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DEVELOPMENT COOPERATION IN THE INDO-PACIFIC

COUNTRY REPORT: CAMBODIA



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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 can 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

- ◆ ADB- Asian Development Bank
- ◆ AVC- Agricultural Value Chain
- ◆ AVI-Asian Vision Institute
- ◆ CDC- Council for Development of Cambodia
- ◆ CEA- Central Electricity Authority
- ◆ CEEW- Council on Energy, Environment and Water
- ◆ CFAP- Cambodian Farmers Association Federation of Agricultural Producers
- ◆ CRDB- Cambodian Rehabilitation and Development Board
- ◆ CSA- Climate Smart Agriculture
- ◆ CSIR- Council of Scientific and Industrial Research Labs
- ◆ CSTEP- Centre for Study of Science, Technology and policy
- ◆ DRCSC- Development Research Communication and Service Centre
- ◆ DRM- Disaster Risk Management
- ◆ DRR- Disaster Risk Reduction
- ◆ EC-Environmental Code
- ◆ ECHO-European Commission's Humanitarian department
- ◆ EdC- Electricite Du Cambodge
- ◆ EESL- Energy Efficiency Services Limited
- ◆ EU- European Union
- ◆ EXIM- Export import
- ◆ FOIP- Free and Open Indo-Pacific
- ◆ GCL- Government Concessional Loan
- ◆ GDFC-Guangdong Foreign Construction Co
- ◆ GDP-Gross Domestic Product
- ◆ GEI-Global Environment Institute
- ◆ ICAR- Indian Council for Agricultural Research
- ◆ ICCR-Indian Council for Cultural Relations
- ◆ ICRISAT- International Crops Research Institute for the Semi-Arid Tropics
- ◆ IDA- International Development Association
- ◆ IIEC-International Institute of Energy Conservation
- ◆ IISC- Indian Institute of Science
- ◆ IIT- Indian Institute of Technology
- ◆ IMD- Indian Meteorological Department
- ◆ INCOIS- Indian National Centre for Oceanic Information System
- ◆ IoL- Inventory of Losses
- ◆ IREDA- Indian Renewable Energy Development Agency Limited
- ◆ ISRO- Indian Space Research Organization
- ◆ IT- Information Technology
- ◆ ITEC- Indian Technical and Economic Cooperation
- ◆ LBSNAA- Lal Bahadur Shastri National Academy of Administration
- ◆ LOC- Lines of Credit
- ◆ MAFF-Ministry of Agriculture, Forestry and Fisheries
- ◆ MANAGE- National Institute of Agricultural Extension Management
- ◆ MEF-Ministry of Economy and Finance
- ◆ MGC-Mekong Ganga Cooperation
- ◆ MNRE- Ministry of New and Renewable Energy
- ◆ MoU- Memorandum of Understanding
- ◆ MOWRM-Ministry of Water Resource and Meteorology
- ◆ MPWT-Ministry of Public Works and Transport
- ◆ MRC-The Mekong River Commission
- ◆ MRD- Ministry of Rural Development
- ◆ NCDM-National Committee for Disaster Management
- ◆ NCMRWF- The National Centre for Medium Range Weather Forecasting
- ◆ NDRF- National Disaster Response Force
- ◆ NICRA- National Innovation 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
- ◆ NRSC- National Remote Sensing Centre
- ◆ NSDC- National Skill Development Cooperation
- ◆ NSDP- National Strategic Development Plan
- ◆ ODA- Official Development Assistance
- ◆ OECD- Organization of Economic Cooperation and Development
- ◆ PBC- Preferential Buyer's Credit
- ◆ POSOCO- Power System Operation Corporation
- ◆ QIP- Quick Impact Project
- ◆ RE- Renewable Energy
- ◆ RETP-Rural Electrification and Transmission Project
- ◆ RGC-Royal Government of Cambodia
- ◆ RMB- Renminbi
- ◆ ROI- Return on Investment
- ◆ SCGJ- Skill Council for Green Jobs
- ◆ SDCC-Sustainable Development and Climate Change Department
- ◆ SDMC- SAARC Disaster Management Centre
- ◆ SME-Small and Medium Businesses
- ◆ SSS-NIBE- Sardar Swaran Singh National Institute of Bio-Energy
- ◆ TA- Technical Assistance
- ◆ TERI- The Energy and Resources Institute
- ◆ TSRD- Tagore Society for Rural Development
- ◆ U.S.- United States
- ◆ USAID- United States Agency for International Development
- ◆ U.S.D. - United States Dollar
- ◆ WAPCOS- Water and Power Consultancy Services (Services) India Limited
- ◆ WWF- World Wide Fund for Nature

Scope and Methodology

This report assesses the current status of development cooperation for Cambodia in the identified sectors of Disaster Risk Reduction (DRR), Climate Smart Agriculture (CSA) and Renewable Energy (RE), and sets a 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 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, and datasets, available in the secondary domain. Further, thorough assessment of multiple implementation reports, status reports, and M&E reports published by various stakeholders/donors during or post completion of relevant projects were also 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 Cambodia, principal donors, key modalities, limitations, best practices as well as the potential role of India in the identified sectors among others. The overall report has been divided into five chapters, which entail the following:

Chapter 1 prepares a background and provides a glimpse of the economic environment in Cambodia 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 Cambodia.

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 Cambodia 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 Cambodia.

Overview of Aid and Development Cooperation to Cambodia

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

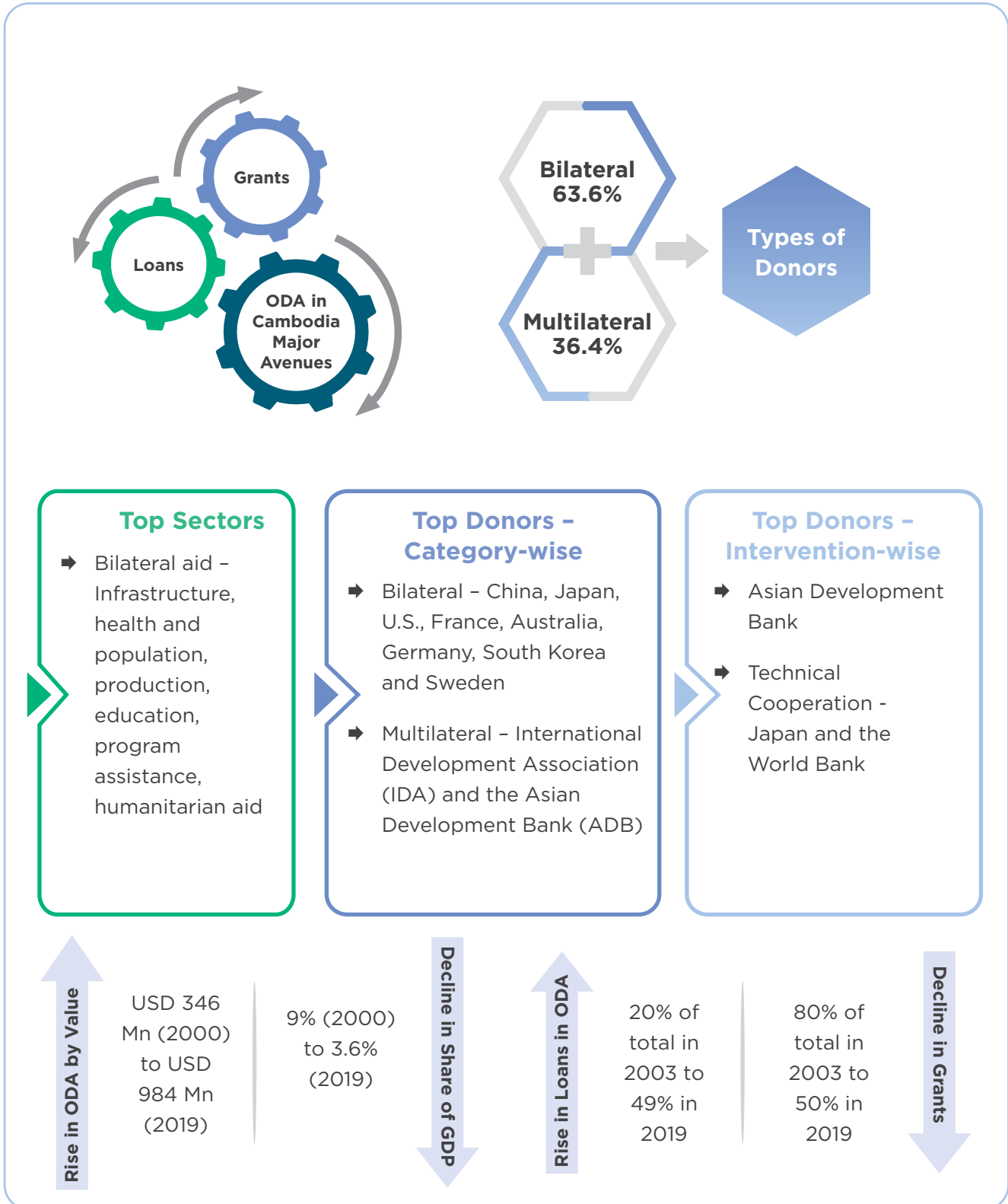
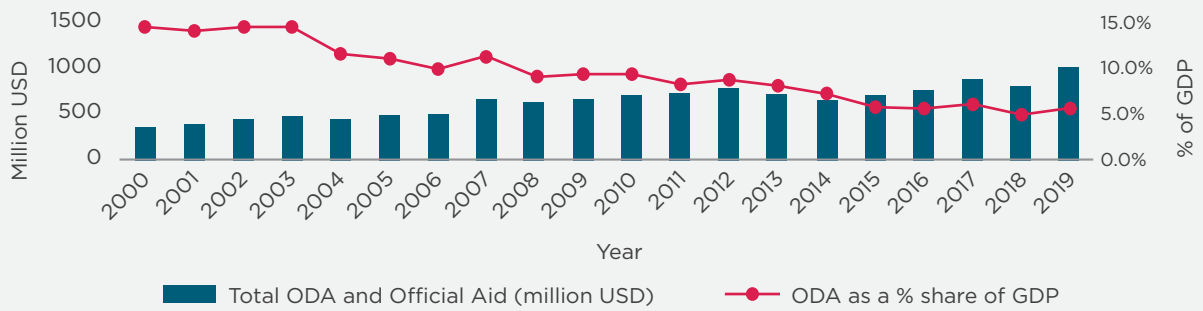
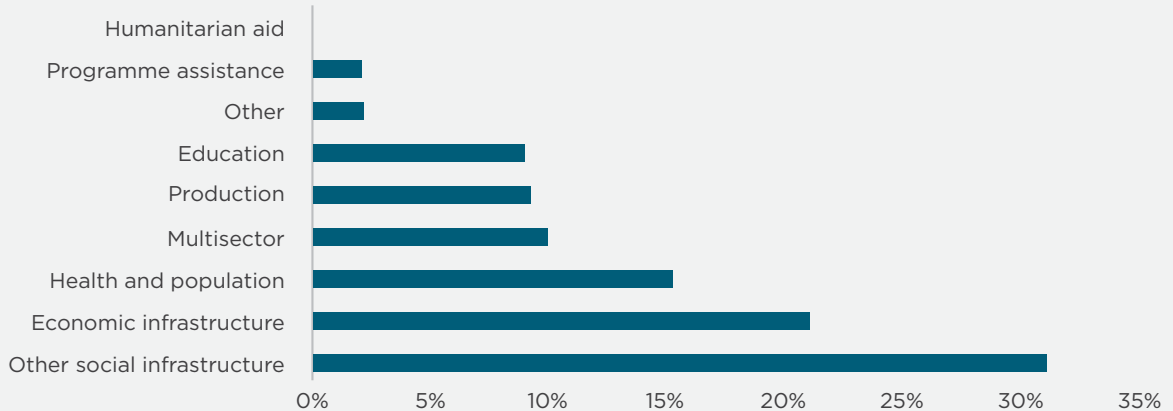


Figure 2 - Total ODA and Official Aid in Cambodia and Share of GDP



Source: World Bank Database

Figure 3 - Bilateral ODA by Sector for Cambodia, 2018-19 (Average)



Source: OECD Database

Figure 4 - Focus Areas: Nature of Issues and Investments so Far



Disaster Risk Reduction

- ◆ **Key Issues** - Flooding (Mekong flooding, flash flooding); impact of disasters is projected to increase, data inconsistency and unavailability, improper budgeting and non-coherent disaster management policies, absence of cross-country early warning systems
- ◆ **Principal Donors** - Australia, United States (U.S.), Japan, European Union (EU), The World Bank, Asian Development Bank (ADB)
- ◆ **Broad Areas of Intervention** - Infrastructure financing, improving health systems/construction and renovation of health centres, wastewater treatment, flood damage prevention, climate-smart planning/climate resilience of land and water management practices, water efficiency improvement



- ◆ **Key Issues** - Decline in agricultural production, drought, severe damage to fishing industry, tourism and coastal infrastructure, absence of exposure to climate resilient techniques, absence of effective policies and business models that focus on climate resilience
- ◆ **Principal Donors** - Australia, U.S., Japan, New Zealand
- ◆ **Broad Areas of Intervention** - Reduction of deforestation and forest degradation, restoration of degraded landscapes, biodiversity conservation, strengthening vulnerable communities, investments in coastal management, protection/restoration of forests/deltas, development of potential crops



- ◆ **Key Issues** - Untapped potential for renewable energy production, lack of capacity to scale up clean energy generation through the private sector and public-private partnerships, inadequate transmission lines and distribution networks, Inconsistent data collection methods, lack of human resource and capacity, lack of private investments
- ◆ **Principal Donors** - Australia, U.S., Japan, Asian Development Bank
- ◆ **Broad Areas of Intervention** - Establishment/operational assistance with respect to climate innovation centres, low emission programs, hydropower plant expansion, development of solar power

Source: Disaster Risk Reduction in Cambodia. Status Report. 2019. & BRIEF Research

1.1. Disaster Risk Reduction

Table 1 - : Cambodia: Aid Assistance in Disaster Risk Reduction

Donor	Area	Project	Description
Japan Fund for Poverty Reduction	Capacity Building	Cambodia: Community-Based Disaster Risk Reduction ¹	<ul style="list-style-type: none"> ◆ Recipient: Ministry of Economy and Finance ◆ Closing Year/ Status: 2019 ◆ Modality: Grant ◆ Budget: USD 2.5 million ◆ The project was aimed to improve preparedness to respond to natural disasters.

1. ADB Report. <https://www.adb.org/projects/46009-002/main>

Donor	Area	Project	Description
Japan Fund for Poverty Reduction	Technical Assistance	Cambodia: Strengthening Coordination for Management of Disasters ²	<ul style="list-style-type: none"> ◆ Recipient: National Committee for Disaster management (NCDM) ◆ Closing Year/ Status: 2016 ◆ Modality: Technical Assistance ◆ Budget: USD 2 million ◆ Project objective was to provide technical assistance (TA) support for sustained government institutional and technical capability for disaster preparedness and responses.
Asian Development Fund, Strategic Climate Fund	Capacity Building	Regional: Greater Mekong Subregion Flood and Drought Risk Management and Mitigation Project (CAM) ³	<ul style="list-style-type: none"> ◆ Recipient: Ministry of Water Resources and Meteorology ◆ Closing Year/ Status: Active ◆ Modality: Loans and Grant ◆ Budget: Grant by Strategic Climate Fund: USD 5.8 million ◆ Loan by Strategic Climate Fund: USD 35 million ◆ Loan by Strategic Climate Fund: USD 4 million ◆ The project will strengthen the community-based disaster management. In addition, it will upgrade the irrigation system and other infrastructure along with supporting vulnerable communities to cope with floods and droughts.
Japan Fund for Poverty Reduction	Technical Assistance	Regional: Building Disaster-Reduction Infrastructure through Enhanced Knowledge ⁴	<ul style="list-style-type: none"> ◆ Implementing Agency: Asian Development Bank ◆ Closing Year/Status: Active ◆ Modality: Technical Assistance ◆ Budget: USD 2 million ◆ The TA aims to strengthen action-oriented disaster risk reduction (DRR) knowledge for disaster-reduction infrastructure in developing member countries. This will be done by upstream disasters reduction infrastructure, capacity enhancement, and review of existing infrastructure.

2. ADB Report. <https://www.adb.org/projects/46230-001/main>

3. ADB Report. <https://www.adb.org/projects/40190-013/main>

4. ADB Report. <https://www.adb.org/sites/default/files/project-documents/52251/52251-001-tar-en.pdf>

Donor	Area	Project	Description
IDA (World Bank)	Capacity Building	Ketsana Emergency Reconstruction and Rehabilitation Project ⁵	<ul style="list-style-type: none"> ◆ Recipients: Ministry of Economy and Finance, Ministry of Rural Development, National Committee for Disaster Management (NCDM) ◆ Closing Year/Status: 2014 ◆ Modality: Grant ◆ Budget: USD 40 million ◆ The project helped to restore service levels of transport, water and sanitation to the affected people and enhanced capacity in disaster preparedness and management.
IDA (World Bank)	Capacity Building	Cambodia Southeast Asia Disaster Risk Management Project ⁶	<ul style="list-style-type: none"> ◆ Recipients: Ministry of Economy and Finance, Ministry of Rural Development ◆ Closing Year/Status: Active ◆ Modality: Loan ◆ Budget: USD 62.5 million ◆ The objective of the project is to improve the climate resilient rural connectivity and to strengthen institutional capacity for disaster reduction.

1.2. Climate Smart Agriculture

Table 2 - Cambodia: Aid Assistance in Climate Smart Agriculture

Donor	Area	Project	Description
ADB, Global Agriculture and Food Security Program, Strategic Climate Fund	Capacity Building	Cambodia: Climate Resilient Rice Commercialization Sector Development Program ⁷	<ul style="list-style-type: none"> ◆ Recipient: Ministry of Economy and Finance ◆ Closing Year/Status: Active ◆ Modality: Grant and Loan ◆ Budget- Grant by Local Agriculture and Food Security Program : USD 14.6 million ◆ Grant by Strategic Climate Fund: USD 4.5 million ◆ Grant by Asian Development Fund: USD 24 million ◆ Loan by Asian Development Fund: USD 31 million ◆ Loan by Strategic climate fund: USD 5 million ◆ ADB is helping Cambodia transform the predominantly subsistence rice sector into a commercially oriented industry, while taking care of land and water resources.

5. World bank Report. <https://documents1.worldbank.org/curated/en/959871467992039943/pdf/ICRR14754-P121075-Box393191B-PUBLIC.pdf>

6. World bank Report. <https://projects.worldbank.org/en/projects-operations/project-detail/P160929>

7. <https://www.adb.org/projects/44321-013/main>

Donor	Area	Project	Description
Nordic Development Fund, Strategic Climate Fund	Technical Assistance	Cambodia: Mainstreaming Climate Resilience into Development Planning ⁸	<ul style="list-style-type: none"> ◆ Recipient: Ministry of Environment ◆ Closing Year/Status: Active ◆ Modality: Technical Assistance ◆ Budget: Funding by Strategic Climate Fund: USD 10 million ◆ Funding by Nordic Development Fund: USD 1 million ◆ The program aims to demonstrate ways in integrating climate risk and resilience into development planning.
ADB, Govt. of Australia, High level technology fund	Capacity Building	Cambodia: Irrigated Agriculture Improvement Project ⁹	<ul style="list-style-type: none"> ◆ Recipient: Ministry of Water Resources and Meteorology ◆ Closing Year/Status: Active ◆ Modality: Grant and Loan ◆ Budget: Grant by Asian Development Fund: USD 2.16 million ◆ Grant by High Level Technology Fund: USD 1.6 million ◆ Grant by Government of Australia: USD 2.5 million ◆ Loan through concessionary ordinary capital resource lending: USD 117.0 million ◆ Three areas will be (i) modernize and improve the climate and disaster resilience of four irrigation systems, (ii) ensure substantiality of these (iii) improve farming practices.
Japan Fund for Poverty Reduction, Project Readiness Improvement Trust Fund, Cooperation Fund for Project Preparation in the Greater Mekong Subregion and in Other Specific Asian Countries	Technical Assistance	Cambodia: Agricultural Value Chain Infrastructure Improvement Project ¹⁰	<ul style="list-style-type: none"> ◆ Recipients: Ministry of Agriculture, Forest and Fisheries ◆ Closing Year/Status: Active ◆ Modality: Technical Assistance ◆ Budget: TA from Japan Fund for poverty Reduction: USD 1.5 million ◆ TA from Project Readiness Improvement Trust Fund: USD 0.5 million ◆ TA from Cooperation Fund for Project Preparation in the Greater Mekong Subregion and in Other Specific Asian Countries: USD 0.1 million ◆ The Agricultural Value Chain (AVC) Infrastructure Improvement Project (the project) aims to tackle the core sector problems of low productivity, low value addition, and low resource efficiency of Cambodia's agriculture.

8. ADB Report. <https://www.adb.org/projects/45283-001/main>

9. ADB Report. <https://www.adb.org/projects/51159-002/main>

10. ADB Report. <https://www.adb.org/projects/50264-001/main>

Donor	Area	Project	Description
ADB, Green Climate Fund	Capacity Building	Cambodia: Climate-Friendly Agribusiness Value Chains Sector Project ¹¹	<ul style="list-style-type: none"> ◇ Recipients: Ministry of Agriculture, Forest and Fisheries ◇ Closing Year/Status: Active ◇ Modality: Grant and Loan ◇ Budget: Grant by Green Climate Fund: USD 40 million ◇ Loan through concessionary ordinary capital resource lending: USD 90 million ◇ The project will support fulfilling the government's Agriculture Sector Strategic Development Plan and the Industrial Development Policy, by improving the competitiveness of agribusiness value chains in Kampong Cham, Tboung Khmum, Kampot and Takeo provinces.
ADB	Technical Assistance	Cambodia: Uplands Irrigation and Water Resources Management Sector Project ¹²	<ul style="list-style-type: none"> ◇ Recipient: Ministry of Water Resources and Meteorology ◇ Closing Year/Status: Active ◇ Modality: Loan ◇ Budget Loan from Asian Development Fund : USD 60 million ◇ The project aims to enhance agricultural and rural economic productivity through increased efficiency of irrigation systems and improved management of water resources in uplands.
The World Bank	Capacity Building	Cambodia Agricultural Sector Diversification Project ¹³	<ul style="list-style-type: none"> ◇ Recipients: Ministry of Agriculture, Forest and Fisheries, Ministry of Economy and Finance, Ministry of Rural Development, Ministry of Water Resources and Meteorology ◇ Closing Year/Status: Active ◇ Modality: Loan ◇ Budget: USD 101.67 million ◇ The project has started with the aim of facilitating the response towards diversifying the agriculture value chains in some areas of Cambodia.

11. ADB Report. <https://www.adb.org/projects/48409-002/main>

12. ADB Report. <https://www.adb.org/projects/44328-013/main>

13. World bank Report. <https://projects.worldbank.org/en/projects-operations/project-detail/P163264>

1.3. Renewable Energy

Table 3 - Cambodia: Aid Assistance in Renewable Energy

Donor	Area	Project	Description
ADB, Canadian Climate Fund for the Private Sector in Asia	Capacity Building	Cambodia: Cambodia Solar Power Project ¹⁴	<ul style="list-style-type: none"> ◆ Recipient: Sunseap International Pte. Ltd ◆ Closing Year/Status: Active ◆ Modality: Loan ◆ Budget: USD 9.85 million ◆ The project will look to utilize the underutilized renewable energy resources and set an important precedent in the renewable energy sector in the country. This will be done by constructing first utility solar power project in the country.
ADB, Strategic Climate Fund, Republic of Korea e-Asia and Knowledge Partnership Fund	Capacity Building	Cambodia: National Solar Park Project ¹⁵	<ul style="list-style-type: none"> ◆ Recipient: Electricite Du Cambodge (EDC) ◆ Closing Year/Status: Active ◆ Modality: Grant, loan and Technical Assistance ◆ Budget- Grant by Strategic Climate Fund: USD 14 million ◆ Loan through concessionary ordinary capital resource lending: USD 7.64 million ◆ Technical Assistance by Republic of Korea e-Asia and Knowledge partnership Fund: USD 500,000 ◆ Key energy issues like low-cost power generation, diversifying power generation and increasing clean energy generation will be achieved from the project implementation. All this will be achieved by the construction of a solar photovoltaic power plant.

14. ADB Report. <https://www.adb.org/projects/50248-001/main>

15. ADB Report. <https://www.adb.org/projects/51182-001/main>

Donor	Area	Project	Description
Government of Austria, Strategic Climate Fund, Clean Energy Fund under the Clean Energy Financing Partnership Facility	Technical Assistance	Regional: Promoting Sustainable Energy for All in Asia and the Pacific - Project Development and Investment Facilitation (Subproject D) ¹⁶	<ul style="list-style-type: none"> ◆ Implementing Agency: Asian Development Bank ◆ Closing Year/Status: Active ◆ Modality: Technical Assistance ◆ Budget: TA by Government of Austria: USD 0.738 million ◆ TA by Strategic Climate Fund: USD 0.3 million ◆ TA by Clean Energy Fund: USD 1 million ◆ The project will address the issue of dependence on burning traditional solid fuels that has adverse impacts on the health of the people, particularly women and children.
ADB, Strategic Climate Fund, Clean Energy Fund under the Clean Energy Financing Partnership Facility	Capacity Building	Cambodia: Grid Reinforcement Project ¹⁷	<ul style="list-style-type: none"> ◆ Recipient: Electricite Du Cambodge (EDC) ◆ Closing Year/Status: Active ◆ Modality: Grant and Loan ◆ Budget: Grant by Strategic Climate Fund: USD 4.7 million ◆ Grant by Clean Energy Fund: USD 2 million ◆ Loan by concessionary ordinary capital resource lending: USD 127.8 million ◆ The project is aligned with the following impact: adequate and reliable power supply from environmentally sustainable energy sources ensured.

16. ADB Report. <https://www.adb.org/projects/48435-005/main>

17. ADB Report. <https://www.adb.org/projects/53324-001/main>

2

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.¹⁸

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..	<ol style="list-style-type: none"> 1. Humanitarian assistance and emergency management 2. Capacity building within the recipient country to sustain social programs 3. Institution building of recipient government through elections, training, or official government buildings 	<ul style="list-style-type: none"> ◇ Cambodia: Strengthening Coordination for Management of Disasters (Primary Donor- Japan Fund for Poverty Reduction) ◇ Regional: Greater Mekong Subregion Flood and Drought Risk Management and Mitigation Project (CAM) (Primary Donor - Asian Development Fund and Strategic Climate Fund) ◇ Ketsana Emergency Reconstruction and Rehabilitation Project (Primary Donor - The World Bank)
Altruistic	Seeks sustained development with long-term interventions	<ol style="list-style-type: none"> 1. Altruistic aid is the one that seeks to enhance economic development 2. Offered with the pure objective of improving the quality of life. Altruistic aid is usually offered on soft-terms and on long-term basis 	<ul style="list-style-type: none"> ◇ Cambodia: Mainstreaming Climate Resilience into Development Planning (Primary Donor - Asian Development Bank) ◇ Cambodia: Uplands Irrigation and Water Resources Management Sector Project (Primary Donor - Asian Development Bank) ◇ Cambodia: Uplands Irrigation and Water Resources Management Sector Project (Primary Donor - Asian Development Bank)

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

India can be categorized primarily under the ‘Representational’ category¹⁹. Overall, Cambodia has been a large recipient of India’s development cooperation initiatives for cultural exchanges through training programmes and capacity building.

18. Strange, Austin. Mengfan Cheng. Brooke Russell. Siddhartha Ghose and Bradley Parks. 2017.

19. Based on stakeholder discussions

Figure 5 – India’s Role in Cambodia

MOUs, Trade and Cultural Relations

- ◆ India and Cambodia have signed various agreements and memorandum of understanding (MoU) in the fields of bilateral cooperation, trade & commerce, cultural exchanges, capacity building, concessional loans for developmental projects and restoration and conservation of old temples in Cambodia²⁰
- ◆ From 1986 to 1993, the Indian government sent professionals from the Archaeological Survey of India to restore and save the Angkor Wat temple.²¹
- ◆ Another major continuing project is the restoration of another temple complex at Ta Prohm. In 2018, India pledged to assist in the partial restoration of Preah Vihear’s ancient temple.²²
- ◆ In the past, India had gifted medicines, rice, indelible ink and lately supply of water pumps to Cambodia. Lines of Credit have been extended for Water Resource Development and laying of transmission lines. India also assisted in the project for redevelopment of India-Cambodia Friendship school in 2015.²³

Mekong Ganga Cooperation and Quick Impact Projects (QIPs)

- ◆ Under the Mekong Ganga Cooperation (MGC) initiative, India helped in establish the Asian Traditional Textile Museum at Siem Reap. The museum, first of its kind in Cambodia, was completed in December 2011. It is headed by an Indian Director appointed by Indian Council for Cultural Relations (ICCR). It has exhibits on textiles from the Mekong Ganga regions and hosts various events demonstrating linkages between these regions.²⁴
- ◆ Also, under the MGC initiative, beginning from 2015-16 India has been assisting Cambodia with small socio-economic projects known as Quick Impact Projects in the fields of agriculture, health, women empowerment, capacity building, sanitation, environment and information technology, every year. These projects have received an overwhelming response and created a distinct and visible impact among beneficiaries. These projects have been doubled annually since 2019.²⁵

Defence and ITEC initiatives

- ◆ As a major initiative towards capacity building, in addition to the existing schemes of training of Cambodians under Indian Technical and Economic Cooperation (ITEC) programme & ICCR scholarships for students, India has also committed to help in setting up a Centre of Excellence in IT and IT-enabled services in Cambodia. The ITEC slots have been increased to 200 per year since 2019.²⁶
- ◆ The cooperation has been continuing in defence sector with the conduct of annual training capsule for Royal Cambodian Armed Forces in Peacekeeping and Demining modules; defence courses under ITEC; goodwill visits by Indian Navy and Indian Coast Guard ships and exchange of official delegations.²⁷

20. India Cambodia bilateral Relations. https://embindpp.gov.in/pdf/menu/IndiaCambodiBilateralRelations_new.pdf

21. Ibid

22. Ibid

23. Ibid

24. India Cambodia Bilateral Relations. Ministry of External Affairs. 2020. https://www.mea.gov.in/Portal/ForeignRelation/India-Cambodia_Bilateral_Brief_feb_2020.pdf

25. Ibid

26. Ibid

27. India Cambodia Bilateral Relations. Ministry of External Affairs. 2020. https://www.mea.gov.in/Portal/ForeignRelation/India-Cambodia_Bilateral_Brief_feb_2020.pdf

Lines of Credit (LOCs)

- ◆ India has extended LOCs to Cambodia in areas such as water resource development and laying of transmission lines.
- ◆ Further, in the India-Cambodia Joint Statement (January 27, 2018) – during the State Visit of the Prime Minister of Cambodia to India – the two sides also agreed on a USD 20 million concessional line of credit by India for construction of transmission line in Cambodia and agreed to work towards its signing in the near future²⁸. The Indian government also offered additional LOCs to bolster infrastructure projects in Cambodia in sectors such as healthcare (super specialty hospitals) and connectivity (road, rail and digital).

Table 5 - Lines of Credit: Government of India to Government of Cambodia

S. No.	Purpose	Year of Approval	Date of Signing of LOC (by the Recipient with EXIM Bank)	Amount of Credit (USD Million)
1	◆ Strengthening the capacity of transmission line project between Kratie and Stung Treng	2007-08	March 1, 2010	15
2	◆ Stung Tasal development project by WAPCOS ◆ Purchase of water pumps ◆ Construction of electricity transmission line between Kratie and Stung Treng by WAPCOS	2007-08	December 8, 2007	35.20
3	◆ Completion of Stung Tasal Water Development Project	2010-11	September 14, 2010	15
4	◆ Stung Sva Hab/Slab Water Resources Development Project	2013-14	January 27, 2018	36.92
Total				102.12

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

2.1. Chinese Interventions in Cambodia

Figure 6 - China as a donor in Cambodia

China's role as a donor in Cambodia

1. Due to invasion by neighbouring countries and natural calamities, Cambodia lacks human capital and saving capital to support economy and social needs. China's aid has become a model with its own features for building stable friendly relations as well as economic and trade cooperation with other developing countries.²⁹
2. Several soft loans and grant agreements were signed during Prime Minister Hun Sen's Beijing visits in 2013 and 2014.³⁰

28. India Cambodia joint statement during State visit of Prime Minister of the Kingdom of Cambodia to India. 2018. <https://mea.gov.in/bilateral-documents.htm?dtl%2F29394%2FIndiaCambodia+Joint+Statement+during+State+Visit+of+Prime+Minister+of+the+Kingdom+of+Cambodia+to+India+January+27+2018>

29. Based on stakeholder discussions

30. Aid and Development. OpenDevelopment Cambodia. 2015. <https://opendevlopmentcambodia.net/topics/aid-and-development/>

3. The Lancang-Mekong cooperation although fruitful, yet China has not provided sufficient data to the partner countries to prepare for the environmental impacts.³¹
4. According to the CDC database, the majority of China's ODA to Cambodia was spent on infrastructure development, particularly road and irrigation system construction in mine-rich areas.³²
5. The majority of China's support to Cambodia is in the form of concessions in the sectors of economic infrastructure, health, power and agriculture.³³ Infrastructure development is financed by loans, technical aid, and state-sponsored or subsidized projects that are tied to Cambodia's long term diplomatic and strategic goals.³⁴
6. By developing plans for a national road network and modern agriculture, China has aided Cambodia in improving its transportation infrastructure and agricultural productivity.³⁵
7. China has launched pilot projects in Cambodia to share its experience in reducing poverty village by village, improving local village organisational capacity, encouraging farmers to pool their efforts in agricultural activities, and cultivating a new vision for development to help Cambodia alleviate poverty³⁶
8. In addition, China provided aid in modern agricultural planning and backed the Stung Chikreng water resources development project, which ensured an 80 percent water supply rate for irrigation and replaced single cropping in rice production with double cropping.³⁷
9. China has also provided training to rural technical personnel, including an agricultural school in Cambodia.³⁸
10. Road development is required under Cambodia's National Strategic Development Plan (NSDP), and with the help of China's aid the realized number of constructions completed in 2010 exceeds the NSDP's goal.³⁹
11. China's Foreign Aid was mostly utilized to support Chinese small and medium businesses (SME) and Cambodian initiatives. As a result, China was able to provide jobs for its workforce as well as enhance market access for Chinese goods.⁴⁰
12. Furthermore, the Chinese SMEs could use the construction projects to look for geologically unexplored

31. The Mekong River and Mekong Subregion Cooperation. PICH Charadine.. <https://www.kas.de/documents/264850/0/Chapter+4.+Mekong+River.+Pich+Charadine.pdf/4839632f-5282-6f9a-19f4-877e09c28066?version=1.0&t=1614589450350>

32. CDC Database. http://odrcerambodia.com/projectlist/project_list_updated.asp?OtherDonor=29&status=0&UpdateFrom=1/1/2021&updateTo=11/10/2021

33. Mao, Xiaojing. Xu, Xiuli. Huang, Meibo. South-South Cooperation and Chinese Foreign Aid. 2019. [https://books.google.co.in/books?id=Vvx9DwAAQBAJ&pg=PA99&lpg=PA99&dq=4.%09Road+development+is+required+under+Cambodia%27s+National+Strategic+Development+Plan+\(NSDP\)+%2B+China&source=bl&ots=aXk_KxzdKM&sig=ACfU3U3-AoK6s6zLx5G4j4FuLrc2SHU8dw&hl=en&sa=X&ved=2ahUKEwjlu9s_fzAhWg4XMBHfxnDacQ6AF6BAGLEAM#v=onepage&q=4.%09Road%20development%20is%20required%20under%20Cambodia's%20National%20Strategic%20Development%20Plan%20\(NSDP\)%20%2B%20China&f=false](https://books.google.co.in/books?id=Vvx9DwAAQBAJ&pg=PA99&lpg=PA99&dq=4.%09Road+development+is+required+under+Cambodia%27s+National+Strategic+Development+Plan+(NSDP)+%2B+China&source=bl&ots=aXk_KxzdKM&sig=ACfU3U3-AoK6s6zLx5G4j4FuLrc2SHU8dw&hl=en&sa=X&ved=2ahUKEwjlu9s_fzAhWg4XMBHfxnDacQ6AF6BAGLEAM#v=onepage&q=4.%09Road%20development%20is%20required%20under%20Cambodia's%20National%20Strategic%20Development%20Plan%20(NSDP)%20%2B%20China&f=false)

34. Vethanak, Chet. China's official development cooperation: An implication of the transport development infrastructure in Cambodia. 2021. <https://www.scrip.org/journal/paperinformation.aspx?paperid=111549>

35. 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

36. Ibid.

37. Ibid.

38. Ibid.

39. Zhang, Dhengua. A Cautious New Approach: China's growing Trilateral Aid Cooperation. 2020. <https://library.oapen.org/bitstream/handle/20.500.12657/37221/Acautious.pdf?sequence=1>

40. Mao, Xiaojing. Xu, Xiuli. Huang, Meibo. South-South Cooperation and Chinese Foreign Aid. 2019. [https://books.google.co.in/books?id=Vvx9DwAAQBAJ&pg=PA99&lpg=PA99&dq=4.%09Road+development+is+required+under+Cambodia%27s+National+Strategic+Development+Plan+\(NSDP\)+%2B+China&source=bl&ots=aXk_KxzdKM&sig=ACfU3U3-AoK6s6zLx5G4j4FuLrc2SHU8dw&hl=en&sa=X&ved=2ahUKEwjlu9s_fzAhWg4XMBHfxnDacQ6AF6BAGLEAM#v=onepage&q=4.%09Road%20development%20is%20required%20under%20Cambodia's%20National%20Strategic%20Development%20Plan%20\(NSDP\)%20%2B%20China&f=false](https://books.google.co.in/books?id=Vvx9DwAAQBAJ&pg=PA99&lpg=PA99&dq=4.%09Road+development+is+required+under+Cambodia%27s+National+Strategic+Development+Plan+(NSDP)+%2B+China&source=bl&ots=aXk_KxzdKM&sig=ACfU3U3-AoK6s6zLx5G4j4FuLrc2SHU8dw&hl=en&sa=X&ved=2ahUKEwjlu9s_fzAhWg4XMBHfxnDacQ6AF6BAGLEAM#v=onepage&q=4.%09Road%20development%20is%20required%20under%20Cambodia's%20National%20Strategic%20Development%20Plan%20(NSDP)%20%2B%20China&f=false)

mineral reserves. Through construction projects support by China, Cambodia benefits from enhanced infrastructure as well as the ability to export commodities to China.⁴¹

Source: Zhang, Dhengua. A Cautious New Approach: China's growing Trilateral Aid Cooperation. 2020. <https://library.oapen.org/bitstream/handle/20.500.12657/37221/Acautious.pdf?sequence=1>

Table 6 - A glimpse of China's Development Cooperation in Cambodia

Project	Sector	Description
<p>China Eximbank provides RMB 309 million government concessional loan for Phase 2 of Stung Atay Pursat Dam Construction Project</p>	<p>Energy</p>	<ul style="list-style-type: none"> ◆ Span: 2017- Present ◆ Budget: RMB 309 million ◆ Modality: Loan ◆ Implementing Agencies: - C.H.D. (Cambodia) Hydropower Development Co. Ltd., China Yunnan Corporation for International Techno-Economic Cooperation, Government of Cambodia, Guangdong Foreign Construction Co., Ltd (GDFC) Yunnan Southeast-Asia Economy and Technology Investment Industrial ◆ China Exim bank and the Government of Cambodia signed a USD 63,134,700 preferential buyer's credit (PBC) agreement for Phase 1 of the Stung Atay Pursat Dam Construction Project (captured in linked ProjectID#35582). The GCL carried following terms: 20-year maturity, 7-year grace period, and 1.25% interest rate. Phase 1 involved the installation of two sets of ten-megawatt hydro turbines and generator units (4 x 5 MW). Phase 2 involved the construction of the lower dam's powerhouse and the installation of four sets of 25MW hydro turbines and generator units (4 x 25 MW). Phase 2 also involved the construction of a 115 kV transmission line from the hydroelectric plant to the Ou Saom Substation and the construction of a 230 kV transmission line from the Ou Saom substation to the Pursat Grid substation. The project is located in a remote and jungle area in Stung Atay, which is an upstream tributary of Stung Ruxeg Chrum in Pursat Province.

41. Ibid

Project	Sector	Description
<p>Chinese Government provided loan to Cambodia for National Road No. 7 (NR 7) Water Damaged Road Rehabilitation Project</p>	<p>Transport and Storage</p>	<ul style="list-style-type: none"> ◆ Span: 2017-2019 ◆ Budget: Unspecified ◆ Modality: Loan ◆ Implementing Agency: - Zhejiang Construction Group ◆ In 2017, the construction of National Road No. 7 (NR 7) Water Damaged Road Rehabilitation Project in Cambodia was started. On December 14th, 2018, the Construction of Phase 1 is completed. In 2019, the Certificate of giving-receiving the Rehabilitation Project was signed presided over by Cambodian Prime Minister and his Chinese counterpart Li Keqiang, Cambodia and China. It implies that the project has been completed. This project supported a 93.5 km road segment.
<p>China and Cambodia sign MOU on Agricultural Cooperation</p>	<p>Agriculture</p>	<ul style="list-style-type: none"> ◆ Span: 2013-2018 ◆ Budget: Unspecified ◆ Modality: Free Standing Technical Assistance ◆ Implementing Agency: Unspecified ◆ On January 8th 2013, Cambodia and China's Guangxi Zhuang Autonomous Region signed a Memorandum of Understanding on strengthening bilateral communication and cooperation in agriculture. According to the MoU, both sides are willing to improve and strengthen the communication on improved crop and plant varieties and technology. The MoU is valid for a period of 5 years. Zhang Mingpei on that occasion also donated 43 vegetable pesticide residue quick-detecting instruments in equivalent to 30,000 U.S. dollars to Cambodian Ministry of Agriculture, Forestry and Fisheries (MAFF)
<p>China Eximbank provides RMB 126 million government concessional loan for 7th China-Cambodia Friendship Koh Thom Bridge Construction Project</p>	<p>Transport and Storage</p>	<ul style="list-style-type: none"> ◆ Span: 2013-17 ◆ Budget: 126,000,000 ◆ Modality: - Loan ◆ Implementing Agency: - China Road and Bridge Corporation ◆ On April 8, 2013, China Eximbank and the Government of Cambodia's Ministry of Economy and Finance signed an RMB 126 million government concessional loan (GCL) agreement for the 7th China-Cambodia Friendship Koh Thom Bridge Construction Project. The GCL carried the following terms: 20-year maturity, 7-year grace period, and 1.25% interest rate (See: Project/Program Information and Implementation Arrangements).

Project	Sector	Description
		<p>The proceeds of the GCL were to be used by the borrower to finance an EPC (commercial) contract with China Road and Bridge Engineering Co., Ltd. The purpose of the project was to construct the 7th China-Cambodia Friendship Koh Thom Bridge Project, which is a bridge that crosses the Tonle Bassac River in Koh Thom district and connects National Road 21 (NR 21) and National Road 110. It is approximately 415 meters long and 13.5 meters wide and its construction was designed to connected Kandal province with neighbouring Vietnam. Construction started on March 25, 2013 and the project was completed on August 8, 2016, the project was completed. The bridge was officially inaugurated on February 13, 2017, with Cambodian Prime Minister Hun Sen and Chinese Ambassador to Cambodia Xiong Bo presiding over the ceremony.</p>

Source: AidData. <https://www.aiddata.org/data/aiddatas-global-chinese-development-finance-dataset-version-2-0>

3

Key Challenges and Best Practices: Sectoral Case Studies

The key challenges and best practices under Disaster Risk Reduction, Climate Smart Agriculture and Renewable Energy are explained below:

Figure 7 - Case Studies: Key Takeaways

Area Disaster Risk Reduction	Area Climate Smart Agriculture	Area Renewable Energy
<p>Project</p> <p>Ketsana Emergency Reconstruction and Rehabilitation project (KERRP)</p>	<p>Project</p> <p>Reducing the vulnerability of rural livelihoods through enhanced sub-national climate change planning and execution of priority actions (SRL)</p>	<p>Project</p> <p>Rural Electrification and Transmission Project (RETP)</p>
<p>Donor(s)</p> <p>The World Bank</p>	<p>Donor(s)</p> <p>Global Environment Facility (GEF), United nations Development Program (UNDP)</p>	<p>Donor(s)</p> <p>The World Bank, Others</p>
<p>Best Practices</p> <ul style="list-style-type: none"> ◆ Adherence to the Build Back Better (BBB) approach, with MRD designs taking climate change into account ◆ Capacity building of local contractors ◆ Congruence with the RGC's "Rectangular Strategy for Growth, Employment, Equity, and Efficiency, Phase-III ◆ Promotion of community co-operation; training to use shared facilities ◆ Facilitation of sustainability through user involvement and community participation ◆ Inventory of Losses (IoL) 	<p>Best Practices</p> <ul style="list-style-type: none"> ◆ Use of adaptive management, to deal with unexpected events, evolving needs and emerging opportunities ◆ Strong leadership by NCSD and effective coordination between key stakeholders i.e. NCSD, NCDD-S and UNDP ◆ Cost-cutting through minimal expenditure on local and international consultants ◆ Institutionalisation of procedures and methodologies, to ensure replicability of adaptation solutions/pilots pursued throughout the tenure of the project of the project to relevant stakeholders 	<p>Best Practices</p> <ul style="list-style-type: none"> ◆ Alignment with Cambodia's Energy Sector Strategy and its Renewable Energy Strategy of 2001 ◆ Adoption of 'Hire and Purchase' model to meet SHS installation targets ◆ Efficient management of requirements of women i.e. reductions in physical burden, lowering of time taken for household work, improved safety, opportunities to pursue new vocations (e.g. weaving) ◆ Outreach to remote rural households

Major Challenges

- ◆ Issues in benchmarking and impact evaluation
- ◆ Periodic delays
- ◆ Inconsistent data
- ◆ Legislative issues

Major Challenges

- ◆ Weak capacity of subnational administration
- ◆ Lack of synergy with other UNDP projects
- ◆ Funding/co-financing issues
- ◆ Implementation delays
- ◆ New community groups

Major Challenges

- ◆ Delays in implementation
- ◆ Initial glitches in environmental protection
- ◆ Delays in reimbursements

Ensuring Sustainability of Ketsana River Rehabilitation Program⁴²

Risks were systematically included into all parts of Cambodia's recovery programme, and all stakeholders were assured that future safety was a top priority in the recovery process' planning and implementation. Furthermore, establishing and strengthening institutions, mechanisms, and capacities to build resilience to risks should be an intrinsic aspect of the recovery process for all sectors concerned.

Ensuring Sustainability of Reducing the Vulnerability of Cambodian Rural Livelihoods through Enhanced Sub-National Climate Change Planning and Execution of Priority Action (SRL) Project -

In order to ensure long-term sustainability of the project the following steps were undertaken by the Donor agencies -

- ◆ Restructuring of Ministry of Environment was operationalised
- ◆ New NCSO Organizational Structure and Authorities were Operationalized
- ◆ New Environmental Code (EC) were drafted
- ◆ Integrated Ecosystem mapping was developed and operationalized.

Ensuring Sustainability of Rural Electrification and Transmission Project (RETP)⁴³

The following conditions would ensure the sustainability of project components-

- ◆ Actions to address government arrears and energy rates, as well as the government's commitment to deepen power sector reforms, including improved liberalisation of investments and full support for the commercialization of Electricite Du Cambodge (EdC), were critical for project sustainability.
- ◆ The only way for the private sector to thrive was for there to be a clear political and public commitment to stimulate and sustain private investment in the industry
- ◆ To make power trading methods like the connectivity between Vietnam and Cambodia possible, growth in electricity consumption in both urban and rural regions was required.
- ◆ The development of transmission lines (TLs), substations, and distribution systems, as well as the proper maintenance of infrastructure built under the Project, were vital to the project's long-term viability. The selection of proper technology/maintenance management practises and procedures was critical for the long-term sustainability of renewable energy projects.

42. Socialist Republic of Vietnam: Central Mekong Delta Region Connectivity. 2012. <https://www.adb.org/sites/default/files/project-document/197416/40255-043-vie-tacr-01.pdf>

43. Project Appraisal Document. Rural Electrification Transmission Project. 2003. <https://documents1.worldbank.org/curated/en/908861468742209296/text/270150KH.txt>

4

Scope of India's involvement in Development Cooperation in Cambodia: Mapping Demand and Supply

4.1. Opportunities for India



Disaster Risk Reduction

- ❖ **Data collection/analysis** - In the areas under focus, the need for optimum data capturing (including complete digitisation 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 Cambodia in improving its information management systems.
- ❖ **Advisory** - India can provide advisory services - including benchmarking and impact evaluation of various interventions/projects - to Cambodia to facilitate augmented risk assessment, planning and project execution.
- ❖ **Capacity building** - India can be a major partner to Cambodia in implementing capacity building measures in key areas such as infrastructure augmentation/modernisation, operational efficiency, technology transfer, technical assistance, training, research and development, and community-based development. India has implemented successful models to enable holistic improvements in these areas, which Cambodia can benefit from.
- ❖ **Human resource development** - Cambodia 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) and optimising 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 and subsequently, exercising effective 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 progress of key interventions, measurement of interim outcomes, identification of issues (and respective stakeholders) and implementation of reform initiatives for project level as well as overall systemic developments.



Climate Smart Agriculture

- ❖ **Capacity building** - India can be a major partner to Cambodia in implementing capacity building measures in key areas such as infrastructure augmentation/modernisation, operational efficiency, technology transfer, technical assistance, training, research and development, community-based development. India has implemented successful models to enable holistic improvements in these areas, which Cambodia can benefit from.
- ❖ **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, and subsequently, exercising effective reform measures to iron out such issues.



Renewable Energy

- ❖ **Data collection/analysis-** In the areas under focus, the need for optimum data capturing (including complete digitisation 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 Cambodia in improving its information management systems.
- ❖ **Capacity building** - India can be a major partner to Cambodia in implementing capacity building measures in key areas such as infrastructure augmentation/modernisation, operational efficiency, technology transfer, technical assistance, training, research and development, community-based development. India has implemented successful models to enable holistic improvements in these areas, which Cambodia can benefit from.
- ❖ **Financing** - There have been instances of infrastructure projects getting stalled in Cambodia due to insufficiency of funds. India can assist in the creation of effective financial models - exploring avenues of both public and private participation - for smooth and timely implementation of development initiatives..

4.2. Disaster Risk Reduction

Table 7 - Private and Public Stakeholder mapping for Disaster Risk Reduction

Cooperation Sectors	Indian Stakeholders	Cambodian Stakeholders
Technical assistance for DRR	Government Stakeholders	
	<ul style="list-style-type: none"> • 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) 	<ul style="list-style-type: none"> • Ministry of Rural Development • National Committee for Disaster Management (NCDM)

Cooperation Sectors	Indian Stakeholders	Cambodia Stakeholders
	<p>Private Stakeholders, NGOs and Educational Institutes</p> <ul style="list-style-type: none"> Oxfam India World Wide Fund for Nature (WWF), India 	<ul style="list-style-type: none"> Ministry of Water Resource and Meteorology (MOWRM) Sustainable Development and Climate Change Department (SDCC) Ministry of Economy and Finance (MEF) The Mekong River Commission (MRC) European Commission's Humanitarian department (ECHO, NGO) Ministry of Public Works and Transport (MPWT)
Legislative, planning and policy frame-work for improved governance	<ul style="list-style-type: none"> National Disaster Management Authority (NDMA) 	
Developing Early Warning systems and emergency response	<ul style="list-style-type: none"> Indian Institute of Technology (IIT), Delhi National Disaster Response Force (NDRF) National Fire Service College National Civil Defense College 	
Capacity Building	<p>Government Stakeholders</p> <ul style="list-style-type: none"> 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) 	
	<p>Private Stakeholders, NGOs and Educational Institutes</p> <ul style="list-style-type: none"> Development Research Communication and Service Centre (DRCSC) Bharat Seva Ashram Sangh Tagore Society for Rural Development (TSRD) 	

4.3. Climate Smart Agriculture

Table 8 - Private and Public Stakeholder Mapping for Climate Smart Agriculture

Cooperation Sectors	Indian Stakeholders	Cambodia Stakeholders
Technical assistance and training	<p>Government Stakeholders</p> <ul style="list-style-type: none"> National Innovation in Climate Resilient Agriculture (NICRA) National Institute of Rural Development & Panchayati Raj (NIRD&PR) 	

Cooperation Sectors	Indian Stakeholders	Cambodia Stakeholders
	Private Stakeholders, NGOs and Educational Institutes	<ul style="list-style-type: none"> Ministry of Economy and Finance (MEF) Ministry of Water Resource and Meteorology (MOWRM) Ministry of Agriculture, Forest and Fisheries (MAFF) Ministry of Public Works and Transport (MPWT) Ministry of Planning, Department of Farmer Water User Communities Sustainable Development and Climate Change Department (SDCC)
	<ul style="list-style-type: none"> SHODH SM Sehgal Foundation 	
Capacity Building	Government Stakeholders	
	<ul style="list-style-type: none"> National Innovation in Climate Resilient Agriculture (NICRA) Indian Council for Agricultural Research (ICAR) Ministry of Rural Development (MRD) National Institute of Agricultural Extension Management (MANAGE) 	
	Private Stakeholders, NGOs and Educational Institutes	
	<ul style="list-style-type: none"> Centre for Sustainable Agriculture Agri Innovation Hub (AgriHub) 	
Policy and Regulatory	Government Stakeholders	
	<ul style="list-style-type: none"> National Institute of Rural Development & Panchayati Raj (NIRD&PR) Ministry of Rural Development (MRD) 	
	Private Stakeholders, NGOs and Educational Institutes	
	<ul style="list-style-type: none"> The Energy and Resources Institute (TERI) Centre for Sustainable Agriculture 	
Services and Business Models	<ul style="list-style-type: none"> International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) CropIn Agri Innovation Hub (AgriHub) 	

4.4. Renewable Energy

Table 9 - Private and Public Stakeholder Mapping for Renewable Energy

Cooperation Sectors	Indian Stakeholders	Cambodia Stakeholders
Technical assistance and training	Government Stakeholders	
	<ul style="list-style-type: none"> 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) 	

Cooperation Sectors	Indian Stakeholders	Cambodia Stakeholders
	<p>Private Stakeholders, NGOs and Educational Institutes</p> <ul style="list-style-type: none"> • 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) 	<ul style="list-style-type: none"> • Electricité du Cambodge (EDC) • Royal Government of Cambodia (RGC) • Asian Vision Institute (AVI) • Global Environment Institute (GEI) • International Institute of Energy Conservation (IIEC)
Capacity Building	<p>Government Stakeholders</p> <ul style="list-style-type: none"> • Private & public sector companies, research institutes, educational institutes (IITs, IISc, Universities, NITs), • Indian Renewable Energy Development Agency Limited (IREDA) • National Skill Development Corporation (NSDC) • Skill Council for Green Jobs (SCGJ) • Indian Space Research Organisation (ISRO) 	
Research and Advisory	<ul style="list-style-type: none"> • 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 	

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 to Financing via public sources.



Disaster Risk Reduction

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.⁴⁴

- ◆ 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.
- ◆ 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.
- ◆ Devising appropriate institutional arrangements in the identified sectors where donor intervention is deemed necessary.

44. 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>

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.⁴⁵



Climate Smart Agriculture

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.⁴⁶

- ◆ 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.⁴⁷



Renewable Energy

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 includes the market led model because it includes little or no Government backing and incorporates more private players in the project.⁴⁸

45. Financing options for renewable energy and energy efficiency. Sustainable Energy Regulation and Policymaking for Africa. <http://africa-toolkit.reeep.org/modules/Module19.pdf>

46. 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>

47. Financing options for renewable energy and energy efficiency. Sustainable Energy Regulation and Policymaking for Africa. <http://africa-toolkit.reeep.org/modules/Module19.pdf>

48. Ibid.

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 among others – the impact of which would potentially be experienced beyond the TriDeP life cycle.

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

Triangular Cooperation in the selected Areas

India as an Emerging Donor in Cambodia

◆ Disaster Risk Reduction

- ◆ Providing assistance in standardising data collection/management/analysis
- ◆ Assisting in policy formulation and budgeting for disaster response
- ◆ Fostering improvements in early warning systems

◆ Climate Smart Agriculture

- ◆ Developing crop varieties tolerant to drought, and heat.
- ◆ Improving systems, business models and regulations
- ◆ Aiding preparedness

◆ Renewable Energy

- ◆ Improving data collection
- ◆ Aiding institutional capacity building and skill development
- ◆ Providing technological support
- ◆ Facilitating investments

Cambodia as a Partner Country (Recipient)

◆ Disaster Risk Reduction

- ◆ Improvements in data availability and consistency
- ◆ Strengthening of budgeting and other policies for disaster management
- ◆ Introduction of cross-country early warning systems

◆ Climate Smart Agriculture

- ◆ Introduction of climate resistant crop varieties and improved techniques
- ◆ Incorporation of systemic improvements, streamlined policies and effective business models

◆ Renewable Energy

- ◆ Improvements in data collection to facilitate better planning
- ◆ Improved training initiatives and technical capacity building measures
- ◆ Increased private investments

In the backdrop of strong India-U.S. and India-Cambodia relationships, there is potential for meaningful synergies between India, U.S. and Cambodia 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, and awareness among others in these areas, which it can share with Cambodia 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:

- i) Synergies in DRR** - India possesses the innate capacities to foster holistic developments in the disaster management space, central which are the technical capacities to capture and synthesize relevant information for better preparedness. It can, therefore, provide advanced data management services to Cambodia, to foster overall improvements in data consistency, data assessment, and risk modelling thereby facilitating long term planning. Further, Cambodia faces policy level issues in terms of budgeting for disaster response, usage of donor assistance leading to increased debts and rising poverty levels. India can assist Cambodia in streamlining such policy level bottlenecks to ensure timely disaster response. Cambodia has also had a dearth of cross-country early warning systems, which has adversely affected its preparedness for disasters - such as floods - originating outside the country. India can significantly build such capacities in Cambodia, given its technical capabilities as well as increasing presence in neighbouring countries such as Vietnam and Laos.
- ii) Synergies in CSA** - India has ample experience in developing crop varieties tolerant to drought, and heat as well as effective plantation procedures, which it can share with Cambodia along with latest techniques, and technologies. India has also successfully deployed business models such as rice nursery enterprise model, and women led informal seed production, the technicalities of which can streamline agricultural operations in Cambodia. Further, India can facilitate the formulation of effective policies with respect to formulation/appraisal/sanction, allocation/disbursal of funds, stage-wise monitoring/evaluation to ensure effective and timely implementation of key projects. It can also capacity building both in terms of systemic improvements and human resource development at various levels.
- iii) Synergies in RE** - In Cambodia, data on RE resources has suffered in the areas of precision, quality and reliability. India can provide advanced data collection and processing services which would help Cambodia in situation assessment as well as planning in the area. India can also facilitate adequate awareness generation, technical capacities and skill development at the institutional and local levels i.e., in case of government agencies, local populace (training in usage and maintenance of RE equipment). Further, India can also facilitate private investments in Cambodia so as to encourage the implementation of RE technology at a larger scale.
- iv) Role of the U.S.** - The U.S. has been one of the biggest donors in Cambodia and on the other hand, it has healthy relations with India as well as prior experience in implementing joint projects of considerable socio-economic significance across sectors. It 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, and The World Bank. 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 interactions, 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 Cambodia. 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 Cambodia.⁴⁹

49. Based on stakeholder interaction

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