



DEVELOPMENT COOPERATION IN THE INDO-PACIFIC



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 (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

This report is made possible by the generous support of the American people through the United States Agency for International Development (USAID) under the 'India-U.S. Triangular Development Partnership (TriDeP)' program at The Asia Foundation. The opinions expressed here are solely of the authors and do not necessarily reflect the views of USAID or the United States Government, and The Asia Foundation.

Suggested citation

The Asia Foundation and Bureau of Research on Industry and Economic Fundamentals (BRIEF), 2023. *Development Cooperation in the Indo-Pacific. Country Report: Timor-Leste*

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List of abbreviations and acronyms

- ADB- Asian Development Bank
- CEA- Central Electricity Authority
- CEEW- Council on Energy, Environment and Water
- CI Conservation International
- CRS- Catholic Relief Services
- CSA- Climate Smart Agriculture
- CSIR- Council of Scientific and Industrial Research Labs
- CSTEP- Centre for Study of Science, Technology and policy
- DARDC- Dili to Ainaro Road Development Corridor, Timor-Leste
- DRCSC- Development Research Communication and Service Centre
- DRM- Disaster Risk Management
- DRR- Disaster Risk Reduction
- EESL- Energy Efficiency Services Limited
- ETPA- East Timor Public Administration
- ETTA- East Timor Transitional Administration
- EU- European Union
- FAO- Food and Agricultural Organisation
- FOIP- Free and Open Indo-Pacific
- GDP- Gross Domestic Product
- GEF- Global Environment Facility
- GET- Global Environment Trust
- GHG- Greenhouse Gas
- ICAR- Indian Council for Agricultural Research
- ICCR- Indian Council for Cultural Relations
- ICRISAT- International Crop Research Institute for Semi-Arid Tropics
- IISCs- Indian Institute of Science
- IIT- Indian Institute of Technology
- IMD- Indian Meteorological Department
- INCOIS- Indian National Centre for Oceanic Information Systems
- IREDA- Indian Renewable Energy Development Agency Limited
- IRENA- International Renewable Energy Agency
- ISRO- Indian Space Research Organisation

- LBSNAA- Lal Bahadur Shastri National Academy of Administration
- M&E- Monitoring and Evaluation
- MAFF- Ministry of Agriculture, Forestry and Fisheries
- MANAGE- National Institute of Agricultural Extension Management
- MITLTW- Management of Indonesian and Timor-Leste Transboundary Watersheds
- MNRE- Ministry of New and Renewable Energy
- MoU- Memorandum of Understanding
- MRD- Ministry of Rural Development
- MSS- Ministry of Social Solidarity
- 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
- NRA- National Petroleum Authority
- NRSC- National Remote Sensing Centre
- NSDC- National Skill Development Corporation
- ODA- Official Development Assistance
- OECD- Organization for Economic Cooperation and Development
- POSOCO- Power System Operation Corporation
- RE- Renewable Energy
- ROI- Return on Investment
- SAARC- South Asian Association for Regional Cooperation
- SCGJ- Skill Council for Green Jobs
- SDGs Sustainable Development Goals
- SDMC- SAARC Disaster Management Centre

- SEA- South East Asia
- SIETC- China Shandong International Economic and Technical Cooperation Corporation
- SSS-NIBE- Sardar Swaran Singh National Institute of Bio-Energy
- TA- Technical Assistance
- TERI- The Energy and Resources Institute
- ◆ TL- Timor-Leste
- TNA- Technology Needs Assessments

- TSRD- Tagore Society for Rural Development
- UNDP- United Nations Development Program
- UNEP- United Nations Environment Program
- UNIDO- United nations International Development Organization
- UNTAET- United Nations Transitional Authority in East Timor
- USAID- U.S. Agency for International Development
- USD- United States Dollars

Scope and Methodology

This report assesses the current status of development cooperation for Timor-Leste 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 a part of the exercise, extensive 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 Timor-Leste, 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 Timor-Leste 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 Timor-Leste.



Chapter 5 discusses the scope of India's involvement as a donor, which has been assessed through detailed demand-supply mapping for Timor-Leste 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 Timor-Leste.

1 Overview of Aid and Development Cooperation to Timor-Leste

Figure 1- Official Development Assistance (ODA) to Timor-Leste





Figure 2 - Total ODA and official Aid in Timor-Leste and share of GDP (million USD)





Source: OECD Database

Figure 4 - Focus Areas: Nature of Issues and Investments so Far¹



^{1.} India and China being non-DAC members do not have their ODA information in the OECD Database

^{2.} Global Assessment report on Disaster Risk Reduction. UNDRR. 2015. https://www.undrr.org/publication/globalassessment-report-disaster-risk-reduction-2015



Key Issues - Rising sea level, coastal erosions, and extreme weather, heavy dependence on agriculture, poor data management for efficient risk assessment and response, limited number of observation stations, limited research and development³

Climate Smart Agriculture

- Principal Donors World Bank and Timor-Leste Free-Standing Trust Fund Program, GET and Least Developed Countries Fund
- Broad Areas of Intervention Natural resource management, increasing resilience to climate change, removing policy barriers.
- Renewable
- Key Issues Heavy reliance on imported petroleum products and other fossil fuels, frequent electricity interruptions, limited human resources and capacity, lack of policy framework, limited knowledge base and research⁴
- Principal Donors PPG Amount and GEF Grant Fund, GEF, UNEP, ADB Technical Assistance Special Fund, Strategic Climate Fund
- Broad Areas of Intervention Renewable energy development, reducing GHG emission, policy advice and regulatory framework.

1.1. Disaster Risk Reduction

Table 1 - Timor-Leste: Aid Assistance in Disaster Risk Reduction

Donor	Area	Project	Description	
GEF Fund and UNDP	Capacity Building	Strengthening Community Resilience to Climate-induced Disasters in the Dili to Ainaro Road Development Corridor, Timor- Leste (DARDC) ⁵	 Recipients: National Disaster Management Directorate (Ministry of Social Solidarity), National Directorate for International Environmental Affairs and Climate Change (Ministry of Commerce, Industry and Environment), National Institute for Public Administration (Ministry of State Administration), Ministry of Agriculture and Fisheries Closing Year/Status: Active Modality: Grant and others Budget: USD 37.3 million The project aims to protect critical economic infrastructure from climate induced natural hazards through improved policies, strengthened local DRR institutions and investments in risk reduction measures within the corridor, with the objective of sustaining human development. 	

- 3. Kirono, Dewi. Climate Change in Timor-Leste-A brief overview on future climate projections. 2010. https://www. researchgate.net/publication/267397313_Climate_change_in_Timor-Leste_-_a_brief_overview_on_future_climate_ projections/citation/download
- 4. Weathering Change in Timor-Leste. AusAid. https://www.preventionweb.net/ files/24686_24686climatechangereportexecutivesu.pdf
- 5. PIF. GEF. https://www.thegef.org/project/strengthening-community-resilience-climate-induced-disasters-dili-ainaro-road-development

Donor	Area	Project	Description
			Implementing Agency: United Nations Development Program
			Closing Year/ Status: 2017
United			Modality: Grant
Nations		Despending to	Budget: USD 75,000
Development Program and Flinders University Australia	Capacity Building	Responding to El NĨ no Impact in Timor-Leste ⁶	The objective of this project was to support the capacities of the Resident Coordinator's Office in its role as the lead of Humanitarian Country. Team (HCT) in Timor-Leste, strengthen the government's role in coordinating El Nínd response, and support UNDP to contribute significantly to the government's plan and actions to respond effectively to manage the impacts of El Níno in Timor-Leste.
United		Safeguarding rural	 Recipients: Government, NGOs, Private sector partners, UNDP Closing Year/Status: Active
Nations		communities and	Modality: Grant
Development	. ,	their physical assets from climate- induced disasters in Timor-Leste ⁷	Budget: USD 59.4 million
Program and Green Climate Fund	Building		The project will support the implementation of 130 climate-resilient small-scale infrastructure across six municipalities that have been identified as most vulnerable to climate-related hazards.
			Recipient: Ministry of Social Solidarity (MSS)
			Closing Year/ Status: 2018
United Nations	Capacity	Strengthening Disaster Risk	Budget: USD 1.63 million
Development Program			The objective of the project was to develop national DRR capacity at national and district level, including communities' vulnerabilities to natural disasters and climate change.

^{6.} UNDP. https://www.tl.undp.org/content/timor_leste/en/home/all-projects/responding-to-el-nino-impact-in-timor-leste.html

^{7.} UNDP. https://www.adaptation-undp.org/projects/GCF/timorleste/infrastructure

^{8.} UNDP. https://www.tl.undp.org/content/timor_leste/en/home/all-projects/strengthening-disaster-risk-managementprogramme.html

1.2. Climate Smart Agriculture

Table 2 - Timor-Leste: Aid Assistance in Climate Smart Agriculture

Donor	Donor Area Project		Description		
World Bank and Timor-Leste - Free-Standing Trust Fund Program	Capacity Building	Third Agriculture Rehabilitation Project ⁹	 Closing Year/ Status: 2008 Modality: Grant Budget: 11.4 million The Third Agriculture Rehabilitation Project aimed to strengthen the capacity of the Ministry of Agriculture, Forestry and Fisheries (MAFF), and its key development partners to assist rural communities in increasing their production and income in a sustainable way. 		
GET and Least Developed Countries Fund	Technical assistance and Capacity Building	Adapting to climate change and enabling sustainable land management through productive rural communities in Timor- Leste ¹⁰	 Recipient: Ministry of Agriculture and Rural Development Closing Year/Status: 2018 Modality: Capacity Building Budget: EUR 23.57 million Objective was to increase climate resilience and reduce land degradation in priority watersheds by strengthening collaborative Sustainable Land Management (SLM) for increased livelihood resilience and water security of agriculture-based communities an ecosystem-based adaptation (EbA) model. 		
GET	Technical assistance	Management of Indonesian and Timor- Leste Transboundary Watersheds (MITLTW) ¹¹	 Recipients: The ministry of Environment and Forestry of the Republic of Indonesia Ministry of Agriculture and Fisheries of the Democratic Republic of Timor-Leste Closing Year/ Status: 2021 Budget: USD 12.32 million Project enhanced joint watershed management as well as food, water and livelihood security for communities in the Loes/Mota Masin drainage system 		

11. GEF. https://www.thegef.org/project/management-indonesian-and-timor-leste-transboundary-watersheds-mitItw

^{9.} World bank document. https://projects.worldbank.org/en/projects-operations/project-detail/P079320

^{10.} GEF. https://www.thegef.org/project/adapting-climate-change-and-enabling-sustainable-land-management-through-productive-rural

Donor	Area	Project	Description
GET and Least Developed Countries Fund	Technical assistance and Capacity Building	IKAN Adapt: Strengthening the adaptive capacity, resilience and biodiversity conservation ability of fisheries and aquaculture- dependent livelihoods in Timor-Leste ¹²	 Executing Agency: WorldFish Closing Year/ Status: 2019 Project enabled fisheries and aquaculture stakeholders in Timor-Leste to adapt to climate change and manage biodiversity conservation by reducing vulnerabilities, piloting and adopting new practices and technologies and information sharing.

1.3. Renewable Energy

Table 3 - Timor-Leste: Aid Assistance in Renewable Energy

Donor	Area	Project	Description
PPG Amount and GEF Grant Fund	Technical Assistance	Promoting Sustainable Bio-energy Production from Biomass ¹³	 Recipients: Ministry of Agriculture and Fisheries, Ministry of Economic Development, State Secretariat for Energy Policy Closing Year/Status: Active Modality: USD 7.02 million Budget: USD 5.18 million The project will support removal of barriers to sustainable production and utilization of biomass resources in Timor-Leste and application of biomass energy technologies to support local economic, environmental and social development that leads to GHG mitigation.
GEF, UNEP	Technical Assistance and Investment	Technology Needs Assessments (TNA) Phase IV ¹⁴	 Recipient: UNEP Closing Year/ Status: Active Budget: USD 6.12 million Provide participating countries targeted financial and technical support to prepare new or updated and improved TNAs, including TAPs, for prioritized technologies that reduce GHG emissions, support adaptation to climate change, and are consistent with Nationally Determined Contributions and national sustainable development objectives.

12. GEF. https://www.thegef.org/project/ikan-adapt-strengthening-adaptive-capacity-resilience-and-biodiversity-conservationability

13. GEF. https://www.thegef.org/project/promoting-sustainable-bio-energy-production-biomass

14. GEF. https://www.thegef.org/project/technology-needs-assessments-tna-phase-iv

Donor	Area	Project	Description
Technical Assistance Special Fund, Clean Energy Fund under the Clean Energy Financing Partnership Facility, Strategic Climate Fund, Spanish Cooperation Fund for Technical Assistance	Technical Assistance	Regional: Accelerating the Clean Energy Transition in Southeast Asia ¹⁵	 Recipient: Asian Development Bank Closing Year/Status: Active Modality: Technical Assistance Budget: USD 920,000 The knowledge and support technical assistance (TA) will support the countries of Southeast Asia (SEA) to transition to a cleaner energy future.
ADB Technical Assistance Special Fund	Technical Assistance	Timor-Leste: Energy System Strengthening and Sustainability Project ¹⁶	 Recipient: Ministry of Finance Closing Year/Status: Active Modality: Technical Assistance Budget: USD 326,487 The TA will produce an updated feasibility study for the proposed project that includes project scope and rationale, technical due diligence, economic and financial appraisal, environment and social safeguards; and project implementation arrangement and financing plan.

15. ADB. https://www.adb.org/projects/55124-001/main

16. ADB. https://www.adb.org/projects/49177-004/main

Cooperation Modalities of Donor Interventions and Donor Intent 2

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

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 	 Third Agriculture Rehabilitation Project (Primary Donor - World Bank and Timor-Leste - Free- Standing Trust Fund Program) Adapting to climate change and enabling sustainable land management through productive rural communities in Timor-Leste (Primary Donor - GET and Least Developed Countries Fund) Management of Indonesian and Timor-Leste Transboundary Watersheds (MITLTW) (Primary Donor - GET)
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 	 Strengthening Community Resilience to Climate-induced Disasters in the Dili to Ainaro Road Development Corridor, Timor- Leste (DARDC) (Primary Donor - IIIGEF Fund and UNDP) Safeguarding rural communities and their physical assets from climate-induced disasters in Timor- Leste (Primary Donor - United Nations Development Program and Green Climate Fund) Timor-Leste: Energy System Strengthening and Sustainability Project (Primary Donor - ADB Technical Assistance Special Fund)

Table 4 - Donor Intent Examples

Other Categories: Commercial, Representational, Security-military, Prestige and Mixed

^{17. *}World Bank Document



Capacity Building

India continues to strongly support Timor-Leste's developmental path and is eager to cooperate. India extends 15 ITEC training slots and 10 ICCR scholarships every year. India offers slots to TL for training their diplomats at the Foreign Service Institute of India.¹⁸

Grant in Aid

♦ GOI approved a Grant in Aid to Timor-Leste in October 2008 for infrastructure projects. USD 100,000 was transferred by the Mission in March 2010.

Cooperation in health sector and supply of ambulances

A fully-equipped ambulance unit which can serve as a mobile operation theatre was formally handed over to the Health Ministry of Timor-Leste in January 2016. An MOU in the field of healthcare and public health was signed between India and Timor-Leste in April 2018 during the visit of Hon'ble Indian Minister of State for Social Justice and Empowerment to Dili.¹⁹

Bamboo Project

The project "Establishment of Bamboo Skills Development and Demonstration Centre in Timor-Leste" was initially started by the United Nations Industrial Development Organization (UNIDO) in October 2004.²⁰

Project under India

UN Development Partnership Fund: The project titled, "Leveraging ICT to improve Education and Skills in Timor-Leste" was piloted in April in Oé cusse Enclave of Timor-Leste by Dr Mari Alkatiri, President of Special Administrative Region of Oé cusse and Special Zones for Social Market Economy of Timor-Leste.²¹

Project under IBSA Fund

The project, "Conservation Agriculture, Permaculture and Sustainable Fisheries Management: Enhancing Food and Nutrition Security and Reducing Risk Disaster is being funded by IBSA for a total cost of USD 1.4 million. The project was developed by FAO along with two NGOs naTerra and Conservation International - under the supervision of the Ministry of Agriculture and Fisheries.²²

Center of Excellence in Information & Technology

The project for setting up of a Center of Excellence in IT in Dili was conceived in 2004 and subsequently revised with a new draft MOU which was shared with the Timor-Leste side in March 2014 and again in March 2018.

^{18.} Consulate General of India. Ministry of External Affairs. https://www.cgibali.gov.in/page/itec-programme/

^{19.} National Health Sector Strategic Plan. Taliti. 2011. https://www.who.int/docs/default-source/searo/timor-leste/national-health-sector-plan.pdf?sfvrsn=70870918_2

^{20.} Ministry of External Affairs. https://mea.gov.in/Portal/ForeignRelation/India_Timor_Leste__2019.pdf

^{21.} Ministry of External Affairs. https://mea.gov.in/Portal/ForeignRelation/India_Timor_Leste__2019.pdf

^{22.} Ibid.

2.1. Chinese Interventions in Timor-Leste

Figure 5 - China's role as a donor in Timor-Leste²⁸

China's role as a donor in Timor-Leste

- 1. Despite the aid being very less as compared to other donors such as Japan and Australia, China has been visible because of its aids and promotions.²⁴
- 2. China has managed to win infrastructure contracts that are central to the development of the nation some of which are²⁵
 - Building the Foreign and Defense Ministries а
 - b. Building the Defense force headquarters
 - Building the presidential palace C.
- 3. China overtook Indonesia and Singapore as the country's third largest supplier of commodities in 2014, with a total value of USD 41 million.²⁶
- 4. China refused the concessional loan plea from Timor-Leste but instead offered to cooperate with Timor-Leste as an equal partner in the development of Timor-Leste.²⁷
- 5. China has sent its agricultural experts in Timor-Leste to aid them in improving the coffee varieties and their processing.28
- 6. China has also assisted Timor-Leste in forward linkages of agricultural production such as grain processing and storage facilities to improve their capacity.²⁹
- 7. China has also collaborated with countries such as Portugal to conduct training courses in Timor-Leste on mariculture technology.³⁰



^{23.} Is Chinese influence in Timor-Leste cause for concern? | National Security College (anu.edu.au)

^{24.} Ibid.

^{25.} China's inroad in East Timor. China Brief Volume :9. 2009. https://jamestown.org/program/chinas-inroads-into-east-timor/

^{26.} Is China's Influence in Timor-Leste Rising? - The Diplomat. Link: https://thediplomat.com/2016/11/is-chinas-influence-in-timorleste-risina/

^{27.} Ibid.

^{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.

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

Project	Sector	Description	
Chinese Government provides USD 212,000 grant for Phase 1 of Tripartite Agricultural Cooperation Project	Health	 Span: 2013-2014 Budget: USD 212,000 Modality: Free Standing Technical Assistance Implementing Agency: USAID, Yuan Longping High Tech Agriculture Co., Ltd. (LPHT) This tripartite agricultural cooperation project Phas I was initiated by the U.S. and China in conjunctio with the Ministry of Agriculture and Fisheries (MAF) of Timor-Leste. As part of USAID's existing 'Developin Agricultural Communities' program from the U.S side, the aim was to improve food security throug improved farming practices. The projected value of the initiative was USD 400,000 from the Chinese sid and USD 5 million from the American side. While the total actual commitment of the project from Chin was USD 212,407, the total actual disbursement from the Chinese side was USD 210,000. 	
China grants USD 10,608,296.61 to implement the three-phase Hybrid Rice Agricultural Technology Project in Timor-Leste from 2008-2015	Agriculture	 \$ Span: 2008-2015 \$ Budget: USD 10.6 million \$ Modality: Grant \$ Implementing Agencies: Government of Timor-Leste, Yuan Longping High-Tech Agriculture Co., Ltd. (LPHT) \$ Over the course of the seven-year Hybrid Rice Agricultural Technology Project which started on January 1, 2008, China provided rice seeds, fertilizers, agricultural equipment, agrochemicals, and hybrid rice experts to promote hybrid rice technology in Timor- Leste in an effort to solve the food shortage crisis. China's assistance has successfully improved the local production capacity of rice from 1.5 tons/hectare to 6-8 tons/hectare in Timor-Leste's Manatuto region. The project was implemented in three phases, and the contractor was Longping Hi-Tech Co., Ltd. 	

Project	Sector	Description
Chinese Government provides USD 6.8 million grant for Presidential Palace Construction Project	Government and Civil Society	 Span: 2007-2009 Budget: USD 6.8 million Modality: Grant Implementing Agencies: Yanjian Group Co., Ltd., China Shandong International Economic and Technical Cooperation Corporation (SIETC) The purpose of the project was to build a 3,800 square meter office building for the Presidency that is located in the capital city of Dili.
Chinese Government provides USD 9.3 million grant for Ministry of Foreign Affairs Project	Government and Civil Society	 \$ Span: 2006-2008 \$ Budget: USD 9.3 million \$ Modality: Grant \$ Funding Agencies: Yanjian Group Co., Ltd., China Shandong International Economic and Technical Cooperation Corporation (SIETC) \$ The purpose of the project was to construct a 6,700 square meter office building in the capital city of Dili for the Ministry of Foreign Affairs of Timor-Leste.

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 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

Major Challenges

- ♦ Management issues
- ♦ Lack of vision
- Poor communication among Govt stakeholders
- ♦ Low staff turnover
- Poor coordination and less meetings
- ♦ Lack of commitment

Major Challenges

- Over-optimistic scheduling
- Complex institutional demands
- Weak integration of activities
- \diamond Over-ambitious irrigation
- Weak monitoring and evaluation design

Major Challenges

- Inaccurate project assumptions during proposal
- Organizational risk
- Project delay
- Changes in government system
- ♦ Financing
- Closure of relevant projects and initiatives

Ensuring Sustainability of the Strengthening Community Resilience to Climateinduced Disasters in the Dili to Ainaro Road Development Corridor, Timor-Leste (DARDC) Project³¹

The project ensured that it was sustainable across all areas including financial resources, sociopolitical, institutional framework and governance, environment and stakeholder engagement.

Financial sustainability is linked to the interest of the national and local government, and that looks promising based on the commitments and actions of the national and local government. Environmental sustainability which is pivotal for the project will be highly effective as the project activities will reduce the vulnerability to road corridor and life and property of communities living along the road corridor. Involvement of local community assures the adaptation to disaster management as the impact of climate change will be appropriately addressed. Ecosystem safeguard measure too were taken care along the road corridor through increasing green coverage, improved agriculture practices, controlling erosion and flood control.

Ensuring Sustainability of Third Agriculture Rehabilitation Project³²

The Third Agriculture Rehabilitation project aims to strengthen the capacity of the Ministry of Agriculture, Forestry and Fisheries (MAFF), and its key development partners to assist rural communities in increasing their production and income in a sustainable way. However, the project did not adequately address issues around sustainability at the design stage, as a result of which it may have affected the development outcomes. At the same time, project outcomes and outputs were not well-defined, while outputs were not simple or realistic. Another challenge that affected project outcome was the constantly chnaging environment which hampered regular monitoring and supervision of the project ³³.

^{31.} GEF Document. https://www.thegef.org/projects-operations/projects/5056

^{32.} Third Agriculture rehabilitation project. The World Bank. 2010. https://projects.worldbank.org/en/projects-operations/ document-detail/P079320?type=projects

^{33.} https://documents1.worldbank.org/curated/en/112761474492272582/pdf/000146597-20140619171703.pdf

Ensuring Sustainability of Promoting Sustainable Bio-energy Production from **Biomass Project³⁴**

Sustainability of the project is quite uncertain because of various reasons and could be measured only from qualitative aspects because of several limitations. Although, the project had taken into account the sustainability aspects by not relying on the external assistance and promoting selfreliance by communities. Despite this, some of the project activities had shown to be quite fragile in terms of quality and sustainability. Few project components lack the relevant indicators to ensure sustainability and few only focused on construction work and system operation and neglecting the maintenance work which will hamper the sustainability. The long-term sustainability also got hit because of top-down approach used in carrying out the implementation process in which high-level consultation and the intervention was made by the Headquarters staff thereby limiting the on-field training and technical knowledge of the file staff.

^{34.} Promoting Sustainable Bio-energy Production from Biomass | Global Environment Facility (thegef.org)

4.1. Opportunities for India

- 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 Timor-Leste in improving its information management systems.
- Capacity building India can be a major partner to Timor-Leste in implementing capacity building measures in key areas such as infrastructure augmentation/ modernisation, operational efficiency, technology transfer, technical assistance, manpower planning, training, research and development, community-based development, emergency response, etc. India has implemented successful models to enable holistic improvements at various levels (local, regional and national) in these areas, which Timor-Leste can benefit from.
- ۲ **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.
- Budgetary support India can facilitate viable investments (including infusion) of private capital) and effective utilisation of finances from internal sources to foster holistic development in the areas under focus. It can also share its expertise in financial management i.e. planning, budget execution, accounting, auditing, etc.
- Research capacity India can assist Timor-Leste in developing necessary research capacity in the areas under focus through development of knowledge base in relevant areas (policies/regulations, technology, technical capacity, human resource development, vulnerability assessment, post-disaster research, etc.) as well as facilitation of coordination and knowledge sharing among key actors (academia, subject matter experts, relevant companies/ entrepreneurs, etc.).



Disaster Risk Reduction

- ♦ Advisory India can provide advisory services including benchmarking and impact evaluation of various interventions/projects - to Timor-Leste in order to facilitate augmented risk assessment, planning and project execution. It can also assist in planning - by outlining activities, outcomes, timelines, risks, etc. for relevant projects in the focus areas.
- **Climate Smart**

Agriculture

- Human resource development Timor-Leste 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 optimising awareness generation for successful interventions in the areas under focus.
 - 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 evaluation of progress of 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 at the project level as well as overall systemic developments. This would augment effectiveness of projects, facilitate coordination among stakeholders and reduce delays in implementation.
- Budgetary support India can facilitate viable investments (including infusion of private capital) and effective utilisation of finances from internal sources to foster holistic development in the areas under focus. It can also share its expertise in financial management i.e. planning, budget execution, accounting, auditing, etc.
- ♦ Advisory India can provide advisory services including benchmarking and impact evaluation of various interventions/projects to Timor-Leste in order to facilitate augmented risk assessment, planning and project execution. It can also assist in planning by outlining activities, outcomes, timelines, risks, etc. for relevant projects in the focus areas.
- Human resource development Timor-Leste 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 optimising awareness generation for successful interventions in the areas under focus.
- 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 evaluation of progress of 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 at the project level as well as overall systemic developments. This would augment effectiveness of projects, facilitate coordination among stakeholders and reduce delays in implementation.

Source: BRIEF Research

Renewable Energy



4.2. Disaster Risk Reduction

Cooperation Sectors	Indian Stakeholders	Timor-Leste 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 Disaster
	Private Stakeholders, NGOs and Educational Institutes	Management Directorate • District
Technical assistance for DRR	OxfamWorld Wide Fund for Nature (WWF)	Administrations Ministry of Public Works Ministry of
Legislative, planning & policy framework for improved governance	National Disaster Management Authority (NDMA)	Agriculture and FIsheries • Ministry of Transport and
Developing Early Warning systems and emergency response	 IIT Delhi National Disaster Response Force (NDRF) National Fire Service College National Civil Defense College 	Communication • Ministry of Commerce and Industry
	Government Stakeholders	Ministry of Environment
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) 	 Directorate General of Rural Governance National University of Timor Leste
	Private Stakeholders, NGOs and Educational Institutes	
	 Development Research Communication and Service Centre (DRCSC) Bharat Seva Ashram Sangh Tagore Society for Rural Development (TSRD) 	

Table 7 – Private and Public Stakeholder Mapping for DRR

4.3. Climate Smart Agriculture

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

Cooperation	Indian Stakeholders	Timor-Leste
Sectors		Stakeholders
	Government Stakeholders	
Technical assistance and	 National Innovation in Climate Resilient Agriculture (NICRA) National Institute of Rural Development & Panchayati Raj (NIRD&PR) 	 Secretary of State for Environment
training	Private Stakeholders, NGOs and Educational Institutes	 National Designated
	SHODHSM Sehgal FoundationGlobal Alliance for Climate Smart Agriculture	Authority Ministry of Environment Ministry of
	Government Stakeholders	Finance
Capacity	 National Innovation in Climate Resilient Agriculture (NICRA) Indian Council for Agricultural Research (ICAR) Ministry of Rural Development (MRD) 	 Ministry of Foreign Affairs Catholic Relief Services (CRS) Conservation
Building	Private Stakeholders, NGOs and Educational Institutes	 International (CI) Ministry of Social Solidarity Ministry of Agriculture and Fisheries
	 Centre for Sustainable Agriculture Agri Innovation Hub (AgriHub) National Institute of Agricultural Extension Management (MANAGE) 	
	Government Stakeholders	 Secretary of State for
Policy and	 National Institute of Rural Development & Panchayati Raj (NIRD&PR) Ministry of Rural Development (MRD) 	 Of State for Environment Ministry of Public Works Permaculture
Regulatory	Private Stakeholders, NGOs and Educational Institutes	Timor-Leste
	The Energy and Resources Institute (TERI)Centre for Sustainable Agriculture	 Haburas Foundation Raebea Hiam Health
Services and Business Models	 International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) CropIn Agri Innovation Hub (AgriHub) 	 University national of Timor-Leste



4.4. Renewable Energy

Table 9 - Private and Public Stakeholder Mapping for Renewable Energy

Cooperation Sectors	Indian Stakeholders	Timor-Leste Stakeholders
	Government Stakeholders	• Ministry
Technical assistance and training	 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) 	of Natural Resources, Mineral and Energy. National Council of Energy National Petroleum Authority (NRA) United Nations Transitional Authority in East Timor (UNTAET) East Timor Public Administration (ETPA) East Timor Transitional Administration (ETTA) Micro Finanças de Timor-Leste Asia Wind Energy Association Rainbow Power Company International Renewable Energy Agency (IRENA)
	Private Stakeholders, NGOs and Educational Institutes	
	 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	
Capacity Building	 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	 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, Equity 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.³⁵

- 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.



Climate Smart

Agriculture

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.³⁶

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.³⁷

- 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.³⁸

- 35. 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
- 36. Financing options for renewable energy and energy efficiency. Sustainable Energy Regulation and Policymaking for Africa. http://africa-toolkit.reeep.org/modules/Module19.pdf
- 37. 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
- 38. 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 includes the market led model because it includes little or no Government backing and incorporates more private players in the project.³⁹

4.6. India-U.S.-Timor-Leste Triangular Cooperation: The Way **Forward**

Triangular Cooperation in the selected Areas

India as an Emerging Donor in Timor-Leste

- Disaster Risk Reduction
- Aiding preparedness through policy level reforms
- Facilitating effective implementation of early warning systems
- Capacity building to ensure improved response to disasters

♦ Climate Smart Agriculture

- Facilitating adequate recording and assessment of data
- Aiding infrastructure development i.e., additional observation stations
- Developing stress tolerant crop varieties and effective business models

♦ Renewable Energy

- Facilitating skill development of workforce
- Aiding regulatory reforms
- Providing research/advisory services

Timor-Leste as a Partner Country (Recipient)

- Oisaster Risk Reduction
- Development of effective policies for disaster risk management
- Implementation of early warning systems at all levels
- Improved emergency response mechanisms

♦ Climate Smart Agriculture

- Improved data management for efficient risk assessment and response
- Development of adequate number of observation stations
- Introduction of stress tolerant crop varieties and effective business models

♦ Renewable Energy

- Development of a trained workforce with necessary strength
- Improved regulatory framework
- Strengthened knowledge base



In the backdrop of strong India-U.S. and India-Timor-Leste relationships, there is potential for meaningful synergies between India, U.S. and Timor-Leste 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 Timor-Leste 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 can assist Timor-Leste in implementing necessary policy reforms in the domain of disaster risk management, so as to foster adequate preparedness and effective mitigation strategies. It can also help in vulnerability assessment, risk analysis, postdisaster research, awareness generation, etc. among others. India can also facilitate efficient implementation of early warning systems at the municipal, district and village levels, so as to ensure augmented technical outreach and increased preparedness. India can also help Timor-Leste in developing improved emergency response systems through necessary capacity building mechanisms at institutional and individual levels.
- ii) Synergies in CSA India can facilitate adequate recording, synthesis and assessment of data so as to ensure efficient risk management and response, which is imperative given Timor-Leste's heavy dependence on agriculture. Such processes would also require the establishment of necessary infrastructure. India can assist Timor-Leste in the development of adequate number of observation stations so as to ensure better predictions and improved agricultural practices. It can also use its experience to introduce stress tolerant crop varieties and effective business models in Timor-Leste.
- iii) Synergies in RE Timor-Leste has a shortage of engineers, technicians and other professionals in the energy sector, including in renewable energy development. India can facilitate the development of an adequately trained workforce through effective skill development initiatives at all levels. It can also assist Timor-Leste in implementing regulatory reforms so as to ensure reductions in overall cost as well as attract/mobilise capital from both public and private sources. India can also provide research and advisory services with respect to policy initiatives, technology, technical capacity building, human resource development, awareness generation, etc. so as to bolster the expansion of renewable energy in Timor-Leste.
- **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 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 Timor-Leste. 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 Timor-Leste.⁴⁰

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