POLICY BRIEF

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Sustainable Public Procurement for Climate-Resilient Infrastructure in Timor-Leste

Lessons for Policymakers in Vulnerable Nations

EXECUTIVE SUMMARY

Timor-Leste's National Strategic Development Plan (SDP) 2011-2030 prioritizes infrastructure[1] as a catalyst for economic growth, job creation, and private sector development. However, the country's vulnerability to climate change—ranked among the world's most at-risk nations to disasters—demands that any future investments in infrastructure should integrate climate resilience and sustainability, ensuring long-term benefits to people.

Sustainable Public Procurement (SPP) offers a transformative pathway to align infrastructure spending with environmental and social goals. By embedding SPP into procurement laws and practices, Timor-Leste can build climate-resilient infrastructure to withstand floods, cyclones, and landslides; boost local industries using local renewable resources like bamboo; reduce cost of insurance for stranded physical assets; and strengthen local supply chains.

This brief outlines how Timor-Leste can institutionalize SPP, with lessons from global experiences on balancing development and climate adaptation in vulnerable regions.

INTRODUCTION: CLIMATE VULNERABILITY AND INFRASTRUCTURE IMPERATIVES

Timor-Leste faces acute climate risks, including rising sea levels, extreme weather, and supply chains disruptions.[2] As per the World Bank, the cost of recovery from the damages caused by Tropical Cyclone Seroja was estimated at $422 million[3], underscoring the urgency of resilient infrastructure. The National Strategic Development Plan and 2023-2028 government program allocate over 55% of procurement spending (USD 542 million annually) to infrastructure, creating opportunities to use this investment to catalyse investment in sustainable sectors and enhance climate resilience.

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1 For purposes of this policy brief, 'infrastructure' refers to building and construction activities.

2 World Bank (2024), Timor-Leste Economic Report, Washington DC, USA, Available at https://documents1.worldbank.org/curated/en/099022224203533573/pdf/P500776116deb704f18e3215df68ee950f8.pdf

3 Available at https://www.worldbank.org/en/news/press-release/2022/01/23/timor-leste-rebuilding-after-cyclone-seroja-will-be-costly-but-offers-opportunities-to-strengthen-disaster-resilience

Sustainable Public Procurement (SPP) is a globally recognised tool for embedding climate resilience, social equity, and lifecycle cost-efficiency into procurement decisions, offering a framework to address these challenges while aligning with the UN Sustainable Development Goals (SDGs).

OPPORTUNITIES TO ENHANCE CLIMATE-RESILIENCE THROUGH SUSTAINABLE PUBLIC PROCUREMENT

There are several opportunities to enhance climate resilience through the use of SPP principle for procurement of infrastructure. Some of the important ones are given below:

a. **Incorporate Climate Risk Assessment in Planning & Design**

   Given vulnerability of infrastructure to see-level rise, flooding and extreme heat, it is crucial for contracting authority to conduct climate risks and vulnerability assessments for the proposed new infrastructure and require bidders to address those risks in their bid proposal.

b. **Promote Use of Climate-Resilient Materials and Technologies**

   - Incentivise the use of locally available secondary materials in new construction;
   - Incentivise contractors that promote circular economy concept like reuse, refurbish, repair, recycle, etc of material in public contract awards;
   - Develop standards for use of bamboo beyond furniture into construction materials (e.g., flooring, roofing);
   - Promote the use of local cementous materials as substitute for cement clinker in new constructions.

c. **Apply Life Cycle Costing for procurement of infrastructure**

   Include LCC in bid evaluation to consider long-term operational costs, maintenance, and climate risks over the infrastructure's life cycle to ensure that infrastructure remains safe and secure for use during the event of flooding and cyclone.

d. **Involving local populations in the design and implementation of projects**

   Engaging with local populations in the design and implementation of infrastructure project to leverage local knowledge and tailor solutions that boost the use of local materials in construction of flood and cyclone resistance housing.

e. **Integrate inclusive and traditional design standards into resilient construction of infrastructures**

   Promote use of inclusive design standards that focus on incorporation of accessibility, safety, equity, and usability considerations for all segments of society—especially vulnerable and marginalized groups—into the planning, design, and construction of infrastructure. Consider assessing the climate resilience of traditional architecture.

LESSON FROM ASIAN EXPERIENCES IN ENHANCING CLIMATE RESILIENCE

Bangladesh is a unique case study that provides an excellent example of how improving building code and related guidelines, focussed on designing building to withstand high wind and storm surges, raised foundations, local and strong building materials and specific construction technique can enhance resilience of people living in climate sensitive area[4]. The use of local construction materials not only promotes circular economies and reduces supply chain risks but also creates employment opportunity.

On a similar line, Timor-Leste's infrastructure will benefit from integrating:

- **Flood-Resistant Designs:** Elevated roads, drainage systems, buildings and floodwalls in flood-prone cities like Dili.
- **Renewable Energy Integration:** Solar-powered street lighting and energy-efficient public buildings[5].
- **Disability-Inclusive Infrastructure:** Pedestrian walkways and accessible public spaces.

However, to translate new climate-resilient standards into practical implementation, the Government of Timor-Leste may consider actively promoting their adoption in public procurement decisions. While Timor-Leste's Public Procurement Laws (2022, 2024) mandate environmental sustainability, they currently lack clear implementation guidelines. To address this gap, it is important for the government to prioritize the development of National Sustainable Public Procurement (SPP) Guidelines, with a strong emphasis on institutionalizing life cycle costing (LCC) in procurement decision-making processes. This will ensure that infrastructure investments not only meet climate resilience objectives but also deliver long-term economic, environmental, and social value.

POLICY RECOMMENDATIONS

Given the current context in Timor-Leste and the government's strong focus on strengthening infrastructure, it is both timely and strategic to ensure that these investments are not only directed toward improving physical infrastructure, but also leveraged to enhance the country's climate resilience. Aligning infrastructure development with climate-resilient and sustainable practices will deliver long-term benefits, reduce future vulnerabilities, and support inclusive and sustainable growth, as illustrated by the example of Bangladesh.

a. Develop SPP Guidelines

Collaborate with development partners to draft national guidelines integrating climate resilience, social inclusion, and circular economy principles.

b. Develop and Mandate Climate-Resilient Infrastructure Codes

Prioritize materials like bamboo and recycled plastics (with adequate precautions) in public projects, drawing on the Philippines's experience in using Cement Bamboo Frame Technology for social housing. The World Bank's Climate-Resilient Infrastructure Toolkit[6] could be a valuable resources for the same. Local knowledge and expertise with institute such as the Bamboo Institute could also be leveraged to inform development of such codes. Similarly design codes may be adopted to ensure climate resilience in the plans of buildings.

c. Strengthen Partnerships with International Development Partners (IDPs)

Leverage ongoing projects funded by Development Partners such as ADB's Dili Urban Drainage Project (flood mitigation) to pilot SPP initiatives.

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4 Available at https://www.datum-international.eu/index_files/FP4.pdf

5 The Government of Timor-Leste established the policy in the IX Program for 2023-2028, and identified the priorities for development of infrastructure, including renewable energy, e.g.: "Renewable energy can contribute to a less polluted environment and mitigate the impacts of climate change, fulfilling commitments made in international conventions".

6 Available at https://www.worldbank.org/en/topic/sustainableinfrastructurefinance/brief/climate-toolkits-for-infrastructure-ppps#:~:text=The%20ICT%20toolkit%20covers%20risk,understanding%20of%20advisory%20service%20needs.

d. Capacity Building of Public Procurers and Contractors

Build capacities of procurement officials and contractors on SPP implementation covering sustainable procurement principles, climate impact assessments, and methods for evaluating contractors based on sustainability practices.

CONCLUSION: TIMOR-LESTE - A MODEL FOR SMALL ISLAND STATES

By institutionalizing Sustainable Public Procurement (SPP), Timor-Leste has the opportunity to transform infrastructure development into a powerful catalyst for climate resilience, while advancing its broader aspirations, including ASEAN membership. The adoption of SPP can yield transformative outcomes—economically, by reducing import dependency and generating green jobs; environmentally, by lowering emissions through the adoption of renewable energy and circular practices; and socially, by ensuring inclusive infrastructure that protects vulnerable communities and promotes equity.

Timor-Leste's emerging SPP journey serves as a compelling blueprint for other climate-vulnerable nations striving to align infrastructure investments with the Paris Agreement and Sustainable Development Goals (SDGs). Realizing the full potential of such models will require robust international support—through financing mechanisms, knowledge-sharing platforms, and enhanced regional cooperation. It is a timely call to action for multilateral institutions and development partners to scale these efforts and build a more resilient, inclusive, and sustainable future for all.