



DEVELOPMENT COOPERATION IN THE INDO-PACIFIC

COUNTRY REPORT: LAO PDR



About India-U.S. Triangular Development Partnership (TriDeP)

The Asia Foundation is a non-profit international development organization committed to improving lives across a dynamic and developing Asia. With support from USAID/India, the Foundation is implementing the India-U.S. Triangular Development Partnership (TriDeP) in support of U.S. and India's mutual aims in the Indo-Pacific and beyond. TriDeP will establish partnerships with government, civil society, business corporations, think tanks, and academic institutions to advance India's development cooperation footprint in three sectors: Disaster Risk Reduction (DRR), Climate Smart Agriculture (CSA), and Renewable Energy (RE). TriDeP seeks to identify countries in the Indo-Pacific region, beyond the immediate neighborhood of India, where there is a potential demand for partnership with India, and to prioritize its activities based on such identification. TriDeP believes that such identification needs to also be informed by the other development cooperation initiatives in the Indo-Pacific to enable synergies among development cooperation partners as well as complementarities to maximize resource utilization. This will enable TriDeP to focus on sectors and countries where gaps need to be filled, avoiding duplication of effort already underway or planned through other initiatives.

To develop an effective and efficient roadmap for such development cooperation in this context, the Foundation has engaged the Bureau of Research on Industry and Economic Fundamentals (BRIEF) to undertake a mapping exercise of the complementarity of Indian development cooperation with other similar initiatives in selected countries in the Indo-Pacific.

Disclaimer

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List of Abbreviations and acronyms

- ACISAI- Asian Center of Innovation for Sustainable Agriculture Intensification
- ◆ ADB- Asian Development Bank
- ASEAN- Association of Southeast Asian Nations
- ATWGARD ASEAN Technical Working Group on Agricultural Research and Development
- ◆ BOT- Build-Operate-Transfer
- ◆ CEA- Central Electricity Authority of India
- CEEW- Council on Energy, Environment and Water
- ◆ CSA- Climate Smart Agriculture
- ◆ CSIR-Council of Scientific and Industrial Research
- CSTEP- Centre for Study of Science, Technology and Policy
- ◆ DoE- Department of Energy
- DRCSC- Development Research Communication and Services Centre
- DRR- Disaster Risk Reduction
- ◆ EDL- Electricite du Laos
- ◆ EESL- Energy Efficiency Services Limited
- ◆ EMA- External monitoring agency
- ◆ EU- European Union
- ◆ EXIM Bank: Export Import Bank of India
- ◆ FOIP- Free and Open Indo-Pacific
- ◆ GDP- Gross Domestic Product
- GFDRR- Global Facility for Disaster Reduction and Recovery
- GIZ- Deutsche Gesellschaft für Internationale Zusammenarbeit
- IBRD- International Bank for Reconstruction and Development
- ◆ ICAR- Indian Council for Agricultural Research
- ICRISAT- International Crops Research Institute for the Semi-Arid Tropics
- ◆ IDA- International Development Association
- ◆ IDRR- Institute of Disability, Rehabilitation and Research
- ◆ IISc- Indian Institute of Science
- ◆ IITs- Indian Institute of Technology

- ◆ IMD- Indian Meteorological Department
- INCOIS- Indian National Centre for Oceanic Information Systems
- IREDA- Indian Renewable Energy Development Agency Limited
- ◆ IRRI- International Rice Research Institute
- ◆ ISRO- Indian Space Research Organization
- ◆ IT- Information Technology
- ◆ KPI- Key Performance Indicators
- ♦ kV- Kilovolt
- ♦ kWH- Kilo Watt Hour
- ◆ Lao PDR- Lao People's Democratic Republic
- ◆ LDC- Least Developed Country
- ◆ LOC- Lines of Credit
- ◆ M&E- Monitoring and Evaluation
- ◆ MAF- Ministry of Agriculture and Forestry
- ◆ MANAGE- National Institute of Agricultural Extension Management
- MCTPC- Ministry of Communication, Transport, Post and Construction
- ◆ MEM- Ministry of Energy and Mines
- ◆ MIAC- Ministry of Industry and Commerce
- ◆ MLSW- Ministry of Labor and Social Welfare
- MNRE-Ministry of New and Renewable Energy
- ◆ MoU- Memorandum of Understanding
- ◆ MRD- Ministry of Rural Development
- MW- Mega Watt
- NCDM- National Committee for Disaster Management
- NCMRWF- The National Centre for Medium Range Weather Forecasting
- NDRF- National Disaster Response Force
- NICRA- National Innovations in Climate Resilient Agriculture
- NIDM- National Institute of Disaster Management
- NIRD&PR- National Institute of Rural Development & Panchayati Raj
- ◆ NISE- National institute of Solar Energy
- ◆ NIT- National Institute of Technology
- ◆ NIWE- National Institute of Wind Energy

- NPSH- National Policy on Environment and Social Sustainability
- ◆ NRSC- National Remote Sensing Centre
- NSDC- National Skill Development Corporation
- NSEDP- National Socio-Economic Development Plan
- ◆ ODA- Official Development Assistance
- POSOCO- Power System Operation Corporation
- ◆ PRF- Poverty Reduction Refund
- ◆ PV- Photovoltaic
- ◆ QIP- Quick Impact Project
- ◆ RE- Renewable Energy
- ◆ RET- Renewable Energy Technology
- ◆ ROI- Return on Investment
- ◆ RP- Resolution Plan
- ◆ SCGJ- Skill Council for Green Jobs

- ◆ SDGs- Sustainable Development Goals
- ◆ SDMC- SAARC Disaster Management Centre
- SSS-NIBE- Sardar Swaran Singh National Institute of Bioenergy
- ◆ TERI- The Energy and Resources Institute
- ◆ TSRD- Tagore Society for Rural Development
- TVET- Technical Vocational Education and Training
- ◆ TWG- Technical Working Group
- UNESCO- United Nations Educational, Scientific and Cultural Organisation
- ◆ URI- Urban Research Institute
- ◆ U.S.- United States
- USAID- United States Agency for International Development
- ◆ U.S.D. United States Dollar
- ◆ UXO- Unexploded Ordinances

Scope and Methodology

This report assesses the current status of development cooperation for Lao PDR in the identified sectors of Disaster Risk Reduction (DRR), Climate Smart Agriculture (CSA) and Renewable Energy (RE) and sets the background for India for an effective and efficient roadmap for development cooperation through relevant case studies and demand-supply mapping.

Objective

The report identifies the current development partners (multilateral development banks/countries) in the identified sectors and maps their activities. It further elaborates the recipient organizations and institutions that are involved in receiving and managing aid, along with an assessment of outcome and sustainability of donor interventions in these sectors. Further, the report identifies the gaps and new initiatives where India can participate and engage through bilateral, multilateral or triangular cooperation. It also assesses the potential expertise of India in each of the identified sectors and charts a way forward entailing adoption of best practices and mitigation of potential challenges based on learnings from past/existing projects in the identified domains. The report intends to discuss and recommend partner countries' preferred cooperation modalities as well as identify innovative financing models that India can incorporate in its development cooperation initiatives.

Methodology

The report adopts a mixed-methods design involving the assessment of relevant qualitative and quantitative information gathered from primary and secondary sources. As a part of the exercise, extensive one-on-one stakeholder interactions with academic experts, relevant representatives of multilateral development banks and donor countries, former bureaucrats and others were undertaken. Apart from multi-stakeholder engagements, the preparation of the report also involved comprehensive secondary research, including reviewing relevant reports, documents, datasets, etc. available in the secondary domain. Further, thorough assessment of multiple implementation reports, status reports, M&E reports, etc. published by various stakeholders/donors - during or post completion of relevant projects were also been conducted to gather key insights into various focus areas identified for the study.

Structure

The report has been structured in a way to systematically capture the major elements regarding development cooperation in Lao PDR, principal donors, key modalities, limitations, best practices as well as the potential role of India in the identified sectors among others. The overall coverage has been divided into five chapters, which entail the following:

Chapter 1 prepares a background and provides a glimpse of the economic environment in Lao PDR to define the context. It further focuses on the local systemic framework within the country for receiving and managing development cooperation.

Chapter 2 tries to analyze the current status of development cooperation in the identified sectors i.e., DRR, CSA and RE.

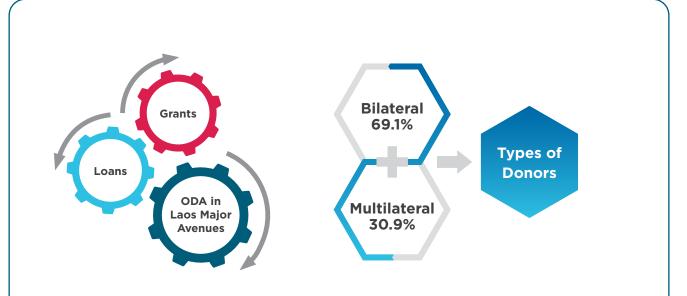
Chapter 3 Identifies the cooperation modalities and tries to explain the intent and objectives of existing donors providing aid assistance to Lao PDR.

Chapter 4 includes a comprehensive analysis of the best practices and challenges for one project identified in each of the selected sectors i.e., DRR, CSA and RE. The chapter further deep dives into the sustainability measures undertaken by the respective donors for each project.

Chapter 5 discusses the scope of India's involvement as a donor, which has been assessed through detailed demand-supply mapping for Lao PDR and India respectively, further identifying the relevant stakeholders for cooperation. The chapter further elaborates the innovative financing models that India can incorporate while engaging in development cooperation with Lao PDR.

Overview of Aid and Development **Cooperation to Lao PDR**

Figure 1 - Snapshot: Official Development Assistance (ODA) to Laos



Top Sectors

Bilateral aid -Infrastructure (social, economic), health and population, education, production, program assistance, humanitarian aid, etc.

Top Donors -Category-wise

- ⇒ Bilateral Japan, Germany, Australia, South Korea, U.S., Luxembourg, Thailand, etc.
- Multilateral International **Development Association** (IDA), the Asian Development Bank (ADB), European Union (EU) Institutions

Top Donors -Intervention-wise

- Grant aid The World Bank
- **Technical** Cooperation -Australia, Asian Development Bank

Initial Rise in ODAs

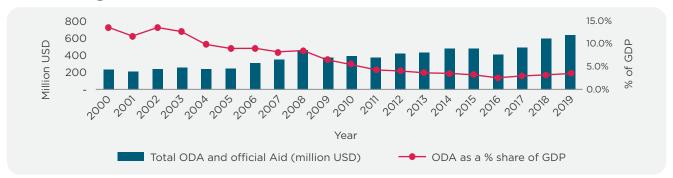
USD 233.6 Mn (2000) to USD 631.5 Mn (2019)

13.5% (2000) to 3.5% (2019) **Decline in Share of GDP**

26.9% of total in 2002 to 39.6% in

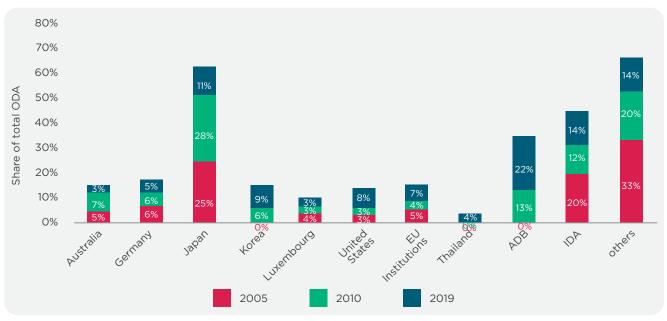
73% of total in 2002 to 60.3% in 2019 2019

Figure 2 - Total ODA and Official Aid in Laos and Share of GDP



Source: World Bank Database

Figure 3 - Top 10 donors for Laos share of total ODA



Source: OECD Database

Figure 4 - Focus Areas: Nature of issues and investments so far

- Disaster Risk Reduction
- Key Issues Floods, epidemics, storms, droughts, lack of comprehensive and updated databases, poor disaster related infrastructure, lack of human resources, governance, and regulatory issues¹
 - Principal Donors Integrated Disaster Management Fund, Australia, ADB, EU, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), World Bank, International Fund for Agricultural Development, Global Facility for Disaster Reduction and Recovery (GFDRR), etc.
 - **Broad Areas of Intervention -** Risk identification, disaster risk finance, investments, regional cooperation, infrastructure, community-based disaster risk management, watershed management, reduction, etc.

Disaster Risk Reduction in Lao PDR. Status Report. 2019. https://www.preventionweb.net/files/68252_682303laopdrd rmstatusreport.pdf



- ♦ Key Issues Low socio-economic development, limited capacity to adapt to climate change, poor infrastructure, limited capacity of institutions as well as human resources, limited private sector participation, policy, and governance issues²
- Principal Donors ADB, World Bank (IDA), Nordic Development Fund, Global Environment Trust Fund, Finnish International Development Agency
- Broad Areas of Intervention Capacity enhancement for climate change, climate friendly agribusiness value chains, agriculture competitiveness, upland agriculture development, forest conservation, etc.



- ♦ **Key Issues -** Untapped potential for renewable energy generation, lack of framework for Renewable Energy (RE) implementation, limited private sector investment³
- Principal Donors Japan (Japan Fund for Poverty Reduction), Finland, ADB, Energy Sector Management Assistance Program, Carbon Initiative for Development
- ♦ Broad Areas of Intervention Renewable energy development (solar, hydro, wind), environment and gender benefits, usage of biomass, etc.

Disaster Risk Reduction 1.1.

Table 1 - Lao PDR: Aid Assistance in Disaster Risk Reduction

Donor	Area	Project	Description		
			Implementing Agency: Asian Development Bank		
	Technical		Integrated 🔷 N		♦ Closing Year/ Status: 2020
Asian				♦ Modality: Technical Assistance	
Development				♦ Budget: USD 117,950	
Bank and Government of Canada	assistance (Public Sector Management)		♦ Institute of Disability, Rehabilitation and Research (IDRR) Fund which was cofinanced by Government of Australia focused on enhanced risk identification, improved access to disaster risk finance, increased investment in disaster risk		
			reduction, integrated regional cooperation etc.		

Promotion of Climate resilience in Rice and maize: Lao PDR Study. e ASEAN Technical Working Group on Agricultural Research and Development (ATWGARD) and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). 2015. https://asean-crn.org/wp-content/uploads/2017/04/Lao-PDR_FULL-min.pdf

Pillai,G.M. Enabling Environment and Technology Innovation Ecosystem for Affordable Sustainable Energy Options. Lao PDR National Sustainable Energy Strategy Report. 2014. https://www.unescap.org/sites/default/files/Lao%20PDR%20 National%20Sustainable%20Energy%20Strategy%20Report.PDF

^{4.} ADB Document. https://www.adb.org/sites/default/files/project-documents/53350/53350-001-tcr-en.pdf

Donor	Area	Project	Description
Asian Development Bank and Government of Australia	Agriculture Natural Resource and rural Development	Greater Mekong Subregion Flood and Drought Risk Management and Mitigation Project (LAO/VIE) ⁵	 ♦ Recipient: Irrigation Department of Ministry of Agriculture and Forestry ♦ Closing Year/ Status: Active ♦ Modality: Grant and Loan ♦ Budget: Grant from Asian Development Fund: USD 12.50 million ♦ Grant from Government of Australia: USD 5.89 million ♦ Grant from integrated Disaster Risk Management Fund: USD 1.80 million ♦ Loan from Asian Development Fund: USD 69 million ♦ ADB is helping the Lao People's Democratic Republic and Viet Nam reduce economic losses resulting from floods and droughts. The project will pair upgrades in water management infrastructure with community-based disaster risk management and enhanced regional forecasting to improve disaster preparedness in the Greater Mekong Subregion.
Asian Development Bank, European Union, Deutsche Gesellschaft fur Internationale Zusammenarbei, International Fund for Agricultural Development	Agriculture Natural Resource and rural Development	Sustainable Rural Infrastructure and Watershed Management Sector Project ⁶	 Recipient: Ministry of Agriculture and Forestry (MAF) Closing Year/ Status: Active Modality: Grant and Loan Budget: Grant by Asian Development Fund: USD 5 million Grant by European Union: USD 4.46 million Grant by Gesellschaft fur Internationale Zusammenarbei: USD 24.71 million Loan through concessionary ordinary capital resource funding: USD 40 million Loan by International Fund for Agriculture Development: USD 21 million The project is intended to address issues of Productive Rural Infrastructure (PRI) and watershed management in mountainous provinces of Northern Lao PDR by using an integrated land use planning approach that integrates efficient, sustainable and climate resilient rural infrastructure, and feasible watershed protection measures.

^{5.} ADB Document. https://www.adb.org/projects/40190-023/main

^{6.} ADB Document. https://www.adb.org/projects/50236-002/main

Donor	Area	Project	Description
Various donors under "Global facility for disaster reduction and recovery" (GFDRR) with World Bank as administrator of fund	Financial Assistance	Lao PDR: Post-Ketsana Community Driven Disaster Recovery ⁷	 Recipient: Ministry of Agriculture and Forestry (Poverty Reduction Fund) Closing Year/Status: 2011 Modality: Grant Budget: USD 0.47 million The objective of the project was to support community driven recovery for damaged local infrastructure with focus on poverty reduction refund (PRF) finance infrastructure. Additionally, technical assistance to PRF for disaster risk management would ensure disaster resistant technology is integrated into standard infrastructure design and delivery.
GFDRR and World Bank as administrator of the fund	Capacity Development	LAO PDR: Building Resilience to Natural Disasters Project ⁸	 Recipient: Ministry of Planning and Investment Closing Year/Status: 2016 Modality: Grant Budget: USD 0.9 million The development objective of the Building Resilience to Natural Hazards Project was to improve the capacity of the Government of Lao PDR to prepare for and respond to natural disasters by strengthening the legal framework for hydro-meteorological services, enhancing the efficiency of recovery planning, and developing options to reduce the fiscal exposure to natural hazards.

World Bank Document. https://projects.worldbank.org/en/projects-operations/project-detail/P122340

World Bank Document. https://projects.worldbank.org/en/projects-operations/project-detail/P144268?lang=en

1.2. Climate Smart Agriculture

Table 2 - Lao PDR: Aid Assistance in Climate Smart Agriculture

Donor	Donor Area Project		Description		
Nordic Development Fund / ADB TASF-IV	Agriculture Natural Resource and rural Development	Lao People's Democratic Republic: Capacity Enhancement for Coping with Climate Change ⁹	 Recipient: Ministry of Natural Resource and Environment Closing Year/Status: 2015 Modality: Technical Assistance Budget: Technical Assistance Special Fund: USD 300,000 Nordic Development Fund: USD 2.8 million The project addressed several capacity barriers by providing support to the National Climate Change Office and the institutions responsible for each of the eight Technical Working Groups (TWG) (i) like agriculture, land use, and forestry, (ii) clean production (iii) water resource and environment research among few. 		
Asian Development Bank	evelopment Resource Agribusiness Value Chains		 Recipient: Ministry of Agriculture and Forestry Closing Year/Status: Active Modality: Grant Budget: USD 40.50 million The project on climate friendly agri business value chain is aimed to improve climate agricultural infrastructure, and enhance crop productivity, diversification, and commercialization. 		
International Development Association and local source of borrowing	International Development Association and local source of borrowing Agriculture Competitiveness project ¹¹		 Recipient: Department of Planning and Finance Closing Year/Status: Active Modality: Loan Budget: USD 29.3 million The development objective of Agriculture Competitiveness Project for Lao People's Democratic Republic is to increase the competitiveness of selected agricultural value chains in the project areas. This project has four components viz, The increased adoption of improved varieties and high-quality seeds; The increased application of GAP; (c) the provision of critical productive infrastructure; and (d) the strengthening of public services delivery. 		

^{9.} ADB Document. https://www.adb.org/projects/43443-012/main

^{10.} ADB Document. https://www.adb.org/projects/48409-004/main#project-pds

^{11.} World Bank Document. https://projects.worldbank.org/en/projects-operations/project-detail/P161473

Donor	Area	Project	Description
IBRD AND IDA (World Bank), France and Australia	Agriculture	Upland Agriculture Development project ¹²	 Recipient: Government of Lao PDR Closing Year/Status: 1998 Modality: Loan Budget: USD 21.6 million The project reduced rural poverty, expand export earnings and improve food security, control soil erosion and strengthen key agricultural institutions. It also focused on development and transfer of improved and environmentally safe crop production technologies.

1.3. Renewable Energy

Table 3 - Lao PDR: Aid Assistance in Renewable Energy

Donor	Area	Project	Description
Japan fund for Poverty reduction	Renewable Energy Generation- Solar	Lao People's Democratic Republic: Renewable Energy Development in Remote Communities Project ¹³	 ♦ Recipient: Ministry of Energy and Mines ♦ Closing Year/Status: 2014 ♦ Modality: Technical Assistance ♦ Budget: USD 1 million ♦ The Project implemented 5.5 Mega Watts (MW) of distributed off-grid capacity with (i) solar photovoltaic (PV) home systems; and (ii) mini-grids powered by RETs (PV, micro/pico-hydro and mini-wind). It also included institutional and beneficiary capacity building in procurement, operation and maintenance (O&M), and monitoring

^{12.} World Bank Document. https://documents.worldbank.org/en/publication/documents-reports/documentdetail/168641474 420570409/lao-peoples-democratic-republic-upland-agriculture-development-project

^{13.} ADB Document. https://www.adb.org/projects/43222-012/main#project-pds

Donor	Donor Area Project		Description
ADB, B-Loans	Energy - Large Hydropower Generation	Lao People's Democratic Republic: NAM NGIEP 1 HYDROPOWER PROJECT ¹⁴	 Recipient: Government of Lao PDR Closing Year/Status: Active Modality: Loan and Business Loan Budget: Loan via Ordinary Capital Resources: USD 49.78 million Loan via Ordinary Capital Resources: THB 3,025 million B- Ioan: USD 71.33 million The Project involves the construction and operation of a 290 MW hydropower generation facility on a build-operate-transfer (BOT) arrangement at the Nam Ngiep River in the provinces of Bolikhamxay and Yaysomboun Lao RDR
Government of Finland, ADB	Renewable Energy Generation - Small Hydro	Lao People's Democratic Republic: Small and Mini Hydroelectric Development Project ¹⁵	 and Xaysomboun, Lao PDR. Recipient: Ministry of Energy and Mines Closing Year/Status: 2012 Modality: Technical Assistance Budget: Grant from A.T.F. Finnida Grant – USD 1.00 million Grant from Technical Assistance Special Fund – USD 600,000 The project proposed to assist the MEM in preparing a policy for implementing sections of the amended Electricity Law related to tariff setting, to encourage development of medium to mini hydroelectric power projects to provide electricity from a clean and renewable source of energy for domestic use.
Energy Sector Management Assistance Program, Carbon Initiative for Development Renewable Energy- Use of Biomass in households Lao PDR Clean Cook Stove Initiative ¹⁶		Cook Stove	 Recipient: Ministry of Energy and Mines Closing Year/Status: Active Modality: Grant Budget: USD 6.44 million The objective is generate environment benefits and gender outcomes for targeted households through a switch to clean, energy efficient gasifier cookstoves using biomass pellets across selected provinces.

^{14.} ADB Document. https://www.adb.org/projects/41924-014/main

^{15.} ADB Document. https://www.adb.org/projects/42320-012/main

 $^{16. \}quad World \ Bank \ Document. \ https://projects.worldbank.org/en/projects-operations/project-detail/P169538$

Cooperation Modalities of Donor Interventions and Donor Intent

Aid assistance, ever since the inception of development practices, is given based on three major factors: (i) Humanitarian grounds, (ii) Political consideration, and (iii) Economic interest.¹⁷

Table 4 - Donor Intent Examples

Intent Category	Description	Examples	Projects
Development	Promotes long-term economic development and welfare within the recipient country. Can include tied aid, and projects where the donor is both the funder and the implementer.	 Humanitarian assistance and emergency management Capacity building within the recipient country to sustain social programs Institution building of recipient government through elections, training, or official government buildings 	 Lao: Flood Protection and Drought Mitigation Project in Vientiane Capital (Primary Donor-Asian Development Bank and Government of Australia) Upland Agriculture Development Project (Primary Donor- The World Bank, France and Australia)
Altruistic	Seeks sustained development with long-term interventions	 Altruistic aid is the one that seeks to enhance economic development Offered with the pure objective of improving the quality of life. Altruistic aid is usually offered on soft-terms and on long-term basis 	 ♦ Greater Mekong Subregion Flood and Drought Risk Management and Mitigation Project (LAO/VIE) (Primary Donor-Asian Development Bank and Government of Australia) ♦ Sustainable Rural Infrastructure and Watershed Management Sector Project (Primary Donor-International Fund for Agriculture Development and Germany) ♦ Lao PDR Clean Cook Stove Initiative (Primary Donor-Energy Sector Management Assistance Program and Carbon Initiative for Development)

Other Examples: Commercial, Representational, Security-military, Prestige, Mixed, etc.

^{17.} Strange, Austin. Mengfan Cheng. Brooke Russell. Siddhartha Ghose and Bradley Parks. 2017.

Table 5- India's Role in Lao PDR

Agreement and MOUs

Agreements signed between the countries include:18

- ♦ India-Lao PDR Cultural Agreement (August 1994),
- Agreement for setting up of Joint Commission on Trade
- Economic and Scientific Cooperation May 1997
- ♦ Agreements on Trade and Economic Cooperation
- ♦ Bilateral Investment Promotion & Protection (9 November, 2000),
- ♦ Agreement on Cooperation in Defence (November 2002),
- Agreement on Mutual Cooperation on Drug Demand Reduction & Prevention of Illicit Trafficking in Narcotic Drugs and Psychotropic Substances and related matters (November 2002)
- ♦ MoU on setting up of Entrepreneurship Development Centre (July 2004)
- ♦ Agreement on Cooperation in Science & Technology (June 2003)
- ♦ Agreement on Exemption of Visa Requirement for holders of Diplomatic and Official Passports (2005)
- MoU for the Conservation and Restoration of the UNESCO World Heritage Site at Wat Phou (May, 2007) MoU for Setting up Centre for English Language Training (June, 2007)
- Agreement on setting up of a Sustainable IT Infrastructure for Advance IT Training (Centre for Excellence in Software Development & Training) (August, 2015)
- Agreement between India and Lao PDR regarding Indian Grant Assistance for implementation of Quick Impact Projects (QIPs) (18 September 2015)
- Air Services Agreement (January 2019), Agreement. between Foreign Service Institute of India and Foreign Affairs Institute of Lao PDR (September 2019)

Quick Impact Projects (QIPs)

An MoU on three projects in the field of agriculture proposed by the Lao side viz., 'Establishment of Fertilizer Analysis Laboratory' 'Promotion of Goat Raising in Lao PDR' in Jieng Village, Thoulakhom District, Vientiane Province; and 'Promoting Green Cardamom Cultivation in Paksong District, Champasak Province' was signed on 18 October, 2017. The Projects are under process of implementation.¹⁹

Lines of Credit to Lao PDR

India has consistently extended Lines of Credit (LOCs) to Lao PDR, boosting sectors such as agriculture and power. The LOCs extended by the Government of India to the Government of Lao PDR have been summarised below.

^{18.} India-Laos Bilateral Relations. 2020. https://www.mea.gov.in/Portal/ForeignRelation/Brief_-_Laos_feb_2020.pdf

^{19.} India-Laos Bilateral Relations. 2020. https://www.mea.gov.in/Portal/ForeignRelation/Brief_-_Laos_feb_2020.pdf

Table 6- Lines of Credit - Government of India to Government of Lao PDR

S. No.		Purpose	Year of Approval	Date of Signing of LOC (by the Recipient with EXIM Bank	Amount of Credit (USD Million)	
1	*	Development of irrigation schemes in the Champassack Province	2006-07	February 20, 2009	17.34	
2	\$\$\$	Paksong S/S – Jiangxai 115 kV, double circuit transmission line Project Nam Song 7.5 MW hydropower project Equipment for Rural Electrification Phase 2 Project	2007-08	August 27, 2008	33.00	
3		230 kV double circuit transmission line from Nabong to Thabok and substations (USD 34.68 million) Improvement and expansion of 22kV distribution line in Vientiane capital city branches project (USD 35.25 million)	2010-11	September 13, 2010	72.55	
4	*	Construction of storage dams & development of irrigation systems in four major provinces	2013-14	September 9, 2013	30.94	
	Total					

Source: Export-Import Bank of India (EXIM Bank)

2.1. China's interventions in Lao PDR

Figure 5 - China as a donor in Lao PDR

China's role as a donor in Lao PDR

- 1. China's aid to Lao PDR is mostly focused on transportation infrastructure, which has traditionally been a focus of the country's foreign aid. Economic and social infrastructure projects, such as roads, conference facilities, water conservation, and irrigation, predominate.²⁰
- 2. China has not only aided in the construction of airports in Lao PDR' northern provinces, but has also invested in tin mines, power plants, roads, and other unfinished projects. Lao PDR established a satellite reception centre with China's help in 1990-1991. China initiated and signed a "Pan-Asian" Railway agreement with ASEAN and the Asian Development Bank (ADB) from Singapore to Kunming in 1997, and built a large cultural leisure square in downtown Vientiane.²¹
- 3. In times of disaster, China places a high priority on providing emergency aid to Lao PDR. For instance, during the Asian financial crisis of 1997, China stepped in to provide Lao PDR with a package of financial aid, including very generous export subsidies and favorable loans. When Lao PDR was badly flooded in 2012, China delivered needed living goods to the affected districts, assisting in postdisaster recovery. China contributed funding in the form of foreign exchange in 2013 to assist the Lao government in successfully treating, preventing, and controlling dengue disease in the country.²²

^{20.} Assessment and Prospect of China-Laos Development Cooperation. Shanghai Institute of International Studies. 2016. http://en.siis.org.cn/UploadFiles/file/20170417/20170316 %E4%B8%AD%E5%9B%BD%E4%B8%8E%E8%80%81%E6%8C%9D %E5%8F%91%E5%B1%95%E5%90%88%E4%BD%9C_%E8%8B%B1%E6%96%87%E7%89%88.pdf

^{22.} Assessment and Prospect of China-Laos Development Cooperation. Shanghai Institute of International Studies. 2016. http:// en.siis.org.cn/UploadFiles/file/20170417/20170316 %E4%B8%AD%E5%9B%BD%E4%B8%8E%E8%80%81%E6%8C%9D%E5% 8F%91%E5%B1%95%E5%90%88%E4%BD%9C %E8%8B%B1%E6%96%87%E7%89%88.pdf

- 4. During a visit to Lao PDR in 2006, Chinese President Hu Jintao pledged USD 200 million and 50 percent technical help for the construction of the HuaySay-SiengKong Bridge. During his visit to Lao PDR in 2008, Premier Wen Jiabao committed a loan of USD 100 million to promote telecommunications projects, transit routes, and transportation infrastructure construction.²³
- 5. In 2001, China partnered with Thailand and the Asian Development Bank to rehabilitate a 360-kilometer route, which was finished in 2008. It also started large-scale road construction projects in Oudomxay Province and provided funding for the Greater Mekong Info-Superhighway. Chinese construction businesses are also significantly involved in multilateral aid agencies such as the World Bank and the Asian Development Bank (ADB)-funded road construction projects in Lao PDR.²⁴
- 6. To help Lao PDR' transition towards a greener and low carbon nation, China has assisted it in formulating plans on environmental protection.²⁵
- 7. It has also assisted Lao PDR in developing and installation of China-ASEAN Earthquake and Tsunami Monitoring and Early Warning systems under the ambit of Belt and Road Earthquake Risk Reduction Cooperation.²⁶
- 8. In Lao PDR, China has also assisted in setting up vocational training centres and technical schools to aid in human capacity development.²⁷
- 9. China is assisting Lao PDR in developing the institutional capacity, infrastructure and governance of its rural e-commerce.²⁸
- 10. China assisted in the construction of a police command centre and grievance redressal hotline to improve their administrative efficiency and increase the role of digitization and IT in governance.²⁹
- 11. In Lao PDR, China has provided grants during Locust infestations to smoothen the resumption of agriculture production.³⁰
- 12. China is also assisting Lao PDR in developing its financial institutions. For example, in 2015 China assisted Lao PDR in developing its Bankcard payments system, a constructive step towards its financial stability.³¹
- 13. As a means to further its soft power diplomacy, China has also sent its youth volunteers in Lao PDR to promote people-to-people contact and catalyze cultural exchange and knowledge sharing.³²
- 14. China has also laid efforts to reduce poverty in Lao PDR, and has introduced several pilot projects to strengthen villages' organizational and managerial capabilities.³³
- 23. China, Laos vow to enhance partnership. 2011. http://la.china-embassy.org/eng/news/t851531.htm
- 24. Assessment and Prospect of China-Laos Development Cooperation. Shanghai Institute of International Studies. 2016. http://en.si is.org.cn/UploadFiles/file/20170417/20170316_%E4%B8%AD%E5%9B%BD%E4%B8%8E%E8%80%81%E6%8C%9D%E5%8F%91 %E5%B1%95%E5%90%88%E4%BD%9C_%E8%8B%B1%E6%96%87%E7%89%88.pdf
- 25. China's International Development Cooperation in the new era. The state Council Information Office of the People's Republic of China. 2021. http://english.www.gov.cn/archive/whitepaper/202101/10/content_WS5ffa6bbbc6d0f72576943922.html
- 26. Ibid.
- 27. China's International Development Cooperation in the new era. The state Council Information Office of the People's Republic of China. 2021. http://english.www.gov.cn/archive/whitepaper/202101/10/content_WS5ffa6bbbc6d0f72576943922.html
- 28. China's International Development Cooperation in the new era. The state Council Information Office of the People's Republic of China. 2021. http://english.www.gov.cn/archive/whitepaper/202101/10/content_WS5ffa6bbbc6d0f72576943922.html
- 29. Ibid.
- 30. Ibid.
- 31. Ibid.
- 32. Ibid.
- 33. Ibid.

Table 7 - A Glimpse of China's Development Cooperation in Lao PDR

Project	Sector	Description
		\$ Span: 2017-2018\$ Budget: 4,438,980 RMB
		♦ Modality: Grant
	General Environmental Protection	Implementing Agency: Ministry of Water Resources (Yangtze river Water Resource Comission)
China provides grant for the Lao National Water Information Center		♦ In 2017, the Chinese Government issued a grant for the construction of the Lao National Water Information Center. On November 14, 2017, the Memorandum of Understanding (MOU) for the project was signed in Beijing. The funding comes from the Chinese Government. On Feb 2, 2018, the launch ceremony of the center was held in Vientiane. The project was implemented by the Yangtze River Water Resources Commission of the Ministry of Water Resources. On the same day (Feb 2, 2018), the letter of intent for the cooperation of the second phase of the project was signed.
		♦ Span: 2018-Unknown♦ Budget: USD 321 million
		Budget: USD 321 millionModality: Loan
		 Funding Agencies: Exim bank of China
China Eximbank provides USD 321 million government concessional loan for Banha-Sekong Power Transmission Project	Energy- Construction of Transmission lines	♦ The purpose of the project was to construct a 237-kilometer 500kV high-voltage transmission lines (measuring 237 km in length) and two 230kv substations in Champasak, Attapeu, Saravan, and Sekong provinces. Ultimately, the project sought to connect the power grids in the southern and central regions of Lao PDR, improve the supply and stability of power to the southern region, and increase the export of electricity to earn foreign exchange. China Energy Construction Guangxi Institute was the contractor responsible for project design. China Ghezouba Group Co., Ltd. (CGGC) was the contractor responsible for project implementation. Project implementation commenced on January 12, 2018. On October 7, 2019, the 230 kV Banha Substation which is part of the project, was put into operation. Then, on November 1, 2020, an 18.573 km 500kV double-circuit transmission line from Banha substation to the Cambodian border was completed.

Project	Sector	Description
China Eximbank provides USD 127 million concessional loan for 60MW Nam Khan 3 Hydropower Plant Project	Energy - Hydropower	 ♦ Span: 2012-2017 ♦ Budget: USD 127 million ♦ Modality: Loan ♦ Funding Agencies: China Eximbank ♦ The purpose of the project was to construct a dam and hydroelectric power plant with an installed capacity of 60MW and the ability to generate 241 million kWH of electricity per year. The project is located 60 km upstream from Nam Khan 2 Dam and between Ban Donmoh district, Ban Khonwai district, and Xieng Ngeun district within Luang Prabang Province. Sinohydro Corporation Ltd. was the EPC contractor responsible for implementation.
China Eximbank provides RMB 350 million government concessional loan for Xesalalong Irrigation Project Agriculture, Forestry, Fishing		 ♦ Span: 2012-2015 ♦ Budget: RMB 350 million ♦ Modality: Loan ♦ Funding Agencies: China Eximbank ♦ The project involved the construction of Xesalalong and Xekeu irrigation systems (measuring 51 km in length) in Thapangthong district within Savannakhet Province. More specifically, it involved the construction of a water reservoir, dam, water intake structure, flood spillway, diversion canal and buildings along a canal system, among other things. Upon completion of the project, the Xesalalong and Xekeu irrigation systems were reportedly capable of delivering water to 2,000 hectares of rice fields in 11 villages in Thapangthong district.

2.2. Korea's Interventions in Lao PDR

Table 8 - Korea as a Donor in Laos

Korea's Development Cooperation for Lao PDR

- The support provided by the Government of Korea to the Government of Lao PDR towards achieving the National Socio-Economic Development Plan (NSEDP) targets would be based on the following objectives:
 - To facilitate improved access to safe drinking water and aid improvements in quality of health services/health workforce capacity
 - To ensure improved management and utilisation of energy resources entailing necessary capacity building, augmented electricity coverage and improvements in income/quality of life
 - To foster better quality of secondary and higher education as well as technical vocational education and training to improve skill level of workforce and consequently, national competitiveness
 - To augment agricultural productivity and foster comprehensive rural development with the overall aim of reducing poverty and ensuring rise in household income levels in the rural areas
- ♦ To achieve the aforementioned objectives in the priority areas outlines, Korea aims to allocate 70 per cent of its bilateral ODA for Lao PDR

Nature of Key Interventions						
Cooperation Area	Development Needs	Implementation Strategy				
Water Management and Health	 ♦ Capacity building of administration ♦ Regulations/strategies on water management ♦ River basin planning ♦ Water resource distribution ♦ Water quality management ♦ Disaster prevention ♦ Improvements in irrigation facilities ♦ Access to safe drinking water and sanitation (bridging gaps between urban and rural areas) ♦ Adequate waste water treatment ♦ Adequate health finance and services (including improvements in health personnel ratio) 	 Facilitating integration of infrastructure for water resources Fostering capacity building for increased agricultural productivity Aiding expansion/capacity building with respect to water supply and treatment facilities Strengthening water quality control and sanitation mechanisms Supporting improvements in access to and financial security for maternal and child health services Fostering reductions in health inequality through quality health services and universal health coverage Facilitating development of training systems for medical personnel 				

Cooperation Area	Development Needs	Implementation Strategy		
Energy	 Large-scale electrification (as well as inclusion of areas still disconnected from the electricity transmission network) Increased share of new and renewable energy (target is to supply 30 per cent of total energy consumption by 2025) Expansion of energy industry by 32 per cent annually Reduction in energy imports to less than 20 per cent of domestic consumption Reduction in trade balance deficit from energy sector 	 Facilitating development of electricity grid and relevant capacity building Supporting expansion of electricity transmission capacity, electricity loss reduction and development of an electricity network in line with the electricity coverage targets Facilitatingconstructionofhydroelectric power plant Promoting public-private partnership to attract private investments, induce technology transfer, foster infrastructure development, and ensure job creation 		
Education	 ♦ Improvements in enrolment rates ♦ Reductions in drop-out rates ♦ Increase in access to higher education in rural areas ♦ Curriculum development for technical Vocational Education and Training (TVET) ♦ Human resources development based on market needs ♦ Improvements in transition from lower secondary to upper secondary, and thereafter to technical/vocational training and higher education 	 Building on previously supported education projects in Lao PDR and providing continued support to education across all levels Improving girls' access to/enrolment in secondary and higher education Improving quality and effectiveness of secondary and higher education through adequate facilities, scholarships, training of teachers, curriculum development, etc. Strengthening TVET for development of industrial labour force and enhancement of national competitiveness Developing university education and research capacity Facilitating improvements in education governance and administrative capacity in educational institutes 		
Rural Development	 Poverty reduction (including lowering of gaps among regions and ethnic groups) Improvements in agricultural production facilities Improvements in agricultural productivity Implementation of the community-based rural development policy i.e. Three-Builds Policy 	 Supporting the efforts of the Government of Lao PDR to develop a detailed mid-to-long term plan based on the Three-Builds Policy Fostering comprehensive rural development with focus on poverty reduction, increase in income levels and case model development (for village, district and provincial levels) Facilitating agricultural extension with respect to processing, packaging, logistics and sales Aiding UXO removal for safe rural development 		

Source: : NSEDP (2016-2020), The Republic of Korea's Country Partnership Strategy for Laos (2016-2020)

Key Challenges and Best Practices: Sectoral Case Studies

The depiction below provides a glimpse of the best practices and challenges identified in the case studies of donor interventions in the domains of Disaster Risk Reduction (DRR), Climate Smart Agriculture (CSA) and Renewable Energy (RE).

Figure 6 - Case Studies: Key Takeaways

Area

Disaster Risk Reduction

Flood Protection and drought mitigation project in Vientiane Capital Resettlement Plans

Project

Donor(s)

Asian Development Bank, Government of Australia

Major Challenges

- Absent Monitoring and Evaluation
- ♦ Implementation risk owing to natural disasters
- Neglecting CAP guidelines over-time
- Staffing issues

Area

Climate Smart Agriculture

Project

Climate Friendly Agribusiness Value Chains

Donor(s)

Asian Development Bank, Government of Laos, Others

Major Challenges

- ♦ Community's apprehensiveness towards investment
- Patriarchal gender roles and dynamics
- Risk of climate change
- Indigenous people
- Covid risk

Area

Renewable Energy

Project

Capacity Development in Hydropower and Mining Sector

Donor(s)

The World Bank, AusAID

Major Challenges

- Lack of interest of the private sector
- Price level for conventional energy
- Fading government support
- ♦ Ineffective local participation and coordination

Best Practices

- Adherence to gender equity and pluralistic approach during impact assessment of the project
- Public participation at each stage to ensure transparency, minimal damages and reduced delays

Best Practices

- Management of interests of women and ethnic minorities
- Development of inclusive resettlement framework
- Deployment of anticorruption measures
- Introduction of environment responsible work contracts

Best Practices

- Management of interests of women
- Protection of natural resources and environment
- Digitisation (KPI system) for MEM departments
- Establishment of collaboration between the private sector and educational institutions

Best Practices

- Adoption of minimum and restorative resettlement plan
- Deployment of Anticorruption and safeguard measures
- Maintenance of labour standards

Best Practices

- Compliance with applicable labour laws
- Deployment of transparent bidding processes/contracts
- Recruitment of additional experts for successful project implementation

Best Practices

- Support from development partners to increase efficiency
- Developing a Model MDA
- Mobilisation of private sector financing
- Background research and stakeholder consultations

Ensuring sustainability of Flood Protection and drought mitigation project in Vientiane Capital Resettlement Plans Lao PDR³⁴

An independent or external monitoring agency (EMA) was established to assure the project's long-term sustainability. During the relocation process, the EMA monitored compliance with ADB and government standards. The external monitor's main responsibilities included: (i) reviewing existing baseline data and collecting additional socio-economic information on samples of affected households as needed; (ii) monitoring the preparation and implementation of the RP; (iii) identifying any discrepancies between policy requirements and actual resettlement implementation; and (iv) monitoring the resolution of any outstanding issues; (v) providing recommendations for improving resettlement preparation and implementation, including timely resolution of grievances; and (vi) assessing the capacity and resources of resettlement committees and local authorities, including project supervision consultants in terms of mobilization timing, guidance provided, and trainings provided to resettlement committees and local authorities EA and ADB were to receive semi-annual reports.

Ensuring sustainability in Climate-Friendly Agribusiness Value Chains Sector Project in Laos³⁵

To ensure long-term sustainability, the project built a rural infrastructure asset management system and executed a holistic approach to operation and maintenance that focused on institutions, capacity building, financing, and technologies. The project will assist the Ministries of Agriculture and Forestry (MAF) and Industry and Commerce (MIAC) in developing an enabling policy environment to encourage private sector participation through public-private partnerships, contract farming, and the development of joint APG-agribusiness ventures.

Ensuring sustainability in TA for Capacity Development in Hydropower and Mining Sector in Laos³⁶-

Technical assistance was provided to the Department of Energy (DoE) in order to successfully adjust the National Policy on Environment and Social Sustainability (NPSH) in line with the Environmental and Social Impact Assessment and other changes in relevant regulations in order to ensure the project's sustainability. The project also developed human resources in the hydropower and mining sectors with the help of educational institutions.

^{34.} LAO: Flood Protection and Drought Mitigation Project in Vientiane Capital. Asian Development Bank. 2012. https://www.adb.org/sites/default/files/project-document/73220/40190-023-reg-rp-04.pdf

^{35.} Lao People's Democratic Republic: Climate-Friendly Agribusiness Value Chains Sector Project. Proposed Grant. 2018. https://www.adb.org/sites/default/files/project-documents/48409/48409-004-rrp-en.pdf

^{36.} Technical Assistance for Capacity Building in the Hydropower and mining Sectors Project. World Bank Group. 2010. https://documents1.worldbank.org/curated/en/590081554270965788/pdf/Lao-Peoples-Democratic-Republic-Technical-Assistance-for-Capacity-Building-in-the-Hydropower-and-Mining-Sectors-Project.pdf

Scope of India's involvement in **Development Cooperation in Lao PDR: Mapping Demand and Supply**

4.1. Opportunities for India

- ♦ Data collection/analysis In the areas under focus, the need for optimum data capturing (including complete digitization at all levels), data consistency, analysis and structured output to ensure detailed risk assessment and preparedness is evident. India has proven experience in this area and can therefore assist Lao PDR in improving its information management systems.
- ♦ Advisory India can provide advisory services including benchmarking and impact evaluation of various interventions/projects - to Lao PDR in order to facilitate augmented risk assessment, planning and project execution.
- Human resource development Lao PDR can benefit considerably from India's experience and expertise in creating adequacies in workforce deployment, implementing effective skill development initiatives, fostering better coordination (among stakeholders, within key institutions, etc.) and optimizing awareness generation for successful interventions in the areas under focus.
- Regulatory reforms India can facilitate considerably in streamlining regulatory aspects in the focus areas. It can assist in identifying regulatory bottlenecks, procedural delays (and reasons thereof), documentation issues (including usage of hard copies), gaps in inter-departmental coordination, issues due to existing policies/policy level changes, compliance issues, etc. and subsequently, exercising effective mitigation/reform measures to iron out such issues.
- ♦ Monitoring and evaluation To ensure sustainable impact of projects/ interventions, it is imperative to develop and implement efficient monitoring mechanisms. India can assist in the creation of effective monitoring mechanisms entailing consistent assessment of the progress key interventions, assessment of interim outcomes (including alignment of the same with overall objectives), identification of issues (and respective stakeholders) and implementation of reform initiatives for project level as well as overall systemic developments. This would augment effectiveness of projects and reduce delays in implementation.





- Regulatory reforms -India can facilitate considerably in streamlining regulatory aspects in the focus areas. It can assist in identifying regulatory bottlenecks, procedural delays (and reasons thereof), documentation issues (including usage of hard copies), gaps in inter-departmental coordination, issues due to existing policies/policy level changes, compliance issues, etc. and subsequently, exercising effective mitigation/reform measures to iron out such issues.
- Capacity building India can be a major partner to Lao PDR in implementing capacity building measures in key areas such as infrastructure augmentation/modernization operational efficiency, technology transfer, technical assistance, training, research and development, community-based development, etc. India has implemented successful models to enable holistic improvements at various levels (local, regional and national) in these areas, which Lao PDR can benefit from.
- Budgetary support India can facilitate investments (including infusion of private capital) and effective utilization of finances from internal sources to foster holistic development in in the areas under focus. It can also share its expertise in financial management i.e. planning, budget execution, accounting, auditing, etc.



- Capacity building India can be a major partner to Lao PDR in implementing capacity building measures in key areas such as infrastructure augmentation/modernization operational efficiency, technology transfer, technical assistance, training, research and development, community-based development, etc. India has implemented successful models to enable holistic improvements at various levels (local, regional and national) in these areas, which Lao PDR can benefit from.
- Research capacity India can assist Lao PDR in developing necessary research capacity in the areas under focus through development of knowledge base in relevant areas as well as facilitation of coordination and knowledge sharing among key actors (academia, subject matter experts, relevant companies/ entrepreneurs, etc.).

Source: BRIEF Research

4.2. Disaster Risk Reduction

Table 9 - Private and Public Stakeholder mapping for Disaster Risk Reduction

Cooperation Sectors	Indian Stakeholders	Lao PDR Stakeholders
	Government Stakeholders	
Technical assistance for DRR	 Indian Meteorological Department (IMD) The National Centre for Medium Range Weather Forecasting (NCMRWF) Indian National Centre for Oceanic Information Systems (INCOIS) National Remote Sensing Centre (NRSC) Indian Space Research Organization (ISRO) 	• National
	Private Stakeholders, NGOs and Educational Institutes	Committee for Disaster Management (NCDM) Ministry of Communication, Transport, Post and Construction (MCTPC) Urban Research Institute (URI) Department of Fire Prevention and Protection, Ministry of Public Security Department of Planning and Foreign Relation, MOE Ministry of Labor and Social Welfare (MLSW)
	OxfamWorld Wide Fund for Nature (WWF)	
Legislative, planning and policy framework for improved governance	National Disaster Management Authority (NDMA)	
Developing Early Warning systems and emergency response	 Indian Institute of Technology (IIT), Delhi National Disaster Response Force (NDRF) National Fire Service College National Civil Défense College 	
	Government Stakeholders	
Capacity Building	 National Institute of Disaster Management (NIDM) Centre for Disaster Management at Lal Bahadur Shastri National Academy of Administration (LBSNAA) Centres for Disaster Management in the State Administrative Training Institutes SAARC Disaster Management Centre (SDMC) 	
	Private Stakeholders, NGOs and Educational Institutes	
	 Development Research Communication and Services Centre (DRCSC) Bharat Seva Ashram Sangh Tagore Society for Rural Development (TSRD) 	

4.3. Climate Smart Agriculture

Table 10 - Private and Public Stakeholder Mapping for Climate Smart Agriculture

Cooperation	Indian Stakeholders	Lao PDR	
Sectors	maiaii Stakeiioideis	Stakeholders	
	Government Stakeholders		
	National Innovations in Climate Resilient Agriculture (NICRA)		
Technical assistance and	National Institute of Rural Development & Panchayati Raj (NIRD&PR)		
training	Private Stakeholders, NGOs and Educational Institutes	Ministry of Agriculture and	
	SHODHSM Sehgal FoundationGlobal Alliance for Climate Smart Agriculture		
	Government Stakeholders	Forestry Council for	
Capacity	 National Innovations in Climate Resilient Agriculture (NICRA) Indian Council for Agricultural Research (ICAR) Ministry of Rural Development (MRD) 	Science and Technology National Agriculture and Forestry Research Institute (NAFRI) Asian Centre of Innovation for Sustainable	
Building	Private Stakeholders, NGOs and Educational Institutes		
	 Centre for Sustainable Agriculture Agri Innovation Hub (AgriHub) National Institute of Agricultural Extension Management (MANAGE) 		
	Government Stakeholders	Agriculture Intensification	
Policy and	 National Institute of Rural Development & Panchayati Raj (NIRD&PR) Ministry of Rural Development (MRD) 	(ACISAI) International Rice Research Institute (IRRI)	
Regulatory	Private Stakeholders, NGOs and Educational Institutes		
	 The Energy and Resources Institute (TERI) Centre for Sustainable Agriculture 		
Services and Business Models	 International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) CropIn Agri Innovation Hub (AgriHub) 		

4.4. Renewable Energy

Table 11 - Private and Public Stakeholder Mapping for Renewable Energy

Cooperation Sectors	Indian Stakeholders	Lao PDR Stakeholders	
Technical assistance and training	Government Stakeholders	- Flootricito du	
	 Ministry of New and Renewable Energy (MNRE) Centre for Study of Science, Technology and policy (CSTEP) Power System Operation Corporation (POSOCO) Central Electricity Authority (CEA) National institute of Solar Energy (NISE) 	 Electricite du Laos (EdL) Ministry of Energy and Mines (MEM) Ministry of 	
	Private Stakeholders, NGOs and Educational Institutes	Agriculture and Forestry Ministry of Science and Technology National University of Laos, Organic	
	 The Energy and Research Institute (TERI) Sardar Swaran Singh National Institute of Bio-Energy (SSS-NIBE) National Institute of Wind Energy (NIWE) Energy Efficiency Services Limited (EESL) Council on Energy, Environment and Water (CEEW) 		
	Government Stakeholders	Production Promotion	
Capacity Building	 Private & public sector companies, research institutes, educational institutes (IITs, IISc, Universities, NITs), Indian Renewable Energy Development Agency Limited (IREDA) National Skill Development Coorporation (NSDC) Skill Council for Green Jobs (SCGJ) Indian Space Research Organisation (ISRO) 	Association Plantation Promotion Association, Lao State Fuel Company Kolao company, Sunlabob	
Research and Advisory	 Indian Institutes of Technology (IITs) Indian Institute of Science (IISc) National Institutes of Technology (NITs) Skill Council of Green Jobs (SCGJ) Barefoot College Council of Scientific and Industrial Research (CSIR) Labs 	Renewable Energy Co., Ltd Luangprabang Teak Tree Import-Export Co, Ltd	

4.5. Financing Models and Ensuring Sustainability of India's **Assistance beyond the TriDeP cycle**

Financing models form an essential component of development cooperation. Investments made through the channels of a well designed and developed financing model can prove to be better and effective in terms of sustainability. Financing model can be of various types ranging from Debt-Financing, Equity Financing, or Financing via public sources etc.



India, as part of development cooperation can incorporate the following procedural steps of disaster risk financing to develop a sustainable and effective framework for disbursing aid in the recipient country.³⁷

- ♦ Identifying the risk exposure (business risk, market risk, money or interest rate risk, project risk and foreign exchange risk) and the risk-bearing capacity in the recipient country in order to assess the financial vulnerabilities and gaps in the economy and the institutional setup.
- 2. Analyzing the availability, adequacy and efficiency of risk financing via various public and private stakeholders in the recipient nation and map with India's scope and limitations in providing aid in disaster risk financing.
- 3. Devising appropriate institutional arrangements in the identified sectors where donor intervention is deemed necessary.

Some examples of financing models that India can follow include the blended finance model to attract private investors and debt financing model to ensure low risk and increased sustainability.³⁸

India, as part of development cooperation can incorporate the following procedural steps for Climate Resilient Financing in Agriculture in order to develop a sustainable and effective framework for disbursing aid in the recipient country.³⁹

- Designing innovative procedures to attract additional resources from public and private sources which can be channelized towards climate smart investments in agriculture.
- However, additional resources cannot prove to be effective until the weak linkages between the farmers and financial institutions in the recipient country are addressed. This can be attained through better policies and regulations to mobilize finance to farmers, capacity building of financial institutions in the recipient countries and reducing transaction costs.
- ♦ Strengthening capacities of the main stakeholders (lenders and the borrowers) through capacity building and human resource development.

Some examples of financing models that India can follow includes financing via public sources, since it is the most common model while deploying climate funds and has the advantage of being able to offer more appealing terms than markets.⁴⁰



- 37. Disaster Risk Financing: A global Survey of Practices and Challenges. OECD. 2015. https://www.oecd.org/daf/fin/insurance/OECD-Disaster-Risk-Financing-a-global-survey-of-practices-and-challenges.pdf
- 38. Financing options for renewable energy and energy efficiency. Sustainable Energy Regulation and Policymaking for Africa. http://africa-toolkit.reeep.org/modules/Module19.pdf
- 39. Making Climate Finance Work in Agriculture. World bank Group. https://documents1.worldbank.org/curated/en/986961467721999165/pdf/ACS19080-REVISED-OUO-9-Making-Climate-Finance-Work-in-Agriculture-Final-Version.pdf
- 40. Financing options for renewable energy and energy efficiency. Sustainable Energy Regulation and Policymaking for Africa. http://africa-toolkit.reeep.org/modules/Module19.pdf



India, as part of development cooperation in Renewable energy can incorporate the following procedural steps to develop a sustainable and effective framework for disbursing aid in the recipient country

- Identifying the risks (business risk, market risk, money or interest rate risk, project risk and foreign exchange risk) from the project and develop methods to manage them.
- Once the risk is assessed, it can be transferred and priced in the balance sheet of the respective institution/organization that is best suited to address it through contractually binding agreements.
- Post risk assessment, a thorough analysis of Return on Investment (ROI) can be undertaken to ensure the viability of the development cooperation.

Some examples of financing models that India can follow include the market-led model because it includes little or no Government backing and incorporates more private players in the project.⁴¹

The aforementioned initiatives under TriDep can lay the foundation for holistic improvements – in terms of information management, risk assessment, project implementation, capacity building, development of hard/soft infrastructure, regulatory improvements etc. among others – the impact of which would potentially be experienced beyond the TriDep life cycle.

4.6. India-U.S.-Lao PDR Triangular Cooperation: The Way Forward

Triangular Cooperation in the selected Areas

India as an Emerging Donor in Lao PDR

- Disaster Risk Reduction
- Aiding risk assessment by improving information systems
- Providing technological assistance (e.g., early warning systems)
- Undertaking skill development
- Facilitating policy level improvements

♦ Climate Smart Agriculture

- Facilitating strengthening of policy framework and capacity building
- Fostering private investments
- Facilitating institutional capacity building

♦ Renewable Energy

- Facilitating research and knowledge sharing on RE potential
- Bridging regulatory and policy level gaps
- Aiding budgetary support

Lao PDR as a Partner Country (Recipient)

- Disaster Risk Reduction
- Development of comprehensive and updated databases
- Acquisition of necessary equipment
- Improved technical know-how of human resources
- Strengthened policy initiatives

♦ Climate Smart Agriculture

- Improved policy initiatives and individual/ institutional capacities
- Private participation
- Strengthened institutions at local, regional and national levels

♦ Renewable Energy

- Development of necessary knowledge base on RE development mechanisms
- Preparation of a roadmap for implementation of RE projects
- Increase in investments

Scope of India-U.S. and India- Synergies

In the backdrop of strong India-U.S. and India-Lao PDR relationships, there is potential for meaningful synergies between India, U.S. and Lao PDR in the three areas under focus i.e., Disaster Risk Reduction (DRR), Climate Smart Agriculture (CSA) and Renewable Energy (RE). India has prior experience in developing/implementing necessary preparedness, expertise, technological solutions, regulations, awareness, etc. among others in these areas, which it can share with Lao PDR to foster mutual development. Overall support can be gathered from the U.S., given India's experience of triangular cooperation initiatives with the U.S. in areas such as agriculture. Some of the key aspects of the potential triangular cooperation have been described below:

to have access to relevant data (including baseline data) and execution of comprehensive risk assessment. India can significantly help in the preparation of such information systems and analytical capacities by sharing its experiences and services with Lao PDR. India can also provide technological solutions (such as early warning systems) as well as technical assistance (such as skill development of human resources at various levels) to foster holistic development in the overall ecosystem. India can also assist in ironing out policy level issues and thereby facilitate necessary capacity building to combat climate change.

- ii) Synergies in CSA India can facilitate an array of policy level improvements in Lao PDR with respect to agricultural policies, technical guidelines and implementation strategies. Further, it can foster institutional/individual capacity building as well as greater coordination between key stakeholders in areas such as climate risk assessment, planning and management. India can also facilitate private participation (including private investments) to ensure necessary technological advancements and increased accessibility to key services with respect to the implementation of CSA projects in Lao PDR. Further, India can facilitate institutional capacity building at various levels (local, regional and national) including necessary skill development of human resources. It can also help establish strong information systems (assessment of climate data), technical capabilities (to counter the effects of climate change), etc. to streamline the implementation of CSA interventions in Lao PDR.
- iii) Synergies in RE There is a dearth of research/studies on RE prospects in Lao PDR. India can use its experience in facilitating the development of a comprehensive knowledge base with respect to potential RE interventions. It can also assist in fostering greater coordination and knowledge sharing between key stakeholders such as academic institutions, international bodies working on renewable energy, private players, entrepreneurs working in the sector, etc. India can also assist Lao PDR in bridging policy level bottlenecks and subsequently, creating a comprehensive roadmap - including operational aspects, tariff related issues, etc. - for the implementation of renewable energy projects. To bridge gaps in financing RE projects - and to lower the dependence on international donations - India can assist Lao PDR in utilizing internal sources as well as attracting private investments.
- iv) Role of the U.S. The U.S. can provide relevant guidance in key areas such as climate change and energy security. Skill development and job-led growth have been key cogs in the machinery of development cooperation provided by the U.S. It can sufficiently bolster human resource development initiatives in all the three areas under consideration. India can considerably benefit from the technological solutions at the disposal of the U.S. in its quest to foster technological advancements in the select areas. It can also share its experience in terms of potential bottlenecks in development cooperation in the focus areas. Further, U.S. as the traditional donor, can help facilitate meaningful collaborations, tie-ups and consultations for overall technical development as well as awareness generation among key stakeholders. It can also provide necessary fillip to social aspects such as empowerment of women.
- v) Role of Third Parties During the course of development initiatives, external finance may be gathered from ADB, The World Bank, etc. The role of private players including private investors would be imperative to achieve the proposed developmental goals. Experience sharing by other Quad countries i.e. Japan and Australia can also be key to achieving desired results. Finally, the role of research organisations and academic bodies would be crucial to foster sustainable growth initiatives in the selected areas.

Based on stakeholder engagement, Indian interventions can focus on technology transfer, capacity building and small pilot projects. To ensure sustainability of either of these interventions, triangulation of development cooperation (partnership with other development donors) will be crucial. According to direct interactions with stakeholders from multilateral development banks, and bilateral donor

agencies, the increased geopolitical and economic interests of the Quad nations (U.S., Japan, India, and Australia) for a Free and Open Indo-Pacific (FOIP) can encourage countries like U.S., Australia and Japan to participate in development cooperation and become a reliable partner for India's Development cooperation in Lao PDR. Also, engaging in Quad dialogue will provide an opportunity to increase India's role in the Indo-Pacific region through strengthened capacity and credible Memorandum of Understanding between the nations. The combined efforts of Quad as a donor in Indo-Pacific are indeed more efficient and effective than each of the Quad nations individually partaking in foreign aid in Lao PDR.⁴²

The Asia Foundation

114, Jor Bagh (First Floor), New Delhi-110003, India Tel: +91-11-47363100 e-mail: country.india.enquiry@asiafoundation.org

Bureau of Research on Industry and Economic Fundamentals (BRIEF)

B-59, Ground Floor, South Extension, Part-II, New Delhi, 110049 Phone No- 91-11-46550348 e-mail: info@briefindia.com

