



# Report and Recommendation of the President to the Board of Directors

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Project Number: 48409-004  
July 2018

## Proposed Grant Lao People's Democratic Republic: Climate-Friendly Agribusiness Value Chains Sector Project

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Asian Development Bank

## **CURRENCY EQUIVALENTS**

(as of 4 July 2018)

Currency unit	–	kip (KN)
KN1.00	=	\$0.00012
\$1.00	=	KN8,436.66

## **ABBREVIATIONS**

ADB	–	Asian Development Bank
ADS	–	Agricultural Development Strategy
APG	–	agricultural production group
CSA	–	climate-smart agriculture
EIRR	–	economic internal rate of return
GMS	–	Greater Mekong Subregion
IPP	–	indigenous peoples plan
Lao PDR	–	Lao People's Democratic Republic
MAF	–	Ministry of Agriculture and Forestry
O&M	–	operation and maintenance
PAM	–	project administration manual

## GLOSSARY

- agribusiness value chain – covers integrated and interdependent functions of growing, collecting and transporting, warehousing, postharvest processing, merchandizing, grading, packaging, and marketing and selling.
- climate-friendly agribusiness – means enhancing climate resilience of agribusiness value chains while reducing the carbon footprint of their operations.
- climate resilience – the capacity of a community, business, or natural environment to prevent, withstand, respond to, and recover from disruptions caused by climate variability and climate change; also defined as the capacity for a socioecological system to (i) absorb stresses and maintain function in the face of external stresses imposed upon it by climate change; and (ii) adapt, reorganize, and evolve into more desirable configurations that improve the sustainability of the system, leaving it better prepared for future climate change impacts.
- climate-smart agriculture – an approach to transforming and reorienting agricultural development under climate change; may be defined as agriculture that increases productivity, enhances resilience (adaptation), reduces or removes greenhouse gas (mitigation), where possible, and ensures the achievement of food security and development goals.
- green finance – investments that provide environmental benefits (e.g., reductions in air, water, and land pollution; reductions in greenhouse gas emissions; improved energy efficiency) in the broader context of sustainable development. It involves efforts to internalize environmental externalities and adjust risk perceptions to boost environment-friendly investments and reduce environmentally harmful ones; and it includes effective management of environmental risks across the financial system.

## NOTE

In this report, “\$” refers to United States dollars.

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## PROJECT AT A GLANCE

<b>1. Basic Data</b>		<b>Project Number:</b> 48409-004	
<b>Project Name</b>	Climate-Friendly Agribusiness Value Chains Sector Project	<b>Department /Division</b>	SERD/SEER
<b>Country Borrower</b>	Lao People's Democratic Republic Government of the Lao People's Democratic Republic	<b>Executing Agency</b>	Ministry of Agriculture and Forestry
<b>2. Sector</b>	<b>Subsector(s)</b>	<b>ADB Financing (\$ million)</b>	
✓ <b>Agriculture, natural resources and rural development</b>	Agricultural policy, institutional and capacity development		2.77
	Agricultural production		4.82
	Agro-industry, marketing, and trade		16.07
	Irrigation		11.67
	Rural market infrastructure		5.17
		<b>Total</b>	<b>40.50</b>
<b>3. Strategic Agenda</b>	<b>Subcomponents</b>	<b>Climate Change Information</b>	
Inclusive economic growth (IEG)	Pillar 2: Access to economic opportunities, including jobs, made more inclusive	Climate Change impact on the Project	Medium
Environmentally sustainable growth (ESG)	Global and regional transboundary environmental concerns Natural resources conservation	<b>ADB Financing</b> Adaptation (\$ million)	7.53
Regional integration (RCI)	Pillar 4: Other regional public goods		
<b>4. Drivers of Change</b>	<b>Components</b>	<b>Gender Equity and Mainstreaming</b>	
Governance and capacity development (GCD)	Institutional development	Effective gender mainstreaming (EGM)	✓
Knowledge solutions (KNS)	Knowledge sharing activities		
Private sector development (PSD)	Promotion of private sector investment		
<b>5. Poverty and SDG Targeting</b>		<b>Location Impact</b>	
Geographic Targeting	No	Rural	High
Household Targeting	No	Urban	Medium
SDG Targeting	Yes		
SDG Goals	SDG2, SDG8, SDG9, SDG13		
<b>6. Risk Categorization:</b>	Low		
<b>7. Safeguard Categorization</b>	<b>Environment: B Involuntary Resettlement: B Indigenous Peoples: B</b>		
<b>8. Financing</b>			
<b>Modality and Sources</b>		<b>Amount (\$ million)</b>	
<b>ADB</b>		<b>40.50</b>	
Sovereign Project grant: Asian Development Fund		40.50	
<b>Cofinancing</b>		<b>0.00</b>	
None		0.00	
<b>Counterpart</b>		<b>5.87</b>	
Beneficiaries		5.12	
Government		0.75	
<b>Total</b>		<b>46.37</b>	

## I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed grant to the Lao People's Democratic Republic (Lao PDR) for the Climate-Friendly Agribusiness Value Chains Sector Project.

2. The proposed project supports the implementation of the government's Agriculture Development Strategy to 2025 (ADS) by boosting the competitiveness of rice value chains in Khammouane, Saravan, and Savannakhet provinces, and vegetable value chains in Vientiane Capital, Champasak, and Sekong provinces.<sup>1</sup> The project will improve the climate resilience of agricultural infrastructure, and enhance crop productivity, diversification, and commercialization. It will help improve the capacity for storage, processing, quality, and safety testing, and promote the use of biofertilizers and organic farming. It will strengthen the capacity of farmers and agribusinesses for climate-smart agriculture (CSA), and create an enabling environment for climate-friendly agribusinesses to promote sustainability along the value chain.

## II. THE PROJECT

### A. Rationale

3. **Sector performance.** The Human Development Index report ranks the Lao PDR as 138th out of 188 countries.<sup>2</sup> Macroeconomic and political stability enabled it to achieve moderate economic growth at 6.5% per annum during 1986–2016.<sup>3</sup> However, the country also grappled with a persistent current account deficit, falling foreign currency reserves, and growing public debt. Although the contribution of agriculture to the national gross domestic product is declining (from 32.7% in 2010 to 19.8% in 2016), the economy still remains agrarian: about 65% of the working population is employed in the sector. Low sector growth led to low levels of rural household incomes. The poverty rate of those engaged in agriculture is nearly three times higher than for those working in other sectors (footnote 3).

4. **Development challenges.** Various physical, environmental, socioeconomic, and capacity barriers constrain sector productivity and profitability, notably poor infrastructure, low technical capacity, and unfavorable policies.<sup>4</sup> Farming remains mostly subsistence and rain-fed. Although 3.8 million hectares are potentially suitable for cultivation, the irrigated area is limited to 0.3 million hectares as of 2016 (footnote 3). Access roads to rural markets and logistics infrastructure are of low quality, contributing to high distribution costs. About 90% of the paddy in the country are milled in small processing units with old and obsolete equipment. Limited availability of climate-resilient varieties, low capacity of farmers for adopting climate-friendly practices and technologies, and limited access for smallholder farmers to affordable credit also hamper the transition from subsistence farming to commercial agriculture. The steady migration of young people to urban areas left behind an aging and declining labor force, yet farm mechanization remains limited.

5. A policy environment characterized by onerous registration requirements, a gap between legislation and implementation, and conflicting regulations are key barriers for agribusiness.

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<sup>1</sup> Government of the Lao PDR, Ministry of Agriculture and Forestry. 2015. *Agriculture Development Strategy to 2025 and Vision to the Year 2030*. Vientiane. Target provinces and commodities were selected based on agribusiness potential, inclusiveness, climate vulnerability, and government priorities.

<sup>2</sup> United Nations Development Programme. 2017. *United Nations Human Development Report 2017*. New York.

<sup>3</sup> Asian Development Bank (ADB). 2017. *Lao PDR: Accelerating structural transformation for inclusive growth – Country diagnostic study*. Manila.

<sup>4</sup> Sector Assessment (Summary): Agriculture, Natural Resources, and Rural Development (accessible from the list of linked documents in Appendix 2).

Private sector participation remains limited, leading to low investments by farms in innovative technologies. Low capacity for value addition and underdeveloped marketing systems also contribute to low competitiveness. The Lao PDR ranked 141th out of 190 countries on ease of doing business.<sup>5</sup> This unfavorable environment leaves the Lao PDR with underdeveloped value chains, farmers with limited market options, and the economy with poor capacity for adding value to the primary commodities that it produces.

6. The Lao PDR is highly vulnerable to impacts of climate change such as increased floods and droughts. Climate projections suggest that daily maximum temperatures may increase by 2°C–3°C by 2050, especially in the south, and exacerbate the severity of droughts.<sup>6</sup> Likewise, rainfall is projected to increase by 10%–30% during the rainy season in southern provinces, thereby increasing flooding. Poor adaptation measures and low adaptive capacity increase the vulnerability of rural livelihoods and lead to food insecurity.

7. **Opportunities.** Investing in climate-friendly agribusiness value chain infrastructure, coupled with targeted capacity strengthening and policy support, is vital to overcome the above barriers. Intensive production and commercialization of high-quality rice and organic vegetables, facilitated by local biofertilizer production and clean agricultural technologies, can increase rural household incomes, cut fertilizer imports, and save foreign exchange. Opportunities exist for developing agribusinesses that cater to domestic and export markets, and for mobilizing private sector investment in areas such as infrastructure for storage, processing and value addition, biofertilizer production, and organic agriculture. The demand for a wider range of safe and nutritious food by a growing base of domestic urban middle-class consumers and tourists also provides opportunities for public–private–community partnerships that could lead to improved market efficiency and inclusive agribusiness value chains. Investments in climate-friendly agribusiness will also strengthen the finance sector, as the demand for farm credit will increase.

8. **Government's efforts.** The government aims to increase the agricultural growth rate to 3.4% per annum by 2020. The policy framework for the agriculture sector is set out in (i) the ADS to 2025 (footnote 1); (ii) the 8th Five-Year National Socio-Economic Development Plan (2016–2020); (iii) the Development Strategy of the Crop Sector 2025 and Vision 2030; and (iv) the National Strategy on Climate Change of Lao PDR.<sup>7</sup> The ADS aims to (i) ensure food security; (ii) produce competitive commodities with a comparative advantage; (iii) develop a clean, safe and sustainable agriculture; and (iv) shift gradually to the modernization into a resilient and productive agricultural economy.

9. **ADB's value addition.** The project includes innovations such as (i) improved design standards of rural infrastructure to make it climate-resilient and more sustainable, (ii) adoption and expanded use of advanced CSA technologies and practices, and (iii) promotion of regional cooperation and integration in the Greater Mekong Subregion (GMS) through harmonization of standards and support to regional seed-trading agreements. Through this project, ADB aims to finance key elements of the ADS through support to rice, the most important crop, and vegetables, the subsector with the greatest potential for increasing rural incomes. The project will contribute to the government's target of 4.7 million tons of paddy production with 2 million tons of quality rice earmarked for domestic and export markets. As climate change impacts are manifested mainly

<sup>5</sup> World Bank. 2018. *Doing Business 2018 – Reforming to create jobs. Economy Profile Lao PDR*. Washington, DC.

<sup>6</sup> Mekong Adaptation and Resilience to Climate Change Project Study. 2015. *Lao PDR Climate Change Vulnerability Profile*. Vientiane.

<sup>7</sup> Government of the Lao PDR, Ministry of Planning and Investment. 2016. *The 8th Five-Year National Socio-Economic Development Plan (2016–2020)*. Vientiane; Government of the Lao PDR, Ministry of Agriculture and Forestry. 2015. *Development Strategy of the Crop Sector 2025 and Vision 2030*. Vientiane; Government of the Lao PDR, Ministry of Natural Resources and Environment. 2010. *National Strategy on Climate Change of Lao PDR*. Vientiane.



through water, the project will invest in water conservation and management infrastructure and associated technologies to cope with droughts and floods. Building on public–private–community partnership models developed by earlier ADB projects, the project will promote private sector participation in value chain operations, diversify livelihood options, and assist smallholders' transition from subsistence to commercial agriculture.<sup>8</sup> By improving the capacity for quality and safety testing, the project will enable farmers to access high-value markets within and beyond the GMS. The project complements initiatives on trade facilitation and the GMS Core Agriculture Support Program.<sup>9</sup>

10. **Development coordination and lessons learned.** The project will coordinate with (i) the World Bank in the implementation of a matching grant scheme for agribusinesses; (ii) the Food and Agriculture Organization of the United Nations in supporting vegetable farmer groups; and (iii) the International Rice Research Institute in deploying climate-resilient varieties. The project design includes lessons from ADB and other development partner projects.<sup>10</sup> Lessons call for (i) improving the sustainability and climate resilience of infrastructure; (ii) enhancing the capacity of stakeholders; (iii) supporting an enabling policy environment for agribusinesses; and (iv) promoting the participation of beneficiaries in the operation and maintenance (O&M) of infrastructure. Lessons suggest to (i) include measures to accommodate implementation capacity barriers; (ii) screen subprojects carefully to identify viable ones; (iii) limit the geographic coverage to obtain a balance between investments and overhead costs; and (iv) prepare subprojects that can be implemented at government levels with the experience and capacity for such work.

11. **Strategic fit.** The project is aligned with the government's ADS to 2025 (footnote1), the 8th Five-Year National Socio-Economic Development Plan (2016–2020) (footnote 7), the GMS Regional Investment Framework to 2022, and ADB's country partnership strategy, 2017–2020 for the Lao PDR; and is included in the country operations business plan, 2018–2020.<sup>11</sup> The project is aligned with ADB's Operational Plan for Agriculture and Natural Resources, 2015-2020 which aims to increase value addition and partnerships with the private sector in agro-processing.<sup>12</sup>

## B. Impact and Outcome

12. The project is aligned with the following impact: agricultural competitiveness improved.<sup>13</sup> The project will have the following outcome: productive and resource-efficient agribusiness value chains developed in project areas.<sup>14</sup>

<sup>8</sup> ADB. 2009. *Report and Recommendation of the President to the Board of Directors: Proposed Grant to the Lao People's Democratic Republic for the Sustainable Natural Resource Management and Productivity Enhancement Project*. Manila.

<sup>9</sup> ADB. 2012. *Kingdom of Cambodia and Lao People's Democratic Republic: Trade Facilitation: Improved Sanitary and Phytosanitary Handling in Greater Mekong Subregion Trade Project*. Manila; and Greater Mekong Subregion Core Agriculture Support Program. 2017. *Strategy for Promoting Safe and Environment Friendly Agro-based Value Chains in the Greater Mekong Subregion and Siem Reap Action Plan, 2018–2022*. Bangkok.

<sup>10</sup> ADB. 2003. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the Lao People's Democratic Republic for the Smallholder Development Project*. Manila; European Union. 2009. *Enhancing Milled Rice Production in Lao PDR Project*; and ADB. 2011. *Technical Assistance Report: Capacity Building for Efficient Utilization of Biomass for Bioenergy and Food Security in the Greater Mekong Subregion*. Manila.

<sup>11</sup> ADB. 2017. *Greater Mekong Subregion Economic Cooperation Program: Regional Investment Framework 2022*. Manila; ADB. 2017. *Country Partnership Strategy: Lao People's Democratic Republic, 2017–2020*. Manila; and ADB. 2017. *Country Operations Business Plan: Lao People's Democratic Republic, 2018–2020*. Manila.

<sup>12</sup> ADB. 2015. *Operational Plan for Agriculture and Natural Resources: Promoting Sustainable Food Security in Asia and the Pacific in 2015–2020*. Manila.

<sup>13</sup> The impact is reflected through enhanced productivity, climate resilience, quality and safety, value addition, and rural household incomes.

<sup>14</sup> The design and monitoring framework is in Appendix 1.

## C. Outputs

13. **Output 1: Critical agribusiness value chain infrastructure improved and made climate-resilient.** This involves rehabilitation and modernization of critical public and private infrastructure to increase production and resource efficiency, reduce postharvest losses, and enhance value chain links while improving climate resilience. Key activities include (i) rehabilitating small-scale irrigation infrastructure (tertiary canals and water retention ponds) and rural roads; (ii) enhancing crop research, and safety- and quality-testing infrastructure; and (iii) improving climate-friendly value chain infrastructure for agribusiness enterprises. Under activity (ii), the project will upgrade the facilities and services offered to farmers by rice and vegetable research centers in target provinces. It will also improve the infrastructure for quality and safety testing in the plant-protection laboratory of the Department of Agriculture, soil-testing laboratory of the Department of Agricultural Land Management, and provincial agricultural colleges. The project will establish an asset management system for rural infrastructure to ensure sustainability and implement a holistic approach to O&M by focusing on institutions, capacity building, financing, and technologies.

14. Under activity (iii), the project will support the upgrade of small and medium-sized agribusinesses (rice mills, vegetable pack houses, and biofertilizer factories) through a matching grant scheme.<sup>15</sup> The grant-receiving agribusinesses will need to adopt climate-friendly technologies and good manufacturing practices, support smallholder farmers in employing CSA and good agricultural practices and promote effective integration of smallholders in the value chain. Upgrades to rice mills will improve rice recovery rates and allow the separation of white and glutinous rice to improve access to premium domestic and export markets. Support for vegetable collection and marketing clusters will help reduce postharvest losses and improve the quality and quantity of vegetables for domestic and export markets. Upgrades to biofertilizer factories will boost organic fertilizer production and encourage organic agriculture.

15. **Output 2: Climate-smart agriculture and agribusiness promoted.** Activities include (i) deploying climate-resilient rice and vegetable varieties; (ii) strengthening the capacity of agricultural production groups (APGs) and agribusinesses for climate-smart and organic agriculture; and (iii) promoting farm mechanization through smallholder financing (footnote 16) to APGs. The project will disseminate flood- and drought-tolerant varieties, and train APGs on CSA, good agricultural practices, crop calendars, preparation of business plans, and marketing. Agribusinesses will be trained on good manufacturing practices; safety standards; postharvest crop handling to improve quality and market access; value addition through branding, packaging, and agro-processing; and joint contract harvesting operations. Support to APGs for farm mechanization includes the acquisition of small machinery for land clearance and leveling, planting, on-farm micro irrigation, water storage, and application of agricultural inputs.

16. **Output 3: Enabling environment for climate-friendly agribusiness enhanced.** The project will support the Ministry of Agriculture and Forestry (MAF) and the Ministry of Industry and Commerce in creating an enabling policy environment to promote private sector investments through public-private partnerships, contract farming, and formation of joint APG–agribusiness ventures. Key activities include (i) formulating climate-friendly agribusiness policies such as support for land registration and development of national standards for good agricultural practices, good manufacturing practices, and organic certification; and (ii) promoting green finance and climate-risk-sharing mechanisms by raising the awareness of financial institutions on how to

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<sup>15</sup> Guidelines for Matching Grant Scheme and Smallholder Financing Scheme (accessible from the list of linked documents in Appendix 2).

integrate environmental and climate-risk screening criteria into credit application and reporting procedures. The output will also disseminate information on climate-risk-sharing mechanisms.

#### D. Summary Cost Estimates and Financing Plan

17. The project is estimated to cost \$46.37 million (Table 1). Detailed cost estimates by expenditure category and by financier are in the project administration manual (PAM).<sup>16</sup>

**Table 1: Summary Cost Estimates (\$ million)**

Item	Amount
<b>A. Base Costs<sup>a, b</sup></b>	
1. Critical agribusiness value chain infrastructure improved and made climate-resilient	26.00
2. Climate-smart agriculture and agribusiness promoted	4.85
3. Enabling environment for climate-friendly agribusiness enhanced	1.91
Project management activities	7.48
<b>Subtotal (A)</b>	<b>40.24</b>
<b>B. Contingencies<sup>c</sup></b>	<b>6.13</b>
<b>Total (A+B)</b>	<b>46.37</b>

<sup>a</sup> Includes taxes and duties of \$4.06 million to be financed by the Asian Development Bank. Such amount does not represent an excessive share of the project cost.

<sup>b</sup> In fourth-quarter 2017 prices.

<sup>c</sup> Physical contingencies computed at 10% for civil works and equipment, and 5% for the other expenditure categories. Price contingencies on foreign currency costs computed at 1.5% between 2018 and 2020, and 1.6% thereafter. Price contingencies on local currency costs computed at 1.5% in 2018, 2.0% in 2019, and 2.5% thereafter; includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

Source: Asian Development Bank estimates.

18. The government has requested a grant not exceeding \$40.50 million from ADB's Special Funds resources (Asian Development Fund) to help finance the project. The sector lending modality is appropriate for this project because the government has a sector development plan (footnote 1) and has demonstrated adequate capacity to implement the plan. Overall sector policies are adequate but need improvement to enable the growth of agribusinesses. The modality enables the government to identify and finance additional subprojects, while continuing to execute necessary policy reforms in the implementation of the sector development plan.<sup>17</sup>

19. The summary financing plan is in Table 2. ADB will finance the expenditures for works, equipment, consulting services, incremental operating costs and taxes and duties. The government will finance the equivalent of \$0.75 million for counterpart staff salaries and office space. The beneficiaries will finance the equivalent of \$5.12 million as cash contribution to upgrade infrastructure. Climate adaptation is estimated to cost \$7.53 million. ADB will finance 100% of the adaptation costs.<sup>18</sup>

<sup>16</sup> Project Administration Manual (accessible from the list of linked documents in Appendix 2).

<sup>17</sup> ADB. 2003. Sector Lending. *Operations Manual*. OM Section D3/BP. Manila.

<sup>18</sup> Climate Change Assessment (accessible from the list of linked documents in Appendix 2).

**Table 2: Summary Financing Plan**

Source	Amount (\$ million)	Share of Total (%)
Asian Development Bank	40.50	87.3
Government	0.75	1.6
Beneficiaries	5.12	11.1
<b>Total</b>	<b>46.37</b>	<b>100.00</b>

Note: The Green Climate Fund is expected to provide \$30 million cofinancing to be fully administered by the Asian Development Bank. Upon such approval, additional cofinancing will be processed following applicable Asian Development Bank procedures.

Source: Asian Development Bank estimates.

## E. Implementation Arrangements

20. The implementation arrangements are summarized in Table 3 and described in detail in the PAM.

**Table 3: Implementation Arrangements**

Aspects	Arrangements		
Implementation period	October 2018–September 2024		
Estimated completion date	30 September 2024 (estimated grant closing date: 31 March 2025)		
Management			
(i) Oversight body	Project Steering Committee (Secretariat of the National Food Security and Commodities Committee headed by the vice minister of the Ministry of Agriculture and Forestry)		
(ii) Executing agency	Ministry of Agriculture and Forestry		
(iii) Key implementing agencies	(i) Department of Planning and Finance, (ii) Department of Technical Extension and Agricultural Processing, (iii) Department of Agriculture, (iv) Department of Agricultural Land Management, (v) Department of Irrigation, (vi) Department of Rural Development and Cooperatives, and (vii) National Agriculture and Forestry Research Institute.		
(iv) Implementation unit	National level (Vientiane): National Project Management Office: 8 staff (project director, project manager, chief accountant, procurement officer, contracts administration officer, rural infrastructure engineer, safeguards officer, and finance and administration assistant). Provincial level: 20 staff; 4 staff in each provincial project implementation unit based in the Provincial Agriculture and Forestry Office of five target provinces.		
Procurement	NCB goods	7 contracts	\$3.36 million
	NCB works	10 contracts	\$12.2 million
Consulting services	QCBS (90:10)	2 contracts	\$7.31 million
	CQS	1 contract	\$0.08 million
	LCS	1 contract	\$0.23 million
	SSS	1 contract	\$1.14 million
	ICS	8 contracts	\$0.65 million
Advance contracting	Recruitment of project start-up consultants, project implementation consultants, and a financial management entity		
Disbursement	The grant proceeds will be disbursed following ADB's <i>Loan Disbursement Handbook</i> (2017, as amended from time to time) and detailed arrangements agreed between the government and ADB.		

ADB = Asian Development Bank, CQS = consultant qualification selection, ICS = individual consultant selection, LCS = least-cost selection, NCB = national competitive bidding, QCBS = quality- and cost-based selection, SSS = single source selection.

Source: Asian Development Bank.

## III. DUE DILIGENCE

### A. Technical

21. The project preparation team considered: (i) various technical options (e.g. lining of tertiary canals with brick or concrete, bioengineering measures to improve stability of farm roads, water

and energy conservation and management measures in agribusinesses) and their economic viability; (ii) options to maximize the production of rice and vegetables in irrigated and rain-fed areas, and expected benefits to farmers; (iii) mechanisms to strengthen forward and backward links of rice and vegetable value chains; and (iv) measures to boost the climate resilience of infrastructure such as upgrading design standards, promoting cross drainage, and increasing the height of embankments. Technical due diligence was conducted for three representative subprojects: (i) upgrading the Vanida Rice Mill as a member of the Khammouane Development Rice Millers cluster, (ii) improving a vegetable packhouse (collection point and marketing cluster), and (iii) upgrading the state-owned Dongxiengdee biofertilizer factory. All representative subprojects were evaluated against a set of eligibility criteria that are detailed in the PAM. The project incorporates a participatory development approach, whereby beneficiaries will participate in the design and implementation of subprojects, including measures to improve climate resilience, and take partial responsibility for infrastructure' O&M.

## **B. Economic and Financial**

22. The project team conducted economic and financial analysis for the three representative subprojects. The economic internal rate of return (EIRR) for the rice mill subproject is 17.8%. The vegetable collection and cleaning center subproject yields an EIRR of 19.0%. The biofertilizer factory subproject yields an EIRR of 14.8%. Sensitivity analysis considered several downside scenarios, including (i) a 10% increase in subproject costs, (ii) a 10% increase in subproject operating costs, and (iii) a reduction in the sales margin by 5%–10%. In general, the EIRRs for all subprojects exceed 9% and are economically viable.

23. Since the representative subprojects generate revenue, project beneficiaries will be responsible for routine and periodic O&M of the investments. The financial internal rates of return of 13.5%, 12.7%, and 10.6% exceed the weighted average cost of capital and confirm the subprojects' financial viability. In addition, cash flow analyses indicate strong financial capacity for O&M and debt servicing. As for nonrevenue-generating investments such as irrigation schemes and rural roads, the government will assume the primary O&M responsibility, although farmers will contribute to routine O&M. For these investments, the annual O&M requirement for civil works and equipment is estimated to be \$0.64 million at project completion. The amount will not create an excessive fiscal burden on the government. Site selection, especially for non-revenue-generating subprojects, will be determined by beneficiaries' readiness and commitment to assume O&M responsibility. All subprojects will develop a viable and realistic O&M plan.

## **C. Governance**

24. Project implementation, procurement, and financial management will be aligned with the government's standard operating procedures. All procurement financed by ADB will be carried out in accordance with ADB's Procurement Guidelines (2015, as amended from time to time) and Guidelines on the Use of Consultants (2013, as amended from time to time). The overall procurement risk is assessed as moderate because MAF has considerable experience in procuring civil works, goods, and services, under ADB projects. However, to ensure more efficient delivery, procurement will be handled by the National Project Management Office and supported by an international and a national procurement specialist. Each province will also have a procurement specialist assigned to handle small-value procurement. The pre-mitigation financial management risk for the project is substantial given the low capacity for accounting, budgeting, and financial reporting, and low quality of internal and external audit reports.<sup>19</sup> With support from an international and a national financial management specialist, MAF will ensure that the National

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<sup>19</sup> Financial Management Assessment (accessible from the list of linked documents in Appendix 2).

Project Management Office and the provincial project implementation units maintain financial records of adequate quality. MAF will prepare consolidated project financial statements and have them audited annually by independent auditors acceptable to ADB. ADB's Anticorruption Policy (1998, as amended to date) was explained to and discussed with the government and MAF. The specific policy requirements and supplementary measures are described in PAM.

#### **D. Poverty, Social, and Gender**

25. The project is classified as *general intervention*. It will benefit at least 100,000 people from 20,000 households, increasing their income by at least 30% through increased crop yields, reduced costs of inputs and post-harvest losses and enhanced rural employment opportunities.<sup>20</sup> The project will promote inclusive economic growth, strengthen agribusiness value chains, and assist in developing supply arrangements between poor farmers, APGs, cooperatives, processors, distributors, and traders. Farmers and APGs will be encouraged to produce quality farm products on time, and with continuity of supply. Landless and poor households will be included in agribusiness, farm mechanization, and O&M training. Identified poor households in subproject areas will be targeted for jobs related to civil works. Landless and poor farmers will have the opportunity to access off-farm and on-farm employment related to postharvest support services such as farm mechanization, drying, milling, grading, and storage of produce.

26. **Gender.** Women farmers are key actors in the rice and vegetable value chains. Women represent 50% of the population engaged in the agriculture sector in the target provinces. Yet the gender analysis found that they have less capacity (low technical skills and low awareness on climate change impacts), less access to agricultural extension and business training, and a lower level of financial literacy than their male counterparts in project areas.

27. The project is categorized as *effective gender mainstreaming*. The project team prepared a gender action plan, which includes gender actions and quantitative targets to promote women's voice and active participation in all project activities.<sup>21</sup> The project will promote gender equality and women's empowerment by enhancing women's capacity for CSA production and processing, management, agricultural machinery use and maintenance, and by strengthening the links between enterprises led by women and the agribusiness industry. Other actions include a detailed gender analysis of the rice and vegetable value chains to inform the development of a gender-responsive agribusiness policy. Women will be targeted for training in infrastructure-related O&M, and as decision-makers in the selection of climate-resilient varieties of rice and vegetables.

#### **E. Safeguards**

28. In compliance with ADB's Safeguard Policy Statement (2009), the project's safeguard categories are as follows.<sup>22</sup>

29. **Environment (category B).** The three representative subprojects were found to have minimal environmental impacts and were classified as *category C*. However, category B is retained for the overall project as future subprojects, such as upgrade of access roads and tertiary canals, may have environmental impacts. Public consultations informed the project design and this process will continue during implementation. The MAF prepared an environmental assessment and review framework to guide the screening and classification of each subproject during implementation and disclosed it on the ADB website in March 2018.<sup>23</sup> Subprojects

<sup>20</sup> Summary Poverty Reduction and Social Strategy (accessible from the list of linked documents in Appendix 2).

<sup>21</sup> Gender Action Plan (accessible from the list of linked documents in Appendix 2).

<sup>22</sup> ADB. Safeguard Categories. <https://www.adb.org/site/safeguards/safeguard-categories>.

<sup>23</sup> Environmental Assessment and Review Framework (accessible from the list of linked documents in Appendix 2).

classified as category A will not be financed. Category B subprojects will require an initial environmental examination, including an environmental management plan. Category C subprojects will need summaries of environmental implications in the feasibility studies. The environmental assessment and review framework includes an environmental code of conduct for contractors, which will be adopted for all category C subprojects to ensure adoption of good environmental site management practices. A project grievance redress mechanism will facilitate the resolution of any safeguard-related complaints.

30. **Involuntary resettlement (category B).** Subproject screening will identify and reject any category A subprojects that involve significant involuntary resettlement, economic displacement, or land acquisition. Due diligence conducted for the three representative subprojects shows that none will result in any physical or economic displacement. Two subprojects will not require land acquisition while the vegetable packhouse subproject will need minimal land acquisition through voluntary donation. However, as most of the subprojects will be prepared after Board approval, MAF prepared a land acquisition and resettlement framework to guide the screening and selection of subprojects as well as the resettlement planning process, and uploaded to the ADB website in March 2018.<sup>24</sup> During project preparation, some irrigation and farm road subprojects were identified that would require the acquisition of small strips of land to accommodate improvements to the distribution canals or the widening of farm road alignments. These small strips of land may be acquired through (i) voluntary donation, (ii) negotiated settlement, or (iii) involuntary land acquisition. A rigorous due diligence procedure to verify bona fide voluntary donation is included in the resettlement framework to further screen and select subprojects during implementation and guide the preparation of any resettlement plans, if required. If negotiated settlement (willing buyer – willing seller) is used, (i) MAF will involve an external third party to validate and document the process; and (ii) MAF will submit the report with supporting documents to ADB for concurrence before any civil works commence. If the land is acquired involuntarily, MAF will prepare the land acquisition and resettlement plan in accordance with the land acquisition and resettlement framework and sent to ADB for concurrence and disclosure before the bidding documents are issued. MAF will update due diligence reports for the sample subprojects based on the detailed design and prepare the safeguard planning documents for all non-sample subprojects for ADB review before any contracts are awarded.

31. **Indigenous peoples (category B).** Due diligence on the three representative subprojects showed that many ethnic groups are living in the project provinces. The vegetable hub subproject, for example, includes 50% of members of an ethnic group. However, no indigenous peoples were found in the three representative subproject areas, and no indigenous peoples plan (IPP) was prepared. The MAF prepared an ethnic group development framework, which was disclosed on the ADB website in March 2018, to guide the preparation of IPPs as needed during project implementation, which will ensure inclusion and the full consultation and participation of ethnic group households and communities.<sup>25</sup> Where indigenous peoples are impacted by a subproject, depending on the extent and complexity, either a separate IPP will be prepared, or elements of an IPP will be included in the subproject feasibility study report. Adequate resources were allocated to the preparation, implementation, monitoring, and reporting of social and environmental safeguards, and associated capacity development. Building on experience with past ADB projects, the government committed to and has capacity to manage social and environmental risks, including various safeguard frameworks and plans.

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<sup>24</sup> Land Acquisition and Resettlement Framework (accessible from the list of linked documents in Appendix 2).

<sup>25</sup> Indigenous Peoples Planning Framework: Ethnic Group Development Framework (accessible from the list of linked documents in Appendix 2).

## F. Summary of Risk Assessment and Risk Management Plan

32. Significant risks and mitigating measures are summarized in Table 4 and described in detail in the risk assessment and risk management plan.<sup>26</sup>

**Table 4: Summary of Risks and Mitigating Measures**

<b>Risk Description</b>	<b>Mitigation Measures</b>
Declining demand for rice and vegetables because of competition from external markets and stringent requirements on quality from importing countries	The project will raise the awareness of farmers, agriculture production groups, and agribusinesses on export standards and ways to compete with external markets and strengthen their quality-testing capacity in line with the requirements of importing countries.
Weak financial management regulatory systems and skills	NPMO and implementing staff will be trained on accounting, disbursement, and auditing procedures. Any financial staff changes will be agreed with ADB.
Inadequate financing of O&M leading to premature deterioration of infrastructure	Preparation of a viable O&M plan will be a condition for selection of subprojects, with preference for those with O&M funding. Robust designs and good quality control will reduce the O&M burden.
Catastrophic climate change events damage infrastructure or interrupt implementation	The project design incorporates climate-resilient construction and maintenance measures.
High perceived corruption levels (the country is ranked 135th out of 180 countries in the 2017 Transparency International Corruption Perception Index)	Close monitoring of project accounts with two reviews per year. Mechanisms for reporting corruption are in place. The project will enhance stakeholder awareness of ADB's Anticorruption Policy (1998, as amended to date). Corruption will be curbed following the principles of GACAP II.
Limited staff capacity in target provinces to meet all ADB and project implementation requirements	Project preparatory technical assistance will continue until grant effectiveness to assist with consultant selection and build capacity of national and provincial project office staff. Implementation will be phased in accordance with district capacity.

ADB = Asian Development Bank, GACAP II = Second Governance and Anticorruption Action Plan, NPMO = national project management office, O&M = operation and maintenance.

Source: Asian Development Bank.

## IV. ASSURANCES

33. The government and MAF have assured ADB that implementation of the project shall conform to all applicable ADB policies, including those concerning anticorruption measures, safeguards, gender, procurement, consulting services, and disbursement as described in detail in the PAM and grant agreement. The government and MAF have agreed with ADB on certain covenants for the project, which are set forth in the grant agreement.

## V. RECOMMENDATION

34. I am satisfied that the proposed grant would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve the grant not exceeding \$40,500,000 to the Lao People's Democratic Republic from ADB's Special Funds resources (Asian Development Fund) for the Climate-Friendly Agribusiness Value Chains Sector Project, on terms and conditions that are substantially in accordance with those set forth in the draft grant agreement presented to the Board.

6 July 2018

Takehiko Nakao  
President

<sup>26</sup> Risk Assessment and Risk Management Plan (accessible from the list of linked documents in Appendix 2).



## DESIGN AND MONITORING FRAMEWORK

<b>Impact the Project is Aligned with</b>			
Agricultural competitiveness improved (Agriculture Development Strategy to 2025 and Vision to the Year 2030; the 8th Five-Year National Socio-Economic Development Plan, 2016–2020) <sup>a</sup>			
<b>Results Chain</b>	<b>Performance Indicators with Targets and Baselines</b>	<b>Data Sources and Reporting</b>	<b>Risks</b>
<b>Outcome</b>  Productive and resource-efficient agribusiness value chains developed in project areas	By 2026:  a. Crop yields increased by at least 20% (2017 baseline: rice 3.0 tons/ha; cabbage: 4.0 tons/ha).  b. At least 30 agribusinesses became resource efficient in terms of water savings (5%–10% efficiencies) and reduction in postharvest losses by 10% (rice) and 15% (vegetables) (2017 baseline: rice = 25%; vegetables = 35%).  c. Rural household incomes increased by at least 30% (2017 baseline: \$1,021).  d. Average recovery rate of milled rice increased to 62% (2017 baseline: 55%).	a. Ministry of Agriculture and Forestry agricultural census  b. – d. PPMS reports	Declining demand for rice and vegetables from the Lao PDR because of competition from external markets and stringent requirements on quality and safety from importing countries
<b>Outputs</b>  1. Critical agribusiness value chain infrastructure improved and made climate-resilient	By 2024:  1a. Tertiary irrigation channels targeting at least 10,000 ha and 6,000 households (with at least 15,000 females) and 150 rainwater harvesting ponds targeting 300 ha and 750 households (with at least 1,900 females) rehabilitated (2017 baseline: 0).  1b. At least 45 kilometers of farm access roads targeting 20,000 households (with at least 50,000 females) rehabilitated to improve climate resilience (2017 baseline: 0).  1c. Infrastructure in five provincial crop research centers upgraded and made operational to provide agribusiness services and strengthen value chain links for at least 50 APGs (2017 baseline: 0).  1d. Infrastructure in one soil-testing laboratory and one plant-protection laboratory at national level, and three provincial agricultural college laboratories upgraded (2017 baseline: 0).  1e. Infrastructure in at least 36 agribusinesses (21 rice mills, 10 vegetable pack houses and marketing centers, and 5 biofertilizer factories) upgraded with gender-responsive designs, and climate change measures integrated (2017 baseline: 0).	1a.–e. PPMS reports	Inadequate financing of operation and maintenance leading to premature deterioration of infrastructure  Catastrophic climate change events damage infrastructure or interrupt implementation

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
<p>2. Climate-smart agriculture and agribusiness promoted</p> <p>3. Enabling environment for climate-friendly agribusiness enhanced</p>	<p>2a. Two additional climate-resilient varieties of rice and vegetables released (2017 baseline: 0).</p> <p>2b. Knowledge and skills of 20,000 farmers (of whom at least 40% are women and 2,000 from ethnic groups) in CSA, organic farming, and agribusiness increased (2017 baseline: 0).</p> <p>2c. 50 APGs<sup>b</sup> developed capacity to operate and maintain irrigation schemes and farm-to-market access roads (2017 baseline: 0).</p> <p>2d. At least 30 agribusiness enterprises, of which 30% are led or owned by women,<sup>c</sup> trained on CSA (2017 baseline: 0).</p> <p>3a. Climate-smart and gender-responsive agribusiness policy formulated (2017 baseline: not applicable)<sup>d</sup>.</p> <p>3b. At least 25 APGs<sup>b</sup> and 500 farmers (of which at least 40% are women) became GAP or organic certified (2017 baseline: 0).</p> <p>3c. At least 30 agribusiness enterprises (rice mills, vegetable collection and pack houses, and biofertilizer factories) achieved good manufacturing practice and hazard analysis critical control point certification (2017 baseline: 0).</p> <p>3d. At least 25 APGs<sup>b</sup> entered into agribusiness ventures, and at least 5 became agricultural cooperatives (2017 baseline: 0).</p> <p>3e. Knowledge and skills of at least 50 staff (of which 30% women) of financial institutions in green finance increased (2017 baseline: 0).</p> <p>3f. At least 15,000 households, including 15,000 women, provided with information on climate risk-sharing mechanisms (2017 baseline: 0).</p>	<p>2a.–d. PPMS reports; capacity building master plan monitoring report</p> <p>3a.–f. PPMS reports; Mekong Business Forum reports</p>	
<p><b>Key Activities with Milestones</b></p> <p><b>1. Critical agribusiness value chain infrastructure improved and made climate-resilient</b></p> <p>1.1 Conduct feasibility studies for additional subprojects (Q2 2019–Q2 2020).</p> <p>1.2 Confirm land availability, locations, suitability, and connectivity for production and postharvest infrastructure (Q2 2019–Q3 2020).</p> <p>1.3 Undertake detailed engineering design, tender (including contractors and equipment suppliers) and construct critical production and postharvest infrastructures to climate-resilient condition and with gender-responsive designs, where relevant (Q3 2019–Q1 2024) [G/CD, GE].</p> <p>1.4 Implement the matching grant scheme to support rice mills, vegetable pack houses, and biofertilizer factories (Q1 2021–Q4 2023) [G/CD, PSD].</p>			

<p><b>Key Activities with Milestones</b></p> <p><b>2. Climate-smart agriculture and agribusiness promoted</b></p> <p>2.1 Develop, introduce, and distribute additional climate-resilient varieties of rice and vegetables (Q1 2019–Q4 2023) [G/CD, PSD].</p> <p>2.2 Conduct awareness and training programs for women and men farmers, farmer groups, small and medium-sized enterprises, and the private sector on CSA, climate risk management, and green finance, including structuring of public–private partnerships in agribusiness (Q3 2019–Q4 2023) [G/CD, PSD].</p> <p>2.3 Implement the smallholder financing scheme (Q3 2020–Q4 2023).</p> <p><b>3. Enabling environment for climate-friendly agribusiness enhanced</b></p> <p>3.1 Assist in formulating climate-smart and gender-responsive agribusiness policy and regulations, including advice on agronomy, markets, links between farmers and the private sector, land titling and registration, and gender constraints and opportunities (Q1 2021–Q2 2024) [G/CD].</p> <p>3.2 Deliver managerial and technical skill-building programs on agribusiness policy reforms, agronomic resource efficiency, and climate resilience in value chains, including organic certification, GAP certification, and other certification of safe and quality agri-foods (Q4 2020–Q1 2023) [G/CD, GE].</p> <p>3.3 Conduct training programs for financial institutions on climate risk management and green finance, including structuring of public–private partnerships in agribusiness (Q2 2022–Q1 2023) [G/CD, GE].</p> <p><b>Project Management Activities</b></p> <p>Mobilize project implementation consultants (Q1 2019).</p> <p>Procure office equipment, furniture, and vehicles (Q1 2019).</p> <p>Establish PPMS (Q1 2019).</p> <p>Train 200 staff from various levels (national, provincial, and district) in project management procurement, financial management, gender, and social and environmental safeguards (Q4 2018–Q4 2023) [G/CD, GE].</p> <p><b>Inputs</b></p> <p>ADB: \$40.50 million (grant)</p> <p>Government: \$0.75 million</p> <p>Beneficiaries: \$5.12 million</p> <p><b>Assumptions for Partner Financing</b></p> <p>Not applicable.</p>
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ADB = Asian Development Bank, APG = agricultural production group, CSA = climate-smart agriculture, GAP = good agricultural practice, G/CD = governance and capacity development, GE = gender equity, ha = hectare, PPMS = project performance monitoring system, PSD = private sector development, Q = quarter.

<sup>a</sup> Government of the Lao PDR, Ministry of Agriculture and Forestry. 2015. *Agriculture Development Strategy to 2025 and Vision to the Year 2030*. Vientiane; Government of the Lao PDR, Ministry of Planning and Investment. 2016. *8<sup>th</sup> Five-Year National Socio-Economic Development Plan (2016–2020)*. Vientiane.

<sup>b</sup> Preferential support given to APGs that have or benefit at least 50% of women members/farmers and have at least one female committee member.

<sup>c</sup> Enterprises led or owned by women = enterprises with at least one of the following: (i) at least 50% of senior managers are women, (ii) at least 50% of enterprise ownership is controlled by women, and (iii) at least 50% of the staff are women.

<sup>d</sup> As women are more vulnerable to the impacts of climate change, any policies developed for public–private partnerships or contract farming arrangements for promoting agribusinesses under output 3 will be responsive to the needs, constraints, and vulnerabilities of women. The detailed gender analysis of the value chains proposed in the gender action plan is expected to inform this process.

Source: Asian Development Bank.

### **LIST OF LINKED DOCUMENTS**

<http://www.adb.org/Documents/RRPs/?id=48409-004-2>

1. Grant Agreement
2. Sector Assessment (Summary): Agriculture, Natural Resources, and Rural Development
3. Project Administration Manual
4. Contribution to the ADB Results Framework
5. Development Coordination
6. Economic and Financial Analysis
7. Country Economic Indicators
8. Summary Poverty Reduction and Social Strategy
9. Risk Assessment and Risk Management Plan
10. Climate Change Assessment
11. Gender Action Plan
12. Environmental Assessment and Review Framework
13. Land Acquisition and Resettlement Framework
14. Indigenous Peoples Planning Framework: Ethnic Group Development Framework

#### **Supplementary Documents**

15. Guidelines for Matching Grant Scheme and Smallholder Financing Scheme
16. Feasibility Study Report for Upgrading the Vanida Rice Mill Subproject
17. Feasibility Study Report for Vegetable Collection Point and Marketing Subproject
18. Feasibility Study Report for Upgrading the Dongxiengdee Biofertilizer Factory Subproject
19. Detailed Poverty and Social Impact Analysis
20. Detailed Gender Analysis
21. Detailed Economic and Financial Analysis
22. Financial Management Assessment
23. Procurement Risk Assessment
24. Stakeholder Consultation and Participation Plan
25. Stakeholder Communication Strategy
26. Institutional Capacity and Training Plan