that the institutional arrangements for implementing strengthened legislation need to be improved. All agencies face challenges to implement the proposed policies due to limited technical capacity, budgetary constraints, data gaps, and limited governance arrangements for stakeholders' participation. Implementation of the 8th NSEDP and other DPF-supported policies will require good cooperation between ministries, and sufficient capacity and budget. To some extent, DPF-supported policies, investments, and capacity-building activities that the NSEDP envisages will address these shortcomings. The creation of the National Green Growth Steering Committee was a key step towards improving cooperation among different sectoral agencies. The World Bank—as well as other international development agencies—can also contribute to enhancing Lao institutions' capacity through a multi-sector portfolio of investment and technical assistance lending, such as the IFC Environment and Social Standards in the Hydropower Sector Advisory Services, the NT2 Social and Environments Project, and the Second Lao Environment and Social (LENS2) Project.

21. Because the GoL has recently regulated strategic environmental and social assessment, government institutions need to strengthen their capacity to implement the new instrument. As part of the DPF2 preparation, the World Bank will provide technical support to the GoL on alternative methodologies for strategic environmental, poverty, and social assessments and analyses. The GoL is particularly interested in receiving the World Bank's support to carry out a Strategic Environmental, Poverty, and Social Analysis (SEPSA) for the following DPF2 triggers: (i) the National Green Growth Strategy (NGGS), including analyses of market-based and legal policy instruments to foster green growth (for example, environmental taxes and financial incentives); and (ii) regulations of the national system of protected areas.

22. The PSEA concluded that the policies supported by the DPL are not likely to cause any significant negative effects on the environment, forests, and other natural resources. Moreover, most policy reforms supported by the DPF series consist of interventions specifically targeted to address Lao PDR's environmental priorities (such as air and water pollution, lead exposure, and deforestation). Further analytical work, investments, and technical assistance will be needed to maximize the positive effects associated with those policy reforms, especially by strengthening the government's capacity to effectively implement the new policies.

ANNEX 7. LINKAGES BETWEEN THE NSEDP, SDGS, NDC, AND THE DPF SERIES

| Policy Track | 8 th NSEDP | Localized SDG | NDC |
|---|--|---|--|
| Pillar 1. Strengthening prospects for fiscal sustainability and financial sector stability | | | |
| <p>Policy Track 1.1: Lowering risks to macroeconomic stability</p> | <p>The government's development plan envisages a series of fiscal and monetary policies, as well as foreign and domestic investments, aimed at sustaining a stable macroeconomic framework. These interventions are reflected in Outcome 1, Output 2, on Macroeconomic Stability, of 8th NSEDP.</p> <p>Relevant indicators: budget deficit as percentage of GDP; amount in taxes revenue; public sector wages as percentage of domestic revenue.</p> | <p>Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all</p> | <p>An initial estimate of the financial needs for implementing identified mitigation and adaptation policies and actions is US\$ 1.4 billion and US\$ 0.97 billion. Macroeconomic stability will be essential to ensure that ensure that domestic and international finance is successfully acquired to carry out the actions proposed in Lao PDR's NDC.</p> |
| Pillar 2. Consolidating green growth principles across the national development strategy | | | |
| <p>Policy Track 2.1: Building the foundation for green growth planning and monitoring</p> <p>Policy Track 2.2: Strengthening country instruments for cleaner and resilient green growth financing</p> | <p>Overall goal of 8th NSEDP is achieving off-track MDG targets and ensuring sustainability of inclusive economic growth and enhanced environmental management; with a target to diversify from resource sector by promoting policies to reduce environment degradation and ensure long-term environmental benefits.</p> <p>Relevant indicators: % of investment projects that have undergone an financial and economic assessment (1.3.25) % of GDP attributable to natural resources (1.1.15)</p> <p>Another target is to establish sustainable financial mechanisms to manage natural resources and protect the environment as tools for determining sustainable sources of funding and capital.</p> | <p>Promote public procurement practices that are sustainable, in accordance with national policies and priorities</p> | <p>Lao PDR intends to carry out readiness assessments, which will identify the current state and barriers on data, organizational arrangements, personnel capacity, national policies, and any existing domestic MRV systems.</p> <p>MOF plans to determine appropriate tax and duties policies for land use, vehicles and equipment to be used for renewable energy projects while at the same time assisting in raising funds for renewable energy development. (Mitigation Action #2)</p> |

| | | | |
|--|--|---|--|
| <p>Policy Track 2.3: Shifting towards decision making informed by priorities for environmental protection and climate resilience</p> | <p>A target is to enhance the quality of investment, especially to monitor and evaluate performance of mega projects in order to identify methods and measures to resolve the problems in a timely manner. Relevant indicator: % of investment projects deemed to require EIA or IEE by MoNRE that have been evaluated (1.3.24)</p> | | <p>An intended action is to develop and enforce guidelines to minimize the environmental and social impacts of renewable energy development through oversight of Initial Environmental Examinations and carrying out environmental impact assessments (Mitigation Action #2)</p> |
| | <p>A target is to strengthen the ability to respond to disasters, including recovery, at all levels in timely manner, with guidelines for integrating work on climate change, disaster risk reduction and mitigation of GHG effects in the strategic and operational plans of the agriculture, forest and public works, and transport sectors. Relevant indicator: Number of persons per 100,000 directly affected by natural disasters (3.2.147); % of villages with all-weather road access (1.4.40)</p> | <p>By 2030, significantly reduce the number of deaths and people affected, and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations. Relevant indicators: Number of deaths, missing people, injured, relocated or evacuated due to disasters per 100,000 people (1.5.1) National and local disaster risk reduction strategies (13.1.1)</p> | <p>GoL will develop and implement reliable early warning flood systems, reporting and information disseminating services; and conduct climate risk audits for key infrastructure services; Ensure flood protection and drainage design for urban infra are adequate for climate change conditions. (Adaptation Action #3 and #4)</p> |
| <p>Pillar 3. Incorporating green growth in selected sectors</p> | | | |
| <p>Policy Track 3.1: Shifting towards integrated and sustainable water resources management and uses</p> | <p>A target is to manage water resources based on integrated water resources management principles in ten priority river basins for development (Nam Ou, Nam Nguem, Sebangfai, Se Bang Hieng, Nam Ngiap, Nam Theun – Nam Kading, Sedon, Nam Sam, Nam Ma, Sekong and other small basins where appropriate). Another target is to complete scoping research on hydrological, physical and chemical properties, classification of water types, the use of surface water, underground water, reservoirs and river mapping to ensure</p> | <p>By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate Relevant indicators: Degree of integrated water resources management implementation (0-100) (6.5.1) Proportion of transboundary basin area with an operational arrangement for water cooperation (6.5.2) By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially</p> | <p>GoL intends to strengthen Water Resource Information Systems for Climate Change Adaption, modelling and vulnerability assessment for climate change in priority river basins in Lao PDR (Adaptation Action #3) Related to the water sector is the intended plan to expand largescale (>15 MW) hydropower plants to provide clean electricity to neighboring countries as part of its mitigation action.</p> |

| | | | |
|---|---|---|--|
| | <p>inclusive and sustainable water allocation in order to protect the ecosystem</p> | <p>reduce the number of people suffering from water scarcity Relevant indicators: % change in water use efficiency over time (6.4.1) Freshwater withdrawal as a proportion of available freshwater resources (6.4.2)</p> | |
| <p>Policy Track 3.2: Improving forest resources management.</p> | <p>Towards forest protection goals, one target is to implement the rule of law by controlling illegal wildlife trade, and illegal logging and timber trade, including legal action to assess environmental and social impacts, especially in the area of transport, energy and mining. Relevant indicators: Production forest area certified by FSC or with FLEGT license (3.1.141) Proportion of land area covered by forest (3.1.145)</p> <p>Another goal towards sustainable natural resources management is to develop national parks and to complete the pilot on establishing two model national natural parks.</p> | <p>By 2020, promote the implementation of sustainable management of all types of forests, halt deforestation, restore degraded forests and substantially increase afforestation and reforestation globally Relevant indicators: Progress towards sustainable forest management (15.2.1) Forest area as a percentage of total land area (15.1.1)</p> <p>By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands, in line with obligations under international agreements Relevant indicators: Proportion of important sites for terrestrial and freshwater biodiversity that are covered by protected areas, by ecosystem type (15.1.2)</p> | <p>As a mitigation action, GoL intends to increase forest cover to 70% of land area by 2020 and to promote Climate Resilience in Forestry Production and Forest Ecosystems; Promote Technical Capacity in the Forestry Sector for Managing Forest for Climate Change Adaptation; Implement guidelines for sustainable forest management (Mitigation Action #2)</p> <p>As an adaptation action on forest and land use change, GoL intends to promote integrated actions on watersheds, reservoir management, water storage for agro-forestry, wildlife management, fisheries and tree varieties, prevention of drought (Adaptation Action #2)</p> |
| <p>Policy Track 3.3: Leveraging green growth policies to control non-point source pollution</p> | <p>NSEDP aims to promote clean agriculture policy and improve food security through enhanced food production systems and agricultural productivity (2.2)</p> | <p>Target is to promote sustainable agriculture practices. Relevant indicators: Percentage of agricultural area under sustainable agricultural practices (2.4.1) Percentage of agricultural households using eco-friendly fertilizers compared to all agricultural households using fertilizers (2.4.3)</p> | <p>An intended action is to promote climate resilience in farming systems and agriculture infrastructure, including focus on conservation of agricultural soil, animal health and disease outbreak monitoring and control, long term feed storage improvement, climate resilient crops, efficient water use cropping systems, short</p> |

| | | | |
|--|---|--|--|
| | | | rotation cropping and maximizing the use of indigenous climate resilient knowledge (Adaptation Action #1) |
| Policy Track 3.4: Strengthening pollution monitoring and management | <p>A target is to apply policy to promote the use of new technology that is environmentally friendly, produces minimum amounts of pollution, and support the development and more use of clean energy. (3.1)</p> <p>Another target is to establish mechanisms for managing toxic chemicals and hazardous waste and waste water treatment systems in cities and provincial municipalities. (3.1)</p> | <p>By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management; and improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials</p> <p>Relevant indicators: % of urban solid waste regularly collected and with adequate final discharge of total waste generated by the city (11.6.1) Annual mean levels of fine particulate matter (e.g. PM_{2.5} and PM₁₀) in cities (population weighted) (11.6.2) % of bodies of water with good ambient water quality (6.3.2)</p> | <p>Relevant to pollution control is the mitigation action intended in the transport sector to reduce GHG emissions, which will also reduce Nitrogen Oxides (NO_x) and Sulphur Oxides (SO_x) emissions with co-benefits of improving the air quality (Mitigation Action #4)</p> |

