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Enhanced cooperation and integration between Indonesia and Timor-Leste : scoping study

Provided in Cooperation with:

Asian Development Bank (ADB), Manila

Reference: (2019). Enhanced cooperation and integration between Indonesia and Timor-Leste : scoping study. Mandaluyong City, Metro Manila, Philippines : Asian Development Bank.
doi:10.22617/TCS190259-2.

This Version is available at:
<http://hdl.handle.net/11159/3530>

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ENHANCED COOPERATION AND INTEGRATION BETWEEN INDONESIA AND TIMOR-LESTE SCOPING STUDY

JULY 2019

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JULY 2019



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ISBN 978-92-9261-672-4 (print), 978-92-9261-673-1 (electronic)
Publication Stock No. TCS190259-2
DOI: <http://dx.doi.org/10.22617/TCS190259-2>

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On the cover: From Timor-Leste, the Mota’ain-Batugade Border Control Post provides view of Indonesia (photo by Glen Wood).

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Foreword

The Indonesian economy is rich and vibrant. Poverty has been more than halved since 1999, amid sustained economic growth. But the gains have not been shared equally. Nusa Tenggara Timur (NTT) in the border of eastern Indonesia, is among the country's poorest provinces and has a poverty rate twice as high as that of Indonesia as a whole.

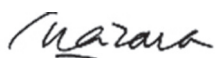
Indonesia seeks to address these regional disparities through strategies based on local potential and distinct sociocultural features. Improvements will be made in connectivity and accessibility, basic service provision, and local governance, as well as in the sustainability of local resource use and cross-border economic collaboration.

President Joko Widodo's "Nawa Cita" (nine national priorities) agenda emphasizes social, economic, and human development in the border regions. To correct regional imbalances and promote this agenda, the Fiscal Policy Agency is working toward better use of intergovernmental transfers, more local revenue generation, and local government funding from alternative and supplementary sources. In addition, government has enhanced cooperation with neighboring countries.

The Fiscal Policy Agency supported the study with the President's agenda in mind. The study called for a comprehensive context-specific analysis of opportunities for economic growth and development in the border area between NTT and Timor-Leste.

By paying close attention to possibilities for mutual gain through cross-border cooperation, the study also conformed to Indonesia's intent to offer friendship and support to Timor-Leste. Stronger cross-border collaboration between NTT and Timor-Leste will not only boost economic growth in NTT but also help prepare Timor-Leste for greater engagement with the Association of Southeast Asian Nations (ASEAN).

The findings and recommendations of this report—specifically the connectivity, trade facilitation, tourism promotion, and livestock trade initiatives proposed here—should therefore be seen as a call to action. It is hoped that the Government of Indonesia, and Government of Timor-Leste, in partnership with the Asian Development Bank and other entities, will take these initiatives forward and thus improve the lives of the people of NTT and Timor-Leste.



Suahasil Nazara

Head of the Fiscal Policy Agency
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Foreword

Timor-Leste has developed significantly since independence. Poverty is declining and school participation rates are rising. But this progress has been fueled in large measure by the Petroleum Fund; it will stall unless the economy continues to grow and diversify. The domestic economy must strengthen further and be integrated more closely into the world economy.

The Fiscal Reform Commission is committed to a national reform program designed to boost revenue from domestic sources. Reforms will be made in the business climate, fiscal policy and the tax system, and legislation, to support economic sectors with strong potential.

This study advanced the goals of the commission and of the Government of Timor-Leste in two important ways. First, it took a comprehensive approach to prioritizing the sector reforms needed to diversify the economy and ensured that the real economic impact of those reforms could be clearly understood.

Second, the focus of the study on cross-border cooperation with Indonesia accorded with Timor-Leste's aspirations for greater integration into the world economy. Mindful of the need for access to global markets to keep the domestic economy growing, the country has already applied for membership in the Association of Southeast Asian Nations (ASEAN) and is taking steps to join the World Trade Organization (WTO). Integration with Timor-Leste's closest neighbor, as recommended under the study, can complement such efforts at global market access and further the country's development aspirations.

The findings of this report should be embraced across government, and its recommendations implemented in partnership with the Asian Development Bank and other development organizations. Making the required bold reforms today holds the promise of an even brighter tomorrow.



Fernanda Borges

Fiscal Reform Commission

Office of the Prime Minister and Ministry of Finance, Timor-Leste

Foreword

Recent decades have seen tremendous economic growth in Asia and the Pacific. Increased integration of regional markets has been an important driver of that growth. Poverty, however, is still high, and in many parts of the region, inequality is rising. In efforts to deal with these persistent challenges, the role of regional cooperation and integration will remain vital.

The region is a global leader in regional cooperation and integration, as demonstrated by the signing of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership and ongoing negotiations under the Regional Comprehensive Economic Partnership. Both Indonesia and Timor-Leste have embraced cross-border cooperation and integration to boost economic growth in disadvantaged areas and generate mutually beneficial gains from trade. This open and collaborative approach is critical at a time of escalating global trade tensions and protectionism.

Recognizing the importance of regional cooperation and integration for sustained and inclusive growth in Asia and the Pacific, the Asian Development Bank (ADB) has made it a corporate priority area under its Strategy 2030. The study on enhanced cross-border cooperation between Indonesia and Timor-Leste, on which this report is based, was noteworthy for several reasons. First, it endorsed the laudable aspirations of Indonesia and Timor-Leste for greater cross-border cooperation in promoting inclusive growth and reducing inequality. Second, it demonstrated the kind of cross-sector and multifaceted analysis needed to identify opportunities for collaborative action. Finally, it showed ADB's commitment to strengthening inter-subregional cooperation and to directing resources toward disadvantaged regions.

Knowledge and understanding are vital for progress. But this report also sets a solid foundation for taking action. Readers should use it to focus on implementation. The growth that Indonesia and Timor-Leste seek to attain in their border areas can thus be more readily achieved.



Bambang Susantono

Vice-President

Knowledge Management and Sustainable Development
Asian Development Bank

Acknowledgments

The content of this report is based on the work of seven consultants: Bernard Tai, Transport Specialist; Glen Wood, Trade Facilitation Specialist; Mark Steenwyk, Business and Financial Services Specialist; Martin Mulik, Livestock Specialist; Patricia Sourdin, Trade and Investment Specialist; Peter Semone, Tourism Specialist; and Robert Haywood, Economic Zone Specialist. Adam Sendall also provided peer review and additional value chain inputs on livestock. Thanks also go to Adiwan Arientang for support for consultation missions and inputs to the report. Special thanks also go to the work conducted by Steve Cox and Christian Ksoll in Timor-Leste under the Trade and Transport Facilitation in the Pacific study, which has also been integrated into the study.

The report has been compiled by Anna Fink, Economist, of the Regional Cooperation and Integration Thematic Group (RCI-TG) of the Asian Development Bank (ADB), under the overall direction and supervision of Arjun Goswami, Chief of the RCI-TG, and with inputs and guidance from Kanya Sasradipoera, Senior Trade Specialist, ADB.

Grateful acknowledgement is made to Indonesia's Ministry of Finance's Fiscal Policy Agency (FPA), specifically Pak Adriyanto, Pak Widiyanto, Pak Ali Moechtar, and Pak Yasir Niti Samudro. The FPA was the focal point for the study in Indonesia and provided invaluable guidance on the direction and approach of the study as well as practical support for consultations. Equally, in Timor-Leste the Ministry of Finance, Fiscal Policy Commission, in particular, Fernanda Borges, has been the focal point in Timor-Leste and has helped shaped the study and steered it through wide ranging consultations in government and externally, which has been critical to its success.

We would like to thank all the individuals consulted throughout the course of this study (see Appendix 1 for the full list of consultations) including government officials, bank officers, transport officials, finance and business development service providers, business chamber officials, business leaders, representatives of micro and small businesses, and nongovernment organizations and representatives of development organizations. Thanks also go to the Timor-Leste–Indonesia–Australia Growth Triangle for constant collaboration, particularly the mission unit in Timor-Leste. As cofinancing partners of this study, we would also like to thank the Government of Australia for funding through the Sustainable Infrastructure Assistance Program for Indonesia and the Government of the United Kingdom through the Department for International Development.

Inputs and guidance on the report was gratefully received from many parts of ADB, particularly the Southeast Asia Department and the Pacific Department, the Private Sector Operations Department, and the Economic Research and Regional Cooperation Department. Finally, our sincere thanks go to the ADB staff in the Indonesia and Timor-Leste resident missions for their engagement and support throughout this study.

Abbreviations

| | |
|----------|---|
| ABI | PT Asiabeef Biofarma Indonesia |
| ACIAR | Australian Centre for International Agricultural Research |
| ADB | Asian Development Bank |
| AI | avian influenza |
| AMFITIL | Association of Microfinance Institutions in Timor-Leste |
| ANL | Australian National Line |
| APEC | Asia-Pacific Economic Cooperation |
| APINDO | Asosiasi Pengusaha Indonesia |
| APORTIL | Port Authority of Timor-Leste |
| ASA | air service agreement |
| ASEAN | Association of Southeast Asian Nations |
| ASITA | Association of Indonesian Tours and Travel Agents |
| ASYCUDA | Automated System for Customs Data |
| ATIGA | ASEAN Trade in Goods Agreements |
| BAPPEDA | Badan Perencanaan Pembangunan Daerah |
| BAPPENAS | Badan Perencanaan dan Pembangunan Nasional (National Development Planning Agency) |
| BCP | border control post |
| BCTL | Timor-Leste Central Bank |
| BDS | business development services |
| BKPM | Badan Koordinasi Penanaman Modal |
| BNCTL | Timor-Leste National Commerce Bank |
| BPA | business process analysis |
| BPD-NTT | Bank Pembangunan Daerah NTT (Regional Development Bank NTT) |
| BPR | Bank Perkreditant Rakyat |
| BPS | Bidang Integrasi Pengolahan dan Diseminasi Statistik |
| BRI | Bank Rakyat Indonesia |
| CBEZ | cross-border economic zone |
| CCI-NTT | Chamber of Commerce and Industry NTT |
| CIQS | customs, immigration, quarantine, security |
| CJM | customer journey mapping |
| CSFV | classical swine fever virus |
| CUF | Fundasaun Hanai Malu (Credit Union Federation) |
| CWC | collaborative working committee |
| DFAT | Department of Foreign Affairs and Trade |
| DPMPTSP | Dinas Penanaman Modal and Pelayanan Terpadu Satu Pintu Provinsi Nusa Tenggara Timur (Department of Investment and One-Door Integrated Services) |
| DTF | distance to frontier |
| EU | European Union |
| FAO | Food and Agriculture Organization of the United Nations |

| | |
|---------|--|
| FDI | foreign direct investment |
| FGD | focus group discussion |
| GDP | gross domestic product |
| GMS | Greater Mekong Subregion |
| GNI | gross national income |
| GRP | gross regional product |
| GSTC | Global Sustainable Tourism Council |
| GVC | global value chain |
| HOTL | Hotel Owners Timor-Leste Association |
| HPAI | highly pathogenic avian influenza |
| HS2 | harmonized system 2 |
| IADE | Instituto de Apoio ao Desenvolvimento Empresarial (Institute of Service Provision to the Private Sector) |
| ICT | information and communication technology |
| IFC | International Finance Corporation |
| ILO | International Labour Organization |
| IMT-GT | Indonesia–Malaysia–Thailand Growth Triangle |
| IT | information technology |
| ITC | International Trade Centre |
| JICA | Japan International Cooperation Agency |
| KEK | Kawasan Ekonomi Khusus (Special Economic Zone) |
| KUR | Kredit Usaha Rakyat (Micro Business Credit) |
| Lao PDR | Lao People's Democratic Republic |
| MAF | Ministry of Agriculture and Fisheries (Timor-Leste) |
| MFI | microfinance institution |
| MOA-RI | Ministry of Agriculture, Republic of Indonesia |
| MOU | memorandum of understanding |
| MSMEs | micro, small, and medium-sized enterprises |
| MTCO | Mekong Tourism Coordinating Office |
| NGO | nongovernment organization |
| NTM | nontariff measure |
| NTT | Nusa Tenggara Timur |
| NZAID | New Zealand Agency for International Development |
| OIE | World Organisation for Animal Health |
| OJK | Otoritas Jasa Keuangan (Financial Services Authority) |
| PHRI | Indonesian Hotel and Restaurant Association |
| PNG | Papua New Guinea |
| PPP | public–private partnership |
| PRC | People's Republic of China |
| PRISMA | Promoting Rural Income through Support for Markets in Agriculture |
| R&D | research and development |
| RCI | regional cooperation and integration |
| RO-RO | roll-on, roll-off |
| Rp | Indonesian rupiah |
| SAR | Special Administrative Region |
| SDG | Sustainable Development Goal |
| SDP | strategic development plan |
| SERVE | Serviço de Registo e Verificação Empresarial (Service for Registration and Verification of Entrepreneurs) |

| | |
|--------|--|
| SEZ | special economic zone |
| SIAP | Sustainable Infrastructure Assistance Program |
| SMEs | small and medium-sized enterprises |
| SOP | standard operating procedure |
| SPS | sanitary and phytosanitary standards |
| TAM | tourism asset mapping |
| TF | trade facilitation |
| TIA-GT | Timor-Leste–Indonesia–Australia Growth Triangle |
| TL-CCI | Chambers of Commerce and Industry Timor-Leste |
| TOMAK | To'os Ba Moris Di'ak |
| TRS | time release study |
| TTCI | Travel and Tourism Competitiveness Index |
| TTS | Timor Tengah Selatan |
| TTU | Timor Tengah Utara |
| UMKM | Usaha Mikro, Kecil dan Menenga |
| UN | United Nations |
| UNDP | United Nations Development Programme |
| UNESCO | United Nations Educational, Scientific and Cultural Organization |
| UNWTO | United Nations World Tourism Organization |
| US | United States |
| USAID | United States Agency for International Development |
| USPD | Unit Simpan Pinjam Desa (Village Lending and Savings network) |
| VAT | value-added tax |
| WCO | World Customs Organization |
| WEF | World Economic Forum |
| WPI | industrial development estates |
| WTO | World Trade Organization |
| WTTC | World Travel and Tourism Council |
| ZEESM | Zonas Especiais de Economia Social de Mercado (de Timor-Leste) (Special Economic Zone for Social Market Economy [of Timor-Leste]) |

Weights and Measures

| | |
|-----------------|-----------------------------|
| DWT | deadweight ton |
| ha | hectare |
| kg | kilogram |
| km | kilometer |
| km ² | square kilometer |
| m | meter |
| TEU | twenty-foot equivalent unit |

Executive Summary

This Enhanced Cooperation and Integration between Indonesia and Timor-Leste—Scoping Study responds to requests by the governments of Indonesia and Timor-Leste made to the Asian Development Bank in February 2017. The request from the Government of Indonesia was driven by a desire to tackle spatial inequality and address poverty in the nation's second-poorest province by emphasizing development from the margins. For Timor-Leste, the study supports Strategic Development Plan goals for economic growth and diversification, particularly Timor-Leste's application for membership in the Association of Southeast Asian Nations (ASEAN). Cross-border collaboration between Timor-Leste and Indonesia's Nusa Tenggara Timur (NTT) province in the form of trade, investment, and cooperative production provides a means of addressing national inequality, diversifying economic growth, and importantly, reducing poverty in the border areas.

The study is predominantly qualitative, based on existing research and consultations with more than 250 individuals in government, the private sector and civil society, both in Indonesia and Timor-Leste. The work has been developed broadly through two phases. The first phase looked at crosscutting issues such as transport connectivity, trade flows, access to business and financial services, and the business and investment climate. It also explored the rationale for supporting cross-border collaboration through a border economic zone, and identified sectors for cooperation with high potential. This forms the content of Part I. The second phase delved more deeply into those sectors identified as the most promising sectors for cooperation—tourism, presented in Part II; and livestock, presented in Part III.

Part I: Areas of Cooperation and Connectivity

Part I presents the conclusions and recommendations on (i) priority economic sectors for cooperation, (ii) challenges and bottlenecks to the cross-border movement of goods and people, (iii) areas to strengthen and coordinate on the business and investment enabling environment for small and medium-sized enterprises (SMEs), and (iv) the feasibility of a cross-border economic zone. Part II and Part III provide deeper analysis on tourism and livestock and offer recommendations for short- and medium-term interventions.

Major Conclusions

- (i) Cross-border trade and cooperation in tourism and livestock appear to have the greatest short-term potential to benefit border populations, and tackle poverty and inequality.
- (ii) Existing land, sea, and air transport connections between Timor-Leste and West Timor need to be strengthened to facilitate cross-border cooperation on a range

of goods and services. Improving and standardizing the legal and regulatory frameworks for cross-border movement should be prioritized.

- (iii) Establishing a geographically defined economic zone at or near the border is not a priority for cooperation between Indonesia and Timor-Leste. Instead, consideration should be given to “low-intensity” zones or legal and policy harmonization in specific areas to enable existing economic opportunities to grow. This would provide the foundation for more resource-intensive forms of economic zones in the future.

Recommendations

Land Connectivity

- (i) Strengthen the land transport corridor by establishing a joint border committee to oversee cross-border cooperation, including a specific technical working group to create a bilateral land transport memorandum of understanding (MOU).
- (ii) Support the signing and implementation of the MOU through awareness building and by developing standard operating procedures, including those providing cost recovery measures for heavy vehicles.
- (iii) In the longer term, transport operations should be harmonized with ASEAN agreements and international conventions on transport.
- (iv) Improve efficiency of border operations through bilateral MOUs; data sharing agreements; and capacity building with customs, immigration, quarantine, and security (CIQS) agencies. They should include joint risk management and enforcement, common inspection criteria, and exchange of data and information. For sanitary and phytosanitary (SPS) issues, develop and implement a local risk management system and contingency plan for disease control. Work toward establishing one-stop inspection for the movement of goods and people across the border.
- (v) Over time, and if traffic flows are sufficient, consideration could be given to building rest stops and viewing points to support cross-border tourism.

Maritime Connectivity

- (i) Atapupu Port should be considered as a transshipment port for Dili to potentially reduce cross-border transport costs for goods and people.
- (ii) Support knowledge exchange between Timor-Leste and NTT port authorities, particularly on cruise ship requirements and complying with international maritime transport conventions currently pending parliamentary approval in Timor-Leste.
- (iii) Timor-Leste should continue to improve operating procedures and facilities at Dili Port, particularly those that also benefit the new Tibar Bay Port (e.g., movable equipment and capacity building). It should also consider improving Dili Port’s cruise ship facilities.

Air Connectivity

- (i) Strengthen the capacity of air transport authorities and CIQS officials at airports to enhance operational efficiency and airport security.
- (ii) Support capacity of aviation authorities to review the feasibility and effective use of international airports in NTT and Timor-Leste for tourism.
- (iii) Consider providing fiscal and nonfiscal support to boost load factors and increase airline commercial viability, particularly between Kupang and Dili. Examples include waiving or reducing airport taxes and parking fees, negotiating new air service agreements, and promoting tourism.
- (iv) Kupang Airport should continue to invest in modern equipment and information and communication technology (ICT) systems to optimize traffic management, space utilization, and cargo and passenger clearance, while considering a new airport.

Special Trade Arrangements

- (i) Indonesia should consider unilaterally extending tariff preferences to Timor-Leste under the ASEAN Trade in Goods Agreement as a gesture of goodwill for ASEAN accession.
- (ii) Both governments should consider extending the existing 2003 arrangement on cross-border traditional trade to allow expanded preferential treatment of goods, initially those related to livestock and tourism.

Business Development and Financial Services

- (i) The Timor-Leste Central Bank could discuss opening an SME banking window with Bank Rakyat Indonesia and Bank Indonesia, similar to Indonesia's micro, small, and medium-sized enterprises (MSME) credit and micro business credit schemes.
- (ii) Establish a collaborative working committee between Timor-Leste and NTT Chambers of Commerce and Industry to support the recently signed cooperation agreement on cross-border business exchange and trade.

Part II: Tourism

Part II presents the findings and recommendations on tourism cooperation, which was identified as a priority sector. Tourism has strong long-term growth prospects, but competition is fierce. Joint marketing would reduce costs and set NTT and Timor-Leste apart from other attractions in ASEAN. NTT is one of the 10 focal destinations for Indonesian tourism and already receives an estimated \$80 million in visitor receipts (2016). Timor-Leste plans to increase visitors by 170% by 2030 and receipts are already estimated to be worth 2.6% of gross domestic product (GDP). Nevertheless, tourism in NTT and Timor-Leste remains well below potential due to challenges concerning connectivity, marketing, and capacity.

Recommendations

- (i) Finalize and implement the MOU on Cross-Border Movement of Vehicles between Indonesia and Timor-Leste to enable cross-island land tourism (as well as trade).
- (ii) Consider revising the Timor-Leste land border visa policy to remove barriers to more foreign visitors crossing over land.
- (iii) In the longer term, consider establishing rest stops and viewing stations along the central corridor between Dili and Kupang.
- (iv) Conduct a joint investment and promotion tour for cruise liners and prepare an infrastructure upgrading plan to improve Dili Port facilities for cruise ship tourism, among others.
- (v) Review air service agreements in Timor-Leste to lower air connectivity costs, particularly for the planned Garuda Kupang–Dili–Darwin route.
- (vi) Consider more efficient use of existing and upcoming aviation infrastructure for cross-island connectivity.
- (vii) Conduct joint tourism marketing and investment promotion following the creation of a joint tourism marketing strategy and investment plan.
- (viii) Conduct joint capacity building through cross-border study visits, scholarships, and community-based skills training.

To test the interest and capacity for joint tourism promotion between NTT and Timor-Leste, the study proposes a joint public–private partnership be established to prepare a cross-border land or marine itinerary for the Timor Island under the tagline “One Island, Two Nations.” This could be done by conducting a joint tourism asset mapping and customer journey mapping. This would also identify investments that could be done jointly and form the basis for ongoing collaboration.

Part III: Livestock

Part III presents the findings and recommendations on livestock cooperation. Imports of livestock and meat to ASEAN grew by 51% from 2012 to 2016, demonstrating strong long-term growth potential. Agriculture contributes 30% of gross regional product in NTT and 53% of employment. It provides 17% of non-oil GDP in Timor-Leste and 60% of employment. In NTT and Timor-Leste border districts, 90%–95% of households are smallholder farmers that rely on livestock as a form of income, food, and savings. This underscores the importance of livestock for the local economy. However, trade and cooperation in livestock is hindered by trade bans resulting from animal health concerns and insufficient SPS regimes. However, it is, also driven by the fundamental challenge of low productivity, caused by a myriad of factors, such as lack of access to financial services, inadequate extension services, lack of inputs, a poor investment climate, and insufficient transport infrastructure.

Recommendations

- (i) Support cattle exports from Timor-Leste to Indonesia through NTT, either by establishing a joint health checkpoint or a “trusted trader program” (i.e., an authorized economic operator scheme). This would be an intermediate step to open trade, once the national health control system in Timor-Leste meets Office International des Epizooties (World Organisation for Animal Health) and World Trade Organization SPS standards.
- (ii) Support poultry imports into Timor-Leste from NTT by extending the poultry importation agreement to cover the entire province rather than specific avian influenza-free certified compartments. Timor-Leste currently imports \$13.7 million of poultry annually to help satisfy domestic demand. Increased trade in day-old chicks could also boost the domestic poultry industry in Timor-Leste.
- (iii) Boost productivity of livestock production through cross-border partnerships with private feed and medicine suppliers to increase access to extension and veterinary services using a “Markets for the Poor” approach. Also, establish integrated livestock raising systems that are more sustainable and resilient. It is estimated that boosting productivity in Timor-Leste to Indonesia’s level could bring up to \$4.7 million in additional income for producers.
- (iv) Consider cross-border partnerships to provide insurance and financial services for SMEs through partnerships between government and the private sector.
- (v) In the longer term, upgrade slaughterhouse facilities, staff, and transportation, and establish cold chain logistics to enable higher value-added meat exports.

The study proposes that a test be undertaken over an 18-month period to assess the viability of applying a trusted trader program. The pilot should be conducted with a single commercially oriented operator open to piloting new approaches. The results will provide a better understanding of the costs and benefits, a measure of producer interest in the approach, information on capacity-building requirements for different stakeholders, and an informal institutional framework for scaling up to full implementation.

CHAPTER 1

Introduction

This is the final report for the scoping study on facilitating regional cooperation and integration between Indonesia, specifically Nusa Tenggara Timur (NTT), and Timor-Leste. The purpose of the scoping study is to identify opportunities for addressing spatial inequality, reducing poverty, and diversifying economic activity in the border areas between the two countries. The scoping study is divided into three parts. Part I presents findings and recommendations on potential areas for cooperation, and challenges in connectivity and the enabling environment. Part II and Part III examine in greater depth two potential areas for cooperation—tourism and livestock.

A. Rationale

This study responds to requests by the governments of Indonesia and Timor-Leste to the Asian Development Bank (ADB) made in February 2017. The request from the Government of Indonesia was driven by their desire to tackle spatial inequality and poverty in lagging regions. Addressing regional disparities is a priority for the Government of Indonesia. One of the key strategies of President Joko Widodo’s “Nawa Cita” agenda is to develop Indonesia from the margins.¹ This includes a greater focus on areas bordering Malaysia, Papua New Guinea, and Timor-Leste. ADB has partnered with the Government of Indonesia on a series of studies to support its border development program, including two other studies on the border areas between North Kalimantan and West Kalimantan with Malaysia.

For Timor-Leste, the study supports several priorities of its Strategic Development Plan (SDP) 2011–2030. These include economic growth and diversification through rural development, and greater regional cooperation and integration (RCI). In 2011, Timor-Leste requested to join the Association of Southeast Asian Nations (ASEAN), viewed as a mechanism for opening greater opportunities for trade, investment, and human capital development. Indonesia was the first country to support Timor-Leste’s application, and greater cooperation with Indonesia is seen as an important step toward preparing for full ASEAN accession. Rural development is an important goal for reducing poverty and for relieving pressure on urban infrastructure. Consequently, the focus of the study on the rural border areas with NTT is appropriate.

¹ This refers to the national development agenda of President Joko Widodo, which has nine development priorities and was later translated into the 2015–2019 National Mid-Term Development Plan.

B. Management and Funding

The study has been implemented by the RCI Thematic Group within ADB in partnership with ADB's Pacific Department and Southeast Asia Department. The study is part of a knowledge and support technical assistance to support implementation of ADB's Operational Plan for RCI, approved in September 2016. The expected impact of this component will be preparation of demand-driven analytical work in innovative areas of connectivity and competitiveness. It will promote new RCI operations and collective action mechanisms to help address key issues affecting the future of RCI in Asia and the Pacific over the medium term.

The ministries of finance of Indonesia and Timor-Leste, particularly the Fiscal Policy Agency in Indonesia and the Fiscal Policy Commission in Timor-Leste, have played pivotal roles as focal agencies for the study. They provided guidance and oversight for the approach to the study and facilitated stakeholder consultations from across government, private sector, and civil society.

The study is cofinanced by the Government of the United Kingdom through the Department for International Development and the Government of Australia through the Sustainable Infrastructure Assistance Program for Indonesia.

C. Structure of the Report

This report is divided into several parts. Following this introduction and description of methodology, Part I presents findings and recommendations on potential areas for cooperation, and the challenges in connectivity and enabling environment. Part II and Part III explore tourism and livestock in greater depth. Each is further divided into chapters. Part II and Part III can be read as stand-alone pieces and have separate summaries and introductions providing more detail on the individual chapters.

Part I is divided into 12 chapters. Chapter 3 profiles Timor-Leste and NTT governance, climate, culture, and economies. Chapter 4 presents key aspects of their development strategies and existing cross-border agreements and institutions relevant to the study. Chapter 5 looks at current trade policy regimes and flows between both NTT and Timor-Leste and externally. Chapter 6 describes the business-enabling environment and provision of business and financial services for small and medium-sized enterprises (SMEs). Chapter 7 considers the investment climate and sectors attracting investment in Timor-Leste and NTT. Chapter 8 outlines land, sea, and air connectivity; and trade facilitation. Chapter 9 looks at the economic zone programs in both countries. Three main conclusions are presented in Chapter 10, and detailed recommendations on connectivity, business-enabling environment, and special trade agreements are provided in Chapter 11.

CHAPTER 2

Methodology

This study is predominantly qualitative, based on existing research and consultations with a broad cross section of stakeholders over a 12-month period. The following subsections provide information on the chosen approach and main activities and outputs delivered.

A. Approach

The approach of the study was to explore opportunities for greater cooperation and integration between NTT and Timor-Leste by assessing the feasibility of a cross-border economic zone (CBEZ) linked to an economic corridor. This approach is based on ADB's experience and knowledge about approaches to address spatial inequality and maximize the benefits to communities from transport and logistics connectivity.

Special economic zones (SEZs) have been a tool for economic development worldwide for decades. Originally used as safe havens for foreign direct investment (FDI) and ways for countries to diversify their exports without changing national development strategies, SEZs are increasingly being used as test bed for more general economic reforms. They have become focused on linkages with the national economy.² Border regions are often located away from urban economic centers and can be flash points for conflict. By placing SEZs at or across borders (i.e., CBEZs), they can help (i) reduce bottlenecks to cross-border cooperation and (ii) attract investment into disadvantaged regions.

While relatively few CBEZs exist, there are an estimated 4,300 SEZs in 130 countries (footnote 2). An increasing number of border economic zones and investment areas provide a wealth of information on what does and does not work, and what lessons can be drawn relevant to Indonesia and Timor-Leste.

The approach to analyzing the economic zone was based on two principles: (i) that economic zones should be used to promote a “race to the top,” and (ii) that cross-border economic zones need to be established in an iterative manner.

Economic zones should be used to create better, more enabled business environments for investors. Ideally, they will close the gap as much as possible between the prevailing conditions and aspects of a competitive international environment. In this respect the Distance to Frontier in the World Bank Doing Business Surveys could easily be considered as the “Zone Opportunity Gap.” The emphasis of economic zones should, therefore, not be on

² ADB. 2015. Asian Economic Integration Report 2015: *How Can Economic Zones Catalyze Economic Development?* Manila.

fiscal incentives and lower wage rates, but rather on providing a predictable and transparent environment for investors.

The approach was also used cognizant that full-fledged CBEZs are a long-term process and require a high level of coordination and trust. Full CBEZs require joint management by both countries. They should be approached in an iterative manner, building on cooperation from both sides of the border over time.

Due to the nature of border areas, particularly those far from existing urban and economic centers, SEZs at or across borders require increased focus on four factors: (i) strength of connectivity to major markets and trade gateways (i.e., a trade corridor); (ii) focus on SMEs; (iii) human capacity building; and (iv) strong institutional and coordination mechanisms.³

An economic corridor is a geographically defined network connecting economic nodes or hubs. Transport corridors can provide a basis for development of an economic corridor as economic activity grows along the corridor. SEZs linked to transport corridors can act as growth hubs to generate the kind of wider economic benefits that can transform a transport corridor into an economic corridor.⁴ Consequently, it is important to understand both the priorities and conditions for an economic zone and the challenges and opportunities for connecting to other economic centers.

The approach in this study was further informed by the approaches taken in a scoping study for the Establishment of Special Border Economic Zones in the Indonesia–Malaysia–Thailand Growth Triangle (IMT-GT) and a prefeasibility study for a border economic zone between North Kalimantan (Indonesia) and Sabah (Malaysia). One key aspect of the lessons learned from the latter study is the importance of establishing areas of convergence and potential cross-border value chains as a first step.

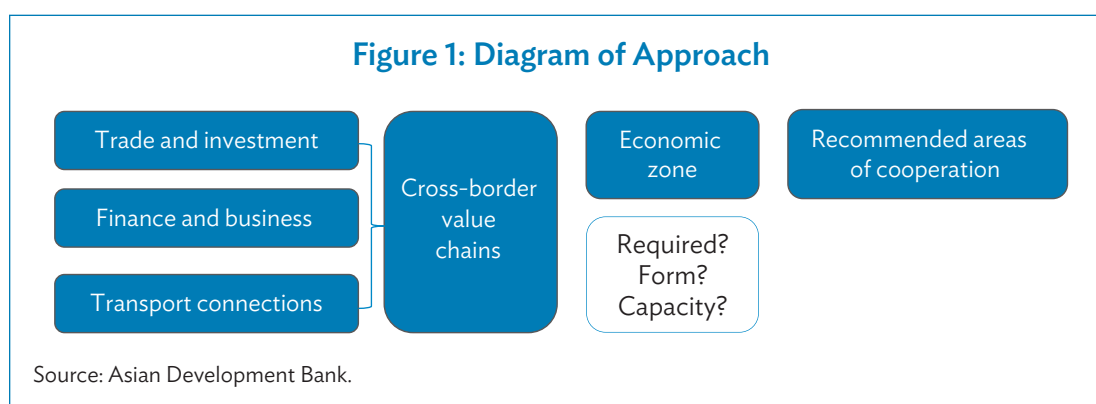
Consequently, to identify sectors and value chains with potential for cooperative development, this study considered the following: (i) existing and potential trade and investment, (ii) current provision and effectiveness of business development and financial services, and (iii) existing and planned transport connectivity. As a second step, the viability of an economic zone for supporting these value chains was considered. The analysis considered what aspects of the enabling environment would need to be addressed, the appropriate form of economic zone, and whether the level of institutional capacity was aligned with a zone program (Figure 1).

The analysis resulted in an interim report, which provided a long list of recommendations on areas for cooperation and crosscutting issues in the enabling environment. Following further consultations (see subsection below), more in-depth analysis was conducted in two areas of potential cooperation (tourism and livestock), and separate concept notes (Part II and Part III) were prepared, which take a holistic approach to the factors involved.

³ C. Rhee, J. Zhuang, and R. Kanbur. 2014. *Inequality in Asia and the Pacific: Trends, Drivers and Policy Implications*. ADB and Routledge.

⁴ ADB, DFID, JICA and WB. 2018. *The Web of Transport Corridors in South Asia*. Washington, DC. World Bank

Figure 1: Diagram of Approach



B. Process

The original request for the study was received in February 2017. In July, a consultant was engaged to conduct preliminary (“pre-inception”) analysis on the trade facilitation situation in NTT including conducting a light-touch time release study (TRS), business process analysis (BPA) of coffee, and a time–cost–distance analysis along the central corridors between NTT and Timor-Leste.

This information was combined with the findings of a TRS and BPA conducted in Timor-Leste under the Pacific Trade and Transport Facilitation Program⁵ leading to a joint trade facilitation report. The report was conducted to assess potential bottlenecks for exports and imports between Timor-Leste and NTT as well as with the rest of the world. The findings of the report are included and inform the analysis in this study. The report is available as a supporting document for further information, if required.

From August to September 2017, four specialists were hired to undertake the full scoping study, and inception missions were conducted in Indonesia and Timor-Leste in August and October. The inception report was finalized in November and considered findings from the background literature review and the approach to the study.

Consultation missions were conducted in October and November in Jakarta, NTT, and Dili, and a visit was made to the Batugade–Mota’ain border post. Consultations were held with a broad cross-section of stakeholders in the public and private sectors. These missions led to the production of individual reports on the four components of the study by December: trade and investment, business and financial development services, transport and infrastructure, and cross-border economic zones. These individual reports were combined into a single interim report, which was shared in a joint focus group discussion (FGD) in Kupang in February 2018.

The joint FGD was the first time stakeholders from Timor-Leste and Indonesia had met to discuss the study. The objectives of the FGD were to share the findings of the interim report

⁵ The Pacific Trade and Transport Facilitation Program is a regional technical assistance supported by ADB that aims to identify the major bottlenecks to trade in the Pacific islands. See the Joint Trade Facilitation Report for more details.

and gain feedback and direction on which recommendations should be further elaborated upon. Part I of this report represents an updated and revised version of the findings put to the FGD and includes the conclusions and recommendations on crosscutting areas and sectors for analysis.

The FGD decided that cooperation on livestock and tourism should be further considered, including the crosscutting recommendations on trade and transport facilitation and special arrangements for cross-border trade.

Following the FGD, a tourism specialist and a livestock specialist were hired. Literature reviews were conducted in the areas of tourism and livestock and more in-depth stakeholder consultations were undertaken in Dili, Kupang, and Jakarta in May 2018.

The tourism specialist additionally traveled overland between Dili and Kupang to consult with tour operators and undertook a series of phone interviews with key informants. The livestock specialist conducted FGDs in Dili on 29 May and in Kupang on 31 May to bring together representatives from the ministries of agriculture, departments of livestock, veterinary services, and quarantine, alongside livestock producers and businesses. The findings in Part II and Part III of this report reflect the outcomes of these consultations and the views of the specialists from previous experience and is informed by the findings of the team of consultants presented in Part I.

In early October 2018, the draft final report was circulated in Indonesia and Timor-Leste for final revisions and comments, and during a mission conducted 19–23 November, to Dili and Jakarta. The mission met with senior officials in the respective ministries of agriculture and tourism, and other consultations were conducted with other relevant ministries and agencies. This includes a cross-government FGD organized in Jakarta by the Fiscal Policy Agency on 23 November. Appendix 1 provides a full list of stakeholder consultations. Key milestones in the development of this final report are summarized in Figure 2.

Figure 2: Major Milestones for Production of Final Study

| | 2017 | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | July | Aug | Sep | Oct | Nov | Dec | 2018 |
|----------------------------------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|------|
| Activities and Outputs | | | | | | | | | | | | | | | | | | | | |
| Trade facilitation analysis | | | | | | | | | | | | | | | | | | | | |
| Joint Trade Facilitation Study | | | | | | | | | | | | | | | | | | | | |
| Inception mission Indonesia | | | | | | | | | | | | | | | | | | | | |
| Consultation mission Timor-Leste | | | | | | | | | | | | | | | | | | | | |
| Inception Report | | | | | | | | | | | | | | | | | | | | |
| Interim Report | | | | | | | | | | | | | | | | | | | | |
| Joint Focus Group Discussion | | | | | | | | | | | | | | | | | | | | |
| Consultation missions | | | | | | | | | | | | | | | | | | | | |
| Draft final report | | | | | | | | | | | | | | | | | | | | |
| Mission on Draft Final Report | | | | | | | | | | | | | | | | | | | | |
| Final Report | | | | | | | | | | | | | | | | | | | | |

CBEZ = cross-border economic zone, NTT = Nusa Tenggara Timur.

Source: Asian Development Bank.

PART I

Areas of Cooperation and Connectivity

Area Profiles

A. Nusa Tenggara Timur and West Timor

1. Geography and Population

Nusa Tenggara Timur (NTT) is the most southern province of Indonesia. It faces the Indian Ocean in the south and the Flores Sea in the north. The province is bordered by West Nusa Tenggara province in the west, and in the east by the southern part of Maluku Province and the independent country of Timor-Leste on Timor Island, with which it shares a 228-kilometer (km) land border.

NTT comprises more than 500 islands with a total area of 47,246 square kilometers (km²), having a population of 5.1 million (2015), 78.5% of whom live in rural areas,⁶ with an average household size of 4.6 people and a population density of 108 persons per km². The largest islands in terms of land area and population are Flores, Sumba, and the western part of Timor (or West Timor).⁷ As West Timor shares a land border with Timor-Leste, the analysis in the following subsections focuses on West Timor.

2. Governance

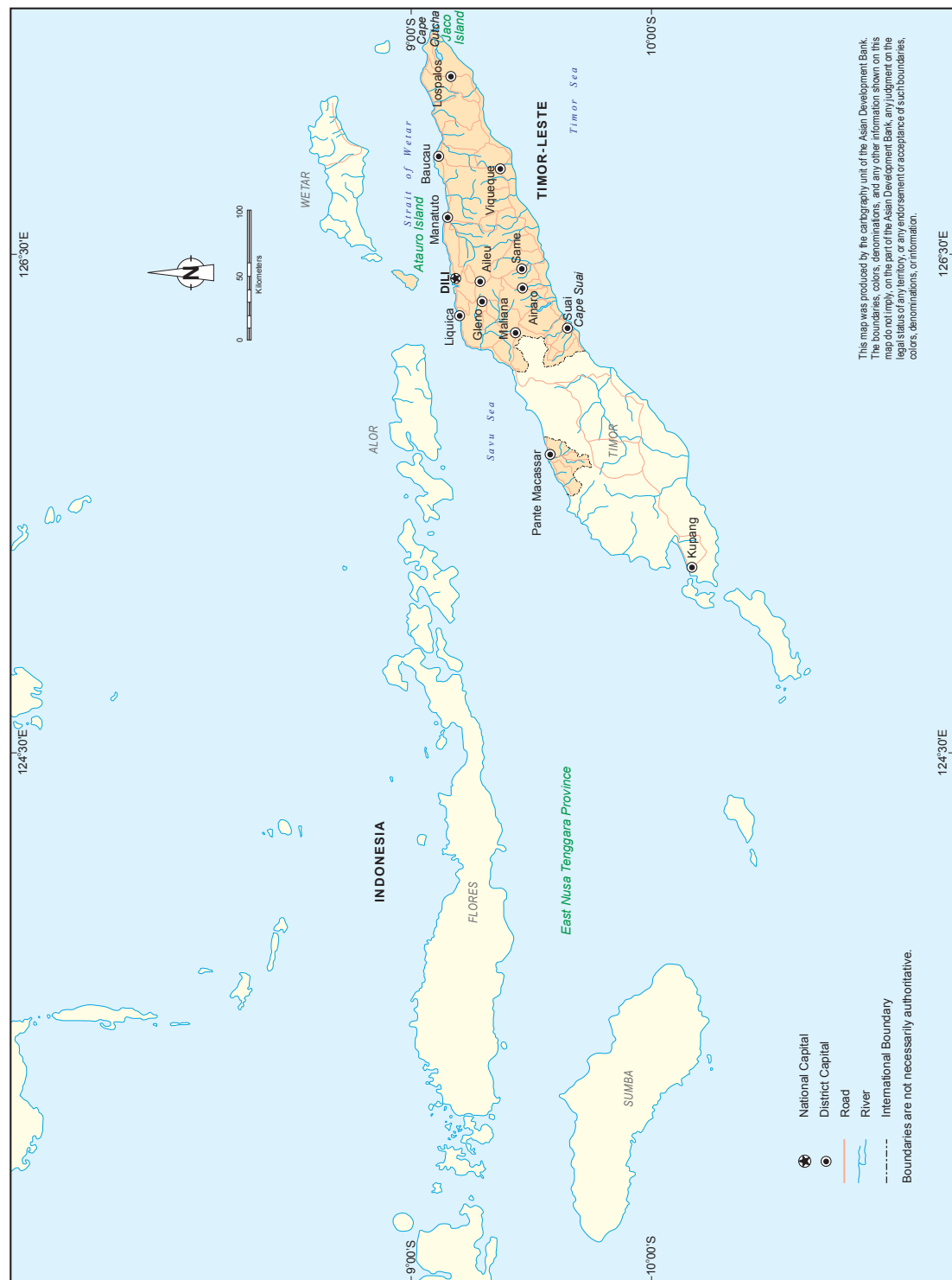
The administrative structure of NTT comprises 21 regencies, 1 city, 306 subdistricts, 2,996 villages, and 318 urban communities. Each of the 21 regencies in NTT has its own government and legislative body, which are elected, and heads of districts are appointed by the regency administrations. Administrative management oversight of the province is provided by the provincial government, known as NTT Badan Perencanaan Pembangunan Daerah (BAPPEDA), which is headed by an elected governor and situated in the capital city of Kupang, West Timor. In addition to its oversight responsibilities, the Office of the Governor is responsible for implementation of national development strategies. Regional or provincial governments also have the responsibility for the administration and delivery of many public services, the regulation of business, and the management of natural resources.⁸ An example of a public service provided by NTT BAPPEDA that has steadily increased in

⁶ Statistics Indonesia, Badan Pusat Statistik. 2015. *Result of the 2015 Intercensal Population Census*. November.

⁷ West Timor comprises Kupang City and the regencies of Kupang, Timor Tengah Selatan, Timor Tengah Utara, Malaka, and Belu.

⁸ Decentralization in Indonesia, initiated in 1998 and accelerated in 2001 and 2005, was motivated by the idea that giving greater responsibility to local government would increase its effectiveness by being more relevant and tailored for the local context, and also would enable different regions to increase their effectiveness by creating internal competition for attracting resources. To date, however, heterogeneity in economic and social outcomes remains large. This is despite a steady increase in transfers from central to subnational governments, which now make up about half of the central government's budget (Source: OECD. 2016. *OECD Economic Surveys Indonesia*. Paris).

Map 1: Map of Nusa Tenggara Timur and Timor-Leste



Source: Asian Development Bank.

recent years in response to central government policies is in the area of education, where NTT is now compliant in service delivery. A 2016 survey carried out by the Organisation for Economic Co-operation and Development (OECD) found that the average amount of district budget spent on wages and administration (rather than service delivery) is one-third across Indonesia.⁹

Kupang is, in administrative terms, a city, which has the same status as a regency under the Indonesian administrative system. The chief officers are the mayor and deputy mayor, elected officials who hold office for 5 years. Kupang City has six subdistricts in its jurisdiction.

3. Climate and Society

West Timor, with a land area of 15,850 km², is mountainous, with some coastal plains that merge into regularly flooded mangrove swamps. The tropical climate is dry during the southeast monsoon and wet during the short, irregular west monsoon (December to March). Annual precipitation averages 1,475 millimeters, and the start of the wet season varies greatly. August and September are the driest months. There are forests of eucalyptus, bamboo, and sandalwood; coconut palm groves; tall-grass and low-tree savannas; and, at higher levels, grazing lands. Fauna include marsupials, crocodiles, cockatoos, pigeons, doves, deer, monkeys, and snakes.

The population of NTT is composed of a large number of ethnic groups, the most common of which include Atoni or Dawan (22%), Manggarai (15%), Sumba (12%), Belu (9%), Lamaholot (8%), Rote (5%), and Lio (4%). While there are many local languages, common languages spoken by the majority of the population include Indonesian, Kupang Malay, Lamaholot, Uab Meto, Bunak, and Tetum. While previous surveys show that Christianity (92%) is the predominant formal religion of the majority of the NTT population, followed by Islam (5%) and others (3%), a large segment of the rural population practice religious beliefs associated with animism, which is not recognized as a formal religion by the Indonesian government.

The coastal inhabitants of West Timor are largely of Indonesian Malay ancestry, having driven the predominantly Melanesian aboriginal peoples into the mountains. Dozens of Papuan and Malayan languages are spoken, as well as Indonesian in the west and Portuguese in the east. Christianity is the prevalent religion in West Timor; however, most rural Timorese still practice animism. As such, Timorese statues and masks still play an important role, and dancing, singing, and the playing of local musical instruments are practiced at ceremonial events.

4. Economy

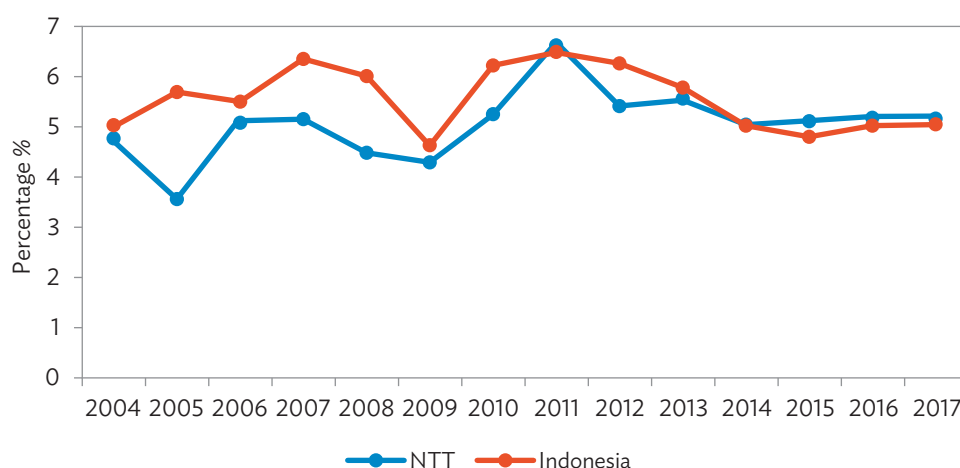
NTT is the second poorest region of Indonesia. As of 2016, 22% of the population in NTT was living below the poverty line (Table 2). This was twice that of Indonesia as a whole (11%) but has, however, shown improvements over time and had come down from 28% in 2005. Household per capita expenditure also grew from Rp160,000 (approximately \$12) to nearly Rp500,000 (approximately \$35) in 2014. While the Human Development Index in

⁹ OECD. 2016. *OECD Economic Surveys Indonesia*. Paris.

NTT increased over the period 2010–2016 from 0.592 to 0.631 (32nd of 34 provinces), the population segment considered “poor” grew by 12% during the same period.

Gross regional product (GRP) in NTT in 2017 was \$6.8 billion, and per capita GRP was estimated at \$1,288, with an annual GRP growth rate of 5.2%. Historically, the rate of NTT economic growth has lagged behind that of the national economy. However, since 2014, NTT has slightly exceeded the national economic growth rate, averaging slightly more than 5% annual growth (Figure 3).

Figure 3: Major Milestones for Production of Final Study



Source: Badan Pusat Statistik.

NTT's gross domestic product (GDP) contribution grew significantly from 2009 to 2017 by an average of 52.7% as measured in constant prices, and 32.4% in current prices. NTT BAPPEDA has highlighted that the province was among 14 provinces that had significantly increased their contributions to the national GDP in recent years.

The biggest contributor to GDP in NTT is the agriculture sector (including forestry and fishery subsectors), which annually accounts for about 30% of the province's GRP contribution (Table 1). Animal husbandry accounts for more than one-third of total agriculture value added. The Timor Island is the main producer of cattle in the province, accounting for 60% of the cattle population in NTT. Other important agricultural products include pork, poultry, peanut, mung bean, rice, soya bean, *kapok*, candlenut, cashew nut, coconut, cassava, sweet potato, red onion, spring onion, garlic, fish, seaweed, and a range of other vegetables and fruit.

Consultations in October 2017 with government officials in Jakarta and Kupang suggest that NTT province is viewed as an important supplier of raw materials and products for the rest of Indonesia, and much of the commercial agricultural surplus in the region is for “domestic export.”

**Table 1: Gross Regional Product Share, Nusa Tenggara Timur,
by Industry, Current Market Prices
(%)**

| Industry | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|-------|-------|-------|-------|-------|
| Agriculture, forestry, and fishery | 29.8 | 29.81 | 29.65 | 28.97 | 28.72 |
| Mining and excavation | 1.46 | 1.56 | 1.71 | 1.79 | 1.30 |
| Manufacturing | 1.24 | 1.23 | 1.23 | 1.21 | 1.26 |
| Electricity and gas | 0.04 | 0.05 | 0.05 | 0.06 | 0.07 |
| Water, waste, and recycle | 0.07 | 0.07 | 0.06 | 0.06 | 0.06 |
| Construction | 10.35 | 10.34 | 10.35 | 10.94 | 10.74 |
| Trade, car, and motorcycle | 10.71 | 10.64 | 10.83 | 11.21 | 11.05 |
| Transportation and Warehouse | 5.21 | 5.20 | 5.20 | 5.40 | 5.42 |
| Accommodation, food, and beverage | 0.60 | 0.62 | 0.64 | 0.67 | 0.74 |
| Information communication | 7.60 | 7.48 | 7.17 | 6.87 | 6.80 |
| Finance and insurance | 3.90 | 3.93 | 3.92 | 3.83 | 4.09 |
| Real estate | 2.78 | 2.71 | 2.69 | 2.58 | 2.58 |
| Business Activities | 0.31 | 0.31 | 0.31 | 0.30 | 0.31 |
| Government administration, land, and social security | 12.38 | 12.23 | 12.30 | 12.38 | 12.83 |
| Education | 9.26 | 9.57 | 9.64 | 9.59 | 9.78 |
| Health and social services | 2.09 | 2.06 | 2.11 | 2.08 | 2.13 |
| Other services | 2.22 | 2.18 | 2.15 | 2.05 | 2.13 |

Source: Badan Pusat Statistik-Nusa Tenggara Timur.

Other major industries include construction, wholesale and retail trade, repair of motor vehicles, and education. Tourism is also a major source of income for NTT. In 2016, it is estimated that NTT earned up to \$80 million in tourism-related expenditures.

Unemployment in NTT is low at only 3.25% (2017), but this hides issues of underemployment and also a pervasive issue of low wages. Youth unemployment, for example, averaged 22.6% (2015) throughout all of Indonesia. As of 2016, the labor force in NTT was 2.35 million and the labor force participation rate was 69.2%. The majority (53%) of NTT workers are employed in the agriculture, forestry, and fishery industries, most of these in subsistence production activities. In NTT subdistricts, particularly those near the border with Timor-Leste (Timor Tengah Selatan, Timor Tengah Utara, Soe, and Belu), cattle sales can make up over 80% of a family's cash income. Other major employers are the social services sector followed by the trade, hotel, and restaurant sector.

Table 2: Nusa Tenggara Timur Summary Data

| Geography | |
|---|---|
| Land surface | 47,245.82 square kilometers |
| Capital | Kupang City |
| Administrative divisions | The province is divided into 21 regencies or districts, and one city. There are 306 subdistricts and 2,996 villages, and 318 urban communities. |
| Population | |
| Population | 5.11 million (2015), ranked 12th of 34 provinces |
| Percentage of annual population growth | 1.1% (2017), Indonesia |
| Population density (persons/sq.km) | 108 persons per square kilometer |
| Male life expectancy at birth (years) | 67 (2016), Indonesia |
| Female life expectancy at birth (years) | 71 (2016), Indonesia |
| Human Development Index | 0.631 (2016), ranked 32nd of 34 provinces / 0.708 Indonesia (2017) |
| Poverty incidence rate | 22.1% (2016) |
| Ethnic groups | Atoni or Dawan (22%), Manggarai (15%), Sumba (12%), Belu (9%), Lamaholot (8%), Rote (5%), and Lio (4%). |
| Major languages spoken | Indonesian, Kupang Malay, Lamaholot, Uab Meto, Bunak, Tetum |
| Religion | Roman Catholicism (57%), Protestantism (35%), Islam (5%), Other religions (3%) |
| Economy | |
| GRP/GDP (current \$) | \$6.8 billion, NTT / \$1,015.54 billion, Indonesia (2017) |
| Per capita GRP/GDP (current \$ prices) | \$1,288, NTT / \$3,847, Indonesia (2017) |
| % GRP/GDP Growth | 5.2%, NTT / 5.1%, Indonesia (2017) |
| Labor force ('000) | 2,353.6 (2016) NTT; 127,110.96 (2017) Indonesia |
| Unemployment rate (%) | 3.25% (2017) NTT / 5.50% (2017) Indonesia |
| Labor force participation rate | 69.2% (2016) NTT |
| – Male | 82% (2017) Indonesia |
| – Female | 51% (2017) Indonesia |

GDP = gross domestic product, GRP = gross regional product, NTT = Nusa Tenggara Timur.

Sources: Bidang Integrasi Pengolahan dan Diseminasi Statistik, International Monetary Fund, United Nations Population Division, International Labour Organization, World Bank.

B. Timor-Leste

1. Geography and Population

Timor-Leste is located on the eastern half of Timor Island and includes Oecusse, an enclave on the northwestern side of Timor Island surrounded by Indonesian West Timor, with which it shares a 228 km land border. Australia is the country's neighbor to the south, separated by the Timor Sea. To the north are the Ombai Strait, Wetar Strait, and the greater Banda Sea. Timor-Leste has a total area of 15,410 km² and a population of 1.3 million (2017), two-thirds (67.2%) living in rural areas, with a population density of 84 persons per km². Other smaller islands of significance within the country's territorial waters include nearby Atauro and Jaco.

2. Governance

Timor-Leste is a unitary semi-presidential constitutional republic. The head of state is the President of the Republic, who is elected by popular vote for a 5-year term. The President guarantees respect for the Constitution and for state institutions, and when necessary can act as a mediator for conflict resolution. The President can also exercise the right to veto legislation put forth by the government and approved by the National Parliament. Following legislative elections, the President appoints as Prime Minister the leader of the majority party or majority coalition. As head of state, the President also presides over the Council of State and the Superior Council of Defense and Security.¹⁰

The current President of Timor-Leste, elected in 2017, is Francisco Guterres Lú Olo. Following national elections in May 2018, the President appointed Taur Matan Ruak on 22 June 2018 to serve as Prime Minister.

The members of the National Parliament or Parlamento Nacional are also elected by popular vote for a 5-year term. The number of seats can vary from a minimum of 52 to a maximum of 65. All legal political parties can run in the legislative elections, organizing to that effect their list of candidates to the National Parliament. The government is the executive body of the state and is responsible for the development and implementation of the government program for the 5-year term. The Prime Minister serves as head of the government and presides over the cabinet.

The administrative structure of Timor-Leste (Map 2) is comprised of 13 districts (municipalities), which in turn are subdivided into 65 administrative posts, 442 *sucos* (villages), and 2,225 *aldeias* (hamlets). Each district comprises one capital city and various subdistricts, whose number can vary between three and seven, with an average of five subdistricts per district. Districts include Bobonaro, Liquiçá, Díli, Baucau, Manatuto, and Lautém on the north coast; Cova Lima, Ainaro, Manufahi, and Viqueque on the south coast; Ermera and Aileu, the two landlocked districts; and Oecussi-Ambeno, the enclave in Indonesian territory.

¹⁰ Government of Timor-Leste. Political System. <http://timor-leste.gov.tl/?p=33&lang=en>.

Map 2: Districts and Regencies on Timor Island



Source: Asian Development Bank.

Dili, the smallest district, occupies a land area of 372 km² and lies on the north coast of the island. It borders the districts of Manatuto to the east, Aileu to the south, Liquiça to the west, and the Savu Sea to the north; it also includes Atauro Island to the north. Dili's capital is the city of Dili which is also the national capital, with an area of 48.3 km² and a metropolitan population of 234,000, representing about 18% of the country's total population.¹¹ The second-largest city is Baucau, with a population of about 16,000, located in the eastern district of Baucau.

3. Climate and Society

Most of the population are of Papuan, Malayan, and Polynesian origin and are predominantly Christian (99%), although traditional religious beliefs are widely practiced in rural areas. About 40 different Papuan and Malayan languages or dialects are spoken, dominated by Tetum. Portuguese is spoken by a small percentage of the population, but it is one of the country's two official languages, the other being Tetum; Indonesian and English are considered to be “working” languages.

Most of Timor-Leste is mountainous, with some coastal plains. The climate is tropical and generally hot and humid, characterized by distinct rainy (December to March) and dry (June to September) seasons. Hilly areas are covered with sandalwood. Scrub and grass grow in the lowlands, together with coconut palms and eucalyptus trees. There are hot springs and many mountain streams. Wildlife includes the cuscus (a species of marsupial), monkeys, deer, civet cats, snakes, and crocodiles.

4. Economy

Timor-Leste ranks among the poorest nations in Asia. About 42% of the population in Timor-Leste lives below the poverty line. The Oecusse exclave is considerably poorer than the rest of the country, with a poverty rate of 63%. As of 2014, the most recent year for which data are available, the Gini Index rating for Timor-Leste was 28.7 and the Human Development Index was 0.605 (2015), ranking it 133rd worldwide.

About 42% of the population of Timor-Leste is under the age of 15, and 69% of the population is less than 30 years of age. As of 2017, the labor force totaled about 284,000; however, the labor force participation rate among men was 52% and only 25% among women. The unemployment rate was 4.7% (2014).

GDP in Timor-Leste in 2017 was \$2.95 billion,¹² and gross national income (GNI) per capita was \$1,790. This is a significant drop from 2013, when GNI was nearly double. GDP in Timor-Leste is determined heavily by the oil sector. For example, in 2015, 48% of GDP came from the oil sector. The recent declines in GDP reflect changes in the global price of oil and, more recently, the political uncertainty leading up to the elections in May 2018, which was also expected to have resulted in a fall of 1.8% in GDP in 2017, although this is forecast to rebound in 2018 and 2019.¹³

¹¹ Democratic Republic of Timor-Leste, Population and Housing Census 2015, General Directorate of Statistics.

¹² Non-oil GDP is estimated at approximately \$1.6 billion in 2017.

¹³ ADB. 2018. *Asian Development Outlook 2018: How Technology Affects Jobs*. Manila.

In 2005, the National Parliament unanimously approved the creation of the Timor-Leste Petroleum Fund to serve as a repository of all petroleum revenues. In 2016, the fund held assets of \$16 billion. Government expenditure makes up about 75% of GDP, and oil accounts for more than 90% of government revenues making the country heavily oil-dependent. The drop in the price of oil in 2014–2016 led to concerns about the long-term sustainability of government spending, which Timor-Leste compensated for by exporting more oil. With recent developments, government emphasis is on using the fund to ensure long-term sustainable growth.

According to 2017 data, industry (including trade, construction, and manufacturing) accounted for 57.8% of GDP, followed by services (31.3%), agriculture (9.4%), and other sectors (1.5%). When looking at value added to the non-oil economy in 2015,¹⁴ health and social work activities accounted for 24%, followed by agriculture, forestry, fishing, construction, storage accommodation, and food services, together comprising 18%.

In terms of employment, the agriculture, hunting, forestry, and fisheries sector is dominant. In 2015, agriculture accounted for 60% of all jobs, followed by services (36.3%), construction (2.1%), and manufacturing (1.9%).¹⁵ It is also worth noting that during the 2017 economic downturn international arrivals by air continued to grow, suggesting that the international visitor market held up. In 2017, Timor-Leste earned \$73 million in international visitor receipts, equivalent to 2.3% of GDP. This suggests that tourism and agriculture are both important sectors for economic growth in the country.

While agriculture holds potential for significant growth within the economy, agricultural value chains are underdeveloped, and the prevalence of subsistence farming practices has limited the sector's role as a contributor to economic growth. Coffee is the single largest export crop. As discussed in Chapter 5, coffee dominates non-oil exports and comprised from half to three-quarters of the value of non-oil exports from 2014 to 2017.

In addition to coffee, cacao, coconut, and cinnamon, along with a wide range of food crops including corn, rice, cassava, sweet potato, and mung bean, are produced by small farmers for the local economy. Cattle, native chickens, and pigs are also raised in rural areas. The manufacturing of textiles, garments, handicrafts, processed coffee, copra cake, and flour products are important contributors to the local economy, along with other crafts such as pottery, wood and ivory carving, coir production, and basketmaking.¹⁶

C. Conclusion

NTT and Timor-Leste share many similarities but differ in important respects. West Timor has a more developed manufacturing industry and, while the poverty rate of West Timor is twice that of Indonesia, it is half that of Timor-Leste and a third of the poverty rate in the Oecusse exclave. NTT is part of a powerful and diversified economy that provides domestic

¹⁴ Latest data available with the breakdown provided by the Timor-Leste General Directorate of Statistics.

¹⁵ Democratic Republic of Timor-Leste, Population and Housing Census 2015, General Directorate of Statistics.

¹⁶ Encyclopedia Britannica. <https://www.britannica.com>.

Table 3: Timor-Leste Summary Data

| A. Geography | |
|--|--|
| Land surface | 15,410 square kilometers |
| Capital city | Dili |
| Administrative divisions | Oecusse, Liquiçá, Dili, Manatuto, Baucau, Lautém, Bobonaro, Ermera, Aileu, Viqueque, Cova Lima, Ainaro, and Manufahi |
| B. Population | |
| Population | 1.296 million (2017)–67.2% rural, 32.8% urban |
| Percentage of annual population growth | 2.2% (2017) |
| Population density | 84 persons per square kilometer |
| Male life expectancy at birth (years) | 67 (2016) |
| Female life expectancy at birth (years) | 71 (2016) |
| Human Development Index | 0.605 (2015) Rank: 133rd |
| Poverty Rate (index mundi) | 41.8% (2014) |
| Ethnic groups | Native Timor-Lesteese consist of a number of distinct ethnic groups, mostly of mixed Austronesian and Melanesian/Papuan descent. The largest Malayo-Polynesian ethnic groups are the Tetum (100,000); the Mambai (80,000); the Tukudede (63,170); the Galoli (50,000); the Kemak (50,000); and the Baikeno (20,000). The main tribes of mostly Papuan origin include the Bunak (84,000); the Fataluku (40,000); and the Makasae (70,000). There is a small Chinese minority. |
| Major languages spoken | Tetum, Portuguese (official), Bahasa Indonesia, English; other indigenous languages, including Tetum, Galole, Mambae, and Kemak |
| Religion | Roman Catholicism (97%), Protestantism (2%), Other religions (1%) |
| C. Economy | |
| GDP (constant \$) | \$2.95 billion (2017) |
| GNI per capita (current \$) | \$1,790 (2017) |
| Gini Index | 28.7 (2014) |
| Inflation, consumer prices (index mundi) | 1.0 (2017) |
| Percentage GDP Growth (index mundi) | 4.0% (2017) |
| Industrial production growth rate | 2.0% (2017) |
| Labor force ('000) | 283.48 (2017) |
| Unemployment rate (%) | 4.7% (2014) |
| Labor force participation rate | |
| – Male | 52% (2017) |
| – Female | 25% (2017) |

GDP = gross domestic product, GNI = gross national income.

Sources: International Monetary Fund, United Nations Population Division, International Labour Organization, and World Bank.

market opportunities, whereas Timor-Leste is still at the beginning stages of reducing its reliance on oil and diversifying its economy.

Areas of similarity include the population densities within Timor-Leste and West Timor. They also share a similar topography and climate, which means that agricultural production is similar on both sides of the border. Agriculture accounts for 30% of gross regional product (GRP) in NTT and 18% of value added in Timor-Leste. It also accounts for 53% of employment in NTT and 60% of employment in Timor-Leste. Agriculture is clearly important for both in regard to economic development and poverty reduction. As discussed, tourism is also an increasingly important source of income for both territories.

Development Strategies and Cross-Border Institutions

A. Development Strategy of Indonesia and Nusa Tenggara Timur

Indonesia is guided by its National Long-Term Development Plan (2005–2025), which is supported by the National Medium-Term Development Plan (2015–2019). These strategies highlight the importance of strengthening national connectivity both locally and internationally and strengthening human resource capacity including national science and technology. For NTT, it focuses on the twin goals of increasing tourism and food security.

In December 2016, Indonesian President Joko Widodo reiterated the government's plan to develop seven areas bordering parts of Malaysia, Timor-Leste, and Papua New Guinea to promote commerce, reduce poverty, improve general living standards, and attract workers and their families to help reduce severe agglomeration in Java's major urban centers. One area highlighted in the government's plan is to promote cross-border trade and investment and encourage the economic and social development of areas along the border, using cross-border cooperation to open opportunities for wider regional cooperation. Under the government's plan, there is an urgent need to develop Eastern Indonesia through improving cross-border trade and other activities and linkages with Timor-Leste.

Furthermore, Kupang is a port city targeted by the government to become a subregional hub for trade across the NTT region. It is included in an important national program of developing a sea tollway to help connect the 6,000 inhabited islands of Indonesia with each other and with the world. Its development as a port would be enhanced by a growth in economic activity along the border and justify the investment to make it a more efficient and effective port.

The province is guided by the 2013–2018 Medium-Term Development Plan, which seeks to “realise a high quality, prosperous and democratic people of Nusa Tenggara Timur under the Republic of Indonesia.” The plan has eight missions, which include improving health and education services, improving legal and bureaucratic systems, and improving infrastructure investments. It also explicitly includes a focus on reducing poverty and on development in border areas. Sectors mentioned in the strategy include tourism and fisheries, although during consultations with BAPPEDA, the importance of agriculture and particularly livestock was underscored for the region.

Major initiatives in the plan that relate to this study include the development of a National Tourism Strategic Zone in Labuan Bajo, and ongoing investments in improving the infrastructure and facilities at border control points with Timor-Leste.

Cooperation with Timor-Leste and also Australia through the Timor-Leste–Indonesia–Australia Growth Triangle (TIA-GT) is viewed as holding great potential for NTT, and emphasis is given to tourism, cattle fattening, fisheries, and sea products for trade.¹⁷

B. Development Strategy of Timor-Leste

Timor-Leste is guided by its Strategic Development Plan (SDP) 2011–2030, which sets out an ambitious agenda for the country while also celebrating the significant achievements that have been made since its independence. Approved in 2011, the SDP has been supported by strong political consensus and has formed the basis for the official programs of each government formed since 2012.¹⁸ It aims that, by 2030, Timor-Leste will have a diversified economy with high-quality infrastructure and that subsistence agriculture will largely be replaced by commercial and smallholder agriculture.

The SDP prioritizes, among other things, infrastructure development, rural development, economic diversification, and poverty reduction. Rural development is a major goal for poverty reduction and for relieving pressures on urban infrastructure. The government is prioritizing the creation of employment in rural areas to address these concerns. Sector pillars for development are oil and gas, agriculture, fisheries, tourism, and manufacturing and industry.

Special economic zones (SEZs) are identified in the SDP as a means of supporting economic and social development (see Chapter 9 for more information). The rural districts bordering Indonesian West Timor, Bobonaro, and Cova Lima are highlighted in Timor-Leste's SDP as zones having opportunities for increasing trade through improved customs, immigration, quarantine, and security (CIQS) services. Other initiatives include increasing other economic activity through agricultural extension for new food crops, new livestock areas, and tourist destination sites.

The SDP also targets regional integration as a means of promoting trade, investment, and labor market linkages in support of economic diversification. As a specific step, Timor-Leste formally applied for membership in ASEAN in 2011 and aims to be a full and active member by 2020.

A working group was constituted under the ASEAN Coordinating Council, which is comprised of the foreign ministers of ASEAN member states, following Timor-Leste's application. Three separate studies have been conducted on the implications of Timor-Leste's accession, and consultations are ongoing to assess Timor-Leste's readiness.

Membership in ASEAN could provide direct benefits through closer trade, investment, and labor market linkages with Southeast Asia. Greater cooperation with Indonesia is seen as an important step toward achieving full membership in ASEAN as well as meeting other goals around economic diversification and poverty reduction.

¹⁷ Based on presentation by BAPPEDA during a joint focus group discussion 28 February 2018.

¹⁸ The Program of the Seventh Constitutional Government (2018–2020) had not, at the time of this writing, been approved by Parliament nor had new elections been called, so this refers to past official programs.

The Country Partnership Strategy for Timor-Leste with ADB focuses on transport, energy, water and sanitation, education, and finance. It identifies agriculture as the productive sector having the clearest opportunity for poverty reduction, and emphasizes the need for the country's petroleum wealth to be used to improve the competitiveness and diversity of the economy in the long term. It also emphasizes the importance of engagement of the private sector in achieving these goals. Specific areas of support that relate to this scoping study include technical assistance to support preparations for ASEAN membership and support for the rehabilitation of the core network of national roads.

C. Cross-Border Institutions

There are currently several initiatives in the region aimed at developing and promoting trade, cooperation and connectivity between Eastern Indonesia and Timor-Leste. The current initiatives in development are described below.

1. Timor-Leste–Indonesia–Australia Growth Triangle

The Timor-Leste–Indonesia–Australia Growth Triangle (TIA-GT) is a trilateral initiative aimed at promoting and fostering economic growth through integrated development within the subregion of eastern Indonesia, northern Australia, and Timor-Leste.

Representatives of the three governments are confident that the TIA-GT would “strongly contribute toward promoting economic, social and cultural development” as it prioritizes “attracting valuable investment, promoting the development of manufacturing industries, enhancing human capital and strengthening the friendship and cooperation ties between the three countries.”¹⁹

Discussions have focused on ways to improve connectivity through air, sea, and land transportation and looking into new paths for tourism in the subregion, and have further promoted developments in Timor-Leste's marine and air services and produced a report on the investigation of a “tourism path” between Bali and Darwin, exploring the islands of Flores and Timor.

Meetings held to date have established three working groups on trade and investment, connectivity, and tourism to consider key issues to move toward further integration. Areas such as agriculture, fisheries, tourism, manufacturing, and education have been identified as beneficiaries of integrated subregional development. The TIA-GT provides a vehicle to shape and encourage this development, expanding equal partnership and sharing mutual benefits.

¹⁹ Government of Timor-Leste. 2016. Boosting Growth through the Growth Triangle. 8 April. <http://timor-leste.gov.tl/?p=14966&lang=en>.

In 2015, a study was undertaken on behalf of the TIA-GT to recommend areas for collaboration. These included the following:

- (i) The governments engage the private sector in planning and implementation of the growth triangle.
- (ii) The governments support increased people-to-people links through sporting and cultural events.
- (iii) Australia and Indonesia support Timor-Leste's preparations for ASEAN membership.
- (iv) Each government continues to improve its regulatory environment for business and trade and investment facilitation.
- (v) The three governments develop a regional brand and support potential growth industries such as cultural and environmental tourism and cattle production.
- (vi) Australia expands the access granted to migrant workers from Timor-Leste and NTT.
- (vii) The three governments establish mechanisms to share knowledge on aquaculture and fisheries management.²⁰

The last meeting of the Trilateral Working Group was held in August 2017. Discussions focused on how to expand concrete action areas. It is anticipated that a ministerial level meeting will take place in Australia in early 2019 to help further promote the key agendas.

2. Existing Memoranda of Understanding and Agreements

There are at least 52 memoranda of understanding (MOUs), agreements, letters of intent, and declarations between Indonesia and Timor-Leste regarding cooperation in transport corridors, products and services, trade, and much more. Specific MOUs relevant to this study include the following:

- (i) MOU on Fisheries,
- (ii) MOU on Agriculture,
- (iii) Technical Cooperation Agreement on Livestock,
- (iv) MOU on Tourism,
- (v) MOU on Cross-Border Movement of Vehicles,
- (vi) Arrangement on Traditional Border Crossings and Regulated Markets,
- (vii) Cooperation between Chambers of Commerce, and
- (viii) Pending Agreement on Investment.

²⁰ Charles Darwin University, 2015. *Trilateral Cooperation between Australia, Indonesia, and Timor-Leste Study—Interim Report*, cited in ADB (2016).

In 2015, an MOU on Fisheries was signed between the governments of Timor-Leste and Indonesia that focused on (i) prevention of illegal fishing practices, (ii) developing fish conservation, and (iii) providing extension information on processing and investment.

Also in 2015, an MOU on Agriculture was signed. This renewed a previous commitment signed in 2008 and sets out areas of cross-border cooperation related to agriculture. This MOU would contribute to the agricultural and economic development of both countries. Areas targeted include livestock, quarantine, food crops, industrial plants, animal health, endangered species, quality and safety standards of agricultural and animal produce, horticulture and other mutually agreed-upon areas.

Forms of cooperation include areas related to technical and scientific cooperation, such as joint research and development (R&D) of technology, capacity building through training programs, and joint promotion in marketing of agricultural commodities between the private sectors of both countries.²¹

The MOU on agriculture was recently further reinforced by the signing of a technical cooperation agreement in 2018 between the Director General of Livestock for Ministry of Agriculture and Fisheries (MAF) Timor-Leste and the Director General of Livestock and Animal Health for the Ministry of Agriculture, Republic of Indonesia (MOA-RI). One key area in the agreement is cooperation on the harmonization of animal health standards, regulations, and services concerning trading of live animals and their products. Details on activities under this agreement are currently in development.

It was further announced in September 2018 that both countries signed an agreement on cooperation for control of quality of food, which further reinforces aspects of the agreement on animal health.

The MOU on Tourism was signed by the respective governments in 2012. It states that the aims of the cooperation are to (i) promote and develop cooperation in the field of tourism in both countries, (ii) promote flows of tourists between the two countries, (iii) increase the growth of the tourism industry in both countries, and (iv) enhance human resources development. Specific areas of cooperation include administration and management experience exchange, capacity building, tourism marketing and events, and private sector cooperation. Currently discussions are under way to update the 2012 MOU between Indonesia and Timor-Leste on cooperation in the field of tourism.

An MOU on the Cross-Border Movement of Vehicles has been drafted and is currently being negotiated. This MOU will be important in overcoming the regulatory challenges to the cross-border movement of goods and people; however, further work may be required to address issues of cost recovery from greater cross-border vehicle flows. At the time of writing, the text of the MOU was unavailable to the authors.

²¹ MOU on Agricultural Cooperation between the Republic of Indonesia and the Government of the Democratic Republic of Timor-Leste.

Indonesia and Timor-Leste have an existing arrangement on traditional border crossings and regulated markets, signed in 2003, which provides an initial framework for further development of cross-border cooperation and trade. The agreement stipulates that traditional trade can take place between border residents and in specific regulated markets along the border.

Entry and exit for traditional and customary purposes or for trade at a regulated market can take place only at designated crossing points on these borders.²² Goods permitted to be traded through this arrangement include agricultural products (including a maximum of five cattle or other four-legged animals), goods produced in the border area, and a variety of other household consumption goods. The value of the goods permitted to be carried across the border is set at \$50, and they are not subject to any duty or tax. Goods other than those permitted under the arrangement must be moved through designated ports of entry or exit.

This agreement provides an important foundation for further extending preferences on cross-border trade between the two countries. Within ASEAN there are several instances of cross-border trade agreements similar to or more extensive than this one. In 2015, the Lao People's Democratic Republic (Lao PDR) and Viet Nam signed an Agreement on Border Trade that allows for preferential treatment across a broad list of products. Viet Nam allows for 0% import tariffs for goods from the Lao PDR, and several other areas of cooperation (social and economic) are included in the agreement. These kinds of agreements provide examples for how the existing cross-border trade agreement between Timor-Leste and Indonesia might be extended.

In June 2018, President Joko Widodo and President Francisco Guterres Lú Olo announced they would start negotiations toward an agreement on investment promotion and protection. Following this announcement, the president of Timor-Leste Chambers of Commerce and Industry (TL-CCI) announced that the private sectors in Timor-Leste and Indonesia had signed a cooperation agreement to support the private sector in exploring cooperation areas in the future. TL-CCI President Oscar Lima said, "the agreement was also to ask Indonesia's private sector's help to provide training to TL-CCI because they have better experience." He added that the agreement could improve the opportunities for Indonesia's private sector to invest in Timor-Leste in the future to boost that country's economic development.

D. Conclusion

The MOUs and agreements highlighted above demonstrate the strong commitment by both governments toward greater cooperation across a broad range of issues and provide strong foundations for implementation in these areas. Cooperation around livestock and animal health, and food safety issues appears to have particular momentum at the moment. Agreements on investment and the pending agreement on the cross-border movement of vehicles also bode very well for improving the business-enabling environment for cross-border cooperation.

²² Designated crossing points include Mota'ain-Batugade, Metamauk-Salele, Hekesak-Turiskain, Builalo-Memo, Napan-Bobomoto, Haumus-Wini, Haumeniana-Passabe, Oipoli-Citrana, and Laktutus-Belulik Leten.

The agreement on cross-border traditional trade also provides an important foundation for further extending cross-border trade relationships that directly benefit small traders in the border region. Consideration could be given to incorporating aspects of agreements within ASEAN that have similar objectives such as the Lao PDR–Viet Nam Agreement on Border Trade.

The areas of cooperation highlighted in the MOUs are also reflected in the areas for cooperation under the TIA-GT, which provides a beneficial wider context and strengthens the bilateral areas of focus. Common sectors prioritized in the respective development strategies of NTT and Timor-Leste appear to be tourism, agriculture, fisheries, and manufacturing.

A. Indonesia

1. National Trade Policy

Indonesia is a member of the World Trade Organization (WTO) and of various trade agreements within regional groupings such as ASEAN, the Asia-Pacific Economic Cooperation (APEC), and various growth initiatives including Brunei Darussalam–Indonesia–Malaysia–Philippines East ASEAN Growth Area and the Indonesia–Malaysia–Thailand Growth Triangle (IMT-GT). As part of ASEAN it extends preferential tariffs to members under the ASEAN Trade in Goods Agreements (ATIGA). Indonesia has eliminated import duties on 99.65% of tariff lines under this agreement. Indonesia’s tariffs have generally fallen over the past 2 decades, and it has preferential tariffs with Australia, New Zealand, the People’s Republic of China (PRC), the Republic of Korea, and India. Currently there are no preferential tariffs in place with Timor-Leste.

The number and type of nontariff measures (NTMs) in place in Indonesia are complex, cover many sectors, and can be obscure. There are many import restrictions for agriculture and livestock such as import licenses, quotas, and other measures; seen by some as increasingly protectionist measures to support the food self-sufficiency policy of the Government of Indonesia. Many of the laws and regulations covering trade policy have the objective of stabilizing domestic prices and fostering linkages in the domestic economy.²³ Quantitative restrictions applying to rice, sugar, animals and animal products, and salt are aimed at protecting domestic production. Import volumes are determined annually based on domestic production and consumption and are implemented through Indonesia’s complex and sometimes nontransparent import licensing system.²⁴

NTMs hinder integration of countries into global value chains and Indonesia’s integration appears to be lower than what would be expected for an economy of its size.²⁵ That said, Indonesia’s bilateral trade costs are comparable to others in the region. For example, its bilateral costs with Singapore in 2015 were equivalent to 106% of the value of the goods. This compares with Thailand, whose bilateral trade costs with Singapore were 100%.²⁶ Nevertheless, Indonesia is emphasizing greater trade integration and reforms as part of the ASEAN economic community as a priority.

²³ A. Patunru and S. Rahardja. 2015. *Trade Protectionism in Indonesia: Bad times and bad policy*.

²⁴ WTO. 2013. *Indonesia Trade Policy Review*. https://www.wto.org/english/tratop_e/tpr_e/tp378_e.htm.

²⁵ OECD. 2015. *Indonesia Policy Brief*. <https://www.oecd.org/tad/policynotes/indonesia-trade.pdf>.

²⁶ ESCAP–World Bank Trade Cost Database. Accessed May 2018.

A value-added tax (VAT) is levied in Indonesia at a flat rate of 10% and is applied to both imported (levied on customs value plus any applicable duty) and locally produced goods (with some exceptions and flexibility to change rates between 5% and 15%). In addition, there is a luxury tax for non-essential goods, and an excise tax on alcoholic products and tobacco. Exports are not subject to a VAT. Export taxes are, however, levied on certain minimally processed goods to promote value addition in Indonesia (e.g., crude palm oil, leather, wood, raw cocoa, and mineral ore products).

Analysis of trade in value added of Indonesia into global value chains shows a high level of forward linkages compared with the average for ASEAN countries. This means that exports from Indonesia are often intermediate inputs for other countries exports.²⁷ In addition to food self-sufficiency objectives, many trade policy objectives aim to capture a higher value added for Indonesia's exports through domestic processing.

2. National Trade Profile

Indonesia has a diversified import and export base, and in 2017 it had a trade surplus with the world valued at \$11.4 billion. Its largest export markets are the PRC, the United States (US), Japan, and Singapore. Major exports were mineral fuels, followed by fats and oils, which were overwhelmingly palm oil exports produced predominantly in Borneo and Sumatra. Major agricultural exports other than palm oil and tobacco were fish, coffee, and cocoa.

Indonesia's trade in services is much smaller than in goods, with the value of services exports in 2016 approximately 17% of the value of goods exports. However, more than 50% of service exports can be attributed to tourism, and trade in travel services has shown steady growth, increasing by 47% between 2012 and 2016.²⁸

Indonesia's exports to Timor-Leste in 2017 were around \$228 million or 0.1% of Indonesia's total exports. The composition of these exports is explored further in the subsection on Timor-Leste's trade.

Indonesia's imports come mainly from the PRC, Singapore, and Japan. In 2017, these countries accounted for 52.4% of Indonesia's imports.²⁹ The imports were largely machinery, petroleum products, and electrical machinery.

Understanding Indonesia's overall trade is important for understanding the potential opportunities for Nusa Tenggara Timur (NTT) in terms of strengthening its integration into these national and regional production networks. Nevertheless, due to the economic isolation of NTT from the rest of Indonesia, a national perspective reveals very little about the current trade profile of the region. As explained in the next subsection, trade data alone are largely insufficient to understand the trade opportunities, since the data collected at provincial level hold significant challenges.

²⁷ Trade in Value Added Statistics as presented in the ASEAN+3 Macroeconomic Research Office 2018 Regional Outlook.

²⁸ Based on TradeMap trade in services data (accessed May 2018).

²⁹ International Trade Centre Trade Map statistics (accessed June 2018).

3. Nusa Tenggara Timur

For the analysis of exports and imports to and from NTT, it is important to note that the statistics may significantly underestimate their value. In Indonesia, shipping is largely concentrated in a few international ports, of which NTT possesses none. Consequently, cargo is shipped from Tenua or Atapupu Port to the international ports at Surabaya or Jakarta before then being shipped internationally and vice versa. Any cargo undergoing even a minimal level of processing or consolidation in those international ports may then be recorded as imports or exports from Surabaya or Jakarta. For example, a crop grown near Soe leaves the province via Tenua. It is then carried by domestic shipping to the international gateway at Surabaya and discharged. It is then consolidated and loaded for export. It is recorded in the national trade statistics as exported at Surabaya. It is not known how much of the goods from NTT that are recorded as domestic might then be exported later. The findings in this subsection are indicative of the production and demand capabilities of NTT, but due to this challenge, analysis should be complemented with other measures to understand the true market opportunities.

4. Nusa Tenggara Timur Imports

NTT imports are foreign goods bound for NTT from outside Indonesia. It is possible that goods from outside Indonesia that were off loaded in Surabaya made their way to NTT and were therefore not recorded as imports; however, it is not possible to establish how much of this happens from these statistics. Therefore, these cannot be compared on the same basis with import data for Timor-Leste.

Imports into NTT have fluctuated heavily since 1992, with peaks in 1999 and 2012. This likely reflects the impacts of discrete projects, government investments, and infrastructure developments to some degree. There is a slight upward trend and a period average value of \$20 million (Figure 4).

In Appendix 2, Table A2.1 shows the value of imports into NTT from all countries. It shows that the amounts of imports are highly variable from year to year, and there are many countries with only one entry during 2010–2016. Table 4 shows the countries with the highest values and most consistent entries.

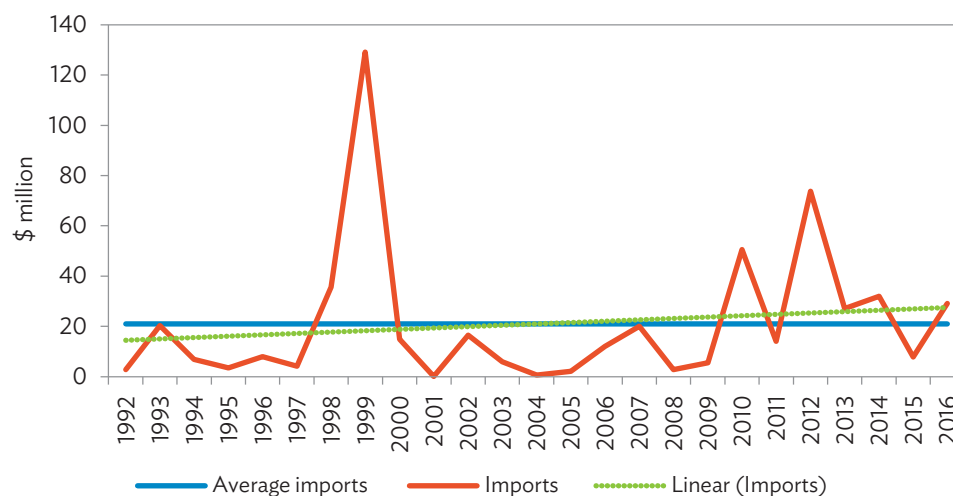
The countries that imported the most (in total value terms) from 2010 to 2016 are the PRC, Viet Nam, Singapore, Thailand, and the US. The total amount imported by the PRC from 2010 to 2014 was \$66 million—\$13 million on average, but highly variable; these were largely steel products, electrical equipment, and machinery. Imports from Viet Nam were largely cement and wheat. Singapore was the most consistent source of imports for NTT—largely petroleum. Imports from Thailand were largely wheat and from Japan, largely cement.³⁰

A report by the NTT Province Trade and Industry Office (2009)³¹ analyzed goods entering and leaving NTT (including domestic and international trade) and found that many of

³⁰ Statistik Ekspor Impor Provinsi Nusa Tenggara Timur 2013, 2014, 2015, 2016.

³¹ As reported in, Charles Darwin University. 2015. *Opportunities for Trilateral Economic Cooperation between the Indonesian, Timor-Leste and Australian Governments in Their Shared Sub-region*.

Figure 4: Gross Import Values to Nusa Tenggara Timur, 1992–2015
(\$ million)



Source: Badan Pusat Statistik.

Table 4: Nusa Tenggara Timur Imports by Value, 2010–2016
(\$'000)

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | Total | Average |
|-------------------|--------|--------|--------|--------|--------|-------|--------|--------|---------|
| PRC | 12,751 | – | 12,762 | 12,368 | 21,307 | 3,629 | 3,142 | 65,958 | 13,192 |
| Viet Nam | 13,026 | 12,035 | 33,117 | 2,672 | – | – | – | 60,850 | 15,212 |
| Singapore | 8,777 | 1,706 | 7,028 | 7,410 | 5,377 | 1,153 | 15,888 | 47,338 | 6,763 |
| Thailand | 329 | – | 8,191 | – | 624 | – | 8,358 | 17,503 | 4,376 |
| United States | 4,911 | 251 | 5,573 | 2 | 3 | – | 3 | 10,744 | 2,149 |
| Republic of Korea | – | – | – | 2,714 | 881 | 2,783 | 669 | 7,047 | 1,762 |
| Japan | 169 | – | 2,770 | – | 3,586 | – | – | 6,525 | 2,175 |
| Australia | 4,440 | – | – | 364 | – | – | – | 4,803 | 2,402 |
| United Kingdom | 1,011 | – | 3,527 | – | – | – | 30 | 4,568 | 653 |
| Malaysia | 723 | – | 644 | 1,443 | – | – | – | 2,810 | 937 |
| Timor-Leste | 148 | 8 | 130 | 83 | 143 | – | 796 | 1,309 | 262 |

PRC = People's Republic of China.

Source: Badan Pusat Statistik.

the goods entering the region were agricultural products, basic food items and groceries (e.g., rice, sugar, and cooking oil), building materials (e.g., cement, lumber, and plywood), automotive and electronic goods, fuel, and other commodities. Goods leaving the region, in much lesser volumes, were agricultural, plantation, forest, and marine products; specific minerals; livestock; and used goods (e.g., scrap metal, empty bottles, and used batteries). The main agricultural products exported to other regions included cashew nuts, coffee, candlenuts, seaweed, tamarind, and cattle with relatively low value added and destined for other provinces via Surabaya. While this analysis is now nearly 10 years old, discussions with stakeholders in NTT suggest that this profile is generally still an accurate depiction.

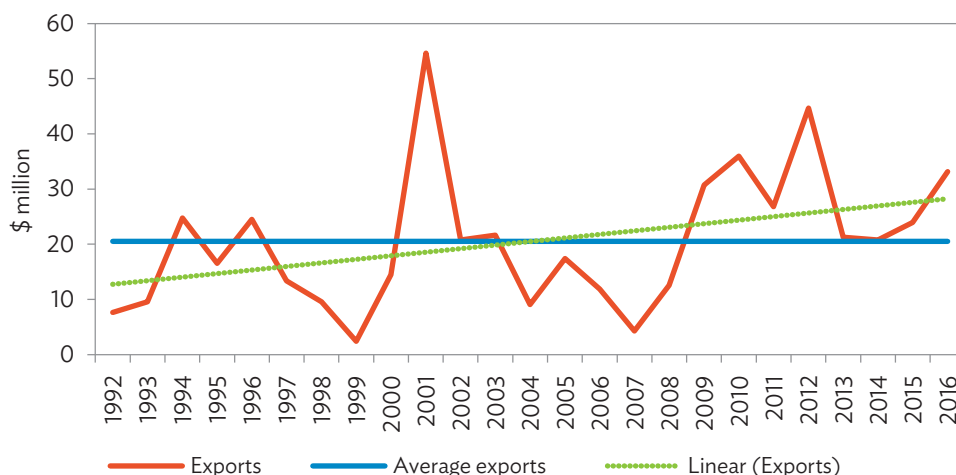
Information provided during consultations in October 2017 with government officials in Jakarta and Kupang suggests that the focus of trade policy for NTT is to increase its role as a supplier of raw materials to the rest of Indonesia. Poultry, live cattle, agricultural products, and salt have been identified as priorities by the national government to meet shortfalls in domestic supply and achieve self-sufficiency.

5. Nusa Tenggara Timur Exports

Recorded exports from NTT from 1992–2016 averaged about \$20 million per year. Exports have increased at about 6% per annum, but, similarly to imports, the values are highly variable from year to year. There were significant peaks in 2001 and 2012 (Figure 5). Monthly data also show there is significant variation in exports across the year due to weather and agricultural cycles.

Table 5 shows the value of exports by destination market. By far the largest recipient of NTT exports is Timor-Leste, which was the destination for 97% of all exports on average from 2012 to 2015. It is also the most consistent export market. Similar to the import data, the entries for many countries are highly sporadic.

Figure 5: Gross Export Value, Nusa Tenggara Timur, 1992–2015
(\$ million)



Source: Badan Pusat Statistik.

Table 5: Nusa Tenggara Timur Exports by Destination, 2012–2016
(\$'000)

| Destination | 2012 | 2013 | 2014 | 2015 | 2016 | Total | Average |
|----------------------|---------------|---------------|---------------|---------------|---------------|----------------|---------|
| Timor-Leste | 43,039 | 19,874 | 20,492 | 23,718 | 23,465 | 130,586 | 26,117 |
| Australia | – | – | – | – | 9,607 | 9,607 | 9,607 |
| Japan | 773 | 989 | 225 | – | – | 1,987 | 662 |
| United States | 178 | 358 | 68 | – | – | 605 | 202 |
| PRC | 356 | – | – | 2 | 33 | 392 | 131 |
| Thailand | 194 | 17 | – | – | – | 211 | 106 |
| Singapore | – | – | – | 151 | 44 | 195 | 98 |
| India | 114 | – | – | – | – | 114 | 114 |
| Malaysia | – | – | – | 58 | – | 58 | 58 |
| Hong Kong, China | 2 | – | – | 10 | – | 11 | 6 |
| Kenya | – | – | – | – | 3 | 3 | 3 |
| Total | 44,657 | 21,238 | 20,785 | 23,938 | 33,152 | 143,770 | |
| % Timor-Leste | 96 | 94 | 99 | 99 | 71 | | |

PRC = People's Republic of China.

Source: Badan Pusat Statistik.

Through conversations with customs officials in Kupang³² and through official statistics, it is believed that fish and shrimp exports to Japan were shipped through El Tari airport to Jakarta and then onward to Japan. In 2012, 2013, and 2014, the value of exports of fish and shrimp to Japan were \$773,000, \$998,000, and \$225,000, respectively, and there are no data available after 2014.³³ The discontinuation of shipments after 2014 may indicate that the shipments ended or that the shippers found a different route to export the products (i.e., domestic transfer).

For 2015, other trade partners of record are Singapore (90% of fish and shrimp, rubber, and iron and steel) and Malaysia (tobacco). There was also intermittent trade with the PRC and the US from 2012 to 2016.

In 2008, exports to Europe had a recorded value of \$2.24 million (to Germany and Portugal), and in 2010, \$3,062,366 (to Portugal), but recent exports are insignificant. Since Indonesia still has over \$2 billion in trade with Germany, this may not be a loss of trade, but a statistical transfer to another gateway port of Indonesia.

The range of exports to Timor-Leste is quite extensive and covers all but seven Tariff Chapters.³⁴ The most valuable are shown in Table 6.

³² Consultations undertaken as a pre-inception study on trade facilitation in NTT in June 2017.

³³ Statistik Ekspor Impor Provinsi Nusa Tenggara Timur 2012, 2013, and 2014.

³⁴ The excluded were Chapters 05 (Other animal products), 26 (Ore, slag, ash, etc.), 31 (Fertilizer), 47 (Wood), 53 (Cotton products), 88 (Aircraft), and 93 (Firearms).

Table 6: Nusa Tenggara Timur Exports to Timor-Leste, 2016
(\$'000)

| Tariff Chapter (HS2) | Tariff Description | \$'000 |
|----------------------|------------------------------|--------|
| 25 | Salt, sulfur, stone (cement) | 5,894 |
| 27 | Petroleum | 3,090 |
| 87 | Motor vehicles | 3,016 |
| 94 | Furniture | 1,827 |
| 72 | Iron and steel products | 1,220 |
| 22 | Beverages | 930 |
| 19 | Cereal preparations | 690 |
| 61 | Knitted clothing | 538 |
| 39 | Plastic goods | 497 |
| 4 | Dairy products | 422 |
| 64 | Footwear | 345 |
| 62 | Clothing (not knitted) | 227 |

HS2 = harmonized system 2.

Source: Badan Pusat Statistik – Statistik Ekspor Impor Provinsi Nusa Tenggara Timur 2016.

The value of NTT exports to Timor-Leste in 2016 was \$23.5 million or roughly 16% of Indonesia's exports to Timor-Leste. Most of Indonesia's trade with Timor-Leste is conducted from Jakarta or Surabaya directly to Dili, bypassing NTT. Therefore, these figures likely reflect goods that are either produced in NTT or else have been shipped into ports within NTT and then moved overland into Timor-Leste. Given what products are imported into NTT from the rest of Indonesia, NTT's exports to other regions of Indonesia, and the production profile of NTT, it is likely that except for meat, seafood, vegetables, and some cement, many of the exports to Timor-Leste will have come originally from outside NTT. These products will be entering Timor-Leste through NTT traders, probably largely due to personal relationships and networks.

Unfortunately, information on trade in services is not available for NTT. Given the role of tourism for NTT, however, trade in travel services may be important. The income from tourism is provided in Part II.

B. Timor-Leste

1. Trade Policy

Timor-Leste has applied for membership in the WTO and is in the beginning stages of accession. A working party was established in 2016, and the Timor-Leste Government is conducting assessments on readiness for WTO accession across all government departments. In 2011, Timor-Leste also applied for membership in ASEAN, which would include the economic community. This application is under review. Preparation for WTO accession

and membership in the ASEAN economic community has many complementarities. For example, establishing a National Single Window is a priority for the Government of Timor-Leste to meet obligations under the WTO Trade Facilitation Agreement and as a first step toward joining the ASEAN Single Window.

Timor-Leste has a liberal and simple trade policy regime after introducing its Taxes and Duties Act in 2008 in which it reduced customs duties and sales tax levied on imports by 50% (Decree Law No. 8/2008). The current import duty is a flat 2.5% on all imports and a 2.5% ad valorem sales tax on imports. Sales tax is not levied on sales of domestically produced goods, which amounts to a protectionist policy. However, given that most manufactured goods are not produced in Timor-Leste, this is not a significant degree of protection. There are no export taxes and no nontariff measures (NTMs) in place. As in most countries, excise taxes are levied on tobacco, alcoholic beverages, petroleum products, and vehicle imports (motor vehicles, private yachts, and aircraft).

As a least-developed country, Timor-Leste has preferential access for its exports to many developed countries. Depending on the product, Timor-Leste's duty-free access to these markets is an attractive feature for any future Indonesian or other investment in Timor-Leste. For example, Timor-Leste is a member of the African, Caribbean, and Pacific Group of States and is a signatory to the Cotonou Agreement in 2005 with the European Union (EU) and its member states. This partnership agreement provides the framework for EU and Timor-Leste trade relations and gives Timor-Leste full duty-free and quota-free access to the EU for all its exports (excluding arms and armaments). Additionally, Timor-Leste is a beneficiary of Generalized System of Preferences from 37 countries, including 10 EU countries, Australia, Belarus, Canada, Japan, Kazakhstan, New Zealand, Norway, the Russian Federation, Switzerland, Turkey, and the US. Timor-Leste has further preferential least-developed country access to other countries.³⁵

2. Imports

For Timor-Leste, total imports have increased sharply since 2007 but show a high level of variability from year to year (Figure 6).

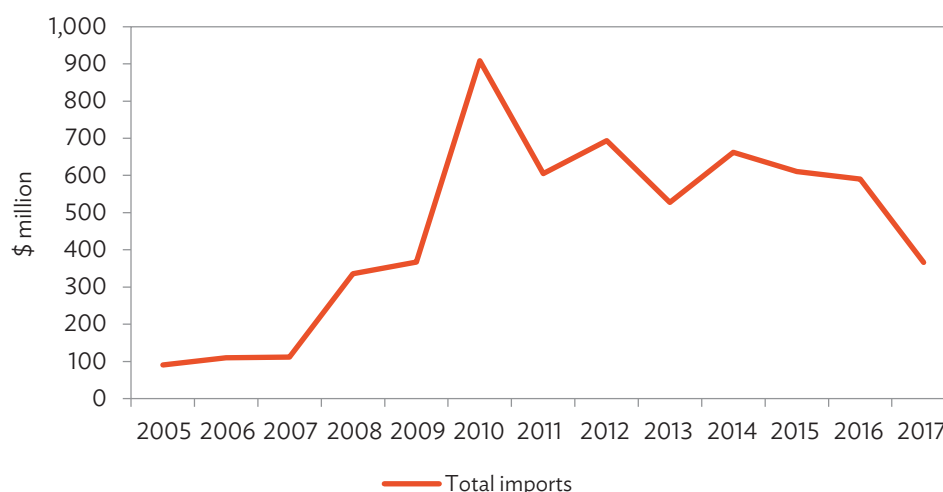
Indonesia is a major source of imports for Timor-Leste and accounted for 43% of Timor-Leste's total imports in 2017 with a value of \$228 million.³⁶ Other major source countries for Timor-Leste imports include the PRC (25%), Singapore (10%), and Australia (5%). Thailand (4%) and Malaysia (3%) are the other major ASEAN countries exporting to Timor-Leste.

In 2015–2017, vehicles were the largest import (12% of total value in 2017), followed by mechanical and electrical machinery (Table 7). This suggests that large development projects and potentially rising prosperity in the country are driving the increases in imports. Oil imports have shown a high degree of variability, with significant declines in recent years due primarily to the falling price of oil during the period when prices fell by more than half.

³⁵ See International Trade Centre MAcMap for more details. <http://www.macmap.org/QuickSearch/TariffRegimes/TariffRegimesResults.aspx?country=SCC626%7cTimor-Leste&isimporter=E>.

³⁶ It is important to note that Timor-Leste's national statistics office reports only \$159 million of imports from Indonesia. National statistics and international statistics often vary, and international statistics are generally considered of higher quality and have been used here.

Figure 6: Timor-Leste Total Imports, 2005–2017
(\$ million)



Source: United Nations Comtrade (mirror data).

Table 7: Timor-Leste Imports by Harmonized System 2
(\$'000)

| HS2 | Commodity Description | 2013 | 2014 | 2015 | 2016 | 2017 |
|-----------------------------|--------------------------------|----------------|----------------|----------------|----------------|----------------|
| '87 | Vehicles | 61,475 | 63,297 | 62,124 | 69,364 | 64,131 |
| '84 | Machinery and mechanical parts | 38,085 | 46,633 | 44,391 | 58,857 | 46,336 |
| '85 | Electrical machinery | 42,379 | 26,056 | 40,992 | 43,380 | 33,486 |
| '27 | Mineral fuels | 145,123 | 104,782 | 47,618 | 37,626 | 24,895 |
| '22 | Beverages and spirits | 22,053 | 26,027 | 27,165 | 34,255 | 23,606 |
| '72 | Iron and steel | 6,012 | 14,072 | 18,455 | 21,833 | 23,155 |
| '25 | Salt, lime, and cement | 17,529 | 14,801 | 15,992 | 18,801 | 21,957 |
| '19 | Cereals | 5,134 | 19,965 | 16,343 | 19,221 | 21,280 |
| '73 | Articles of iron or steel | 20,546 | 22,913 | 24,205 | 23,937 | 21,072 |
| '24 | Tobacco | 7,597 | 15,323 | 17,525 | 18,684 | 18,751 |
| TOTAL (All products) | | 513,739 | 669,215 | 611,175 | 591,088 | 527,009 |

HS2 = harmonized system 2.

Source: International Trade Centre TradeMap.

Food and agriculture imports³⁷ in 2017 equaled \$159 million. The value of food imports from 2014 to 2017 was relatively stable and averaged about 30% of all imports. The value of imports is high compared with total merchandise exports (\$107 million). A high level of food imports compared with merchandise exports can be a source of vulnerability in terms of food security.³⁸

³⁷ Defined here as goods in HS code 1–24.

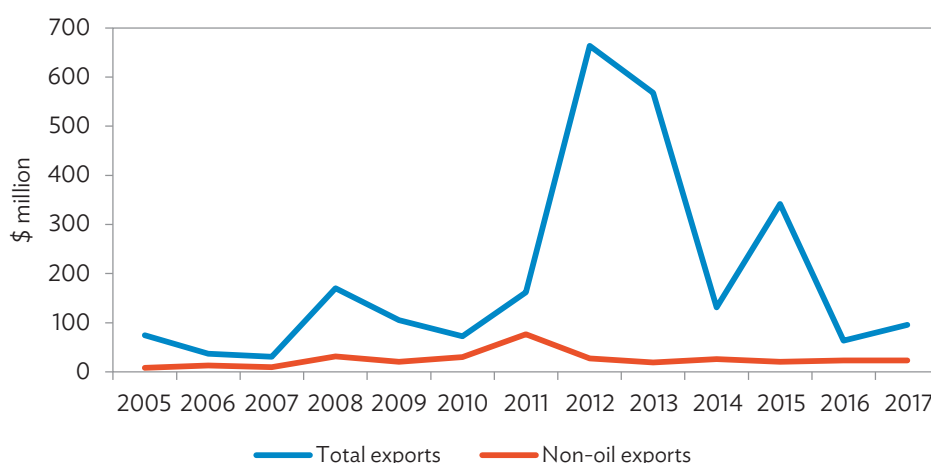
³⁸ One measure by Food and Agriculture Organization of the United Nations (FAO) on food security is the value of food imports over total merchandise exports, although it should be noted this is just one measure, and other factors will affect whether this is a source of vulnerability or not.

Imports from Indonesia are varied, with the highest values coming from vehicles, beverages, tobacco, cereals, salt, lime, cement, machinery, and palm oil. In 2017, Indonesia provided 100% of Timor-Leste's tobacco imports and 98% of edible oils. Indonesia also exported meat, vegetables, and cereals into Timor-Leste but in insignificant amounts compared with other countries. In 2017, more than 51% of meat imports came from Brazil, 73% of vegetables³⁹ came from the PRC, and 93% of cereal imports came from Thailand. Given the objective of the NTT government to increase exports of poultry, live cattle, and agricultural production to other regions of Indonesia, these statistics suggest that Timor-Leste would also be a source of market demand.

3. Exports

Timor-Leste has a very narrow export base, dominated by oil. Total exports have fluctuated, with a huge peak in 2012 (Figure 7). This probably reflects changes in global oil commodity prices as well as changes in production.

Figure 7: Total and Non-Oil Exports, Timor-Leste, 2005–2017
(\$ million)



Source: United Nations Comtrade (mirror data).

Non-oil exports show a slightly positive trend up to 2011 but are otherwise flat from 2012. Given the steady increase in imports, this means that Timor-Leste's non-oil balance of trade has been widening rapidly over time. Non-oil exports are dominated by coffee, comprising from half and three-quarters of non-oil exports from 2014 to 2017 (Table 8).

The largest destination market for Timor-Leste exports in 2017 was Singapore (\$74.5 million), with 98% oil. Other destination markets were the Netherlands (\$7.4 million), the US (\$5.6 million), Canada (\$3.6 million), and Germany (\$2.7 million).

³⁹ HS code 07.

Table 8: Timor-Leste Exports by Harmonized System 2
(\$'000)

| HS2 | Commodity Description | 2014 | 2015 | 2016 | 2017 |
|-----------------------------|----------------------------------|----------------|----------------|---------------|----------------|
| '27 | Mineral fuels | 105,322 | 321,397 | 41,044 | 74,073 |
| '09 | Coffee and spices | 18,171 | 12,370 | 16,733 | 18,534 |
| '85 | Electrical machinery | 1,619 | 1,196 | 681 | 8,758 |
| '12 | Oil seed, grains, seeds | 132 | 264 | 427 | 1,291 |
| '84 | Machinery and mechanical parts | 355 | 1,098 | 595 | 725 |
| '15 | Animal or vegetable fats or oils | 164 | 343 | 267 | 522 |
| '90 | Optical and photographic | 65 | 138 | 272 | 441 |
| '76 | Aluminum | 625 | 238 | 297 | 412 |
| '42 | Leather goods | 7 | | 2 | 380 |
| TOTAL (All products) | | 129,552 | 341,930 | 63,155 | 106,933 |

HS2 = harmonized system 2.

Source: TradeMap (mirror data).

However, this fluctuates hugely from year to year.⁴⁰ Exports to Canada, Germany, and the US were largely coffee.

In 2016 and 2017, Indonesia was the fourth-largest destination for Timor-Leste coffee. This represents a large increase over previous years. Data suggest that exports of coffee to Indonesia were valued at \$1 million in 2016 and \$1.6 million in 2017, up from just below \$200,000 in 2015. This was, however, largely green coffee beans rather than processed products, and consultations with coffee stakeholders suggest that the beans are processed in Indonesia.

Appendix 2, Table A2.2 presents the calculation of the revealed comparative advantage of Timor-Leste exports for 2014–2016.⁴¹ Perhaps unsurprisingly, Timor-Leste has a comparative advantage in coffee and petroleum product exports.

Exports of services are considerable and equaled \$93.2 million in 2017. Three-quarters of this (\$72.9 million) was provided by personal and business travel services, which is associated with tourism.

C. Informal Cross-Border Trade

As previous subsections indicate, formal trade between NTT and Timor-Leste is largely unidirectional. In 2016, NTT exported \$23.5 million to Timor-Leste, representing a broad range of products, but just 10% of Indonesia's total trade with Timor-Leste. In the same year, Timor-Leste exported just \$1 million to Indonesia, consisting largely of green coffee beans.

⁴⁰ TradeMap mirror data accessed June 2018.

⁴¹ The revealed comparative advantage measures a country's export intensity in a given product relative to other countries in the world. The ratio of a product's export shares in-country relative to that in the world is taken as a measure of the comparative advantage.

There are, however, indications that a significant volume of informal trade is taking place in traditional markets between NTT and Timor-Leste. Informal markets take place with varying degrees of formality across the various border areas. This trade is permitted by officials as part of the 2003 agreement between Timor-Leste and Indonesia on traditional border crossings and regulated markets. The agreement permits the sale of low-value traditional items (below \$50) such as household items (e.g., clothes, pots and pans, cooking oil) and livestock (limited to five head).

In addition, “grey” trade in cattle occurs along the border, possibly in significant volumes. Since 2010 there has been an official ban on the export of cattle from Timor-Leste to NTT, Indonesia, reportedly due to concerns about the spread of brucellosis. Nevertheless, estimates suggest that annually at least 5,000 head of cattle, worth up to \$4.2 million, are exported from Timor-Leste into NTT.⁴² If recorded, this would make it the third largest non-oil export of Timor-Leste and nearly three times the value of official exports of Timor-Leste to Indonesia.

D. Smuggling and Illegal Trade

Exporters and importers in Atambua explained that the risks of commercial cross-border smuggling into Indonesia from Timor-Leste were considered to be low.⁴³ Current commercial smuggling is mainly small quantities of alcohol and tobacco, potentially to take advantage of the lower VAT levied in Timor-Leste. It is believed that the formal border market currently under construction at the Mota'ain–Batugade Border Control Post will have provisions for the duty-free sale of goods subject to excise duties (such as alcohol and tobacco).⁴⁴

Smuggling of narcotics and people is of growing concern, and action is being taken on both sides of the border, particularly in the more remote parts of the Timor Island. The 2017 US Department of State publication on human trafficking sees Timor-Leste as a destination for women from Indonesia, Malaysia, the PRC, the Philippines, and Thailand, mainly for commercial sexual exploitation. It is also a destination for men from Myanmar trafficked for forced labor. The Government of Timor-Leste does not fully comply with the minimum standards for the elimination of trafficking; however, it is making significant efforts to do so despite limited resources.

Timor-Leste is seen as a potentially high-risk area for the future development of drug trafficking, due to its strategic location near Australia, Indonesia, New Zealand, the PRC, and Thailand.⁴⁵ Existing data collection methods are insufficient to accurately measure the scope of current drug trafficking, but throughout the country there is little, if any, organic narcotic production beyond cannabis.

⁴² Australian Centre for International Agricultural Research (ACIAR). 2017. *Enhancing smallholder cattle production in East Timor-Final Report*. 21 March. <https://www.aciar.gov.au/node/13591>.

⁴³ Work undertaken as a pre-inception activity to this study to gauge trade facilitation levels and trade opportunities.

⁴⁴ Taken from a conversation with officials at the NTT Governor's office on their plans for border area development.

⁴⁵ US Department of State. 2016. *International Narcotics Control Strategy Report*. Bureau of International Narcotics and Law Enforcement Affairs.

Law enforcement agencies from both Timor-Leste and Indonesia have noted improved levels of cooperation against drug trafficking. Most arrests by Timor law enforcement in 2015 were based on intelligence from Indonesia. Unfortunately, many Timorese and international observers fear those arrests are barely scratching the surface of a much deeper problem.⁴⁶

E. Conclusion

Due to the nature of trade statistics for NTT as well as the narrow base of exports for Timor-Leste, it is not possible to draw definitive conclusions on products and services that would benefit from greater cross-border trade and cooperation. Nevertheless, the analysis does provide some useful indications.

First, while 90% of trade between Indonesia and Timor-Leste bypasses ports in NTT, \$23.5 million of goods were exported from NTT into Timor-Leste in 2016. This indicates that many traders in NTT see the value of—and have the connections to—transport goods across the island. Reducing trade costs across the island would therefore likely benefit NTT traders and Timor-Leste consumers.

Second, Timor-Leste imports a significant degree of food and agricultural products. Some of this demand is already being met by Indonesia and NTT; however, there may be opportunities for expansion. For example, 51% of Timor-Leste's meat is imported from Brazil and 73% of vegetables come from the PRC. By easing barriers to trade, products from NTT may become more competitive with imports from other countries.

Third, despite a ban on the cross-border trade of cattle since 2010, it appears cattle is still traded from Timor-Leste to NTT. This suggests significant market demand—if estimates of the value of cattle trade are correct, it would be the third-largest non-oil export for the country.

Fourth, concerns regarding illegal trade, particularly human trafficking, require serious attention. It is encouraging that cooperation by officials at the border is leading to positive results, although the scale of the problem is hard to gauge. Given the identified potential benefits in reducing barriers to cross-border trade between NTT and Timor-Leste, a balanced approach to reducing barriers, with a focus on improved collaboration and communication, appears appropriate.

Finally, in relation to tariffs, once Timor-Leste accedes into ASEAN, it will be party to the ASEAN Trade in Goods Agreements (ATIGA). Timor-Leste's tariffs at present are low, so this might have little impact on import duties collected, but it would reduce the tariffs that could be applied on its exports to ASEAN, including Indonesia. Given the limited nature and the destination of Timor-Leste's current exports, the tariff regimes are not of immediate concern, but as the two-way trade relationship grows they will become an area for consideration. Consideration could be given to Indonesia unilaterally extending tariff preferences to Timor-Leste while it prepares for ASEAN accession, as a gesture of goodwill and support for their future trading relationship.

⁴⁶ Taken from a report conducted on trade opportunities and trade facilities conducted prior to this study.

Business Development and Financial Services

A. Indonesia and Nusa Tenggara Timur

1. Business-Enabling Environment

Understanding the business climate in Indonesia is important, as it provides the context and overall regulatory framework for business activities within NTT. Indonesia has a robust regulatory and legal framework supporting the business environment. Foundation laws for these frameworks are provided in Box 1. This was recently confirmed when Indonesia climbed 18 positions in the World Bank Ease of Doing Business Report, from 91st in 2016 to 73rd in 2018.⁴⁷ In the past year alone, a large number of business-related regulatory measures and new laws have been introduced either for the first time or as amendments to past regulations designed to improve transparency; reduce corruption; and address gaps, overlaps, and/or conflicts in regulatory authority.

These new regulatory measures include, among others, data protection, trademark registration, micro-insurance products, minimum wage, simplified licensing procedures for companies, and procedures for land freeze and land seizure. They also include trade-related regulations covering seaport regulations, importation of consignment goods, customs registration, issuance of trade business license, and confirmation of tax status for exporters and importers. Trading across borders was facilitated by improving an electronic billing system for tax, customs, and excise as well as nontax revenue. As a result, the time for obtaining, preparing, processing, presenting, and submitting documents when importing decreased from 133 hours to 119 hours. Also, starting a business was made less costly due to a reduction in business start-up fees to from 19.4% to 10.9% of income per capita (footnote 47).

Despite Indonesia's strong recent performance in regulatory and legal reforms supporting an enabling business environment, there remain a few areas where further legal and regulatory reform is needed:

- (i) early adoption of regulations and implementing guidelines to accelerate issuance of business licenses and permits at the central and regional levels (as recently announced under the 16th economic policy package);
- (ii) need for a comprehensive data protection law;
- (iii) need for reforming the anti-monopoly law; and
- (iv) need for franchise regulations (to be covered under a new economic policy package).

⁴⁷ World Bank Group. 2018. *Doing Business 2018: Reforming to Create Jobs*. WBG, Washington, DC.

Box 1: Foundation Laws for Business in Indonesia

Three foundation laws support the pillars of the legal framework for engaging in business in Indonesia:

- (i) Law No. 17 of 2012 on cooperatives, promulgated on 30 October 2012 (“Cooperative Law”) and revoking the previous cooperative law of 1992
- (ii) Law No. 20/2008 on micro, small, and medium-sized enterprises (“SME Law”)
- (iii) Law No. 40 of 2007 regarding limited liability companies (“Company Law”), which regulates how companies operate their corporations in Indonesia. The Company Law has not been amended since it was enacted in 2007.

These foundation laws are supported by other foundation laws, including Banking Law, Anti-Monopoly Law, Bankruptcy Law, Investment Law, Franchise Regulation, and Electronic Information and Transaction Law.

Source: NTT Chamber of Commerce and Industry.

A 2011 survey conducted by the International Labour Organization (ILO) in Indonesia found that of all regulatory problems faced by young entrepreneurs, the most burdensome one (cited by 39% of respondents) was associated with the task of setting up a new business.⁴⁸ Under decentralization, most responsibilities related to business registration and licensing were transferred from the central government to provinces and districts. This often complex, time-consuming, and costly business registration process was further complicated by decentralization, which added hundreds of new regulations and local government licenses for entrepreneurs to deal with when setting up a new business.⁴⁹ The survey found that, to fully register an enterprise, the young entrepreneurs must obtain several sector-specific as well as the generic licenses required of all businesses. The generic licenses include HO (nuisance license), SITU/IUI (license for opening a business in a specific location or license for industrial businesses), SIUP (trade license, often used by financial institutions as a minimum requirement), and TDP (business registration).

In August 2017, President Joko Widodo enacted the 16th economic reform package. This new economic policy package contains measures to accelerate the issuance of business licenses and permits at the central and regional levels, and deals exclusively with the general licensing process for business activities. This includes initiatives through the national investment promotion agency, Badan Koordinasi Penanaman Modal (BKPM), to establish an Online Single Submission system that would integrate all business licensing requirements of the central and regional governments. The system is designed to reduce red tape and offer a faster process for issuing business permits. After some delay, the system was formally launched on 9 July 2018, though due to the complexity of its arrangements, some licenses remain to be integrated.

⁴⁸ ILO. 2011. *Business Environment for Young Entrepreneurs in Indonesia*. ILO-Jakarta. http://www.ilo.org/wcmsp5/groups/public/@asia/@ro-bangkok/@ilo-jakarta/documents/publication/wcms_165274.pdf.

⁴⁹ N. McCulloch, G. Schulze, and J. Voss. 2010. *What Determines Firms' Decisions to Formalize? Evidence from Rural Indonesia*. University of Sussex, University of Freiburg.

Implementation at the regional level and within NTT, however, will take time. As part of the pre-inception activities for this study, a business process analysis (BPA) was conducted on the costs and time needed to export coffee from NTT. It revealed that the most time-consuming process was the initial registration of a new business (17 days on average), with an additional 8 days (on average) for obtaining a multiple transaction export license. This represents 36% of the total time needed for exporting coffee from the initial purchase of the coffee beans through to delivery and payment after shipping. Business registration and licensing are therefore a significant time cost to exporters. This measure also showed the greatest variability between the estimated maximum and minimum days for processing; hence it is also a source of uncertainty. It is hoped that with the establishment and roll out of the Online Single Submission system, these costs will be reduced.

Other factors that continue to inhibit inclusive SME sector growth and participation in value chains linked to cross-border trade include the following:

- (i) Micro or small-scale enterprises located in rural areas, or those engaged in agriculture or fisheries sector activities, are often unaware of and are outside the reach of government programs or private sector business and financial services needed to grow their businesses.
- (ii) SMEs and cooperatives lack access to basic market information services.
- (iii) SMEs and cooperatives lack sufficient managerial and technical skills.
- (iv) SMEs and cooperatives lack knowledge about appropriate technology or where to source it.
- (v) SMEs and cooperatives lack access to business development, business mentoring, and coaching services.
- (vi) SMEs and cooperatives lack access to financial services to grow their businesses.
- (vii) Entrepreneurs lack knowledge about where to source investment and grants to start up new businesses or carry out needed market and product R&D.

Future efforts to address constraints to SME sector development will need to build on the lessons learned in recent years by economic and development agencies,⁵⁰ including the following:

- (i) Government-mandated linkages between big business and small business are ineffectual. For such partnerships to work they must be voluntary and make sense from a business perspective.
- (ii) Government-mandated financial quota programs and subsidized credit schemes for SMEs have not worked and have resulted in inefficient use of financial resources. Future expansion of financial services for the SME sector must be market-oriented.

⁵⁰ Including APEC, OECD, World Bank, ADB, the United States Agency for International Development (USAID), the Australian Government Department for Foreign Trade and Development (DFAT), Japan International Cooperation Agency (JICA), Canadian International Development Agency (CIDA), German Technical Cooperation Agency (GTZ), ILO, and Asia Foundation.

- (iii) SME sector development must be market-driven and increasingly private sector-led; horizontal and vertical industry linkages must be strengthened.
- (iv) The capacity of the private sector must be expanded with respect to the provision of SME business development and support services.
- (v) SMEs must strengthen their networking capability and advocacy capacity. They must engage in human resource and institutional capacity building, including institutional strengthening of producer and trade associations; affiliations with chambers of commerce; and establishing closer linkages with domestic and international support organizations related to trade, technology, investment, training, and research.

2. Small and Medium-Sized Enterprises

SMEs represent an important segment of the Indonesian economy. Their aggregate employment impact equals 97.2% of the total workforce and represents some 58.7% of GDP.⁵¹ Of the 57.9 million micro, small, and medium-sized enterprises (MSMEs) in Indonesia, about half are in the agriculture sector. More than 90% of these employ fewer than five employees and have less than Rp15.0 million (\$1,100) in fixed capital.⁵²

The overall impact that SMEs have on employment in Indonesia is significant. As of 2013, SMEs accounted for 97% of the country's total private sector workforce, equivalent to 114 million workers. In the same year, SMEs also contributed significantly to the country's net exports, accounting for 15.7% of total exports, amounting to Rp182,112.7 billion (\$13.5 billion).⁵³ Much of the reason for this can be attributed to past policies that favored large-scale manufacturing, resulting in a highly concentrated, labor-intensive, and export-oriented industry sector dominated by a few large companies. Meanwhile, SMEs have been burdened by fragmented and complex regulatory, legal, and tax environments; and a market environment filled with distortions, which collectively has reduced their business incentive and ability to compete. For example, government-directed credit subsidy programs for small enterprises undermined the principles of sound business viability analysis and resulted in high non-recovery rates and inefficiency in the allocation of resources.⁵⁴

Under the current liberalization drive, 19 subsectors have been reserved for small-scale firms and cooperatives, and 62 areas of business will be accessible to international investors only if they partner with a local SME.⁵⁵

National policy programs for cooperatives and SMEs focus on the areas of poverty reduction, education, development of business and tourism, and area development, including development of border areas and disadvantaged regions of the country.

⁵¹ Global Business Guide Indonesia, 2016.

⁵² Under Indonesian law, SMEs are defined by their asset size and annual business turnover. It is difficult to compare this to the employee-based definition used by Timor-Leste.

⁵³ Data Division, Ministry of Cooperatives and SMEs.

⁵⁴ M.A. Van Steenwyk. 2001. *Concept Paper: Agribusiness Sector Support and Institutional Strengthening (ASSIST) Project—Indonesia*. Washington, DC. <https://ntntbi.blogspot.my/2016/11/ekspedisi-surabaya-atapupu-082213988938.html>.

⁵⁵ Oxford Business Group, 15 April 2016.

SME sector policy, as established by the Ministry of Cooperatives and SMEs, sets out important achievement targets for the sector in the following areas:

- (i) improving SME rules and regulation,
- (ii) improving SME and cooperative productivity,
- (iii) promoting market access for SMEs and cooperatives,
- (iv) increasing access to finance, and
- (v) improving self-reliance of cooperatives.

Appendix 2, Table A2.5 presents the targets in the policy document. Areas for improvement within the policy framework supporting SMEs and cooperatives include the following:

- (i) improving policy framework coordination between the central and local government, including monitoring and evaluation to better measure program progress and impact;
- (ii) standardizing business practices of SMEs and cooperatives, including tax system treatment for each business structure;
- (iii) creating better incentives for SMEs and cooperatives to improve productivity;
- (iv) improving funding access for new business start-ups and R&D; and
- (v) improving the human resource capacity of cooperatives and SMEs, including business management and entrepreneurship skills.

The SME and cooperative sector is quite small and underdeveloped in NTT compared with other regions of Indonesia. The vast majority of Indonesia's SMEs and cooperatives, and the technical, financial, and business development service providers that support them, are concentrated in Java. As such, it is understandable that NTT, being one of the poorest regions in the country, with the majority of its inhabitants still engaged in subsistence agriculture and fishing, does not yet have a well-developed SME and cooperative sector. The existing SME sector is highly concentrated in some 21 urban centers located in the 21 regencies that comprise the province. Of these, most are located on the three major islands of Flores, Sumba, and Timor, including the provincial capital of Kupang City, with a population of close to 400,000, or about 8% of the province's estimated 5.1 million inhabitants.

SMEs are abundant in Kupang City. Shop and restaurant owners are engaged in consumer and retail service sectors, consumer product trading, transport services (both cargo and passenger), construction, building materials supply, automotive repair shops, agriculture, and fish trading. Medium-scale enterprises operate businesses like real estate development, small hotels, consumer stores, fast-food franchises, taxi companies, trading and shipping companies, and automotive and equipment supply companies. Outside Kupang and small towns located along major roads in West Timor, microenterprises dominate, engaged in agricultural product, fish, and consumer goods trading.

Cooperatives are also prevalent, but not abundant, in both urban and rural locations of NTT. According to data supplied by the Ministry of Cooperatives and SMEs, as of 31 December 2015 there were a total of 3,707 registered cooperatives in NTT, of which 3,394 were considered active and another 313 were classified as inactive, with a total membership of 811,825. These

included agricultural cooperatives, multipurpose cooperatives, and cooperatives engaged in savings and loan. Member capital in these cooperatives amounted to Rp2,337.5 billion, and outside investment totaled Rp3,017.9 billion, or a total equivalent to about \$400 million. Annual business turnover for NTT cooperatives was recorded for 2015 at Rp4,228.2 billion with retained earnings of Rp384.1 billion (\$28.5 million).

3. Banking System

The banking system in Indonesia has its legal authority under the Banking Act of 1992. Bank Indonesia, the central bank of Indonesia and an independent state institution, and the Financial Services Authority (*Otoritas Jasa Keuangan* or OJK) provide bank regulation and supervision.

There were 115 commercial banks and 1,630 rural banks operating in Indonesia as of February 2017. This included state-owned banks (4), government regional development banks (26), joint venture banks (16), Shariah/Islamic banks (13), and foreign banks (10). The four largest banks, with combined assets of more than Rp3,100 trillion (\$230 billion), hold more than 45% of the assets of the entire banking system. Of these, the two largest banks are Bank Rakyat Indonesia (Peoples' Bank, or BRI), with assets of Rp964 trillion (\$72 billion), and Bank Mandiri, with assets of Rp918 trillion (\$68 billion).⁵⁶

While most of the commercial banks in Indonesia participate in SME lending in response to a directive from OJK that mandates them to allocate 10% of their loan portfolios for SMEs under an SME credit program,⁵⁷ known as *Usaha Mikro, Kecil dan Menengah* (UMKM), only a few are active players in the micro and small enterprise finance market, preferring instead to channel their obligated credit portfolio for this sector to larger, more established medium-sized enterprise clients located in urban centers. Among the active players in the micro and small enterprise finance market are Bank Rakyat Indonesia (BRI), the network of provincial government-owned Bank Pembangunan Daerah (Regional Development Bank, or BPD), and the Bank Perkreditan Rakyat (rural banks, or BPRs).

In addition to these three banks, several other formal and nonformal microfinance institutions cater to the financial needs of the micro- and small enterprise community in Indonesia, including cooperatives engaging in savings and loan activities, pawnshops, self-help groups, and private sector microfinance institutions and nongovernment organizations (NGOs). NGOs, however, are not allowed to engage in any form of savings program.

Two major SME loan programs supported by the government and offered by banks in Indonesia are

- (i) UMKM, a loan program for MSMEs promoted by Bank of Indonesia under mandate of the OJK (about \$67.3 billion in outstanding loans), and
- (ii) *Kredit Usaha Rakyat* (KUR), a microbusiness loan available to micro and small enterprises and endorsed by the Ministry of Cooperatives and SMEs (about \$1.85 billion disbursement in 2015).

⁵⁶ Bank Indonesia, as of 2016.

⁵⁷ OJK has issued a mandate raising this to 20% in 2018.

4. Small and Medium-Sized Enterprises Finance

A significant number of commercial banks have branch offices in NTT. Most of these are situated in urban centers, like Kupang City and Atambua in West Timor. Total assets of the banking industry operating in NTT amounted to Rp29.76 trillion (\$2.2 billion) as of the end of 2016, an amount equivalent to just 0.36% of the total asset structure of the Indonesian banking industry. Of this amount, one bank, the Regional Development Bank-NTT (BPD-NTT), accounted for 32.3% of the total banking assets in the province.

BRI, BPD, and 11 BPRs are active in NTT and provide financial services to the SME sector. Of these, BPD-NTT has the largest branch network in the province, with 120 office locations and its head office in Kupang City. BPD-NTT is also the only bank in NTT to operate a branch in Mota'ain and to have an ATM at the border crossing area. The nearest town to the border crossing area where other banks maintain branch offices is Atambua.

BPD-NTT is the single largest provider of SME credit under the government-sponsored UMKM and KUR programs for MSMEs in NTT. Total loan disbursements extended to MSMEs in NTT by all banks operating in the province amounted to Rp7.25 trillion (\$537 million), as of the end of 2016. Of this amount, BPD-NTT had total loan disbursements to MSMEs amounting to Rp1.51 trillion (\$112 million), accounting for 20.8% of all loans extended by all banks to MSMEs in NTT province. BPD-NTT's total loan disbursements to the MSME sector grew by 14.9% in 2016 from the previous year.

BPD-NTT has an aggressive program for expanding productive sector lending through its SME banking unit in NTT. The bank is currently undergoing upgrades to its centralized online real-time exchange banking system and switching platforms to facilitate the expansion of its productive sector lending. At present, about 30% of BPD-NTT customers are SMEs.

BPD-NTT joined the KUR microcredit program in 2012. Since then it has entered into an MOU with three of the provinces, 11 rural banks, and a network of 52 units of a cooperative Village Lending and Savings network (Unit Simpan Pinjam Desa, or USPD) that operates in NTT to act as agents of the bank in extending KUR microloans to micro- and small enterprises throughout NTT. The maximum loan size for microenterprises is Rp20 million (\$1,500), while for SMEs the maximum loan size is Rp2 billion (\$148,000) under the program.

BPD-NTT was able to generate a healthy interest income from its lending under the UMKM and KUR credit programs. For 2015, the bank charged a prime lending rate ranging from 9.62% to 18% for loans made under these programs.

In NTT, there are few informal microfinance institutions currently serving the financial needs of micro and small enterprises located outside of Kupang or other urban centers. The exceptions are a few savings and loan cooperatives, including the 52 USPDs, which are unique to NTT and operate in various locations throughout the province.

Box 2: Business Development Services Providers in Nusa Tenggara Timur

PNPM Agribusiness Perdesaan (PNPM AP) Nusa Tenggara Timur (NTT) Province, or Smallholder Agribusiness Development Initiative, was started in 2008 as a national community empowerment program for smallholder agribusiness. PNPM AP is a development program-sponsored business development services (BDS) provider with 17 staff and an office based in Kupang City, helping transfer agribusiness skills in business planning, production, and postproduction processing technology to smallholder farmers and micro entrepreneurs in NTT. PNPM AP joined in a pilot project with the International Finance Corporation to develop access to markets and finance, and with the Australian Centre for International Agricultural Research to support agribusiness technology transfer. The pilot program covers four provinces: NTT, West Nusa Tenggara, Central Sulawesi, and South Sulawesi, including two districts and six subdistricts in each province. In each NTT project location, PNPM AP is training field professionals to serve as a network of BDS providers in their communities.

Yayasan Dian Desa (Dian Desa Foundation), founded in 1972, is a private-sector development organization based in Yogyakarta, with field offices in NTT, that has considerable experience in the area of appropriate agriculture-based technology transfer. As a development organization specializing in BDS, Yayasan Dian Desa has worked extensively with small and medium-sized enterprises development and institutional capacity building in NTT and other remote locations throughout Indonesia. As a microfinance service provider, Yayasan Dian Desa has worked on a wide range of development programming with government and bilateral or multilateral agencies involving program planning, design, and implementation.

Source: NTT Chamber of Commerce and Industry.

5. Business Development Services

The business development services (BDS) market is vibrant in NTT, particularly in urban centers such as Kupang. This is observed in the number of private sector BDS providers in specialized professional disciplines such as legal services; tax and audit services; and technical services related to engineering, construction, market assessment, design, and planning.

However, in most cases, these specialized BDS providers are small businesses or individuals that offer their services to established or new businesses on a professional fee-based scale, and as such they do not serve either micro or small-scale enterprises located in rural areas or those engaged in agriculture or fisheries sector business activities.

National government-supplied BDS services exist by way of technology and science institutes, technology training centers, and testing and certification agencies, among others. However, most of these government-supported BDS programs are not easily accessible to SMEs in NTT, particularly those operating in rural areas. The Ministry of Cooperatives and SMEs is working with ILO to focus tourism subsectors for SME inclusion, including guesthouses, restaurants, handicraft, and homestay; however, promotion of this program is not yet apparent in NTT.

The NTT Chamber of Commerce and Industry (NTT-CCI), whose membership includes sector associations, has a support staff of only three full-time employees, who can provide

only BDS-related business referral services. As such, the BDS market serving the SME sector in NTT, particularly outside urban centers, remains underdeveloped. The NTT-CCI has been involved in a number of cooperation programs with Timor-Leste in the past.

Two BDS providers were identified during the scoping study that are working with business skills and agribusiness technology transfer to smallholder farmers, microentrepreneurs, and small enterprises in NTT. A brief profile of each of these BDS providers is presented in Box 2.

BDS providers are highly clustered in Kupang City. Some small single-service BDS providers can be found in small towns throughout the province, including towns situated along major roads or in the general proximity of border locations, such as Atambua. Micro- and small enterprises, including cooperatives, located in rural or remote parts of West Timor, Flores, or Sumba islands generally do not have direct BDS access. Rather, BDS market growth and its long-term sustainability is achieved by adopting a private sector-led and market-driven approach to building BDS capacity.

At present, the networking capacity of BDS providers in NTT is extremely limited. Few are using or promoting the use of information technology platforms in business information and marketing services, or services related to technology sourcing or transfer, or distance learning programs.

During meetings held with the leader of the Kupang Chapter of Asosiasi Pengusaha Indonesia (APINDO), the need for resource mapping of urban and rural communities and the resource base for the whole of West Timor was clearly stressed as a first step to determine resource capacity and limitations; and to identify and validate potential areas for new business growth linked to value chains supporting cross-border trade. As part of this resource mapping exercise, BDS market survey work can be completed to measure demand for and use of BDS by MSMEs linked to priority sector value chain business opportunities.

B. Timor-Leste

1. Business-Enabling Environment

In its Strategic Development Plan 2011–2030, the Government of Timor-Leste sets out clear goals, strategies, and action plans for “promoting growth of the private sector in rural areas including growth of small and micro businesses.” Timor-Leste policy places priority on creation of a business and investment environment “that supports the development of a diversified private sector and the establishment of new businesses and industries that are essential for creating jobs and for enabling us to make the transition to a non-oil economy.” This national planning framework recognizes the important role to be played by the Timor-Leste Chambers of Commerce and Industry (TL-CCI) and the cooperative sector in developing a strong private sector nationwide. It also identifies and supports rural development, including the development of the agriculture and tourism sectors as important development strategies for reducing poverty, achieving food security, and creating jobs. Overall, it is a clearly stated policy of the Timor-Leste Government to create an attractive and enabled business environment.

During the past 2 years, a number of important legal and regulatory reforms have occurred that have contributed to a strengthened business environment and have reduced barriers in such areas as business registration by simplifying and speeding up the process. The foundation laws for business are shown in Box 3. Some of the more significant legal and regulatory reforms include:⁵⁸

- (i) Decree Law No. ()/2017—Access to Finance Law.
- (ii) Decree Law No. 35/2017—Business License Law.
- (iii) Decree Law No.16/2017—Business Registration (*simplifies and speeds up the business registration process*).
- (iv) Decree Law No. 10/2017—Revised Companies Act.
- (v) Decree Law No. 7/2017—Business Registration and Verification Services, P.I.
- (vi) Decree Law No. ()/2017— Small and Medium-Sized Companies.
- (vii) Decree Law No. ()/2017—Commercial Register.
- (viii) Decree Law No. ()/2016—Basic Law of Land Use.
- (ix) Decree Law No. ()/2016—New Customs Code.

Box 3: Foundation Laws for Business in Timor-Leste

Three foundation laws support the pillars of the legal framework for engaging in business in Timor-Leste:

- (i) Decree Law No. 5/2005—Non-Profit Corporate Bodies
- (ii) Decree Law No. 16/2004—Law on Cooperatives
- (iii) Law No. 4/2004—Law on Commercial Companies, as recently amended by Decree Law No. 10/2017—Revised Companies Act

These foundation laws are supported by other foundation laws: Business Registration, Foreign Investment, Domestic Investment, Customs Code, and Tax and Duties Act.

Source: SERVE.

In addition to this new legislation, work is progressing on drafting an SME Law with legal support being given by the United Nations Development Programme (UNDP). Work also continues reviewing the draft Revised Private Investment Law, which was approved by Parliament in April 2017 but not promulgated due to the expiration of the former President's term. This revised investment law has been controversial, as the TL-CCI believes the draft law may not be consistent with the current capacity of the local business sector. Also, the new Seventh Constitutional Government is reviewing two other Parliament-approved draft laws, namely the Revised Companies Act and the export promotion draft law.

⁵⁸ The numbers for all laws were not available at the time of writing.

Despite Timor-Leste's recent activity with regulatory and legal reforms, there are still many gaps and inconsistencies in the present policy, legal, and regulatory framework as it applies to an business-enabling environment that needs to be addressed by Parliament, including the need for a

- (i) secured transactions law,
- (ii) insolvency law,
- (iii) competitiveness law, and
- (iv) legal review and recommendations for reforms needed to strengthen contract enforcement, with reference to the recent Decree Law on Land Use.

Cumbersome procedures for business registration in the past slowed the process of SME inclusion into the mainstream of the business community. Timor-Leste has introduced several recent reform measures to simplify and speed up the business registration process.⁵⁹ An ADB-funded business process analysis (BPA) report on the export of coffee in Timor-Leste⁶⁰ (November 2017) found that a total of 55 days was needed to process a coffee export shipment, of which 21 days was devoted to document handling time. The BPA study concluded that a significant reduction in document handling time could be achieved by introducing electronic document handling in business licensing procedures, but such electronic applications would require staff capacity building, changes to current business processes, and amendment of legislation and/or regulations to allow for acceptance of electronic documents in lieu of original documents.

Efforts to improve the business environment require time and support for implementation to ensure the results are felt by the business community. In the World Bank Doing Business Survey, the distance to frontier (DTF)⁶¹ on starting a business in Timor-Leste has improved greatly since 2006 (Figure 8).

Service for Registration and Verification of Entrepreneurs (SERVE) was created in May 2013 and had early success in easing the burden of starting a business by 2014. However, since 2015, Timor-Leste's DTF scores have declined slightly as shown. This demonstrates the ongoing need for implementation support for the business-enabling environment in Timor-Leste.

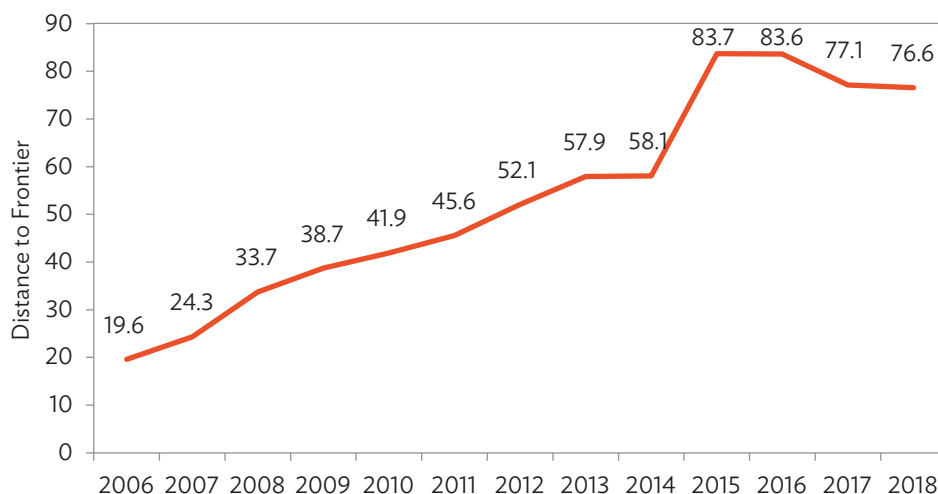
Timor-Leste's overall ranking on the World Bank's Doing Business 2018 Report was 178th out of 190 with a DTF of 40.62. The regional average DTF for East Asia and the Pacific is 62.70. Although the methodology has changed slightly, Timor-Leste is farther from the frontier today than it was in 2010 when the DTF score was 41.67. The major challenges highlighted include resolving insolvency, enforcing contracts, registering property change, and obtaining credit.

⁵⁹ According to an ADB-funded Joint Trade Facilitation Report: Indonesia and Timor-Leste (October 2017), a BPA completed for coffee showed that it took on average up to 60 days for a new business to obtain company registration and a business license in Timor-Leste. This contrasts with NTT, where the same BPA study found it took 17 days on average to register and license a new company. A new one-stop business registration window being implemented by the Service for Registration and Verification of Entrepreneurs (SERVE) became fully operation in January 2018 and will significantly reduce the time needed to register and license a new business in Timor-Leste.

⁶⁰ Business Process Analysis Report: Export of Coffee, under the Trade and Transport Facilitation Monitoring Mechanism (TTFMM) baseline study for Timor-Leste; ADB; 20 November 2017.

⁶¹ DTF is reflected on a scale from 0 to 100 where 0 represents the lowest performance and 100 represents the frontier.

Figure 8: Timor-Leste Distance to Frontier for Starting a Business, 2006–2018



Source: World Bank Doing Business reports, 2006–2018.

Other more general challenges include the following:⁶²

- (i) **Land tenure issues.** For private land, there are many competing titles, while for state land, there is no clear title. About two-thirds of Timor-Leste households live on land with uncertain tenure. They may live on land they believe they own but without title; they may knowingly live on someone else's land without lease or rent payments. This is often true of government-owned land. Or they may live on communal land. To address these constraints, the government has passed and promulgated a new land law (Law no. 15/207), which is intended to help clarify any issues relating to access to land but does not address households occupying government land.
- (ii) Access to finance is an important issue as discussed below.
- (iii) Sanitary and phytosanitary (SPS) requirements for export can be onerous for Timor-Leste in trying to export its products. Most existing and potential exports are agricultural products, and to access most markets today requires strict SPS controls.
- (iv) **Corruption.** Timor-Leste was ranked 101st out of 176 countries on Transparency International's Corruption Perception Index in 2016.
- (v) **Skills gap.** There is a shortage of skilled labor in Timor-Leste, which will be an obstacle to private sector growth.

It is also important to highlight that the business-enabling environment outside of Dili is probably significantly lower than in Dili. This reflects the concentration of current business, with 93.3% of industry value-added being produced in the capital district.⁶³

⁶² ADB. 2015. *Growing the Non-Oil Economy: A Private Sector Assessment for Timor-Leste*. Manila.

⁶³ Timor-Leste business activity survey.

2. Overview of Small and Medium-Sized Enterprises

The strong policy pronouncements in support of business, including SMEs, and investment growth that were reflected under the Sixth Constitutional Government and earlier governments are envisioned in the policy direction of the new Seventh Constitutional Government that is calling for, among other measures, the creation of a center to support agrobusiness development and a research and development center to support development of microenterprises.

The formal private-sector business environment in Timor-Leste is very small, and dominated by MSMEs. Of the 19,100 enterprises registered with SERVE, the autonomous government agency that is responsible for new enterprise registration, only 300 are large companies with more than 301 employees.⁶⁴ The hope that MSMEs would be the engine of growth for Timor-Leste's economy has yet to be realized but may still play a strategic role in economic growth in the future. The fact is that SMEs, including the cooperative subsector, have played an important socioeconomic role in Timor-Leste's development since independence, and that role extends beyond mere economic contributions.

Timor-Leste does not yet have an SME Law, but plans are currently under way, with the help of UNDP, to develop one soon. As such, the country does not have an established framework for defining either SME or MSME. However, government policy as presented in the Timor-Leste Strategic Development Plan 2011–2030 appears to advocate for the World Bank's definition of SMEs, according to a number of employees, as opposed to asset size or annual rate of business turnover, as used in Indonesia.

The slow rate of overall SME economic growth in Timor-Leste is attributable to several factors including cumbersome past business registration procedures, fragmented business legal framework, poor access to finance, and the absence of sufficient managerial and technical skill capacity, along with limited access to market information, technology, investment, and related business support services.⁶⁵

There is evidence within the past 5 years that the SME sector in Timor-Leste is starting to grow and that the rate of growth is accelerating. The government business services provider, the Institute of Service Provision to the Private Sector (IADE), has seen a marked increase of interest in its entrepreneurship training programs in recent years, and the number of participants attending its training courses has spiked upward. The number of SMEs joining the country's national business chamber, TL-CCI, has grown 50% within the last 2 years alone; most of this growth is coming from districts outside of Dili.

As of 2015, there were 126 active primary cooperatives in Timor-Leste. Of these, 87 were classified as credit unions, 17 as agricultural cooperatives, 17 as multipurpose cooperatives, and 5 as fisheries cooperatives.⁶⁶ Most of these cooperatives have small memberships (fewer than 50 members). The most successful represent agricultural cooperatives and

⁶⁴ As of 2009, the government claimed there were a total of 1,799 registered companies and 5,232 registered micro businesses in the country.

⁶⁵ World Bank. 2009. *World Bank Enterprise Survey*. <http://www.enterprisesurveys.org/data/exploreeconomies/2009/indonesia#firm-characteristics>.

⁶⁶ National Confederation of Cooperative in Timor-Leste.

include Cooperativa Café Organic, a group of 16 producer associations organized under the apex umbrella Cooperativa Café Timor, founded in 1994, which acts as the processing and marketing body for the export of organic coffee from Timor-Leste.⁶⁷ These 16 producer associations comprising Cooperativa Café Organic, representing a combined coffee producer membership of 21,500 (as of 2013), are located in Ermera, Liquica, Aileo, Ainaro, and Manufahi. CCT also manages another 17 vanilla producers' cooperatives, known as Cooperativa Baunila Organic, with a total membership of 877 (as of 2005) vanilla producers located in all districts except Viqueque, Cova Lima, and Oecussi. As an apex primary cooperative, Cooperativa Café Timor is one of the largest employers in Timor-Leste, with 500 full-time employees and some 300 seasonal and other workers.⁶⁸

3. Banking System

Prior to September 1999, the banking system in Timor-Leste consisted of a network of 18 branch banks. Of these, 15 were operated by state-owned banks, including 5 central government banks and 10 regional government banks. The branches of these banks were based in urban centers, and there were no licensed rural banks except for a number of village bank units operated by Bank Rakyat Indonesia (BRI). As of March 1999, formal bank lending was \$18.2 million and banking system deposits totaled \$68.4 million.⁶⁹

Today, only five commercial banks comprise the landscape of the Timorese banking system. Four of the five are branches of foreign-owned banks, with only one state bank present:

- (i) Banco Nacional Ultramarino Timor (Portugal),
- (ii) ANZ (Australia and New Zealand Banking Group),
- (iii) Bank Mandiri (Indonesia),
- (iv) BRI (Indonesia), and
- (v) Timor-Leste National Commerce Bank (BNCTL).

In addition to these five commercial banks, one insurance company, Seguru, operates in the country. There are no life insurance issuers or microfinance insurance providers operating in the country.

In addition to these formal banks and the insurance company, all regulated by the Timor-Leste Central Bank (BCTL), there are a few informal microfinance institutions. According to BCTL, as of 31 December 2016, the total assets of the banking system in Timor-Leste were listed at \$276.8 million. The newest bank to open an office in Timor-Leste is BRI, which began operations in the country in early 2017.

Commercial banks have a total of 33 branch and field offices in the country and operate a total of 52 ATMs and a network totaling 164 agents in the country. The total client base of

⁶⁷ Ministry of Development and Environment, Timor-Leste. 2004. *Seccao do acompanhamento as Cooperativas*. 30 October.

⁶⁸ USAID. 2013. *Performance Evaluation of the USAID/Timor-Leste Consolidating Cooperative and Agribusiness Recovery Project*. https://www.mfat.govt.nz/assets/Aid-Prog-docs/Evaluations/2013/March-2013/cocar_usaid.pdf.

⁶⁹ ADB. 2004. *Timor-Leste Eighth Program Report*. Manila.

the commercial banks is 388,000, with 244,000 deposit accounts having less than \$10.00. Commercial banks as of June 2016 had a total of 21,029 active loan accounts throughout the country.

There are no government-sponsored credit programs targeting the SME sector in Timor-Leste. However, government policy shows clear support for improved banking services in the countryside, as indicated in the Timor-Leste Strategic Plan 2011–2030 under its rural development goals.

4. Small and Medium-Sized Enterprises Finance

Commercial banks in Timor-Leste primarily serve the higher end market, pursuing commercial lending to large businesses engaged in the merchant consumer retail, construction, real estate, shipping, hospitality, and manufacturing sectors. As such they cater their financial business products and services primarily to medium and large businesses located within Dili. Only BNCTL maintains a small SME lending window catering to micro and small enterprise, but the bank's lending portfolio has been heavily directed to the construction sector in recent years. BRI, which is one of the largest MSME credit suppliers in Indonesia, only recently opened an office in Timor-Leste, and for now is focused primarily on serving government workers with its current financial products.

In October 2017, an ADB mission studying the SME credit market in Timor-Leste visited Dili and met with the five commercial banks to assess their interest in serving the SME market. Only two banks, BNCTL and Banco Nacional Ultramarino Timor, expressed some interest in the sector.

Of the commercial banks, BNCTL has the largest branch network outside of Dili, with branch offices located in each of the 13 districts and 20 functioning ATMs. The bank has plans for expanding its SME credit window but is currently undergoing structural change and major upgrades with a new online banking system and switch exchange platform.

The microfinance subsector in Timor-Leste includes microfinance institutions (MFIs) and savings and loan cooperatives. Both institutional models have received assistance from external agencies and favorable attention from the government since 1999. Regarding MFIs, an important distinction is between the specialist providers of financial services and a larger group offering microfinance as part of a broader portfolio of services. The key players that comprise the microfinance subsector in Timor-Leste are profiled in Box 4.

Other factors that continue to inhibit inclusive SME and microenterprise sector growth and participation in value chains linked to cross-border trade include the following:

- (i) Micro or small-scale enterprises located in rural areas or those engaged in agriculture or fisheries sector business activities are often unaware and beyond the current reach of government programs and private sector business and financial services that they may need to grow their businesses.
- (ii) SMEs and cooperatives lack access to basic market information services needed to grow their businesses.

Box 4: Profile of Microfinance Subsector in Timor-Leste

Microfinance Institution of Timor-Leste (IMFTL). ADB provided assistance to strengthening the microfinance sector in Timor-Leste under the Microfinance Development Project (2000–2004), a \$4 million grant. The IMFTL started operations in May 2002 after receiving a license to operate by the Banking and Payments Authority. Following the civil unrest crisis period (2006–2007) many IMFTL records were destroyed. The government later reorganized the IMFTL into the Timor-Leste National Commerce Bank, now known as BNCTL, with branches in every district.

Savings and credit cooperatives. Production and service cooperatives, including credit unions, were actively developed and supported during the 1990s, with a Credit Union Federation (Fundasaun Hanai Malu or CUF) formed in 1994. CUF had 27 member cooperatives in 1999 with an estimated total membership of 7,350, when most ceased to operate effectively or collapsed through loss of assets (uncollectible loans), financial resources, records, and members. During 2001–2003, ADB supported an attempt to resuscitate the credit cooperatives and CUF, but the old credit cooperatives proved beyond rehabilitation, facing insurmountable institutional and governance problems due to shortage of skills and simple lack of members for viable operations. Since independence, new credit cooperatives were established under CUF, but while CUF had 44 member credit cooperatives registered as of 2004, only seven had more than 100 members, and only three of these had a membership above the generally accepted minimum of 250 required for sustainable operations. As of 2015, there were a total of 87 active credit unions operating in Timor-Leste. Most of these credit unions are engaged in lending but not savings programs, and are working closely with NGOs that have both savings and loan products.

Association of Microfinance Institutions in Timor-Leste (AMFITIL). In the absence of an explicit regulatory environment for microfinance, service providers have formed AMFITIL to establish a common framework for standard setting, based on international best practice principles. Following the civil unrest crisis period (2006–2007), 13 microfinance institution (MFI) members of AMFITIL went out of business and the association became inactive.

Moris Rasik. The largest and oldest MFI in Timor-Leste is Moris Rasik, which replicates the Grameen Bank approach and has secured a line of credit from Mandiri Bank; 90% of its clients are women. As of June 2016, Moris Rasik had 6,869 borrowers located in all 13 districts of the country. While Moris Rasik does make small business loans exceeding \$1,000, its predominant client base comprises low-income women who engage in trading. These loans typically average less than \$100. This MFI also serves about 7,500 savers, whose accounts have a mean balance just over \$20. Much of this consists of so-called “compulsory” savings, made as part of the loan contract and not available upon demand. Moris Rasik receives international support from CASHPOR Inc.

Kaebauk Investimentu no Finansas (KIF). This MFI started as a microfinance program of Save the Children in 2001. KIF survived the crisis period in 2006–2007 when 13 other MFIs ceased operation. KIF has equity holders with investments totaling \$2 million, including an investment by International Finance Corporation of \$250,000. As of 30 September 2017, KIF’s total assets were \$18.8 million. KIF operates 22 branches and four field offices in all 13 districts of the country; 80% of its 12,495 clients are women. Loan accounts as of June 2016 totaled 10,066, and over half of the loans extended were for amounts less than \$1,000. KIF offers its clients a wide range of financial products and services, including savings, loans, trade payments, bill payments, bulk payments, and government payments. This MFI is most active in the agriculture sector, as most of its clients live in rural areas. KIF supports an aggressive lending program for micro- and small businesses, particularly those engaging in value-added activities associated with agriculture and agricultural food products.

Source: Asian Development Bank.

- (iii) SMEs and cooperatives lack sufficient managerial and technical skill capacity.
- (iv) SMEs and cooperatives lack knowledge about appropriate technology or where to source it.
- (v) SMEs and cooperatives lack access to a wide range of business development services, including business mentoring and coaching.
- (vi) SMEs and cooperatives lack access to financial services to grow their businesses.
- (vii) Entrepreneurs lack knowledge about where to source investment and grants to start up new businesses or carry out needed market and product R&D.
- (viii) At least 32% of the adult population is financially “excluded” from the financial markets.

To address these inhibiting factors, financial and business service providers need to bring their services to the customer by way of institutional networking and through IT-supported business solutions for information dissemination using messaging, video-supported distance learning platforms, and mass media awareness for extending their service outreach and coverage area.

5. Business Development Services

The BDS market in Timor-Leste is very small and underdeveloped. The main government BDS provider is IADE. Other BDS providers include TL-CCI, Australian Government Department of Foreign Affairs (DFAT)-funded Market Development Facility, and a New Zealand Aid (NZ Aid) grant program supporting private sector development.

There are a small number of private sector business service providers in specialized professional disciplines such as legal services; tax and audit services; and technical services related to engineering, construction, market assessment, design, and planning. However, in most cases these specialized BDS providers are small businesses, or individuals, that offer their services to established or new businesses on a professional fee basis and do not serve either micro- or small-scale enterprises located in rural areas.

What BDS services are available to meet SME needs are highly concentrated in Dili and other district urban centers having high population densities such as Baucau and Gleno. The exception is IADE, which has field offices and training centers in 11 districts. For those micro- and small enterprises located outside urban areas, few to no business services are accessible.

A brief profile of BDS providers identified during the scoping study, together with the business services they offer, is given in Box 5.

According to IADE and TL-CCI, there is strong and growing demand in Timor-Leste for business development services. If plans under the Seventh Government Program materialize for the creation of a center to support agro-business development and of a research and development center to support development of microenterprises, such new facilities would significantly improve SME access to a range of business services not presently available. There are no full-service business development centers operating in Timor-Leste.

Box 5: Profile of Business Development Service Providers in Timor-Leste

Instituto de Apoio ao Desenvolvimento Empresarial (IADE). The government created the IADE in 2006 with an original mandate to promote investment but starting in 2012 it assumed a new role for business development services (BDS) promotion. As a government business services provider, IADE provides business training services to small and medium-sized enterprises (SMEs) throughout Timor-Leste, including short courses in business planning, bookkeeping, marketing, entrepreneurship (including gender entrepreneurship), and financial literacy. IADE charges a fee to participants for all its training programs, generating 15% of the agency's annual revenue. IADE has its head office and training center in Dili and operates a network of branch offices that include training facilities in 11 districts outside of Dili, except for Oecussi. According to IADE's executive director, the biggest challenge faced by the agency in promoting entrepreneurship is the mindset of the people, many of whom do not have a desire to pursue business. During recent years, IADE has seen a growth in demand for its services, and the numbers of participants joining its entrepreneurship training programs has also grown significantly.

Service for Registration and Verification of Entrepreneurs (SERVE). SERVE was established as a government autonomous agency under the Office of the Prime Minister to help streamline the process of business registration using a one-stop approach. SERVE coordinates and works closely with three line government ministries (Ministry of Justice, Ministry of Finance, and Ministry of Commerce) that each have jurisdictional authority over various business entities. In response to a series of new business laws in 2017 dealing with business registration, the process of registering a business through SERVE has been made much easier; the integration was to be completely operational by January 2018. SERVE maintains a registration database on four different types of legal business entities and planned to open three branch offices outside of Dili by January 2018. Further information on whether these goals have been met is required.

Timor-Leste Chamber of Commerce and Industry (TL-CCI). TL-CCI began operation in 2010 and currently has a membership of 6,000 businesses, of which approximately 4,000 can be classified as SMEs. Growth in membership is up 50% from just 2 years ago. The bulk of this new membership growth has come from SMEs located outside of Dili. While TL-CCI does offer some BDS referral services to members, it does not, with a staff structure of 10 people, have the capacity at present to provide BDS services directly to its membership.

Market Development Facility (MDF). The MDF is a 5-year development project funded by Australia Agency for International Development designed to promote private sector development in Timor-Leste by helping to build bridges to markets. The MDF is currently operating in five countries, including Timor-Leste. In Timor-Leste, the MDF has a technical staff of 10 (no engineers) and a support staff of 5. Its range of business services is impressive in professional and technical skill areas. However, the MDF provides these services only to those with whom it has entered into partnership agreements. The sectors in which the MFF is working include agribusiness and/or agroprocessing, construction, manufacturing, and tourism. To date the MDF has established some 25 partnerships with business groups seeking to improve market linkages with products and services they offer. Fifteen of these partnerships have been in the agriculture sector and involve value-added processing and market links for spices (cinnamon, clove, and black pepper), mung bean, peanuts, and sweet potato. Five other partnerships have been established between the MDF and partner firms in the tourism sector. The MDF as a donor-funded initiative is nearing its 5-year completion and has no plan for continuation beyond the current project funding period.

continued on next page

Box 5 *continued*

New Zealand Agency for International Development (NZAID) Grant Program for Private Sector and Agriculture Development. This grant program, funded by NZAID, provides grants that support small and medium-sized enterprises business development in Timor-Leste in the following categories:

- (i) business and private sector management and leadership, SME development, entrepreneurship, marketing, accountancy;
- (ii) trade facilitation, economics or applied economics, business finance, commerce, industrial relations;
- (iii) tourism including ecotourism, tourism management, tourism planning, tourism marketing; and
- (iv) agribusiness management, agricultural economics, agricultural systems and management, rural development, logistics, supply chain and distribution management, value chain development, agricultural marketing, international agribusiness.

The grant program also supports development in Timor-Leste in technical fields associated with agricultural sciences, including

- (i) biology, vegetable production, livestock and animal husbandry, crop management, agricultural pest management;
- (ii) forestry, fisheries, aquaculture;
- (iii) agricultural production (animal science, veterinary nursing, plant science, horticultural science, soil science);
- (iv) phytosanitary, biosecurity, biotechnology, agricultural trade; and
- (v) food production, food sciences and technology, postharvest processing, food storage and packaging, food safety.

Sources: IADE, SERVE, TL-CCI, MDF, NZAID.

Present BDS market capacity in Timor-Leste, mostly based in Dili, can meet only a limited range of the business services required. Many of the more specialized business services, including some of the engineering, industrial sector, technical, public sector, socioeconomic, corporate, and legal business services must currently be sourced from Indonesia or elsewhere internationally. And many of the basic business services needed by micro- and small enterprises located outside Dili, such as business planning, entrepreneurship training, financial literacy, technical training, and business coaching and mentoring, are not offered by most BDS providers except IADE and a few NGOs on a nonregular basis.

At present, the networking capacity of BDS providers in Timor-Leste is extremely limited. Few use or promote the use of IT platforms in business information and marketing services, or services related to technology sourcing and/or transfer, or distance learning programs. IADE is doing some networking with the Dili Institute of Technology in carrying out vocational training programs. Also, it is now using IT platforms for communication and business information sharing.

C. Conclusion

In the last few years, both Timor-Leste and Indonesia have introduced important legal and regulatory reforms to improve the business-enabling environment. In Indonesia, these reforms have made impressive improvements in many aspects of doing business, which is undoubtedly beneficial for NTT; however, NTT continues to struggle with challenges related to administration and land tenure. A business process analysis (BPA) for coffee conducted as a pre-inception activity for this study showed that business registration and licenses accounted for a third of the total time required for exporting coffee.

While reforms led to significant improvements in Timor-Leste's World Bank Doing Business rankings since 2006, there have been declines since 2015. Despite the reforms, there are still gaps in the regulatory and legislative environment that need to be addressed including, for example, a specific SME law. Lack of a legal definition of an SME in Timor-Leste undermines the legal basis for financial and business services directed toward SMEs. Equally, while reforms are under way implementation takes time. A BPA of coffee exports from Timor-Leste conducted by the Pacific Trade and Transport Facilitation Study⁷⁰ showed that it took 55 days to export coffee from Timor-Leste, of which 21 days were devoted to document handling despite the establishment of one-stop shops to address this. As with NTT, land tenure, despite recent reforms, remains a challenge along with issues of corruption.

SMEs in NTT are clustered in urban areas, although cooperatives are found in both urban and rural locations. According to the Ministry of Cooperatives and SMEs, in 2015 there were 3,707 registered cooperatives in NTT. Access to financial and business development services is limited in rural areas, although urban areas do have a greater diversity of business services than found in Timor-Leste. The Bank Pembangunan Daerah NTT (Regional Development Bank NTT, or BPD-NTT) has the greatest branch network across NTT and is also the single largest provider of SME credit. Total loan disbursements to SMEs in 2016 amounted to \$112 million, and BPD-NTT is in the process of further expansion.

There are very few large companies in Timor-Leste, and enterprise is dominated by SMEs. Roughly 126 cooperatives are active in Timor-Leste, the largest and most successful of which are for commodity crops (e.g., coffee). So far, SMEs have failed to be the engine of growth anticipated; however, IADE, the main government business service provider, has seen a marked increase in requests for its services in the last 2 years. IADE has the largest network of services outside of Dili, where most other services are centered.

Financial services for SMEs are relatively limited at present in Timor-Leste. Commercial banks in Timor-Leste serve primarily larger businesses, although BNCTL does have plans to open an SME credit window. Otherwise SMEs are served largely by MFIs.

SMEs in rural areas of both NTT and Timor-Leste are hindered by general lack of access to information. The use of digital technologies for providing business and financial services is limited on both sides of the border, although this could change quickly. Given the remote locations of many SMEs, the use of SMS-based services should be considered to improve information exchange and build networks.

⁷⁰ An ADB-supported study in the Pacific. Final report is pending.

Investment

A. Indonesia

As previously discussed, Indonesia's performance in the ease of doing business has improved markedly in the last few years, which has been reflected in investments coming into the country. In 2017, Indonesia was the fifth most popular destination for foreign direct investment (FDI) in developing Asia behind the People's Republic of China; India; Singapore; and Hong Kong, China. In 2016, the government promulgated several economic packages aiming to deregulate and simplify bureaucracy in several sectors, including land, energy, entertainment, tourism, retail, and housing for the poor. The regional governments have also become more welcoming to foreign investors, especially for infrastructure.

Specifically related to foreign investment, in 2016, President Joko Widodo issued a new Negative Investment List (Presidential Regulation No. 44 of 2016), revoking the 2014 Negative List. This new list has opened more sectors to foreign investment and increased the foreign ownership limits for several other sectors. For example, mail order and internet retail are now open to 100% foreign ownership, if the investors partner with Indonesian SMEs. The tourism and creative economy sectors have opened up, with restaurants, bars, cafés, swimming arenas, football courts, and other sporting arenas now open for 100% foreign investment. The financial sector, especially venture capital, has also been opened up. To keep up-to-date with emerging technologies, the central government and the Ministry of Communication and Informatics have issued several regulations on, among other things, e-commerce, personal data protection, and electronic transactions.

The national investment promotion agency Badan Koordinasi Penanaman Modal (BKPM) has a mandate to boost domestic and foreign direct investment by creating a strong investment climate. BKPM has recently introduced a one-stop service center for expediting the issuing of domestic and foreign investment permits, as well as the previously mentioned Online Single Submission system.

Incentives offered to investors include a 2- or 4-year import duty exemption for inputs (machinery, goods, and raw materials) that are not produced in Indonesia; tax allowances (5% per annum up to 6 years under certain conditions, e.g., based on value of investment, export orientation, location, local manpower, and local content); tax holidays of 5–15 years offered for investments in pioneer industries of \$80 million; and direct construction facility, where investors in 32 industrial parks in Indonesia may commence construction before obtaining construction permits, subject to obtaining other necessary permits. More detail on investment parks and special economic zones is provided in subsequent chapters of the report.

FDI in Indonesia increased from \$16.2 billion in 2010 to \$28.9 billion in 2016. Growth has been driven by large investments in manufacturing, which experienced the strongest growth. In 2016, the manufacturing sector attracted 57.6% of total FDI (from 20.6% in 2010), representing a 400% increase over the period. In this sector, the strongest growth subsectors included transport equipment; metal, machinery, and electronics; paper and printing; food; textiles; and timber products. For agriculture, forestry, and fisheries—a key growth sector for Indonesia—the value of foreign investments more than doubled, despite representing a small proportion of total investments. Food crops and plantation crops more than doubled. Especially strong growth was experienced in the fisheries subsector (140%). The large and growing domestic consumer base, natural resources, and low-cost production base all contributed to the strong growth in FDI. A table detailing the value of FDI in Indonesia by sector from 2010 to 2016 is available in Appendix 2. Understanding the business and investment climate in Indonesia is important, as it provides the overall regulatory framework that applies to NTT. Nevertheless, regional governments have some flexibility in terms of incentives for domestic and foreign investment and specific objectives, given the development strategies of the region.

B. Nusa Tenggara Timur

1. Investment Promotion, Priorities, and Challenges

Similar to the BKPM national body, for the provincial government of East Nusa Tenggara, the Department of Investment and One-Door Integrated Services (Dinas Penanaman Modal and Pelayanan Terpadu Satu Pintu Provinsi Nusa Tenggara Timur, or DPMPSTP) is the investment promotion body and one-stop investment service in NTT. Its role is to provide the regional backup to the national body's investment policy objectives. In addition, it is tasked with assessing investment opportunities and potential, both domestic and foreign, within the province of NTT in key sectors.

Various incentives exist for investors in NTT. Only the central government can offer incentives related to tax and duty exemptions, but the provincial governments are able to offer additional incentives such as waiving certain fees and charges. The provincial government of NTT is strongly pro-investment and is in the process of developing incentives to attract investors to NTT, for example, waiving provincial fees, with expectations of multiplier effects from investments to produce economic benefits for the region.

In addition to providing incentives and improving the investment climate, the BKPM supports investment by attending investment fairs. It also uses information in the Central government database on potential investors to assess potential interest in the region and conducts official visits to support specific investment opportunities.

Investment promotion priorities for NTT include attracting domestic and foreign investment in the following sectors:⁷¹

⁷¹ Dinas Penanaman Modal dan PTSP Provinsi Nusa Tenggara Timur (DPMPSTP), 2016. Potential and Investment Opportunity.

- (i) food crops (rice, corn, soybeans, peanuts, mung beans);
- (ii) forestry (e.g., sandalwood);
- (iii) livestock—cattle and poultry;
- (iv) fisheries;
- (v) marine cultivation—seaweed and salt;
- (vi) mining—manganese, iron ore, iron sand;
- (vii) tourism—across all of NTT, including Belu and Kupang regencies; and
- (viii) infrastructure.

NTT has been successful in attracting increasing levels of domestic and foreign investment; however, challenges remain in the business-enabling environment (as discussed in previous chapters). These include, for example, access to sufficient electricity and also the lengthy administrative processes for registering a new business. These challenges are well understood by the local authorities, and efforts are being made to overcome them. One of the main challenges remains land access.

Land access is an ongoing challenge for the region. The regional government has introduced various schemes to enable investors to access land. For example, one innovation involves facilitating discourse between government and communities (regarding community-held land) by using religious leaders. A recent agreement involved the investor paying 10% of profits to the community to have access to invest and build on the land. At this stage, this model has been adopted only in Kupang, Malaka, and Rote districts, but there are plans to expand and introduce the scheme to other districts in NTT.

2. Values and Sectors of Investment

Based on its investment promotion strategy, the NTT government sets investment targets. For 2017, the target was Rp3.78 trillion (approximately \$270 million), which it has surpassed.⁷² In 2017, total realized investments increased by 40% from Rp3.2 trillion (approximately \$227 million) in 2016 to Rp4.5 trillion (approximately \$320 million) in 2017. It is notable that this was driven by a large increase in domestic investments (150% increase on the values in 2015 and 2016), and foreign investment actually decreased by 49% from 2016 to 2017. There is no known reason for this decrease, which is possibly just part of natural fluctuations from year to year.

In 2017, 7,696 investment licenses were issued. The top three sectors were “national and political unity”⁷³ (5,615), livestock (1,061), and marine and fisheries (617). Investment licenses in these three sectors have increased significantly since 2013. For example, the numbers of investment licenses issued for livestock and marine and fisheries more than doubled between 2013 and 2017. This suggests that activities by the investment agency to

⁷² Please note the national target for NTT province is Rp8.2 trillion (\$582 million) (more than twice the provincial target). This target was included in materials provided by DPMPSTP-NTT but the reason for the difference in size of the targets is not clear.

⁷³ The authors were not able to ascertain with clarity what this meant.

Table 9: Approved Planned Foreign and Domestic Investments by Value (\$'000)

| Sector | 2015 | | 2016 | |
|---|----------------|----------------|----------------|----------------|
| | Foreign | Domestic | Foreign | Domestic |
| 1. Agriculture | – | – | – | – |
| Food crops | – | – | 169,161 | 5,933 |
| Plantation crops | 169,161 | 2,835 | 66 | 4,408 |
| Livestock | 65 | 4,408 | 4,029 | – |
| Forestry | 4,029 | – | 0.2 | – |
| Fishery | 0.2 | – | 86,371 | 4,929 |
| 2. Mining and quarrying | 85,363 | 4,929 | 170,589 | 746,127 |
| 3. Manufacturing | 170,589 | 4,929 | 32,088 | 2,960 |
| 4. Electricity, gas, and water supply | 32,088 | 746,127 | 0.3 | 8,677 |
| 5. Building | 0.3 | 2,960 | 65,442 | 4,754 |
| 6. Trade, hotel, restaurant | 65,442 | 8,677 | – | 1,230 |
| 7. Transportation and telecommunications | – | – | – | – |
| 8. Finance, leasing, and corporate services | – | 4,754 | 2,322 | – |
| 9. Services | 3,152 | – | – | – |
| Total | 529,890 | 779,618 | 530,068 | 779,017 |

Source: Badan Pusat Statistik-Nusa Tenggara Timur.

promote these sectors are well received by investors, who also see potential for continued growth.

Table 9 provides details of planned investments by sector. The data should be used with some caution⁷⁴ but are indicative of the sectors of interest for foreign and domestic investors. Planned investments in NTT have been concentrated mostly in agriculture, mining, and quarrying. Domestic investments in particular have been focused in the mining and quarrying sector. Realized investments for 2016, however, show significant investment in tourism and accommodation. Table 10 shows the value of realized investments by sector in 2016, with hotels bringing in the highest amount of realized investment.

Planned investment in NTT in 2017, based on investment principle licenses issued, totaled Rp448.5 billion (\$32 million) in the sectors of real estate (Rp411.2 billion [\$30 million]), sugarcane plantations (Rp12.5 billion [\$887,000]), and seaweed processing (Rp24.8 billion [\$1.8 million]).

Interest was expressed by companies in NTT in the areas of cane plantations, salt ponds, real estate, tourism and resorts, hospitality, banking, energy, manganese purification,

⁷⁴ The table shows a lot of duplicated figures across different sectors; for example, the value of 2015 forestry foreign investment is the same as 2016 livestock foreign investment, which is a concern for the quality or interpretation of the data.

Table 10: Realized Investments by Sector in Nusa Tenggara Timur, 2016
(\$'000)

| Sector | Total |
|-----------------------------|----------------|
| Hotels | 65,064 |
| Tourism—water related | 59,331 |
| Telecommunications | 52,790 |
| Electricity | 34,487 |
| Agriculture and plantations | 14,484 |
| Industry | 12,394 |
| Fisheries | 8,111 |
| Housing | 7,668 |
| Mining | 5,242 |
| Livestock | 4,016 |
| Trading | 3,272 |
| Business services | 1,500 |
| Tourism—restaurants | 446 |
| Total | 269,585 |

DPMPTSP = Dinas Penanaman Modal and Pelayanan Terpadu Satu Pintu Provinsi (Department of Investment and One-Door Integrated Services).

Note: Values here are the original dollar values reported plus values of reported investment in Rp converted into US dollars.

Source: DPMPTSP.

infrastructure, steel, and construction. Source countries for potential investments include Australia, Indonesia, New Zealand, the PRC, the Republic of Korea, Singapore, and the United Kingdom. Appendix 2, Table A2.3 lists the companies and their sectors that have expressed an interest in investing in NTT.

Overall, investment in NTT has grown substantially and supports the strategic development plans of the region with investment coming in for tourism, agriculture and plantations, and livestock, and there is growing interest in fisheries investment. DPMPTSP says it believes the majority of requests seems to be for tourism-related investments. Box 6 provides further information on recent investments in NTT that are relevant to this study.

C. Timor-Leste

1. Investment Promotion, Priorities, and Challenges

As previously discussed, Timor-Leste has initiated significant reforms directed at improving the investment climate in the country. Examples include establishing an open trade and investment regime, opening the telecommunications market to competition, and streamlining the business registration process.

Box 6: Examples of Investments in Nusa Tenggara Timur

- (i) Local investors in east Flores and Lembata invested in cold storage and processing facilities for fish meal. However, the business has not been successful, and some have ceased operation. This appears to be due to lack of enough supply from local fishermen. Allowing larger fishing vessels may have alleviated the problem, but these are banned by local government regulations.
- (ii) Marine investments in Nusa Tenggara Timur (NTT) include pearl cultivation in West Manggarai, Alor, and Timor from Japan, the United States, and the People's Republic of China (PRC); and seaweed plants in Timor, Sumba, and Sawu.
- (iii) An Australian company has invested in salt production for industrial and table use.
- (iv) In Rote, 1,758 hectares (ha) are expected to be invested in by a PRC company for salt production.
- (v) In Kupang, investment in salt production has been undertaken by domestic companies on 650 ha.
- (vi) An Australian company has invested in Sumba on 5,000 ha for the sale of goats and sheep. However, concerns over foot-and-mouth disease are causing challenges.
- (vii) The Brazilian cattle company, PT Asiabeef Biofarma Indonesia (ABI) in East Sumba Regency in NTT has invested in cattle for breeding and fattening, with plans for around 20,000–25,000 head of Ongole cattle. There are plans to expand cattle breeding areas in East Sumba, where they have been since 2014 and have an investment value of Rp27.8 billion. ABI currently has 701 local cattle and a labor force of 100 who manage the land area of 986 ha. ABI's plans to expand involve accessing 10,000 ha of protected forest area, which requires permission from the Ministry of Environment and Forestry. This has the potential to support a herd size of 25,000 head. ABI is being encouraged to invest in West Timor if it cannot access all the land required. ABI's long experience in using modern technology to raise cattle ensures that there are good prospects for NTT over the next 10 years.

Source: Dinas Penanaman Modal and Pelayanan Terpadu Satu Pintu Provinsi Nusa Tenggara Timur (Department of Investment and One-Door Integrated Services).

A new private investment law was promulgated in 2017 and became effective on 1 January 2018—Decree Law 15/2017 and Decree no. 2/2018—with the aim of boosting private domestic and foreign investments. These new laws allow the government to grant extended work visas for foreigners, the right to lease state-owned land up to a period of 100 years, and fiscal and customs benefits for projects related to agriculture, livestock, and tourism, among others. For example, the government offers incentives to private investors of 5-, 8-, or 10-year tax holidays. The incentives offered include exemptions from income, sales, and services taxes. The incentives apply as follows:

- (i) domestic investments greater than \$50,000 and foreign investments greater than \$1.5 million, 5-year exemption for investments in Dili and Baucau;
- (ii) for rural zones (outside Dili and Baucau) the exemption is for 8 years; and
- (iii) for the Oecusse exclave and the island of Ataúro, the exemption is for 10 years.

A further objective of the new law is to bring its investment policies in line with the ASEAN Comprehensive Investment Agreement and thus to facilitate accession to the ASEAN Economic Community. A new export promotion law has been drafted and is in consultation with the Council of Ministers. The Government of Timor-Leste is currently developing a Negative Investment List.

To stimulate and promote exports and attract domestic and foreign investment, the government has created a foreign investment and export promotion agency, TradeInvest Timor-Leste, under Decree Law 7/2005. The agency's role is to facilitate and support potential investors in Timor-Leste and to assist foreign companies in identifying projects among the array of business opportunities that are emerging in the country. TradeInvest is a one-stop shop that provides information and services such as licensing, taxes, investment opportunities, permits, tariffs, and linking importers with the right procedures. Each of the directorates coordinates with TradeInvest to promote its sector, since TradeInvest does not have the resources or data to identify sectors to be promoted for investment. TradeInvest has actively assisted exporting businesses by overseeing and hand-holding at each step of the export process. To support the five pillars of economic growth identified by the government, investment and export promotion priorities are focused on petroleum and minerals, agriculture and fisheries, tourism, industry and manufacturing, and infrastructure. Working with TradeInvest are IADE and SERVE, which all serve to improve the general business environment (Box 5).

Significant interventions by partners such as the International Finance Corporation (IFC), Australia Department for Foreign Affairs and Trade, World Customs Organization (WCO), and others have further assisted the Government of Timor-Leste in making the trade and business environment more efficient. For example, support was provided for the establishment of SERVE, and the WCO and IFC have been assisting to improve customs procedures, and implementing the National Single Window for paperless trade procedures.

Many development partners and NGOs are simultaneously working on sectors with development and export potential and areas where policy can help to improve the business and investment environment, but the many agencies can create congestion and duplication of effort. It is recommended that TradeInvest collate all information relating to NGOs and international organizations working on particular sectors. Compiling a database listing the organizations and any grants or funds that may be available to potential investors would be very useful for potential investors.

2. Values and Sectors of Investment

Reliable data on realized investments is difficult to obtain for Timor-Leste. TradeInvest has data on investment certificates issued, but showing only intended investments rather than ones that have been realized.⁷⁵ TradeInvest is monitoring all investor certificate holders issued since 2015, which will be available in due course.

The available data are summarized in Table 11 and Table 12, which show that from 2006 to 2016, the total value of foreign investment certificates was \$550 million, while total value

⁷⁵ TradeInvest has information on realized investments from a survey of the 176 investment certificate holders, but only 70 certificate holders responded so that data from said are not used here.

**Table 11: Estimated Value of Foreign Direct Investment
Certificates Issued, 2006–2016**
(\$'000)

| Sector | Value |
|--|----------------|
| Tourism and hotel or accommodation | 179,434 |
| Manufacturing | 101,283 |
| Agriculture | 81,570 |
| Construction | 42,199 |
| Telecommunication | 36,796 |
| Production and distribution of electricity, gas, and water | 29,676 |
| Wholesale, retail, and maintenance | 25,033 |
| Transportation and warehouse | 15,406 |
| Financial activities | 14,086 |
| Real estate | 11,020 |
| Quarrying and mining | 9,357 |
| Human health | 2,800 |
| Administrative and service activity | 1,262 |
| Total | 549,923 |

Source: TradeInvest.

**Table 12: Estimated Value of Domestic Investment
Certificates Issued 2006–2016**
(\$'000)

| Sector | Value |
|------------------------------------|----------------|
| Construction | 120,677 |
| Tourism | 54,733 |
| Manufacturing | 45,324 |
| Wholesale, retail, and maintenance | 30,555 |
| Real estate development | 18,000 |
| Financial service | 15,000 |
| Transportation and warehouse | 13,882 |
| Telecommunication | 9,500 |
| Agriculture | 2,640 |
| Human health | 1,567 |
| Consultant service | 230 |
| Total | 312,107 |

Source: TradeInvest.

of domestic investment certificates was \$312 million. While not directly comparable, it is worth noting that total planned investment over 10 years is \$862 million, which is less than three times the amount invested in NTT in 2017 alone. Investment appears to be mainly going toward manufacturing, construction, tourism, and agriculture, with foreign investment notably having an emphasis on tourism, accommodation, and hotels, and domestic investment focused on construction. Box 7 provides some examples of recent investments in Timor-Leste.

Box 7: Examples of Recent Investments in Timor-Leste

- (i) Pan Union Corporation, Ltd. Is a foreign investor from Malaysia in ship construction, repair, and maintenance. It has a planned investment of \$17.5 million in Manatuto.
- (ii) Li Tjien Development is a national company with plans to build a commercial and residential development in the area of Comoro, Dili, with an investment amount of more than \$75 million.
- (iii) Cladotia Fu, headed by Rui Castro, head of the Chamber of Commerce, is a national investor in Hera, Dili, of more than \$15 million in animal feed production (poultry, pigs, and cattle feed) and animal husbandry (pigs).
- (iv) The Austim Beverage Consórcio, a Timorese, Australian, and Chinese association, has a planned investment of \$3 million in the production of mineral water in Liquiça.
- (v) Acelda Unipessoal, Lda., a local company that has exported candlenut oil to Hawaii since 2005, produces around 200 metric tons of organic candlenut oil annually. The company is now in the process of exporting to Macau, China. Acelda also produces red and black rice, which have export potential.
- (vi) NPM Industry Unipessoal, Lda. is a local company that produces around 7,000 metric tons of salt per year. The salt is purchased from locals and then sold to local supermarkets in and around Dili. There is potential for exporting salt to Singapore. Other products include cloves and betel nut, which have been exported to India.
- (vii) Timorganic is a salt, spice, and honey buyer operating in Timor-Leste since 2012. Local salt is collected from local producers around Manatuto; spices including ginger, turmeric, and chili are collected from local producers. A challenge for export is the low volumes of these products.
- (viii) Virgo Amoris is a local coffee company established in 2014. The company has exported coffee in small quantities to a restaurant in Atambua, Indonesia. The company aims to produce instant coffee (in sachets) to compete with similar products currently imported from Indonesia (TuguBuaya). Its instant coffee is available in Leader Supermarket, Jacinto Supermarket, and a few other outlets. The company sells coffee to Ermera, Maliana, and Liquica. The three main challenges faced by the company are currently competing with TuguBuaya, lack of buyers, and insufficient marketing.

Source: TradeInvest.

D. Conclusion

The legislative and regulatory environment for investment in Indonesia has improved in recent years and has opened new sectors for investment, notably the tourism and creative economy sectors, which will be important for NTT. The investment promotion body in NTT (DPMPTSP) reports tourism as being the main area for investment requests, and hotels and tourism had the largest value of realized investments in 2016. Other investment priorities of DPMPTSP include food crops, forestry, livestock, marine cultivation, and mining. The number of investment licenses issued for livestock and marine cultivation and fisheries more than doubled between 2003 and 2017, and livestock was the second most valuable in 2017 in terms of investment licenses issued.

Similar patterns of investment can be seen in Timor-Leste, although the quantities are smaller. From 2006 to 2017, Timor-Leste, measured by investment licenses, attracted \$862 million in investments. This is less than three times the value that NTT attracted in 2017 alone. There are limitations to comparisons of the data for NTT and Timor-Leste, but this is indicative that NTT is more attractive and is more successful in attracting investment than Timor-Leste. Equally, the political uncertainty in the lead-up to the 2018 elections further reduced investment, although this is expected to recover. In Timor-Leste, tourism and hotel accommodation along with manufacturing and agriculture appear to have attracted the greatest FDI in the last decade (2006–2016), with construction being the greatest focus for domestic investment.

In June 2018, President Joko Widodo of Indonesia and President Francisco Guterres Lú Olo of Timor-Leste announced they would start negotiations toward an agreement on investment promotion and protection. Following this announcement, the president of TL-CCI announced that the private sectors in Timor-Leste and Indonesia had signed a cooperation agreement to support the private sector and to explore areas for future cooperation. This forms an excellent foundation for attracting foreign and domestic investment into the region and for promoting cross-border investment in key economic industries.

Transport Connectivity and Trade Facilitation

A. Land Connectivity

1. Road Network

Indonesian West Timor had 769.3 kilometers (km) of provincial roads in 2016, 91.8% paved, but 33 % of the roads were severely damaged.⁷⁶ This is an issue, as it limits the movement of goods and people across the island and means that the catchment area for the main arterial roads is reduced.

The situation in Timor-Leste appears worse. Timor-Leste has around 1,426 km of national roads and 869 km of district roads, 70% of which are rated to be in very poor condition.⁷⁷ These roads require upgrading and routine maintenance to be serviceable. Again, this reduces the catchment area of the main road, and, since this is an issue on both sides of the border, it reduces bilateral trade.

Mobility and market access in Timor-Leste are also hampered by a shortage of motorized vehicles. In 2016, there were 1,766 light passenger vehicles, which translates into one automobile per 125 households. This compares with West Timor, which had 5,454 passenger cars in 2016—nearly three times the ratio in Timor-Leste. Based on data on imports of automobiles into Timor-Leste, this will likely increase quickly over time.

Challenges in the road network are well understood by the government on both sides, and investments are under way. There are in fact investments under way for the creation of a “border belt” linking the border posts of Motamasin and Mota’ain. Also, in the central sector of Timor Tengah Utara bordering Oecusse, road construction has begun from Amol toward Oehose, Manufono, and Wini. The construction of road sections in Oepoli in Kupang Regency and in Wini in Timor Tengah Utara, both adjacent to Oecusse, was expected to be completed in 2017. Completion of those road projects should further enhance land connectivity between West Timor and Oecusse.⁷⁸

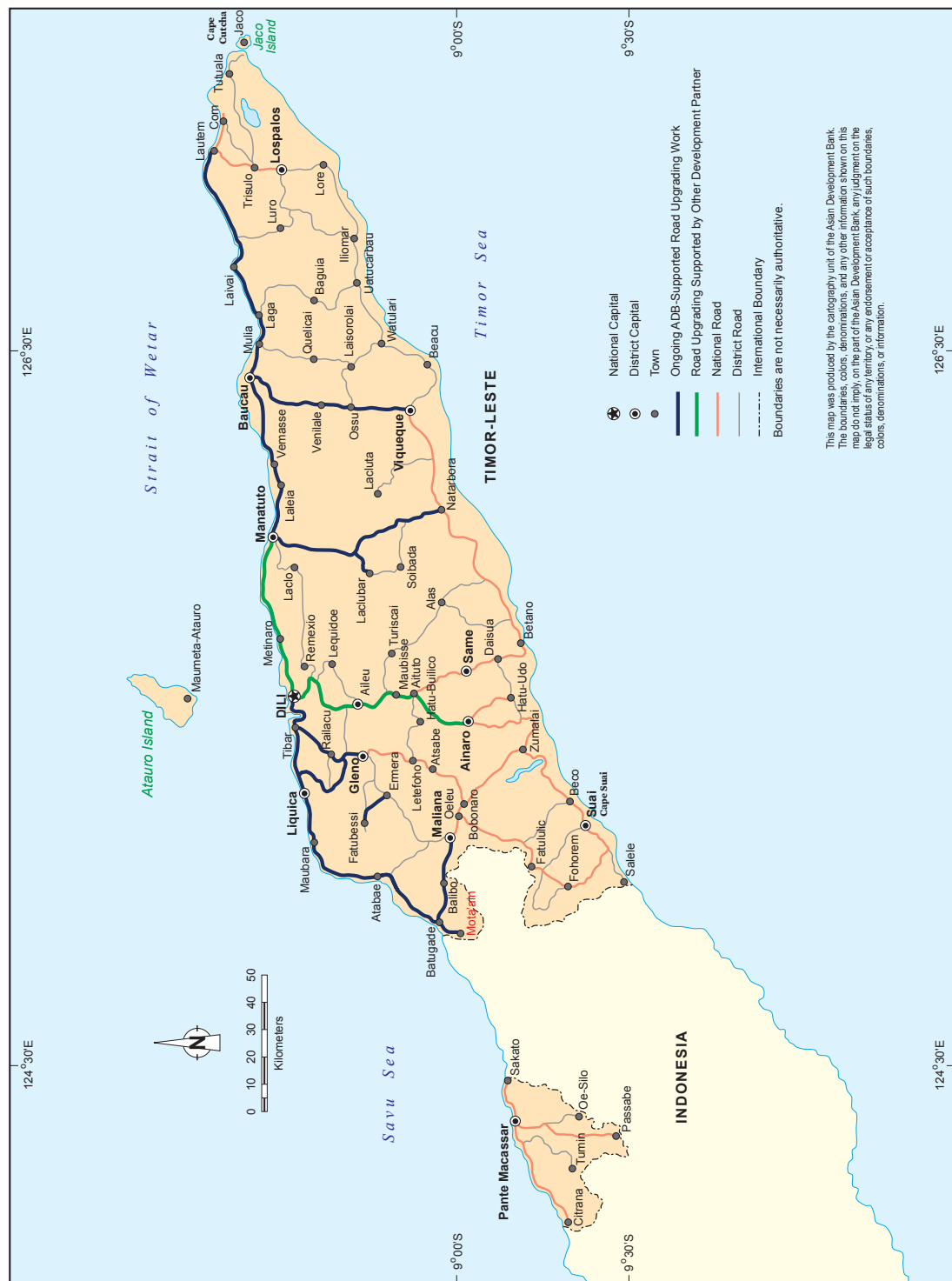
Timor-Leste is also undergoing a significant expansion and improvement of its road network. It is anticipated that by 2019, 39% of the most important sections of the road network will be complete. Map 3 shows the ongoing and proposed road upgrading works in Timor-Leste. Completion of these investments will significantly increase movement across the island,

⁷⁶ Badan Pusat Statistik Provinsi Nusa Tenggara Timur. 2017. *Nusa Tenggara Timur Province in Figures 2017*.

⁷⁷ ADB. 2017. *Pacific Transport Update 2017*.

⁷⁸ Antara News. 2017. Construction of Indonesia–Timor Leste Border Road Completed. 8 August. <https://kupang.antaranews.com/berita/4018/construction-of-indonesia-timor-leste-border-road-completed>.

Map 3: Timor-Leste Road Investments



increase the catchment area of the main arterial roads, and address some of the constraints to the Dili–Kupang central transport route.

Arterial Roads

NTT and Timor-Leste are connected by three main arterial roads (Map 4):

- (i) the Central Arterial Road, which links Tenau Port with Dili via the Mota'ain–Batugade Border Post;
- (ii) the Southern Arterial Road, which links Tenau Port with Dili via the Motamasin–Salele Border Post; and
- (iii) the Exclave Arterial Road, which links the Oecusse enclave with Dili through the Wini–Sakato and Mota'ain–Batugade Border Posts.

Sections on the central arterial road in NTT are of class 3A standard with a maximum axle load limit of 8 tons. For long distance transport operations, a higher load limit (e.g., 10 tons and above) is desirable and is also more economical. Sections in Timor-Leste are currently being upgraded (Map 4). Along the route there are sections of the road (e.g., sections in Tamae, Niki Niki, and Loes) that are steep and winding with a maximum speed limit of 20 km per hour. The quality of the road is adequate for the current flow of transport, but consideration could be given to upgrading the road if usage increases. One noticeable challenge to the route is that there are no proper rest areas for truck drivers and only one petrol station.

The Exclave road is a narrow, two-lane road but in relatively good condition. It is suitable for 20-foot containers at a low speed but not 40-foot containers. New bridge construction within Oecusse will improve the suitability of the road for movement to Pante Macassar, which is the enclave's main town. Little cargo travels this route, as it competes with a twice weekly roll on-roll off (RO-RO) ferry between Dili and Pante Macassar.

A two-lane highway in each direction capable of taking a full-length container at an average speed of 60 km per hour is being developed on the south coast of Timor-Leste, linking Suai in the western part and Beaco in the eastern part of the country. In the south of West Timor, road sections linking Batu Putih, Kolbano, Boking and Wanibesak, Besikama, Betun, and Motamasin are being upgraded or constructed.⁷⁹ Once developed, this will finalize the Southern Arterial Road.

2. Mota'ain–Batugade Border Post

The Mota'ain Border Control Post (BCP), built on an 8-hectare (ha) plot of land, handles most of the overland cargo between NTT and Timor-Leste. Appendix 2 includes a map (Map A2) of the Border Post, which is the same for Mota'ain and Motamasin. It has been operational since 2015.

⁷⁹ Kompas. 2017. Mulusnya Jalan Poros Selatan Pulau Timor NTT. 23 November. <https://properti.kompas.com/read/2017/11/23/130000821/mulusnya-jalan-poros-selatan-pulau-timor-ntt>.

Map 4: Main Road Corridors and Crossing Points, Timor Island



Source: Asian Development Bank.

The customs, immigration, quarantine, and security (CIQS) facilities are housed under “one roof,” the structural design allows for red, yellow, and/or green lane processing and self-declaration by importers and exporters or their drivers. A weighbridge and living quarters for border post staff are under construction next to the border post. Currently there are informal markets on both sides of the border located just beyond the control zone. From consultations at the governor’s office in Kupang, it is understood that there are plans to have a formal, duty-free market at the border.

A business process analysis (BPA) conducted through consultations with Indonesian Customs and a “walk through” at the border⁸⁰ showed that Mota’ain BCP is a modern, well-designed structure with the facilities and processes to clear passenger and cargo loadings several times greater than current levels. Automated customs systems have now been rolled out in major border posts, and Mota’ain uses the Indonesian National Single Window.

The Batugade BCP, inaugurated in February 2012, is an integrated post with a modern structure, an X-ray machine, and a weighbridge. Automated System for Customs Data (ASYCUDA) World is used at the border post, although usage has not been optimized. A time release study conducted at Batugade BCP⁸¹ found that customs and quarantine examine all cargo using both the X-ray scanner and physical inspection. This is not in line with a modern risk management strategy. Other aspects such as electronic declarations by customs brokers and online payment by importers are not supported. The time to clear Batugade is currently acceptable, but procedures should be more efficient for higher volumes of cargo.

The use of automated systems on both sides of the border provides an opportunity for easier data exchange between NTT and Timor-Leste that could support moves toward greater risk management and eventually joint inspections. Currently, 100% of imports are inspected on both sides of the border, and only exports are subject to risk management systems. This is acceptable with the current cross-border movement of goods, but will create a bottleneck if volumes increase. Equally, it would have the additional benefit of tackling corruption and fraud at the border.

The Mota’ain–Batugade Border Post handles about 300 trucks per month. Prior to opening in 2015, Atapupu Port also cleared road cargo for Timor-Leste and hence the volume of Atapupu outbound cargo prior to 2015 is an indication of the current volume of cargo crossing the border.

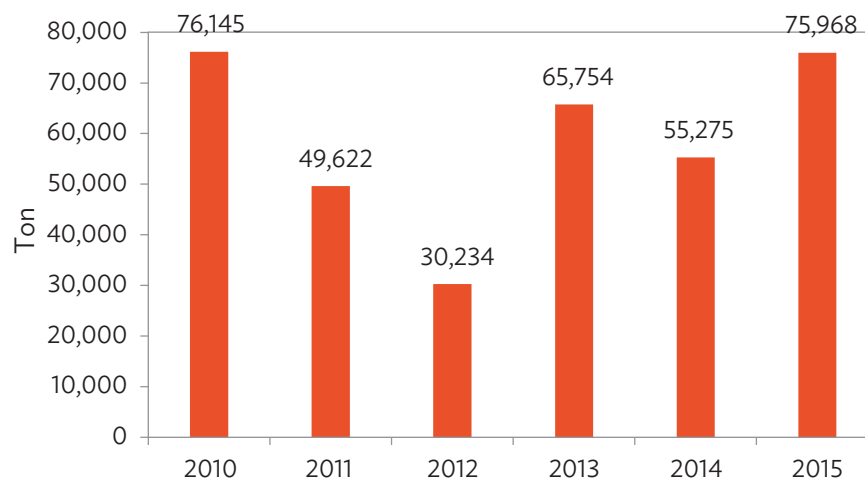
Figure 9 shows the volume of outbound cargo from Atapupu Port.

The United States Agency for International Development (USAID) commenced a 3-year project in 2017 to assist Timor-Leste with customs modernization. While this is focused on Dili Port (which receives the majority of cargo), procedural reforms for customs have already been developed. There are also plans to look at the day-to-day issues concerning cooperation such as operating hours and availability of telephones. Work on risk management is also

⁸⁰ Conducted in June 2017 as part of pre-inception activities for this study.

⁸¹ Conducted as part of the Pacific Trade and Transport Facilitation study.

Figure 9: Volume of Outbound Cargo from Atapupu Port, 2010–2015 (tons)



Source: Badan Pusat Statistik.

planned. This work with customs provides an excellent gateway to work with other border agencies.⁸²

3. Motamasin–Salele Border Post

The Motamasin Border Post is built to the same specifications as Mota'ain, and most upgrading and construction works are now completed. The Salele Border Post has been undergoing upgrades over the past few years. These border posts have significantly less traffic than Mota'ain–Batugade at about 30 truck movements every month. More trading activity is, however expected when the two-lane South Coast Road on the Timor-Leste side is completed. There are also plans for development on the South Coast near Suai of a petrochemical complex. It is presumed that this would also lead to greater movement across this border post.

4. Legal and Institutional Environment

As discussed above, the physical infrastructure at the border posts is not a large constraint to the movement of goods and people across the border based on current volumes of traffic. The legal and institutional environment, however, poses a significant constraint. At present, there is an absence of a robust bilateral policy and regulatory framework to govern and facilitate the cross-border movement of vehicles. Under the current arrangements, an Indonesian truck entering Timor-Leste must first secure an entry permit from the Timorese security authority at the border. The permit has a validity period of 1 week. On the other hand, for a Timorese truck to enter NTT, the truck operator (or agent) must apply for an entry permit at the Indonesian Embassy in Dili. For approval, the truck driver must have a valid

⁸² Gained from consultations with USAID and the implementing partner for the customs modernization program.

passport, entry visa, and driving license. The following documents are required: valid third-party compulsory motor insurance, vehicle registration certificate, and vehicle inspection certificates. This is being done despite there being no formal bilateral agreement between Indonesia and Timor-Leste to mutually recognize each other's third-party compulsory motor insurance, vehicle registration certificates, and vehicle inspection certificates. Timorese vehicles transiting in Belu Regency before entering Oecusse are given a maximum transit time of 1.5 hours. The validity period of other permits is decided on a case-by-case basis, usually based on the nature of the transport operations.

The present arrangements are not streamlined and lack predictability and transparency. Furthermore, if the South Coast petrochemical complex is developed and produces additional trade at the Motamasin Border Post, the current system would be unworkable. The regulatory environment undoubtedly reduces cross-border trade and discourages cross-border land tourism.

An MOU on cross-border movement of vehicles, currently being negotiated, should help ease this situation. However, the process has been delayed due to domestic legal and regulatory constraints, institutional deficiencies, and capacity deficits. Furthermore, policy makers are uncertain about the potential impact of the MOU on internal economies, since it would commit the two countries to open up their domestic transport markets to external competition. The MOU would likely increase the flow of traffic going in both directions. One concern from the side of Timor-Leste is that the increase in trucks crossing the border will damage domestic roads and increase the burden of maintenance. Presently, there is no proper mechanism for cost recovery, which may be one of the factors contributing to the delay in signing the MOU. Suggested items to include in the MOU are detailed in Chapter 11.

There are also a number of United Nations (UN) conventions on land transport and customs that govern and facilitate the cross-border movement of vehicles and goods that Timor-Leste is currently not party to, including:

- (i) Convention on Road Traffic (1968);
- (ii) Convention on Road Signs and Signals (1968);
- (iii) Customs Convention on the International Transport of Goods under Cover of TIR Carnets (1975);
- (iv) Customs Convention on Containers (1972);
- (v) Customs Convention on the ATA Carnet for the Temporary Admission of Goods (1961); and
- (vi) Convention on Temporary Admission (also known as the Istanbul Convention, 1990).

Indonesia is currently signatory to all the above conventions. Some of the ASEAN transport agreements (e.g., the ASEAN Framework Agreement on the Facilitation of Goods in Transit and the ASEAN Framework Agreement on the Facilitation of Inter-State Transport) were formulated based on the principles and key provisions of these UN conventions. To support the MOU on cross-border movement of vehicles, as well as to prepare Timor-Leste for

ASEAN accession, consideration should be given to adopting and implementing the UN conventions.

In addition to the above challenges on the institutional and regulatory frameworks there is insufficient human capacity in relevant ministries and agencies in Timor-Leste to implement new conventions successfully, including the National Directorate of Roads, Bridges and Flood Control in the Ministry of Public Works, Transport and Communications and the National Directorate of Land Transport

B. Maritime Connectivity

1. Major Seaports

In NTT, there are 22 seaports equipped with piers plus 12 traditional ports. Tenau Port in Kupang, Atapupu Port in Belu Regency, and Wini Port in Timor Tengah Utara (TTU) Regency are the three most important ports in West Timor. Indonesia is in the process of an ambitious program to create a national *tol laut* (sea tollway) to support multimodal connectivity across the country. Tenau Port in Kupang is part of this tollway. Atapupu and Wini are conveniently located between Dili and the exclave of Oecusse, and Atapupu may become a transshipment port for cargo to Dili. Dili Port is currently Timor-Leste's only major port and the only international port on Timor Island. Timor-Leste is developing a new international port in Tibar, 12 km west of Dili, which will replace Dili Port as its main cargo port.

2. Tenau Port

Tenau Port is the principal seaport in NTT, located just west of Kupang. It is operated by PT Pelabuhan Indonesia III (Pelindo III), an Indonesian state-owned port operator. Tenau is not located on the main sea corridor of Indonesia. It is served through the international gateway port of Surabaya (Tanjung Perak) and to a lesser extent the Port of Makassar (Port of Soekarno-Hatta); it is a feeder port in Indonesia's overall port system.

Tenau Port is served mainly by domestic interisland shipping lines, i.e., Meratus, Suntraco, NCL (Tenau-Surabaya), and Temas (Tenau-Makassar). There are also three RO-RO vessels connecting Tenau Port with other main seaports in NTT daily. These are operated by Pelni (Pelayaran Nasional Indonesia), the national shipping company of Indonesia. Tenau Port registered 846 ship calls in 2016.

In 2016, the port handled 271,260 tons of general cargo, 115,705 twenty-foot equivalent units (TEUs), 32,483 tons of liquid bulk cargo, 69,445 tons of dry bulk cargo, and 46,078 animals; 90% of this cargo was from Surabaya, with the remaining 10% coming from Makassar. The port also handled 26,115 passengers in the same year. At present there is a large amount of inbound cargo and very limited amounts of return cargo. It is estimated that about 90% of the inbound containers return empty.

The port is limited to ships smaller than 10,000 deadweight tons (DWT), which is equivalent to about 500 containers. The port has two dockside container cranes, which



Tenau Port. Container Cranes at Tenau Port (photo by Robert Haywood).

are ageing but functional and claims a capacity to move 700 containers a day. According to Pelindo III, there is no significant physical bottleneck at the port; it has sufficient capacity and adequate port equipment to handle the current cargo volume and ship movements. Private operators in Kupang, however, have registered dissatisfaction with the productivity level and turnaround rates at the port. Pelindo III monopolizes the loading, unloading, warehousing, and other key ancillary services in and around the port area, and the charges for these services are perceived as being high, possibly constituting almost 30% of the overall transportation cost.⁸³

The Government of Indonesia in 2014 announced a 5-year capital expenditure program for the port. Under the program, Rp1.5 trillion (about \$146 million) would be used to (i) improve the manifest systems at Tenau through integrated IT reporting for port authorities and shipping agencies, (ii) upgrade the container unstuffing area to allow for all-weather usage, (iii) replace or rejuvenate key heavy plant and equipment to reduce the risk of breakdowns, (iv) develop a plan to expand the capacity of the existing container handling area, and (v) apply risk management to move all direct imports and exports from the port quickly.

These investments may help to address the challenges identified by private operators. Furthermore, Kupang Port is one of the 22 priority ports in the *tol laut* program. As such it

⁸³ Survey undertaken with businesses in West Timor as part of pre-inception activities for this study.

has recently undergone an assessment of investment priorities. Investment in the port is recommended as one of the top five priorities in Indonesia due to its strategic importance for a relatively poor region and raising expected cargo volumes. Priority recommended investments include development of the container yard, replacement of the container cranes, and creation of a passenger terminal. The assessment also recommends an off-dock terminal for container unpacking. This would allow all goods to be cross-docked into smaller 10-ton rigid trucks for freight delivery to the city areas.⁸⁴

Another issue to consider would be the road connecting the port. At the moment the narrow two-land road from Kupang Port passes through the congested Kupang City, and some sections are winding and not suitable for trucks carrying 40-foot containers.

Despite being a maritime hub in NTT, Tenau Port does not have a dedicated cruise terminal. A new cruise terminal has been planned to attract international cruise ships going to and from Australia. The local government has begun the process of inviting investors to participate in building the terminal.

3. Atapupu Port

Atapupu Port, located along the Exclave Arterial Road, is about 16 km from the Mota'ain-Batugade Border Post and about 20 km north of Atambua City, which is the second largest urban center in West Timor after Kupang City.

The port has two cranes, four piers, and CIQS facilities. Prior to the completion of the Mota'ain BCP, Atapupu Port was a base for customs clearances by road into Timor-Leste. It is a shallow-water port and cannot handle vessels larger than 3,000 DWT. There are four companies registered with the Atapupu Port Authority for loading and unloading of cargo.

It is a domestic port with shipping lines from Surabaya and subsidized ferry services to Kalabahi (Alor Regency, NTT). Subsidies are provided under the government's Pioneer Shipping Scheme, with the main objective of improving the region's accessibility. At present there are no direct links between Atapupu Port and Dili. However, there are plans to make Atapupu Port a transshipment port for cargo to and from Timor-Leste and to include it as one of the regional ports along the government's *tol laut* program.⁸⁵ The implications of this are currently hard to predict, but it is possible that some overland cargo will go by sea, either from Tenau Port to Dili via Atapupu or else it is possible some cargo will choose to unload at Atapupu Port (instead of Tenau) for trucking overland to Timor-Leste. Maritime transport is generally the preferred choice, as it is cheaper. This will be particularly true once Tibar Port becomes operational. However, it will also depend on the implementation of the bilateral land transport MOU and the efficiency of cross-border movement of trucks and cargo.

As part of the *tol laut*, four cattle ships managed by PT Peni are allocated for bringing cattle from NTT to Jawa, Sumatera, and Kailimantan at 2-week intervals. Each ship can carry

⁸⁴ Output 3 Report. 2018. Investment Plan and Implementation Plan for a Multimodal *Tol Laut*.

⁸⁵ Seatrade Maritime News. 2017. Indonesia's Pelindo III to manage four more ports. 11 April. <http://www.seatrade-maritime.com/news/asia/indonesia-s-pelindo-iii-to-manage-4-more-ports.html>.

500 head of cattle per trip. In addition to Tenau in Kupang, two of the ships will also call at Wini and Atapupu.

The port has relatively high levels of activity, although the figures may be unreliable. In 2016, the port recorded 434 ship calls, and there appears to have been 200,699 tons of cargo unloaded and 334,823 tons of cargo loaded in the same year, which is high for a noncommercial port.

4. Wini Port

Wini Port has not traditionally been a significant seaport in NTT. But in 2016, statistics indicate that more than 800,000 metric tons were unloaded at the port. This is more than was unloaded at all other ports in NTT combined. It is thought that the cargo was construction materials including cement and aggregate for the new airport in Oecusse, as it is the closest established port to the exclave. Whether facilities at the port were upgraded by the airport project to accommodate this use is not known.

5. Dili Port

The Port of Dili is the only international seaport in Timor-Leste, and the only international seaport on Timor Island. It is under the administration of the Port Authority of Timor-Leste (APORTIL). The port handled 225,000 tons of general cargo and 51,822 TEU containers in 2014. General cargo volumes are growing at 12% per year, and container traffic rose 9% per year over 2010–2014.⁸⁶

There are four shipping lines with regular services calling at Dili: Australia National Line, Mariana Express Lines and ISA Line, Meratus Shipping, and Swire Shipping.⁸⁷ ANL connects Dili Port to its global transshipment hub in Singapore and also connects Dili with Darwin. These operators use small geared containers and break-bulk vessels.

Several shipping companies from the PRC (e.g., Changtian Shipping and Yantai Jack Shipping) connect Dili Port to the main seaports near Shanghai. Occasionally, charter vessels from Viet Nam will also call at Dili to deliver cement. Appendix 2, Table A2.4 provides the routes, operators, and vessel types.

Cargo handling is done by four private stevedoring and cargo handling operators in the port. Some of the stevedoring companies are operated by the above shipping lines under joint venture arrangements with local partners. The shipping lines also maintain their respective container yards in and around Dili for storing, stuffing, and unstuffing containers.

A domestic RO-RO ferry runs between the Port of Pante Macassar in Oecusse and Dili twice weekly and the island of Atauro once a week and has a capacity of 300 passengers plus cargo. The RO-RO is operated by APORTIL and is the only Timor-Leste-owned seagoing vessel.

⁸⁶ ADB. 2016. *Country Partnership Strategy: Timor-Leste, 2016–2020*. Manila.

⁸⁷ Private sector input.

Dili Port faces many constraints. Physically, it is surrounded by a natural reef and has only one clearly marked access route. It is a shallow-water port, with just 7 meters (m) alongside depth, and with a wharf length of 285 m. This means that there are delays in berthing when several vessels arrive at the same time; the port can handle vessels of only up to 500 TEU. The berths and the approach channel both require frequent dredging.

There is no shore-based unloading equipment, so the ship's gear must be used to load and unload cargo. Yard congestion at the port also often necessitates vessels to wait at anchor for up to 10 days. Due to the delays, the shipping companies have begun charging a Port Congestion Charge of around \$250 per TEU.

The port is also in the city center and cannot be enlarged. It is accessed via Portugal Avenue and Presidente Nicolau Lobato Street, which are main urban roads in Dili. Trucks entering and leaving Dili often find themselves competing for space with other road users. Storage facilities are very limited, with a maximum capacity of 1,000 containers on the hard standing.

The container dwell time in Dili Port is estimated at about 15 days. This is due to inefficient customs clearance and port congestion. The port has an ASYCUDA system; however, it is reportedly underutilized, and a paper-based system is used concurrently.

Dili Port's cargo handling capacity is further constrained by the lack of technical and managerial capacity of APORTIL. The National Maritime Transport Authority of Timor-Leste does not have sufficient capacity to prepare and enforce maritime regulations.

The port does not have a proper risk management regime and intelligence sharing system. There is no routine information sharing with other customs organizations. An August 2017 "Port Security Advisory" issued by the US Coast Guard listed Timor-Leste as among the countries whose ports were judged to be "not maintaining effective anti-terrorism measures."⁸⁸

In 2017, USAID commenced a 3-year program of customs modernization focused on Dili Port. This is expected to increase the capacity of the new Customs Authority and will include full implementation of ASYCUDA World at the port. Work with other government agencies such as quarantine is, however, not included in that project and would be a beneficial complement to that program. Other recommendations for improvements in the efficiency and security of Dili Port include capacity building with customs on World Trade Organization (WTO) tariff valuation and rules of origin and advanced rulings, a mechanism for appealing customs decisions, customs broker licensing, and training.⁸⁹

A new container port (see below) is being built at Tibar, about 12 km west of Dili. It is proposed that Dili will become a dedicated passenger port once cargo operations are moved to Tibar in early 2020. Japan International Cooperation Agency (JICA) is working with the Government of Timor-Leste to develop passenger terminals for ferry boats. There would be room under current development plans to consider improving Dili's facilities for receiving cruise tourists, which should be considered.

⁸⁸ US Coast Guard. <https://www.dco.uscg.mil/>.

⁸⁹ Based on recommendations presented by the Pacific Trade and Transport study.

6. Tibar Bay Port

A new container port with an initial capacity to handle up to 250,000 TEU annually is being built at Tibar Bay, about 12 km west of Dili. The new port is expected to be fully operational by 2020 and eventually expandable to 1 million containers annually.

The port will consist of a 630 m wharf (compared with 289 m at Dili Port) with 15 m draft (7.5 m at Dili Port) and a 24 ha container yard. Two ship-to-shore cranes and five rubber-tired gantry cranes will be employed at the start of operations. The new port will be able to accommodate vessels up to 3,500 TEU initially and 7,000 TEU by the end of the concession period.

France's Bolloré Group has signed a 30-year, \$490 million concession contract to build and operate the port. The group is an experienced port operator in developing countries around the world.

The opening of Tibar Port is expected to significantly increase Timor-Leste's trade competitiveness. Shipping costs go down exponentially as the capacity of shipping vessels increases. It is worth noting, however, that mainline operators deploy ships between 8,000 and 12,000 TEU; hence Tibar Bay will not attract mainline operators (otherwise known as "mother ships" that are engaged in long-haul ocean voyages). The opening of Tibar Port may, however, attract vessels from countries like India, Malaysia, Singapore, and Viet Nam.⁹⁰

7. Legal and Institutional Readiness

The level of legal and institutional readiness of NTT (Indonesia) and Timor-Leste to participate in the global maritime transport network may be determined by the number of International Maritime Organization (IMO) conventions that they have acceded, ratified, and enforced.⁹¹

Such actions would require realigning of relevant domestic legal and institutional frameworks to the IMO conventions. This in turn would facilitate international shipping cooperation, which is crucial for development of transboundary sea corridors.

To date, Timor-Leste has acceded to and/or ratified only one IMO convention. In contrast, Indonesia has acceded to and/or ratified 24 IMO conventions. This implies a low level of legal and institutional readiness on the part of Timor-Leste to engage in international shipping.

Timor-Leste has drafted several national regulations awaiting Parliament's approval, including

⁹⁰ Timor-Leste is nearly adjacent to the trade route from India to the East Coast of Australia and New Zealand, and it is nearly adjacent to the route from Western Australia to North Asia.

⁹¹ The IMO is a specialized agency of the United Nations responsible for developing and maintaining a comprehensive regulatory framework for shipping. The mission of the IMO is to promote safe, secure, environmentally sound, efficient, and sustainable shipping through cooperation.

- (i) ship registration;
- (ii) ship tonnage measurements;
- (iii) technical inspection of ships, small cargo vessels (i.e., those under 500 gross tons), fishing vessels, and small craft;
- (iv) seafarer's training, examination, and licensing;
- (v) authorization of recognized organizations, and ship formalities; and
- (vi) transport and handling of dangerous goods, maritime protection, maritime accident investigation, domestic passenger vessels, and waste management concerning ships and ports areas.

This development is very much welcomed, and implementation should be supported. The national regulations will be crucial for governing maritime transport development in Timor-Leste. The new regulations are formulated based on relevant IMO conventions and represent a critical step toward aligning Timor-Leste's national regulations with global regulations. Enforcement and implementation of these regulations will be a key area for interventions moving forward.

8. Cross-Border Connectivity

There is currently no direct shipping link between NTT and Timor-Leste (see Map 5).⁹² Instead, they are both connected to two hub ports in ASEAN: Surabaya and Singapore. This may change with the promotion of Atapupu Port to become a transshipment port for cargo to and from Timor-Leste, which may open an additional maritime connection for cargo traveling between Kupang and Dili.

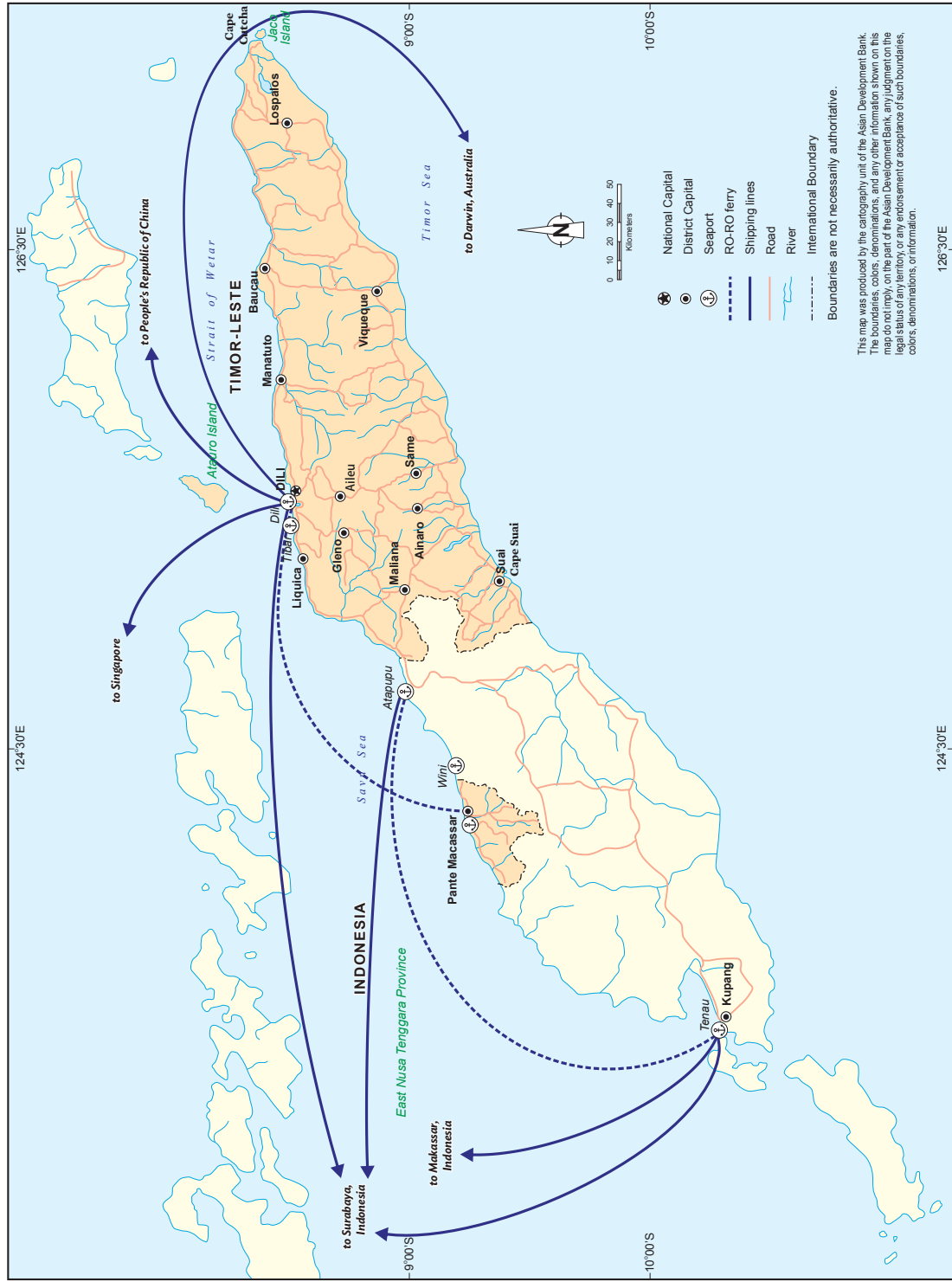
Ports in West Timor and Timor-Leste are feeder ports into the overall ASEAN marine transportation network, although Dili does have direct connections outside of ASEAN to Australia.

Presently, Timor-Leste does not own or operate any ship for international operation. It also has a low level of legal and institutional readiness to participate in international shipping. Consequently, it is likely that Timor-Leste will continue to depend on foreign vessels for some time. As discussed above, the opening of Tibar Port may attract vessels from other parts of ASEAN and decrease shipping costs. Links between Dili, Surabaya, and other ports in ASEAN (e.g., Port of Singapore, Port Klang in Malaysia) will increase over time and act as the primary link to the major east-west global maritime trade routes. There also appears to be increasing direct connections with the PRC.

It is worth emphasizing the current importance of maritime connectivity for imports to NTT and Timor-Leste—especially compared with air connectivity. Table 13 shows the volumes handled by the main airports and seaports. It shows that the seaports handle a lot more cargo than the airports. This is due largely to the nature of the trade which is largely bulk items that do not require fast shipment. It also shows the significant differences between the cargo unloaded (imported) and the amount loaded (exported). Due to relatively limited

⁹² The map does not show all of the shipping connections from Kupang within NTT.

Map 5: Sea Connectivity on Timor Island



Source: Asian Development Bank.

Table 13: Volume of Cargo Handled on Timor Island
(tons)

| Port | Unloaded | Loaded |
|---------------------------|----------|---------|
| El Tari Airport (Kupang) | 12,798 | 8,948 |
| Haliwen Airport (Atambua) | 231 | 210 |
| Dili Airport | 255 | 30 |
| Tenau Seaport | 436,509 | 244,389 |
| Atapupu Seaport | 200,699 | 334,823 |
| Dili Seaport | 225,000 | |

Source: Badan Pusat Statistik; ADB. 2016. *Country Partnership Strategy: Timor-Leste, 2016–2020*. Manila.

levels of production and exports from Timor Island, the cost of sea transport is higher, since containers are often shipped back empty. This, however, also presents an opportunity for future exports, since there is spare capacity for transport. Maritime transport is also the most cost-efficient for trade. Consequently, recommendations for increasing connectivity and improving efficiency should be prioritized.

C. Air Connectivity

1. El Tari International Airport, Kupang

The El Tari International Airport in Kupang has a 2,500 m asphalt runway and a 1,273 m grass and dirt runway. It is the busiest airport in NTT, and the numbers of travelers passing through the airport are increasing. In 2015, more than 1.5 million travelers passed through the airport, and this increased to 1.8 million in 2016. There were 24,808 aircraft movements (about 34 landings and departures per day) in 2016, which was an increase of 13% from 2015. There was also a 51% increase in the volume of cargo loaded and 73% increase in the volume of cargo unloaded over the same time period.⁹³

El Tari is basically a domestic airport, but with the introduction of a direct link between El Tari and Dili Airport in December 2017, it was turned into an international airport. As discussed later, however, this direct service has now been discontinued, and the connections to and from El Tari at present are all domestic.

El Tari is still served predominantly by domestic airlines including Garuda, Sriwijaya, Citilink, and Batik. Links are with Jakarta, Surabaya, and Denpasar (Bali). Other domestic airlines such as TransNusa and Susi Air connect El Tari with other regional airports in NTT.

⁹³ There were 12.8 million kilograms (kg) of cargo unloaded and 8.9 million kg of cargo loaded at the airport in 2016, higher than 7.4 million kg (cargo unloaded) and 5.9 million kg (cargo loaded) recorded in 2015.

Originally built as a military airport, El Tari has now reached its capacity, and there is congestion at its apron. The Indonesian government has plans to move the airport to a new location in Kupang.⁹⁴

2. Haliwen Airport, Atambua

Haliwen Airport is a domestic airport located in Atambua, Belu Regency, about 30 minutes drive from the Mota'ain–Batugade Border Post. It has a 1,500 m asphalt runway and only basic facilities; for example, refueling and ground handling are not available.⁹⁵

Passenger and cargo numbers jumped significantly from 2015 to 2016. In 2015, Haliwen handled 22,571 passengers and 67,595 kilograms (kg) of cargo. This increased to 74,709 passengers and 210,437 kg of cargo in 2016. Airplane movements also increased from 732 in 2015 to 1,488 in 2016, which is around two landings and departures per day.

Wings Air of Indonesia provides scheduled passenger service between Haliwen Airport and El Tari daily. The West Java-based Susi Air also provides periodic charter services between Haliwen Airport, El Tari, and Alor Island Airport in Alor Regency, NTT using light aircraft.

3. Presidente Nicolau Lobato International Airport, Dili

The Presidente Nicolau Lobato International Airport in Dili has a single 1,850 m by 30 m asphalt runway. It has basic facilities including terminal buildings, a control tower, an air navigation system, a tarmac apron, a standby generator, and a fire and rescue team.⁹⁶

The aviation infrastructure at the airport in Dili is quite basic. It does not house separate cargo handling facilities. Though its current airport facilities meet minimum standards for operating international flights, there are concerns about its nighttime operation and operation during windy conditions, particularly when the airport is being operated under Visual Flight Rules and cannot rely on Instrument Flight Rules. The lack of a parallel taxiway means that aircraft currently use the turning pad to move between the terminal building and the runway, limiting the number of aircraft that can take off and land.

The airport handled 232,270 passengers and 2,833 flights in 2016. Inbound and outbound cargo increased from 2015 to 2016: Inbound cargo increased by 16% from 220,630 kg in 2015 to 255,057 kg in 2016. Outbound cargo increased by 43% from 20,786 kg in 2015 to 29,704 kg in 2016.

It is worth noting that the number of travelers is significantly smaller than those moving through El Tari airport in Kupang.

⁹⁴ Consultation with Indonesian Customs in Kupang.

⁹⁵ World Food Programme. <http://dlca.logcluster.org/display/public/DLCA/2.2.16+Indonesia+Nusa+Tenggara+Timur+%28NTT%29++Haliwen+National+Airfield>.

⁹⁶ T. Sekai. 2017. *Taking Flight: Analysis of Timor-Leste Civil Aviation and Recommendations*. The Asia Foundation. <https://asiafoundation.org/wp-content/uploads/2017/05/Timor-Leste-Civil-Aviation-Report.pdf>.

Timor-Leste does not have the necessary capacity nor skills to operate its own international flights. Often it must rely on partnerships with foreign airlines. As a result, most flights are operated by foreign-owned and registered aircraft, and often leased under charter agreements, rendering the purchasing of seats complicated and expensive. Air service agreements (ASAs) appear to be a major issue in regard to the routes serving Dili Airport.

The existing civil aviation authorities in Timor-Leste also struggle with staff and capacity constraints to develop and enforce effective civil aviation policy and rules.

Dili Airport relies heavily on the Ngurah Rai International Airport in Denpasar (Bali) as its international gateway to ASEAN. Nam Air, Sriwijaya Air, and Citilink fly regularly between the two points. Dili also has a direct air link with Singapore, served by Air Timor-Silk Air; however, this was recently decreased from a twice weekly connection to once a week. There is also a connection to Darwin with Airnorth.

On the domestic front, operating out of the Dili Airport is *Servicos Transportes Aereos De Timor Leste*, owned and leased by *Zonas Especiais de Economia Social de Mercado de Timor-Leste* (ZEESM, or Special Economic Zone for Social Market Economy of Timor-Leste). It flies a single Twin Otter on scheduled passenger service between Dili and Oecusse six times per week. The capacity of the aircraft is 19 passengers each way per day.⁹⁷ There are plans to expand use of the aircraft for increased scheduled service between Dili and Oecusse, Suai, Same, and Atauro island.⁹⁸

The challenges with Dili Airport are well understood by the government. The 2017 National Civil Aviation Policy, entitled “Growing Aviation to 2030: Providing Connectivity to Support Economic and Social Development,” recommends signing additional ASAs, attracting new airlines, and rehabilitation and extension of the airport infrastructure among other things. JICA is committed to supporting the upgrade of the terminal facilities, and work is currently under way, although it is not yet clear where gaps might remain.⁹⁹ ADB will also be supporting a review of options for extension of the runway.

Reviews by the Asia Foundation and International Finance Corporation (IFC) have recommended upgrades or expansion of Dili Airport to varying degrees, which this report supports; however, the extent of rehabilitation should be undertaken in light of perspectives on the role of the Oecusse exclave and Suai international airports.

On 15 December 2017, Air Timor launched a direct service between Dili and Kupang (El Tari). The aircraft was an ATR72 with a capacity of 70 passengers. This new route was the result of a partnership between Air Timor and TransNusa Aviation Mandiri. The cooperation marked the first step toward planned greater air connectivity, brokered under the Timor-

⁹⁷ Consultation with ZEESM.

⁹⁸ The Asia Foundation. 2017. *Taking Flight: Analysis of Timor-Leste Civil aviation and Recommendations*.

⁹⁹ The 2016 JICA-supported Study on Dili Urban Master Plan underlined the need to improve the safety and capacity of the airport's facilities such as runways, lighting system, terminal building. The Study recommended for a PPP project to improve the safety and capacity of the airport (http://open_jicareport.jica.go.jp/pdf/12268603.pdf). JICA started a preparatory survey of a Project for Improvement of the Dili Airport since April 2018 with the objective of verifying the necessity and relevance of the project as well as to formulate appropriate project implementation plan under Japan's Grant Assistance Scheme through basic design and project cost estimate (https://www.jica.go.jp/easttimor/english/office/topics/press180404_en.html).

Leste–Indonesia–Australia Growth Triangle (TIA-GT). Unfortunately, this connection was terminated in February 2018 due to insufficient passenger load and high operating costs. There are, however, plans by Garuda to commence a flight between Kupang and Darwin through Dili in 2018. It is recommended that consideration be given to special fiscal incentives to be agreed upon between NTT and Timor-Leste to support the commercial viability of this route. Equally, proper appraisal of the challenges faced with the cancelled direct services should be conducted.

4. Oecusse Exclave International Airport

A new international airport has been built in Oecusse exclave which was opened in June 2019. The airport will cover an 814-square kilometer area in Oecusse and have a 2.5 km runway capable of servicing large aircraft required for long haul flights. The airport is being built by PT Wijaya Karya, a state-owned Indonesian construction company, with a contract value of \$92 million. This presents a potential opportunity in regard to air connectivity across Timor-Leste, and opportunities are explored further in Part II on Tourism.

5. Suai Airport

Suai Airport on the south coast of Timor-Leste near the border with Indonesia has been refurbished and reopened in 2017 with a 1.5 km runway. Regular domestic flights run between Suai and Dili and an air link between Darwin and Suai operated by the Northern Oil and Gas Australia received their first international flight in September 2018. While these flights are currently non-commercial other airlines could operate at the airport and provide services supporting tourism and agriculture.¹⁰⁰

D. Conclusion

The catchment areas in terms of economic activity in West Timor and Timor-Leste are hampered by poor national road networks; however, this is well understood by their respective governments, and investments are ongoing. There are three main road routes between Kupang in West Timor and Oecusse and Dili in Timor-Leste which provide the main arteries for goods and people moving across the two sides. While the quality of these roads would need to be upgraded to deal with higher volumes of goods traffic, they are largely adequate (or will be once ongoing upgrades are completed) for current volumes of traffic.

The construction of the border control points between West Timor and Timor-Leste at Mota'ain–Batugade and Motamasin–Suai allow for efficient processing of much higher volumes of traffic than currently; however, cross-border cooperation by border agencies is limited. There is 100% inspection of goods crossing the border, limited data sharing between agencies, and no risk management system in place.

¹⁰⁰ Government of Timor-Leste. 2018. First international flight at Suai Airport. 8 April. <http://timor-lesste.gov.tl/?p=20598&lang=en&n=1>.

The current policy and regulatory environment for the cross-border movement of vehicles appears to be the most significant constraint to movement of goods and people across the border. At present Timor-Leste vehicles entering NTT must first receive a permit from the Indonesian Embassy in Dili rather than at the border post itself. An MOU on cross-border movement of vehicles is currently being negotiated; however, it has been delayed due to concerns about the impact of higher volumes of traffic on the roads. Mechanisms for proper cost recovery may be required. In the longer term, adherence to UN conventions on land transport and customs will support ongoing connectivity into Indonesia.

Maritime connectivity between West Timor and Timor-Leste is limited, with no direct shipping links. However, ports on both sides have strong shipping connections with Surabaya Port in Indonesia. There are also plans for upgrades of Tenau Port and Atapupu Port as part of Indonesia's sea tollway program to improve maritime connectivity across the country. Due to Atapupu's proximity to the border with Timor-Leste, it may become a transshipment port for cargo to and from Timor-Leste. This could make a large difference in reducing the costs of trade in goods between the two sides. Equally, the development of a new port in Tibar in Timor-Leste is expected to increase Timor-Leste's trade competitiveness and may allow for greater connections within ASEAN, although it is not expected that linkages with Surabaya will be reduced.

Air connectivity is expected to be substantially improved with the introduction of flights between Kupang, Dili, and Darwin by Garuda; however, the termination of the Kupang–Dili flight by Air Timor, which ran from December 2017 to February 2018, will hold important lessons. Both Dili and Kupang airports are at full capacity, and long-term investment will be required (and is under way) as well as the adoption of provisions to improve the efficiency and competitiveness of the air transport market. Consideration should, however, be given to how the opening of the new international airport in the Oecusse enclave and the reopening of the airport in Suai can be best leveraged for connectivity on the island.

Special Economic Zones

A. Indonesia and Nusa Tenggara Timur

Indonesia has three government regulations that deal with the subject of special economic zones (SEZs):

- (i) Government Regulation No. 2 Year 2011 on Management of Special Economic Zone,
- (ii) Government Regulation of the Republic of Indonesia No. 100 Year 2012 on Amendment to Government Regulation No. 2 Year 2011 on Management of Special Economic Zone, and
- (iii) Government Regulation of the Republic of Indonesia No. 96 Year 2015 on Facilities and Convenience in Special Economic Zone.

These three provide the general authorities and guidelines for the establishment, operation, and management of SEZs and include, among others, definition of the term SEZ; guidance on entities authorized to propose a SEZ and procedures to be followed in proposing a SEZ; general requirements to be met with respect to a proposed SEZ location; and guidance on land acquisition and land rights, taxation, goods traffic access, employment, immigration, and permitting and licensing.

The Indonesian side of the island has a more robust system of support for business, and the country has several zone and zone-like programs. The Pioneer Industry Program is a performance-specific zone program that provides fiscal benefits for large, modern facilities, and automotive production. It was one of the first investment promotion programs of modern Indonesia. The free-trade zone and industrial zone programs are small-area zones. Starting in 2009, Indonesia created a Special Economic Zone, or *Kawasan Ekonomi Khusus* (KEK), program, but these are industry-specific, small-area zones, and did not take hold until a change in the law in 2015.

1. Pioneer Industry Program

The Pioneer Industry Program is an industry- and performance-specific zone without geographic restrictions that was established about 1995 and has been the subject of a number of disputes at the WTO because of fiscal incentives partly based on levels of export and use of Indonesian-sourced raw materials.

- (i) Performance requirements:
 - (a) large minimum capital requirement of Rp1 trillion (approximately \$75 million),
 - (b) contributes high value-added,
 - (c) introduces new technology, and
 - (d) has strategic role in national economy.
- (ii) Eligible industries:
 - (a) basic metal industries;
 - (b) basic organic chemicals derived from petroleum;
 - (c) processing industries based on agriculture, forestry, and fishery products;
 - (d) machinery industries producing industrial machinery;
 - (e) telecommunications, information, and communication industries;
 - (f) marine transport industries; and
 - (g) economic infrastructure.
- (iii) Incentive:

reduction of corporate income tax by 10%–100% for 5–20 years at the discretion of the Minister of Finance.
- (iv) Legal bases:
 - (a) Ministry of Finance Regulation 159/PMK.010/2015, and
 - (b) Ministry of Finance Regulation 103/PMK.010/2016.

The Pioneer Industry Program has been a cornerstone program of Indonesia's attempt to modernize its economy. It has generally been seen as successful, although Indonesia's inflow of FDI is only about 2% of its GDP, about half that of the top ASEAN economies;¹⁰¹ therefore, its true effectiveness can be questioned.

The program is limited to a fiscal incentive, and further limited by the uncertainty over the level of fiscal incentive to be provided. It is up to a committee of Indonesian government officials to determine the percentage reduction, from 10% to 100%, in income tax that would be applied to a particular investment and the term of that reduction, from 5 to 15 years, unless the minister of finance extends it to 20 years. This can be discovered only after an investment proposal has been made to the government. Critics argue that this discretion leaves the process open to favoritism, influence peddling, and corruption.

A second limitation of this program is that it focuses only on strategically significant national projects and is not available to support SMEs or regionally important projects. The Pioneer Industry Program did little to improve the business environment in Indonesia, even for those who participated in it. However, due to the large minimum size of the investment, many of these investments also benefit from elimination of VAT taxes (Regulation 81/2015); elimination of import duties (PMK 176/PMK.011/2009 as amended by PMK 188/PMK.010/2015); and ad hoc incentives that were negotiated between the investor and local, regional, and national governments such as the provision of land and external infrastructure.

¹⁰¹ OECD. 2012. *OECD Economic Surveys: Indonesia*. p. 56.

This program does not significantly improve the business environment for the investor. Although it was utilized by many large investors with an interest in the Indonesian market, and for some it provided a large and welcome fiscal subsidy, it is not clear that the subsidy brought in many investors who saw Indonesia as a strategic and necessary place to invest.

2. High Priority Industry

The High Priority Industry Program is a performance-specific zone with wide geographic flexibility, but not available in three provinces.

- (i) Performance requirements:
 - (a) supports economic diversification;
 - (b) strengthens the national industry structure;
 - (c) competitive in international markets;
 - (d) high absorption of labor-intensive workers;
 - (e) supports technology transfer;
 - (f) located outside Java, Bali, and Batam Islands (remote area and KTI);
 - (g) high investment and/or export orientation;
 - (h) domestic corporate taxpayer;
 - (i) new investment or expansion; and
 - (j) high use of local content.
- (ii) Eligible industries:

complying with the Indonesia Standard Industrial Classification (KBLI) and the requirement in 15th and 2nd attachment of Government Regulation No. 18/2015.0. No. 9/2016; (an extensive list of industries with restrictions on foreign investment).
- (iii) Incentives:
 - (a) investment allowance 30% from investment;
 - (b) accelerated depreciation and amortization;
 - (c) dividend tax rate 10% to foreign taxpayer, and
 - (d) loss compensation of 5–10 years.
- (iv) Legal bases:
 - (a) Government Regulation 18/2015
 - (b) Government Regulation 9/2016.

This program is also designed for large investors or investors with a high percentage of export and high use of local content. In the latter two cases, the fiscal incentives given would likely run afoul of the Subsidies and Countervailing Measures Agreement of the WTO if any country were to complain. Like the Pioneer Industry Program, this program does not explicitly deal with nonfiscal incentives and, therefore, does not create an enabled environment that is substantially better than the rest of the country.

3. Special Economic Zone, or Kawasan Ekonomi Khusus

Kawasan Ekonomi Khusus (KEKs) are relatively large small-area zones. (Current regulations do not permit residential populations.) Residential communities would be in the peripheral area outside of the zone proper, except in tourism zones, where homeowners will be allowed to reside. The SEZ program can be confusing, because the SEZ term was applied to four zones near Singapore since 2006. The zones have now become free trade zones, and the SEZ label is being applied to the KEK program, which started in 2015. As of July 2017, there were 11 KEKs that had been approved by the government, with an invested capital of \$16.49 million. Three of the existing KEKs are engaged either fully or partly in tourism development. Logistics, palm oil and rubber processing, fisheries, energy, raw material processing, automotive manufacturing, and agroindustries are among the foci of the other zones. Although legislation projects the assignment of both a tourism and industry SEZ to the NTT region, none of the current KEKs are in NTT.¹⁰² The president of Indonesia has announced his desire to have 25 more KEKs in Indonesia by 2019. These would include 10 tourism zones in the 10 New Bali Initiative. Importantly for this study, this includes the establishment of one tourism zone in NTT in Labuan Bajo, an existing popular tourism destination site.

- (i) Performance requirements:
 - (a) new taxpayer;
 - (b) have new capital investment plan or expansion using new capital investment;
 - (c) a specific business sector classified as the main activity in the SEZ;
 - (d) meet debt to equity ratio;
 - (e) submit commitment letter to place at least 10% of total capital investment, planned in Indonesia Bank;
 - (f) Indonesian legal entity legalized on or after 15 August 2011; and
 - (g) located in existing or potential KEK location.
- (ii) Eligible industries:
 - (a) tourism,
 - (b) manufacturing, and
 - (c) agroindustry.
- (iii) Incentives:
 - (a) reduction in net taxable income of up to 30%, prorated at 5% for 6 years;
 - (b) acceleration of depreciation and amortization;
 - (c) reduction in the withholding tax rate on dividends paid to nonresidents to 10%;
 - (d) extension of tax-loss carry forward for more than 5 years, but not more than 10 years;
 - (e) reduction in income tax of 20%–100% for 10–25 years for investments of more than Rp1 trillion;

¹⁰² Jakarta Post. <http://www.thejakartapost.com/news/2017/07/08/investment-in-11-special-economic-zones-reaches-rp-221-trillion.html>.

- (f) reduction in income tax of 20%–100% for 5–15 years for investments of less than Rp1 trillion and more than Rp500 billion (~\$37 million);
 - (g) noncollection of VAT;
 - (h) noncollection of VAT and sales taxes on luxury goods;
 - (i) VAT refund for foreign passport holders on goods purchased in retail stores in tourism zones;
 - (j) enterprise builder and manager entitled to import duty exemption for import of capital goods for 3 years;
 - (k) industries carrying on business in SEZ entitled to import duty exemption for 2 years;
 - (l) for production using 40% of local components the import duty will be 0%;
 - (m) excise tax is exempted for raw materials used for producing non-excise of goods; and
 - (n) foreigner may own land under some circumstances.
- (iv) Legal Basis:

MOF Regulation No. 104/PMK.010/2016.

The KEK program does in fact contribute to creating a more enabled business environment, but the degree to which it does so depends upon the master plan of the developer. The developer can be a local government entity, a public–private partnership, or a private investor. Again, the focus is on large investments, with the most generous tax incentives being given for investments of more than \$75 million. Given the bias for large investment, the invested capital of just less than \$17 million in 11 KEKs is surprisingly small. However, the current approval process does not require a potential developer to have the proven financial resources, or a secured interest in the designated land, before being granted a license. The result is that a number of the approved KEKs are having difficulty in the initial implementation phase.

Secure usufruct rights to land are guaranteed once the master developer has acquired the land. The area of the currently approved zones ranges from about 500 ha to just over 2,000 ha. These are relatively small zones. The National Council for KEKs, the government department responsible for the program, believes that each KEK should be very specific about its industrial focus before it is approved.

Like other zone programs in Indonesia, the program suffers from uncertainty about both the size and duration of corporate income tax reductions. These are determined after approval by an Indonesian government committee, whose decisions have sometimes been considered inconsistent. Unlike the previous programs, it does provide fiscal incentives to smaller investors located within the SEZ.

It also can be expected to provide some nonfiscal incentives that will create a more enabled business environment. In particular, for companies located within the SEZ, the program provides more opportunities for land security, 100% foreign ownership in some areas of business requiring Indonesian partners outside of the zone, and expedited construction permitting. This has the potential of raising the distance to the frontier by 4–6 points, bringing it to levels like Israel or Mexico.

4. Industrial Zones

Industrial zones are small-area zones, with four tiers of incentives, determined by geography. The four categories are:

- (i) Developed Industrial Development Estates—Java;
- (ii) Developing Industrial Development Estates—Southern Sulawesi, Eastern Kalimantan, Northern Sumatra, Southern Sumatra;
- (iii) Potential I Industrial Development Estates—Northern Sulawesi, Western Kalimantan, Bali, and Nusa Tenggara; and
- (iv) Potential II Industrial Development Estates—Papua, West Papua.

According to the Government of Indonesia, there are 14 industrial zones in six provinces offering the service, of which only nine are active. In April 2018, the active zones claim there were 31 projects with an investment value of \$4.21 billion. A significant portion of these are in the Jababeka Industrial Estate located 35 km east of Jakarta, a highly efficient industrial zone. In this industrial estate, there are more than 3,000 manufacturing companies responsible for more than 60% of the throughput of Tanjung Priok, Indonesia's busiest seaport. Jababeka offers a complete modern infrastructure setup, including dedicated power plants and water treatment facilities, as well as direct access to highway and railway networks. It is also Indonesia's first—and so far, only—integrated customs services zone (*cikarang dry port*) offering a one-stop service for cargo handling, customs, and quarantine clearance, as well as other export-import procedures.¹⁰³

The Jababeka Industrial Estate shows clearly that with proper design the Industrial Zone Program of Indonesia can create a highly enabled business environment when compared with the rest of the country. Indeed, with the zone providing reliable infrastructure, prebuilt buildings, secure property rights, and access to financial institutions for investors, the Jababeka Industrial Estate could close the distance to frontier (DTF) score by 11–13 points, making the business environment just outside Jakarta the equivalent of Australia or Taipei, China. This would be a tremendous advantage to investors.

According to Indonesian Industrial Zones Association data, there are 113 industrial zones in the country, 70 of which are HKI members. The zones are usually called industrial estates, having an average of less than 650 ha per estate. It is clear that the level of service offered in each estate is not the same, but that some operate with the full advantages of an industrial zone. None of these industrial zones, or industrial estates, appear to be operating in NTT.

There are also zones with a variety of names such as Bonded Zones, Industrial Areas, Export Processing Zones, Small Industrial Communities, and Techno-Parks. They appear to be subsets of the four programs described above. It should be noted that traditional export processing zones, which based incentives on export performance, are no longer permitted in Indonesia under the WTO Agreement on Subsidies and Countervailing Measures for all but

¹⁰³ Hong Kong Trade Development Council. 2017. *ASEAN in Focus: Prospects for Production Bases in Indonesia*. 1 March. <https://hkmb.hktdc.com/en/1X0A982A/hktdc-research/ASEAN-in-Focus-Prospects-for-Production-Bases-in-Indonesia>.

the poorest members. This agreement also prohibits the requirement for domestic content to receive fiscal incentives. This will be kept in mind when considering any new economic zones in Indonesia.

B. Timor-Leste

Timor-Leste currently has only one formally established economic zone program. This is the SEZ in Oecusse and Ataúro Island established in 2014. With a resident population of about 73,000, it is the only true wide area zone in Timor-Leste and Indonesia. In its strategic development plan (SDP), Timor-Leste discusses the possibility of creating up to six such SEZs. The Seventh Constitution Government's Program proposes the establishment of four more SEZs but gives no indication as to where they will be.¹⁰⁴ The proposal for SEZs is considered a mechanism for attracting private investment, which would learn from the existing Social Market Economic Zone in Oecusse. The government also announced plans for decentralization of services provision to district governments using the democratic principles of elected district leaders and councils.

The following section looks at the experience of the Oecusse Zone thus far to draw conclusions regarding the justification of a cross-border economic zone in Timor-Leste and Indonesia.

1. Establishment and Objective of *Zonas Especiais de Economia Social de Mercado*

Timor-Leste's National Parliament passed a Law to create the Special Administrative Region (SAR) in Oecusse and establish a *Zonas Especiais de Economia Social de Mercado* (Special Economic Zone for Social Market Economy, or ZEESM) for Oecusse and Ataúro Island within the SAR. President Taur Matan Ruak promulgated the law on 16 June 2014, and it became effective on 19 June 2014.¹⁰⁵

The initiative was first publicized within Oecusse in 2013, and with the support of the country's first Prime Minister, who became the first president of ZEESM, was quickly passed into law. Article Five of the law gives ZEESM's objectives (Box 8).

It is an extraordinary law for a new country at its current stage of economic development. While emphasizing the importance of national unity, it gives the Oecusse exclave a high level of autonomy. For example:

- (i) Article 9 gives the region its own regulatory powers.
- (ii) Article 10 gives the region management of its own budget and finances.
- (iii) Article 12 gives the region the right to "monitor and participate" in defining Timor-Leste's foreign policy, negotiating treaties, conventions, or international

¹⁰⁴ The statement is made in paragraph 106 of the program, but this program was rejected by the Parliament on 16 October 2017.

¹⁰⁵ It was published in the *Jornal da Republica* (Port.) as Law No. 3/2014.

Box 8: Zonas Especiais de Economia Social de Mercado Objectives (Article Five)

- 5.1 The region's objectives, of an economic nature, are the inclusive development of the region, prioritizing activities of a socioeconomic nature to promote the quality of life and well-being of the community:
- (i) Development of commercial agriculture;
 - (ii) Creation of an ethical financial center;
 - (iii) Creation of a free trade zone;
 - (iv) Increase in tourism;
 - (v) Creation of a center for international studies and research on climate change;
 - (vi) Creation of a center of green research;
 - (vii) Implementation and development industrial activities, for export and import; and
 - (viii) Other economic activities that create added value for the region, as well as strengthening international competitiveness.
- 5.2.d Promote, encourage and facilitate the development in the region of projects approved by government, body or person, national or foreign, particularly for the following purposes:
- (i) Economic development, such as tourism, and agricultural development, including modernization, diversification and commercialization of the sector;
 - (ii) Industrial and commercial development, such as mining and quarrying, oil and gas, petrochemical, manufacturing, trade and other value-added industries;
 - (iii) Social development, such as public health, and development of hospitals, reference clinics, and centers of medical research;
 - (iv) Cultural development, aimed at strengthening local identity and traditions and citizenship, to promote Timorese artistic expressions, ecumenical reflection centers, performance centers and recreation centers;
 - (v) Development of human resources, including through establishment of reference university teaching in economics, engineering, medicine, mathematics and philosophy, including institutions of vocational or technical training and centers of excellence for research, teaching and training;
 - (vi) Development, study and implementation of territorial planning and adoption of a development plan for the creation of urban development zones and quality rural zones;
 - (vii) Creation of a "green belt" in the suburban areas to supply local, domestic and export;
 - (viii) Development of infrastructure, notably through the establishment of centers of investment and logistics, special economic zones, residential zones, real estate development and quality tourism;
 - (ix) Market access to member countries of the G7+, the Community of Portuguese Language Countries and the Association of Southeast Asian Nations.

- agreements, and the right to autonomous public administration with its own staffing and pay scales.
- (iv) Article 27 gives the region the right to expropriate property at fair market value.
 - (v) Article 28 gives the region independent finances such that the government of Timor-Leste does not collect any revenues from the region.
 - (vi) Article 29 gives the region an independent tax system.
 - (vii) Article 30 gives the region an independent procurement authority.
 - (viii) Article 31 gives the region the right to regulate its own financial markets and institutions.
 - (ix) Article 32 gives the region its own customs system.
 - (x) Article 33 specifies free trade for the region and gives it an independent right to set its industry and commerce development policy.
 - (xi) Article 34 gives the right to implement vessel registrations, and states that private companies can operate port facilities.
 - (xii) Articles 35 and 36 create a Special Development Fund; and define its purpose and operation.

The region is governed by a president, appointed by the President of Timor-Leste on the advice of the Prime Minister. Technically, the president is the executive body of the region and the president of the deliberative body called the Authority of the Oecusse SAR, which is appointed by the Timor-Leste Council of Ministers, by resolution of the government, on the proposal of the president of the authority. The president serves a 5-year renewable term. This body is also assisted by an Advisory Council, appointed by the authority president. The members of the Council must be former members of the government, one *lia nain* (traditional leader) from Oecusse, an elected *chefe de suco* (village official), a member of the security forces, and two municipal representatives.

Article 37 establishes a ZEESM for Oecusse and Ataúro Island. Article 38 states that the special zone is intended to attract private investment and diversify the economy, in an environmentally sound and sustainable manner. It specifically states that “the importation of goods intended for the execution of projects and economic and social development programs in the Special Zone area shall be exempt from payment of all customs duties.”

The law does not specifically create any management structure for the special zone that is different from the management structure of the SAR. It was agreed that ZEESM would be initiated in Oecusse, and perhaps a pilot for six national strategic zones mentioned in Timor-Leste’s SDP.¹⁰⁶

¹⁰⁶ UNDP. 2017. *An Alternative Development Model for Timor-Leste*. https://www.zeesm.tl/wp-content/uploads/2017/07/UNDP-Report_-ZEESM_TL_Timor_Leste.pdf.

2. Performance of Zonas Especiais de Economia Social de Mercado

The Oecusse SEZ has been operating for less than 3 years. During that time, its focus has been primarily on building infrastructure. \$406 million has been spent on infrastructure such as roads, power plants, irrigation systems, ports, and a new international airport. The budget for the ZEESM is shown in Table 14.

**Table 14: Budget for Zonas Especiais de Economia Social de Mercado—
Oecusse, 2014–2017**
(\$)

| Year | Salary and Wages | Goods and Services | Minor Capital | Capital Development | Public Transfers | Special Development Fund | Contingency Fund | Total Funds Allocated |
|--------------|------------------|--------------------|---------------|---------------------|------------------|--------------------------|------------------|-----------------------|
| 2014 | | | | 0.5 | 20.5 | | | 21.0 |
| 2015 | 6.2 | 11.1 | 1.3 | 112.9 | 1.9 | | | 133.4 |
| 2016 | 6.7 | 14.2 | 1.2 | 169.8 | 3.2 | 20.0 | 3.0 | 217.9 |
| 2017 | 8.2 | 16.3 | 2.4 | 122.9 | 4.0 | 15.0 | 3.0 | 171.9 |
| Total | 21.0 | 41.6 | 4.8 | 406.1 | 29.6 | 35.0 | 6.0 | 544.2 |

Source: Zonas Especiais de Economia Social de Mercado (Special Economic Zone for Social Market Economy).

For a region of only 73,000 residents, major capital projects have to date exceeded \$5,500 per capita. More than half of the major capital spending has been the construction of a new international airport, which is expected to open in November 2018. The airport is designed to have at least a 2,500 m runway with the strength and width to safely land fully loaded regional jets, and a modern terminal building capable of handling large aircraft.

There is no doubt that this is a substantial improvement over the current airport, which handles no more than 19 arrivals per day at the terminal building shown in the photo below. Critics have questioned the need for such a robust airport in such a small community.



Oecusse Airport. Current airport terminal in Oecusse (photo by Robert Haywood).



Pante Macassar Street. Newly constructed urban street in the city of Pante Macassar (photo by Robert Haywood).

The second-largest expense has been on road construction and improvement. An all-weather road system, which includes a major bridge, now connects Western Oecusse to Ponte Macassar and continues onto the border crossing at Wini. In addition, the city streets have been rebuilt with high quality roads and sidewalks. Many of the streets go by low-quality buildings or vacant land, as shown in the photo.

The ZEESM authorities report that a scarcity of skilled manpower has made it difficult to achieve all of its objectives. For example, in education and health care spending, the authority fell substantially short of budget in 2016 due to staff's inability to plan and budget appropriately. It was hoped that this would be corrected in the 2017 fiscal year.

This lack of skilled manpower has meant that the major infrastructure projects are managed and staffed primarily by foreign workers, including many of the manual laborers. As a result, little of the infrastructure spending has directly benefited Oecusse residents.

To date, there have been very few tangible results flowing from these infrastructure investments in terms of improved economic performance elsewhere in the economy. In the past 2 years, a couple of small restaurants have opened, catering mainly to the foreign managers and professionals engaged in the infrastructure projects. The owners of these establishments report that it was fairly easy to get into business, but the owner of one establishment does not feel secure in his lease rights. The government owns the land, but ZEESM authorities have not been responsive to his requests to clarify the situation. As a result, he is delaying additional investment and may abandon the business altogether.

3. Governing Authority

The law establishing the SAR and ZEESM gives the region the powers of a local government. Unlike the rest of Timor-Leste, where decentralization of government has been discussed, but not implemented, in Oecusse, the local government has been established.

In most of Timor-Leste, the line ministries in Dili attempt to deliver health care, education, agricultural extension services, road maintenance, water, security, and other government services directly from the central government. In Oecusse, the services are to be provided by the regional government, funded by block grants from the central government. In theory, the regional government should be able to provide the services more efficiently and be more responsive to the people. In practice, the regional government in Oecusse is appointed by the Central government, and its direct accountability is limited. Moreover, a weakness in human resources has meant that the local government has not been as effective as it should be in delivering services. As mentioned above, it was unable to spend the resources it had available for health care and education in 2016.

The regulations give the local administration potential for creating a more enabled business environment. However, it does not appear that much of that potential has been realized. While there has been a substantial improvement in local infrastructure, Oecusse's trade is still restricted by the need to transit Indonesia on the way to the Port of Dili, or to use restricted maritime connections, before dealing with the limited capacities and inefficiencies in Dili. Currently, time to export from Oecusse would in fact be greater than the time to export from Dili, and the number of documents required would be greater. A shipment would have to be exported from Oecusse, imported into Indonesia, exported from Indonesia, and imported to Timor-Leste to start the normal export process from the port of Dili. Even though in practice there is a transit agreement wherein Indonesian Customs does not need to inspect shipments in transit between the two parts of Timor-Leste, the trucks are still required to meet Indonesian road permit requirements.

There also does not appear to have been any improvement in land registry, resolving insolvencies, enforcing contracts, or the ability to get credit. These are the four areas of lowest performance in the national economy according to the doing business index. They remain problems in the SEZ. The zone authority does appear to have made starting a business a bit easier, and the infrastructure investment has made getting electricity a little quicker and more reliable. It also appears to have made dealing with construction permits much quicker, although the number of construction permits not related to major infrastructure projects appears to be very small. Thus, to date, the business environment in Oecusse has probably improved slightly, but probably began slightly below the level of Dili, so there is been no significant impact on the country's business environment.

The zone authority does have the delegated powers to improve the financial markets in the zone and assist in the creation of a credit agency. With the opening of the international airport, if it attracts any regularly scheduled flights, it would have the ability to improve its trading across-borders score by utilizing more efficient customs procedures. Much of the developable land in Oecusse is owned by the government, and the authority's right to manage government-owned land in the zone would allow it to develop a system to provide secure land rights to investors. It also has the right to improve tax administration and construction

permit processing. Therefore, potentially it could improve its distance from the frontier by 10–15 points over the rest of Timor-Leste, making it competitive with countries like India or Brazil. Unfortunately, there is no indication that it has the human resource capacity to do so.

While the ZEESM is still relatively young, its performance thus far does not provide justification for a roll-out and extension of the approach to new areas. The lack of human resource capacity and limited skilled workers that is holding back the progress of the ZEESM would also be a factor in any new economic zones in the border areas with Indonesia.

A public expenditure review, done jointly by the World Bank and the Timor-Leste Ministry of Finance in 2015, questioned the capacity of Timor-Leste to meet its goals. The government has had difficulty managing its projects. Many problems have been attributed to the lack of skilled workers and managers in both the public and private sectors.

C. Conclusion

Economic zones can come in a variety of forms and structures ranging from small, geographically defined industrial zones to wide-area community zones including large populations and even regulatory zones, which are not geographically defined but relate to a specific industry (referred to here as low-intensity zones). Research conducted by the World Economic Zone Association showed that export processing zones were most effective for middle-income countries. In some developing countries the development of zones was premature, since the institutional capacity was insufficient to make them effective, in higher income countries on the other hand, the zone opportunity gap was relatively small, and the zone actually diverted attention from other national issues that needed to be addressed. The appropriateness of economic zones, therefore, depends to a large degree on public sector capacity and/or private sector interest.

In Indonesia, of the various economic zone programs, the Kawasan Ekonomi Khusus (Special Economic Zone, or KEK) and the Industrial Zones Program contribute most to improving the enabling environment. In the case of the KEK, it is, however, biased toward large investments (\$75 million or above), and the efficiency of the program depends heavily on the developer. For the Industrial Zones Program there are currently no zones and no planned zones for NTT. Therefore, Indonesia has the institutional framework for managing an effective zone program, but establishment of a zone in West Timor would depend crucially on the effectiveness of a potential investor and its ability to secure the land rights.

In Timor-Leste, the national government is considering the establishment of economic zones to support greater decentralization of service provision to district governments. Based on the current performance of the ZEESM—albeit a relatively young endeavor—there is reason to believe similar challenges around management capacity and access to sufficient human resources would limit the effectiveness of such an approach. It is the conclusion of this report that, given the greater complexity of management of a SEZ, economic zone programs that have lower managerial demands (e.g., regulatory and legal framework reforms) should be considered. This would have the benefit of tackling underlying issues in the business-enabling environment, but also allow the government to concentrate limited resources on effectively implementing its program of decentralization.

In light of this it, is recommended that initial steps toward a cross-border economic zone with Timor-Leste should focus on initiatives that improve the business environment, but that have relatively limited managerial demands (i.e., a low-intensity zone). This would likely provide the most gains in the short to medium term and provide the foundation for further cooperation in the long term.

Conclusions

The major conclusions of Part I are as follows:

- (i) Sector priorities for cross-border cooperation are agriculture, specifically livestock and tourism.
- (ii) Existing transport corridors between Timor-Leste and West Timor would benefit from an enhanced and harmonized regulatory framework and capacity building. This is a critical crosscutting measure for cooperation on agriculture and tourism.
- (iii) Differences in existing zone programs in Indonesia and Timor-Leste, combined with experience in their performance thus far, suggest that a low-intensity zone would be most beneficial at this stage.

A. Cooperation on Agriculture and Tourism

Sectors for cooperation between Timor-Leste and NTT that appear to have the greatest potential are agriculture, specifically livestock and tourism. This conclusion is based on three key criteria:¹⁰⁷

- (i) the importance of the sector for the economies of NTT and Timor-Leste (including production, trade, and investment) and the potential for mutually beneficial trade, investment or coproduction;
- (ii) the potential of the sector to impact populations resident at the border areas between NTT and Timor-Leste; and
- (iii) the sectors that are highlighted as priorities by the respective governments for growth and cooperation.

This conclusion has been further shaped by consultation with key stakeholders, particularly through consultations on the recommendations of the interim report in February 2018.

Several sectors have been considered during the study. These include fisheries, timber, livestock, crops, tourism, manufacturing, and construction. Appendix 2, Table A2.6 provides some summary information on these sectors gathered throughout the course of the study and provides further background on why livestock and tourism are prioritized. The analysis of all sectors was not exhaustive, but the conclusions are consistent with several other studies on important sectors for NTT and Timor-Leste's economies. The conclusion that tourism and livestock are priorities does not imply that there are no opportunities for

¹⁰⁷ Consideration was also given to environmental aspects of the sectors and suitability of the sector for the climate.

cooperation in other sectors, just that they appear to have the greatest potential given the criteria provided above.

Reasons for believing tourism will be a suitable area for cooperation are as follows:

- (i) **Growing contribution to domestic economies in both Timor-Leste and NTT.** Revenue earned from tourists in NTT is estimated to have been \$80 million in 2016. In Timor-Leste accommodation and food services accounted for 18% of non-oil value-added and services accounted for 36.3% of jobs in 2015. During a downturn in GDP growth in the months leading up to the elections in 2018, international air arrivals continued to grow and visitor receipts from tourism equaled \$73 million in 2017.
- (ii) **Tourism is one of the major attractions for investment in both Timor-Leste and NTT.** In 2016, hotels and tourism-related water investments had the largest value for realized investments in NTT, and Dinas Penanaman Modal and Pelayanan Terpadu Satu Pintu Provinsi (Department of Investment and One-Door Integrated Services, or DPMPSTP) reported that the majority of investment requests were related to tourism. Equally in Timor-Leste, tourism was the sector with the highest value of FDI (measured by certificates issued) from 2006 to 2016.
- (iii) **Tourism is a strategic priority for both Timor-Leste and NTT.** The Medium-Term Development Plan 2012–2018 for NTT highlights fisheries and tourism as key sectors for development. Nationally, tourism is a major sector for development, and Labuan Bajo in NTT is one of the 10 strategic zones for the National Tourism Strategy. In Timor-Leste, tourism is one of the sector pillars in the strategic development plan (SDP) and has been further bolstered by the 2017 National Tourism Policy. Equally for the districts of Bobonaro and Cova Lima on the border with West Timor, livestock and tourism are mentioned as priorities.
- (iv) **Some potential for impact on border populations.** While sea and air routes for tourists are centered largely around key urban locations, land-based tourism would have the potential to impact border residents.
- (v) **It is an existing area for cooperation.** In 2012, an MOU on tourism cooperation was signed by the governments of Indonesia and Timor-Leste, committing to collaborating for shared growth of their tourism industries. Tourism is also one of the agreed-upon areas of cooperation under the TIA-GT.

Reasons for believing agriculture, specifically livestock, will be a suitable area for cooperation are as follows:

- (i) **Agriculture and livestock are critical sectors for domestic production and employment in NTT and Timor-Leste.** Agriculture consistently accounts for 30% of GRP in NTT, and livestock provides approximately one-third of GRP; 53% of workers in NTT are employed in agriculture, and NTT exports 70,000 live cattle per year to other regions in Indonesia. For Timor-Leste, agriculture provides 18% of non-oil value-added (2015) and around 60% of jobs. Unofficial estimates on the scale of informal exports of cattle from Timor-Leste to West Timor would make cattle its third-largest non-oil export.

- (ii) **It has the greatest potential for impact on border populations.** Fully 90%–95% of households in seven districts along the land border of West Timor and Timor-Leste are smallholder farmers; 60% of NTT cattle production is in West Timor, and livestock raising in Timor-Leste is most prominent in households in the border districts.
- (iii) **It is a strategic priority for both Timor-Leste and NTT.** The national government identified NTT as a key source of poultry and live cattle along with salt and other agricultural products to meet shortfalls in domestic supply. Consultations with the provincial government highlighted livestock as a priority. Agriculture and livestock are part of the sector priorities in Timor-Leste's SDP, and tourism and livestock were both highlighted in particular for the districts of Bobonaro and Cova Lima.
- (iv) **It is an existing area for cooperation.** Livestock is already an area for cooperation under the TIA-GT. In 2015, an MOU was signed on agriculture between the governments of Indonesia and Timor-Leste, and this has been bolstered by a further technical cooperation agreement on livestock in 2018.

Further exploration on the rationale and specific recommendations on cooperation in the areas of tourism and livestock are provided in Part II and Part III of this scoping study.

B. Regulatory Strengthening for Transport Corridors

Land, sea, and air transport corridors link Timor-Leste and West Timor with ASEAN and other markets. While there are no direct shipping links between Kupang and Dili, both ports have strong shipping connections with Surabaya Port in Indonesia. There are also plans to upgrade Tenau Port and Atapupu Port as part of Indonesia's sea tollway program to improve maritime connectivity across the country. Due to Atapupu's proximity to the border with Timor-Leste, it may become a transshipment port for cargo to and from Timor-Leste, which could reduce the cost of cross-border trade in goods.

Land transport between Timor-Leste and West Timor is hampered by poor road infrastructure in parts, although the most degraded parts are already being upgraded and are part of national investment plans. Transportation (and by extension land trade) is, however, hampered by the legal and regulatory framework. An MOU on cross-border movement of vehicles is currently being negotiated, which should help ease this situation; however, this will depend on the level of practical implementation. Crossings at the border control points are also hampered by a lack of coordination of processes and lack of information sharing by border authorities.

Air connectivity is expected to be substantially improved with the introduction of flights between Kupang, Dili, and Darwin by Garuda; however, the termination of the Kupang–Dili flight by Air Timor, which ran from December 2017 to February 2018, hold important lessons. Both Dili and Kupang airports are at full capacity, and long-term investments will be required—and are under way—as well as the adoption of provisions to improve the efficiency and competitiveness of the air transport market. Equally, with the anticipated opening of an international airport in the Oecusse exclave—and the recently reopened airport in Suai—effectively planning the air transport corridor should be prioritized.

The air transport corridor will be critical in supporting the establishment of joint tourism itineraries between Timor-Leste, West Timor, and other parts of NTT. Smoother cross-border land transportation will also support tourist activities and reduce costs for the trade of goods, particularly those serving the domestic markets. This is particularly important in the short term, as agricultural production may be initially highly focused on meeting domestic demand while productivity and competitiveness increase. Trade of goods between Indonesia and Timor-Leste will continue to be carried out largely by sea, and strengthening these connections will be critical for the longer-term objective of increasing exports to ASEAN.

C. Low-Intensity Zones

While both countries have zone programs, they are quite different in terms of structure and management. The primary program in Timor-Leste is an ambitious wide-area zone—the Social Market Economic Zone—in Oecusse exclave. The zone is still relatively young, but its impact appears to have been restricted by insufficient access to skilled workers and human resource capacity. The government plans to establish more economic zones of a similar nature as a mechanism for supporting economic development. These kinds of zones are, however, extremely resource intensive, and the kinds of challenges faced in Oecusse will be similar in the border areas of Timor-Leste with West-Timor.

Indonesia has a diverse and well-established set of economic zone programs. Many of them, however, remain encumbered by a focus on fiscal incentives and large investors, although the KEK and Industrial Zones Program do appear to address the business-enabling environment. Indonesia has demonstrated considerable capacity in managing its programs. However, despite plans for a tourism zone in Labuan Bajo, no zones are currently functioning in NTT. The success of the zones depends heavily on the investor.

Parts of both the KEK and the Industrial Zone Program are promising for future development of a cross-border economic zone between Timor-Leste and West Timor; however, they would need to be amended to focus more on improving the enabling environment for SMEs.

For these reasons the initial focus for cross-border cooperation between Timor-Leste and West Timor should be on low-intensity zones, i.e., economic zones that support legal and regulatory harmonization and improvement of the business environment without having high managerial demands.

Recommendations

Recommendations relating to specific cooperation in tourism and livestock are presented in Part II and Part III of this scoping study. Consequently, the recommendations presented here focus on the crosscutting issues of connectivity, special trade agreements, and the business-enabling environment.

A. Land Transport Corridor

Recommendations for strengthening the land transport corridor between Timor-Leste and West Timor are designed to tackle the major causes of costs and lack of competitiveness for the cross-border movement of goods and people. These initiatives will be critical for supporting other recommendations on cross-border tourism and cooperation on livestock, but will also lower costs of goods more generally, thereby supporting all cross-border trade. Enabling smoother movement of people will also improve the ease and comfort for friends and family visits and likely boost additional levels of social and cultural exchange, vital for sustaining cooperation in the longer term. Below are five recommendations that could reduce the costs of land connectivity.

1. Establish a joint cross-border committee (short term).

It is anticipated that the MOU on bilateral movement of vehicles will include a high-level coordinating committee. We recommend that this be established to not only oversee that MOU, but also oversee other recommendations on cross-border coordination. Specific technical working groups can then support implementation of the different areas of coordination.

2. Provide support for signing and implementation of the bilateral land transport MOU (short to medium term).

To address the challenges of cross-border movement of vehicles, it is recommended that support be provided to finalization and implementation of the current draft MOU. It is further recommended that the MOU include the following components to be effective:

- (i) a common vehicle permit scheme, including a standardized validity period (e.g., 1 year);
- (ii) temporary admission of road vehicles (no customs security and no tax on goods in transit);
- (iii) mutual recognition of driving licenses;
- (iv) mutual recognition of vehicle inspection certificates;

- (v) a common third-party vehicle insurance coverage;
- (vi) mutual recognition of vehicle registrations;
- (vii) single-window inspection and single-stop inspection;
- (viii) exemption from routine physical customs inspection at the border; and
- (ix) frequent traveler facility.

Activities to support the MOU would include the following:

1. Awareness building (short term)

The first step toward facilitating the signing of the MOU is to raise awareness among public and private stakeholders about its potential benefits and costs. To this end, the ministries of transport of Indonesia and Timor-Leste, as lead agencies of the initiative, should

- (i) develop and disseminate communication materials on the MOU through appropriate media and organization channels such as newspapers, internet, radio, television, exhibitions, billboards, and printed materials in the form of booklets and posters; and
- (ii) conduct briefings on the MOU for the stakeholders.

2. Establishing a technical working group to finalize, coordinate, and monitor the implementation of the MOU (short term)

It is crucial to establish a bilateral technical working group with a clear mandate to finalize, coordinate, and monitor the implementation of the MOU. This is because the finalization and eventual operationalization of the MOU would go beyond high-level political commitment and policy guidance. It will involve significant inputs of technical experts from the various sector agencies and the private sector. In this light, the working group will be a bilateral platform for cross-sector consultation, coordination, and collaboration.

The working group should report to senior officials or ministers responsible for overseeing the MOU. It should be chaired by the land transport department and participated in by technical experts from the agencies involved. The working group should include private sector and local government representation. Relevant private sector champions or industry leaders in land transport should be strongly encouraged to take part in the working group meetings.

3. Developing standard operating procedures (SOPs) to operationalize the MOU (medium term)

The MOU provides a framework for governing cross-border land transport operation. However, it does not have the necessary SOPs for the operationalization of the MOU. The working group should be tasked to develop the SOPs.

The SOPs may contain several essential requirements that give priority to the security and safety of cross-border transport operation. The SOPs may also cover vehicle types and associated structures and/or components as well as guidelines on documentation

requirements, guarantee system, and charges for specific transport operations (e.g., for movement of heavy equipment).

Road pricing and/or road user charges may be introduced to regulate the movement of heavy vehicles. This should be included in the SOPs. The aim is to develop a set of common tariffs to achieve cost recovery, manage transport demand, and optimize utilization of infrastructure capacity. Electronic toll collection systems may be considered to minimize collection costs.

3. Standardize and harmonize cross-border rules and procedures (long term).

Guided by related ASEAN agreements and international conventions on cross-border land transport operations, Indonesia and Timor-Leste should work toward standardizing and harmonizing cross-border rules and procedures.

Timor-Leste may consider acceding to the following UN conventions on land transport and customs (Indonesia is a signatory to all of these conventions):

- (i) Convention on Road Traffic (1968),
- (ii) Convention on Road Signs and Signals (1968),
- (iii) Customs Convention on the International Transport of Goods under Cover of TIR Carnets (1975),
- (iv) Customs Convention on Containers (1972),
- (v) Customs Convention on the ATA Carnet for the Temporary Admission of Goods (1961), and
- (vi) Convention on Temporary Admission (also known as the Istanbul Convention) (1990).

4. Improve efficiency of cross-border operations (short to long term).

It is recommended that the following steps be taken to further coordinate and integrate operations at the border, specifically the Mota'ain–Batugade border, which receives the highest volumes of cross-border traffic. This should be done by establishing bilateral MOUs, data sharing agreements, and capacity building of customs, immigration, quarantine, and security (CIQS) border agencies. Greater cross-border collaboration would support all economic activity between the two countries and regions. It is also highly complementary to ongoing initiatives by both national governments on trade facilitation at key borders (i.e., the Indonesian National Single Window and ASYCUDA World in Timor-Leste).

- (i) Capacity building in risk management and enforcement, specifically intelligence, analysis, targeting, and developing risk profiles, provided to customs staff at priority border posts and ports.

- (ii) Developing common examination and inspection criteria for customs from NTT and Timor-Leste; and conduct of joint training examination and inspection.
- (iii) Exchange of import-export statistical data on a regular basis with the view to facilitating customs management and contributing to confidence building among border agencies.
- (iv) Exchange of information and agreement on investigative assistance in combating smuggling, illicit trafficking of goods across the border, and commercial fraud.
- (v) For sanitary and phytosanitary (SPS) issues, development and implementation of a local risk management system and local contingency plan for disease outbreak.
- (vi) Establishment of single-stop inspection for movement of goods (joint inspection for immigration and passengers' goods).
- (vii) Joint regular briefing with stakeholders (e.g., customs brokers, freight forwarders, border traders).

5. Continue to upgrade and expand physical infrastructure for land connectivity (long term).

Indonesia and Timor-Leste should continue with their ongoing investments to upgrade and expand the critical land transport infrastructure linking West Timor and Timor-Leste. In particular, upgrades of national road networks and the central arterial roads are important, but also needed are bus terminals, bridges, and proper road signage.

Over time, if traffic flow justifies it, consideration should be given to the construction of one-stop rest and recreation centers at selected scenic areas along the designated routes, which should boost cross-border tourism.

B. Maritime Connectivity

Maritime connectivity is most important for trade in bulky goods between Indonesia and Timor-Leste, and reforms and improved connectivity in this area would have benefits for traders and consumers on both sides of the border. The current connectivity between NTT and Timor-Leste is indirect through Surabaya. Ongoing investments by both governments in ports in NTT and Timor-Leste will undoubtedly reduce costs. These infrastructure investments should be supported with capacity building and knowledge sharing to ensure efficient procedures.

1. Prioritize Atapupu Port as a transshipment port (short term).

Under Indonesia's national sea tollway program, there are plans to make Atapupu Port a transshipment port for cargo to and from Timor-Leste. Some goods currently transported by land may be more cost-effectively shipped by sea and establishing a direct maritime link (keeping in mind that Atapupu is a shallow-water port) could reduce costs of trade in some areas considerably.

2. Invest in capacity building for maritime transport authorities (twin ports) (medium term).

Investments in maritime connectivity infrastructure should be complemented by capacity building (technical and managerial) of port operators, maritime transport authorities, and relevant border agencies. Indonesia may consider sharing its expertise with Timor-Leste on cruise terminal operations. Capacity-building programs that help Timor-Leste to accede to and enforce international maritime transport conventions should also be prioritized. Timor-Leste has already drafted a number of national regulations on maritime transport, which are awaiting Parliament's approval, including those on ship registration; ship tonnage measurements; technical inspection of ships; small cargo vessels (i.e., those under 500 gross tons); seafarers' training, examination, and licensing; authorization of recognized organizations; ship formalities; transport and handling of dangerous goods; maritime protection; maritime accident investigation; domestic passenger vessels; and waste management concerning ships and port areas. Capacity-building programs on enforcing the regulations are recommended.

3. Invest in port infrastructure and port equipment (medium term).

Investment in improving the operating procedures and facilities at Dili Port should be continued. Emphasis should be placed on capacity building and establishment of operating procedures and physical equipment that can, if required in the future, also benefit Tibar Bay. This should include deploying additional modern port equipment and implementing integrated information and communication technology (ICT) solutions to accelerate cargo and passenger clearance, traffic management, and surveillance. To complement JICA's support for the upgrading of passenger terminals at Dili Port, consideration should be given to other infrastructure requirements to improve facilities for cruise ship tourism.

C. Air Connectivity

Air connectivity between NTT and Timor-Leste is less of a priority in terms of cross-border movement goods compared with sea transportation. Nevertheless, it is critical for the development of NTT's and Timor-Leste's tourism sectors. It is also critical for enabling effective communication and knowledge exchange between both sides by significantly reducing the time and cost of cross-border movement of people. Air connectivity is expected to be substantially improved with the introduction of flights between Kupang, Dili, and Darwin by Garuda; however, the termination of the Kupang–Dili flight by Air Timor will hold important lessons. Both Dili and Kupang airports are at full capacity, and long-term investment will be required (and indeed is under way) as well as the adoption of provisions to improve the efficiency and competitiveness of the air transport market. Consideration should be given to how the opening of the new international airport in the Oecusse exclave and the reopening of the airport in Suai can be best leveraged for connectivity on the island.

1. Build on upgrading Dili Airport (short term).

Plans to upgrade and expand the Dili Airport should be prioritized based on current and projected demand and latest research findings such as the ongoing JICA-supported Preparatory Survey of a Project for Improvement of the Dili Airport. Capacity building for CIQS officials will also be critical to enhance operational efficiency and airport security.

2. Build capacity of air transport authorities (short to medium term).

Building the capacity of aviation authorities in NTT and Timor-Leste is essential to ensuring infrastructure investments are effective. This includes improving the capacity of the aviation authorities for developing and implementing effective civil aviation policies and strategies, and for enforcing civil aviation regulations and rules.

This should include, among others, the ability to strategically plan, position, and promote hub and spoke airports in NTT and Timor-Leste to support tourism as well as to assess the resultant implications on the wider economy. To promote international competitiveness and to leverage the air services liberalization trends gaining pace at the ASEAN and global levels, air transport authorities should be trained to become well-versed in the following responsibilities:

- (i) Review the pros and cons of liberalizing existing air traffic rights and air services.
- (ii) Explore the possibilities of introducing new entry points and routes.
- (iii) Optimize air linkages between the domestic and international airports to enhance trade, investment, and tourism.
- (iv) Organize dedicated public–private dialogue sessions as a platform to gather inputs for enhancing air connectivity.
- (v) Create cross-sector synergy, particularly among tourism, transport, and border agencies.

3. Implement fiscal and nonfiscal supporting measures (short to medium term).

Indonesia and Timor-Leste may consider providing the following fiscal and nonfiscal supportive measures to boost load factors and increase the commercial viability of airlines:

- (i) Reduce all airport taxes, parking fees, and landing charges in Kupang, Dili, and Oecusse airports for all scheduled and chartered flights operated by airlines from the two countries.
- (ii) Consider giving similar incentives to airlines from third countries that may be strategic partners in tourism promotion and enhancing air connectivity (e.g., those showing great potential to offer shorter travel time and more air travel options for travelers).

- (iii) Aviation authorities or related government agencies should actively facilitate the entry of new air services, including services by smaller aircraft.
- (iv) Improve passenger loads through development and promotion of cross-border tourism packages.
- (v) Establish a regular platform for commercial airlines and tourism operators to exchange views, network, and discuss joint business ventures.

4. Invest in aviation infrastructure to reduce bottlenecks and improve efficiency (medium to long term).

A new Kupang Airport may be in the pipeline. In the meantime, it is desirable to improve the efficiency of the existing Kupang Airport to cater to the growing passenger numbers and increasing air traffic volume. This may be done through investing in modern aviation equipment and ICT systems for better traffic management, space utilization, and cargo and passenger clearance. Dili airport is also being upgraded with support from JICA and ADB, including consideration of a runway extension. As recommended in Part II on tourism, how to more effectively use all international airports in NTT and Timor-Leste for tourism should be reflected in plans for existing airport upgrades.

D. Special Preferential System (Short Term)

To encourage enhanced economic cooperation between NTT and Timor-Leste, and also to support Timor-Leste's preparation to accede into ASEAN economic agreements, Indonesia may consider unilaterally extending tariff preferences as applied under the ASEAN Trade in Goods Agreements (ATIGA) to Timor-Leste. The extension of ATIGA tariffs to Timor-Leste could be implemented on a voluntary basis, be based on products proposed by Timor-Leste, and be subject to review and extension annually. Ideally, the list should include the specific sector and/or product lines with potential for cooperation highlighted previously (e.g., cattle, pigs, cassava, groundnuts, and niche agricultural products), but could be open to other items subject to a business case or justification submitted to Indonesia for consideration.

While trade from Timor-Leste into NTT is currently very limited, removal of the tariffs on certain product lines may increase incentives for producers in Timor-Leste to consider opportunities for trade through NTT and, eventually, into ASEAN. It is unlikely that this recommendation would have a large immediate impact, but it would remove barriers to trade in anticipation of greater trade capacity in the future. It would also be a significant act of good faith by Indonesia and support for Timor-Leste's membership in ASEAN.

To move forward on this recommendation, Indonesia may wish to consider the possibility of extending unilateral tariff preferences to Timor-Leste, including possible conditionality such as whether to start first with border trade or to go straight to extending preferential tariff for trade between the two countries. As this special preferential arrangement is similar to that extended to the newer ASEAN members shortly after their accession to ASEAN (ASEAN Integration System of Preference), the same procedures in considering proposed tariff lines could be applied by Indonesia.

E. Cross-Border Traditional Trade (Short to Medium Term)

The arrangement between Timor-Leste and Indonesia on cross-border traditional trade could be further expanded to allow preferential treatment of goods crossing the border using the Agreement on Border Trade between Viet Nam and Lao People's Democratic Republic (Lao PDR) as a template. The Viet Nam–Lao PDR agreement establishes the principle that all land border crossings between the two countries are open for bilateral trade as well as their border checkpoints being “gateways and bridges for goods circulation among regional countries and the rest of the world.”

Unlike the agreement between Indonesia and Timor-Leste, the agreement does not establish any *de minimis* threshold for border trade between Viet Nam and the Lao PDR, but rather, sets out a detailed list of products exempt from import duty into Viet Nam from Lao PDR. These goods are subject to SPS certification by the competent authority of Lao PDR as well as certification of origin. However, under the agreement, the Lao PDR is not obliged to grant zero tariffs on imports from Viet Nam.

Furthermore, a detailed list of goods (unprocessed agricultural goods, livestock, and cash crops) produced in the Lao PDR under investments made by Viet Nam firms is also not subject to import duties and value-added tax (VAT) when imported into Viet Nam, although some products (live bovine animals, sugar, and tobacco) are subject to VAT, but not import duties.

For the Indonesia–Timor-Leste border arrangement to work in this way will require addressing the significant SPS issues of certification, quarantine, and safety that Timor-Leste has been unable to satisfy, notwithstanding the movement of cattle through traditional markets as mentioned earlier.

F. Small and Medium-Sized Enterprises-Focused Financial and Business Services (Medium Term)

To support other initiatives or as a stand-alone activity, consideration should be given to partnerships among microfinance institutions, business development agencies, telecommunications companies, and banks to bring services (digital and other) to rural SMEs. These might include business information, market information, technology transfer, business management best practices, distance learning programs, and e-wallet financial services.

The Timor-Leste Central Bank (BCTL) could request a discussion with Bank Indonesia (BI) and Bank Rakyat Indonesia (BRI) about the possibility of the recently opened BRI/Timor-Leste bank office in Dili opening an SME banking window with lending portfolio and guidelines structured similarly to that of the MSME Credit (Kredit UMKM) and Micro Business Credit (Kredit Usaha Rakyat) programs, which are endorsed by BI and offered by BRI.

If other suggestions on cooperation in agriculture and tourism are taken forward, support for financial and business services would be a necessary complementary initiative to help provide access to funding and training for building capacity and productivity. Given that most of the financial and business development services in West Timor and Timor-Leste are concentrated in the urban centers, investigation of digital options would potentially be important for reaching rural and border populations. The Institute of Service Provision to the Private Sector (IADE) recently signed an MOU with Timor Telecom for the posting of business information via SMS; hence, these kinds of initiatives are already emerging.

The challenge with this recommendation is that existing SME-focused services are very limited, and there would need to be several intermediary steps in achieving this goal. To progress this recommendation, it is important to survey the existing demand for business services, which has not yet been measured. A review of the policy and regulatory constraints for cross-border financial transactions (including e-payment platforms) and capital market reforms would be required.

G. Small and Medium-Sized Enterprises Legal Framework in Timor-Leste (Medium Term)

Establish a legal and regulatory framework for SMEs that defines and grants legal status to SMEs or provides regulatory guidance with respect to their role and participation in supporting inclusive economic growth.

Providing legal status to SMEs would increase their ability to access finance, own and lease land, and engage in business transactions that are currently restricted to corporate companies and cooperatives. It would also provide greater transparency for government concerning the role SMEs play in terms of employment created, taxes collected, benefits provided, and workers' rights protected under the law.

This is a medium-term recommendation, since adopting public and private consensus on the definition of an SME could be difficult in the short term, and focus should not be drawn away from more immediate reform priorities. Further information is required on the current impact of SMEs resulting from a lack of legal status.

To progress this recommendation, greater information is required on the contribution of SMEs to Timor-Leste's economy and on international best practices for this regulation in contexts applicable to Timor-Leste.

H. Collaborative Working Committee for Chambers of Commerce (Short Term)

The Timor-Leste Chamber of Commerce and Industry (TL-CCI) and the NTT Chamber of Commerce and Industry (NTT-CCI) should establish an MOU with each other to develop a joint collaboration to promote business exchange and trade between Timor-Leste and NTT.

This would support the recent agreement by both chambers to cooperate, which followed announcements in June 2018 by President Widodo and President Guterres Lú Olo that they would start negotiations on an agreement on investment promotion and protection.

The MOU would provide for the formation of a joint chamber Collaborative Working Committee (CWC) comprised of members from both chambers, who would meet quarterly either in Dili or in Kupang to review progress on collaborative business exchange and trade initiatives. The CWC could then participate in cross-border strategic committees to enable private sector participation.

Both NTT-CCI and TL-CCI have strong SME representation and a strong advocacy voice within government with respect to promoting the interests of the private sector. They also have a history of collaboration that can be built upon and formalized.

This recommendation would support general improvements in the business-enabling environment and be an important supporting institution for other areas of cooperation between West Timor and Timor-Leste.

The capacity of both chambers is limited in funding and human resources; hence, funding to support this collaboration would be required. Equally, linkages between the CWC and committees established for cross-border trade facilitation would help improve the effectiveness of recommendations made by the CWC.

To move forward on this recommendation, a concept paper on the rationale and purpose of the CWC could be prepared, to include guidance on the modality for formalizing the joint collaboration through an MOU covering specific program objectives, areas of collaboration, work plan, timetable, and funding support.

PART II

Tourism

Part II Summary

Why cooperate on tourism?

By 2019, President Joko Widodo envisages Indonesia earning \$24 billion from tourism annually. Nusa Tenggara Timur (NTT) is one of 10 focal destinations of the national development plan for tourism and already received an estimated \$80 million in 2016 from tourism. In March 2017, the Government of Timor-Leste approved a national tourism policy entitled “Growing Tourism to 2030—Creating a Sense of National Identity.” Headline goals include a 170% increase in the number of current visitor arrivals and generating \$150 million in revenues. Current figures suggest that international visitor receipts grew from \$31 million in 2010 to \$73 million in 2017. This is small compared with ASEAN countries but is equal to 2.6% of Timor-Leste’s gross domestic product (GDP).

There appears to be a high level of cross-border movement already, with 60,000 Timorese visiting West Timor and 35,000 Indonesians visiting Timor-Leste annually. There is also untapped potential demand. If barriers were removed, Indonesians traveling to NTT (430,582 in 2016) might be enticed to cross the border into Timor-Leste. Other target markets include expatriates living in Indonesia looking for interesting short breaks and the more than 5 million annual visitors to Bali, who might consider NTT and Timor-Leste for pre- or post-trip stopovers.

What are the challenges to cross-border tourism cooperation?

Challenges common to NTT and Timor-Leste that hinder the tourism sector include limited access to finance and business development services, poor inland road networks, limited water and sanitation facilities, burdensome bureaucratic procedures, and low human capacity. More specific challenges to cross-border tourism include restrictions on cross-border movement of vehicles and people, insufficient port infrastructure for cruise ships, and air service agreements.

What are the opportunities?

Specific opportunities for cooperation include (i) joint marketing to create the “One Island, Two Nations” brand; (ii) island-wide overland itineraries; (iii) marine and cruise tourism; and (iv) more effective use of existing and upcoming aviation infrastructure.

What is recommended?

1. Improve connectivity via land, sea, and air:

Short term:

- (i) Finalize and implement the Memorandum of Understanding (MOU) on the Cross-Border Movement of Vehicles.
- (ii) Conduct joint border training for customs, quarantine, immigration, and security officials.
- (iii) Review and implement visa reform for Timor-Leste (especially at the land border).
- (iv) Conduct a joint mission for cruise liners to understand demand and infrastructure requirements.
- (v) Review Timor-Leste's international air service agreements (ASAs), particularly for routes between Kupang, Dili, and Darwin.
- (vi) Conduct a feasibility study on more effective aviation connectivity.

Medium to long term:

- (i) Move toward eventual harmonized and standardized procedures at the border with the establishment of single-stop inspections.
- (ii) Over time, consider upgrading facilities for overland routes such as rest stops and viewing points.
- (iii) Improve provision of clean water, sanitation, and energy to tourist areas.
- (iv) Build port infrastructure in Dili and ports in NTT to support cruise ship tourism (e.g., dedicated passenger terminals).
- (v) Undertake any required soft or hard investments in air connectivity following the feasibility study.

2. Conduct joint tourism and investment promotion:

Short term:

- (i) Conduct both customer journey and tourism asset mapping with the private sector and in consultation with communities.
- (ii) Create a cross-island land or marine itinerary to be marketed under "One Island, Two Nations."
- (iii) Develop a joint brand and digital promotion strategy.

Medium term:

- (i) Exchange promotion channels such as billboards at airports.
- (ii) Conduct joint investment tours and trade shows.
- (iii) Build a joint investment plan for cross-border tourism.

3. Build leadership and partnerships:

Short term:

- (i) Establish a joint tourism task force under the MOU on Tourism.
- (ii) Support capacity building and coordination of cross-border business and tourist associations.
- (iii) Conduct consultations with target communities.

Medium term:

- (i) Review and improve labor market capacity for tourism (use ASEAN mutual recognition agreements on tourism as a benchmark).
- (ii) Support targeted cross-border study visits and internships.
- (iii) Support scholarships for formal tourism training.
- (iv) Establish community-based skills training for local beneficiaries.
- (v) Create and promulgate community tourism awareness programs.

Pilot Project

To test the interest and capacity for joint tourism promotion between NTT and Timor-Leste, it is proposed that a joint public-private partnership be established to prepare a cross-border land or marine itinerary for the Timor Island under the tagline “One Island, Two Nations.” This could be done by conducting a joint customer journey and tourism asset mapping, which would also identify investments that could be jointly undertaken to form the basis for ongoing collaboration.

CHAPTER 1

Introduction

Tourism is a substantial source of income generation, particularly for developing economies. Nusa Tenggara Timur (NTT) and Timor-Leste have existing tourism industries based on their substantial environmental, cultural, and historical offerings. The governments of NTT and Timor-Leste recognize the potential of the tourism sector for inclusive growth and also the benefits that cross-border cooperation can bring.

Major opportunities for cross-border cooperation include joint marketing, cross-island land-based itineraries, and marine and cruise ship tourism. Nevertheless, both economies suffer from challenges that are holding back this potential, including infrastructure limitations, low capacity of key players, and lack of institutional mechanisms for ensuring coordination.

Part II elaborates on tourism, which was identified as one of two key areas for cooperation (the other being livestock) in the interim report and joint focus group discussion (FGD) in February 2018.

Part II has six chapters: Chapter 2 gives the rationale for focusing on tourism for NTT and Timor-Leste, describing its economic potential and alignment with government strategies. Chapter 3 discusses the major challenges to tourism, many of which are common to both areas. In Chapter 4, four crosscutting opportunities for cooperation are presented. Chapter 5 offers three recommendations on how to take advantage of these opportunities and sequences the recommendations into a road map. The final chapter, Chapter 6, proposes a pilot project focusing on the short-term recommendations.

CHAPTER 2

Why Tourism?

A. Regional

Tourism is one of the fastest growing economic sectors in the world and has experienced continued growth for almost 7 decades. Growth in tourism also appears to be accelerating. According to United Nations World Tourism Organization (UNWTO) data, global international tourist arrivals increased from 25 million in 1950 to just over 1.3 billion in 2017. The 7% increase in global arrival numbers between 2016 and 2017 represents the largest annual sector expansion since 2010 and is well above the sustained and consistent trend of 4% per annum growth.

Furthermore, tourism is one of the top global exports. According to the World Travel and Tourism Council (WTTC), the travel and tourism industry generated \$1.5 trillion in global exports in 2017, ranking it fifth after fuels, chemicals, food, and automotive products. In many developing countries, the sector ranks first due to limited diversification of the economies and a high dependence on tourism. The WTTC estimates that international tourism now accounts for 29% of the world's exports of services and 6% of all exports of goods and services.

In 2017, 324 million tourists arrived in Asia and the Pacific, which was an increase of 6% from 2016.¹⁰⁸ Earnings from tourism were estimated at \$325 billion, coming largely from visitor expenditures on accommodation, food and drink, entertainment, shopping, and other services and goods.

Another compelling reason for tourism development in emerging economies is that the sector is recognized as an important element of the 17 Sustainable Development Goals (SDGs), which aim to end poverty, protect the planet, and ensure prosperity for all. The United Nations declared 2017 as the International Year of Sustainable Tourism for Development to promote tourism's role in five key areas of

- (i) inclusive and sustainable economic growth;
- (ii) social inclusiveness, employment, and poverty reduction;
- (iii) resource efficiency, environmental protection, and climate change;
- (iv) cultural values, diversity, and heritage; and
- (v) mutual understanding, peace, and security.

¹⁰⁸ UN World Tourism Organization.

In recognition of the huge potential of tourism and how it can be captured through regional cooperation, the Greater Mekong Subregion (GMS)¹⁰⁹ has coordinated on tourism for more than a decade (Box 9). In 2016, a Tourism Sector Strategy (2016–2025) was developed to promote sustainable tourism development in the region. Successes and lessons learned in the GMS serve as an inspiration and an example of what could be undertaken between Indonesia and Timor-Leste.

Box 9: Greater Mekong Subregion Tourism Coordination

The Greater Mekong Subregion (GMS) Tourism Sector Strategy (2016–2025) covers capacity building for officials, implementation of regional skills standards, expansion of climate-resilient tourism infrastructure, facilitation of people movement, integrated spatial planning, multicountry tour itineraries, and multicountry marketing.

The strategy is supported by the Mekong Tourism Coordinating Office (MTCO), which is funded through annual contributions by the six GMS member countries. MTCO organizes an annual Mekong Tourism Forum and manages active digital marketing and promotion through a website and social media. In 2013, support was provided to help MTCO prepare to become an international organization. It also launched the knowledge platform, mekongtourism.org, which averages 11,000 unique users monthly, has 1,558 Facebook followers, and logs 12,000 monthly Twitter impressions. The website was also awarded the Pacific Asia Travel Association Gold Award in 2016 for its innovative design and use of cutting-edge technology.^a

The Private Sector Advisory Group of the GMS Tourism Working Group is currently receiving support to sustain the Mekong Innovative Start-up in Tourism accelerator program, which identifies, pilots, and helps entrepreneurs and governments to scale up innovative tourism solutions. This is intended to help support public–private partnerships to realize the investment potential for tourism in the region.^b

^a Comprising Cambodia, Yunnan Province and Guangxi Zhuang Autonomous Region in the People's Republic of China, the Lao People's Democratic Republic, Myanmar, Thailand, and Viet Nam.

^b ADB. 2017. Strengthening the Mekong Tourism Coordinating Office. Manila. <https://www.adb.org/sites/default/files/project-documents/44300/44300-012-tcr-en.pdf>.

Source: Greater Mekong Subregion. <https://www.greatermekong.org/greater-mekong-subregion-tourism-sector-strategy-2016-2025>.

The Government of Indonesia and the Government of Timor-Leste have expressly identified tourism as a priority to support the growth of their economies, increase foreign exchange earnings, provide employment, and improve the welfare of their people.

B. Indonesia/Nusa Tenggara Timur

At the national level, tourism has been targeted as an instrument for national economic development and growth. Indonesia is committed to both increasing the numbers of

¹⁰⁹ Comprising Cambodia, Yunnan Province and Guangxi Zhuang Autonomous Region in the People's Republic of China, Lao People's Democratic Republic, Myanmar, Thailand, and Viet Nam.

visitors to its shores and encouraging tourists to venture into 10 less visited areas, which are overshadowed by the popularity of Bali. This includes tourist destinations in NTT.¹¹⁰

By 2019, President Joko Widodo envisages Indonesia earning \$24 billion from tourism. Goals for tourism development in the National Medium-Term Development Plan 2015–2019 include increasing international arrivals from 9 million in 2015 to 20 million in 2019, increasing domestic movements from 250 million to 275 million, increasing the contribution of tourism to 15% of gross domestic product (GDP), and increasing employment from 11 million to 13 million workers by 2019. Within the Association of Southeast Asian Nations (ASEAN), based on current visitor arrivals, Indonesia is already the fourth-largest tourism economy behind Thailand, Malaysia, and Singapore (see Table 15).

Minister of Tourism Ir. Arief Yahya plans to achieve these targets through improving Indonesia's competitiveness as a tourism destination, also focusing on areas such as smart e-tourism, homestay and rural tourism development, improving connectivity, and destination branding.

Table 15: International Visitor Arrivals, Association of Southeast Asian Nations, 2005–2017
(\$'000)

| Country | 2005 | 2010 | 2015 | 2016 | 2017 | ASEAN Share, 2016 (%) |
|--------------------|---------------|---------------|----------------|----------------|----------|-----------------------|
| Brunei Darussalam | 126 | 214 | 218 | 219 | 259 | 0.2 |
| Cambodia | 1,333 | 2,508 | 4,775 | 5,012 | 5,602 | 4.5 |
| Indonesia | 5,000 | 7,003 | 9,729 | 10,811 | – | 9.8 |
| Lao PDR | 672 | 1,670 | 3,543 | 3,315 | – | 3 |
| Malaysia | 16,431 | 24,577 | 25,721 | 26,757 | 25,948 | 24.2 |
| Myanmar | 660 | 792 | 4,681 | 2,900 | – | 2.6 |
| Philippines | 2,623 | 3,520 | 5,361 | 5,967 | 6,621 | 5.4 |
| Singapore | 7,079 | 9,161 | 12,052 | 12,913 | – | 11.7 |
| Thailand | 11,567 | 15,936 | 29,923 | 32,588 | 35,381 | 29.5 |
| Viet Nam | 3,478 | 5,050 | 7,944 | 10,013 | 12,922 | 9.1 |
| Total ASEAN | 48,969 | 70,431 | 103,947 | 107,595 | – | 100 |

ASEAN = Association of Southeast Asian Nations, Lao PDR = Lao People's Democratic Republic.

Source: UN World Tourism Organization, World Tourism Barometer. Volume 16 March/April 2018.

¹¹⁰ The 10 earmarked destinations are Lake Toba (North Sumatra), Tanjung Kelayang (Bangka Belitung), Tanjung Lesung (Banten), Thousand Islands (Jakarta), Borobudur Temple (Central Java), Bromo Tengger Semeru Mountain (East Java), Mandalika Resort (West Nusa Tenggara), Labuan Bajo fishing village (East Nusa Tenggara), Wakatobi Marine Park (Southeast Sulawesi), and Morotai (North Maluku).

NTT's Labuan Bajo is one of the 10 aforementioned focal destinations of the national tourism development plan and is the gateway to the world-renowned Komodo National Park. The Government of Indonesia has plans to establish a tourism board in Labuan Bajo and to build a marina with a target operational date of August 2018.¹¹¹ Komodo Airport will become an international airport, and additional homestays are planned in the tourist villages of the region.¹¹²

NTT also possesses many natural, cultural, and heritage attractions including Flores, with its stunning coral reefs, and Ende, which served as the exile location of Indonesia's first president, Sukarno. Sumba Island has much in the way of arts, handicrafts, and textile weaving, and a unique architectural landscape that includes *kampungs* (villages) and megalithic structures. The Timor Island has a plethora of nature-based tourism potential, with unique forests and landscapes.

NTT already enjoys significant tourism demand, which appears to be growing. The number of visitors to NTT increased by 28% from 2012 to 2016 (Table 16). It is particularly worth pointing out the importance of domestic visitors for tourism in the region, as they comprised 87% of arrivals in 2016 (Table 16). Initial calculations suggest that NTT earned \$80 million from tourism-related expenditures in 2016.¹¹³

Table 16: Nusa Tenggara Timur International and Domestic Visitors, 2012–2016

| Year | International | Domestic | Total |
|------|---------------|----------|---------|
| 2012 | 48,608 | 338,472 | 387,080 |
| 2013 | 45,107 | 318,658 | 363,765 |
| 2014 | 65,939 | 331,604 | 397,543 |
| 2015 | 66,860 | 374,456 | 441,316 |
| 2016 | 65,499 | 430,582 | 496,081 |

Source: Badan Pusat Statistik.

Table 17 shows the top destinations of visitors in 2016. With 203,449 domestic visitors recorded in 2016, Kupang City received nearly half of all domestic tourists to NTT in that year. Kupang is a regional hub for transport; hence, it is possible that a number of these visitors were moving to or from another destination. Among foreigners, West Manggarai is the most popular destination due to its proximity to Komodo Island. It is fair to conclude that visitors to this part of NTT are traveling for tourism purposes.

According to provincial statistics, West Timor attracted 250,000 visitors in 2016, of whom approximately 10,000 were foreigners. Major destinations on West Timor include the regencies of Kupang City and Belu, which is home to the border town of Atambua, located

¹¹¹ Updates on progress are required.

¹¹² T. Sudiarno. 2017. East Nusa Tenggara up and ready to boost tourism potential. The Jakarta Post. 13 May. <https://www.thejakartapost.com/travel/2017/05/13/east-nusa-tenggara-up-and-ready-to-boost-tourism-potential.html>.

¹¹³ Based on author's expert estimations.

Table 17: Top Destinations in Nusa Tenggara Timur, 2016

| Regency | International | % of Total International Visitors to NTT | Domestic | Total |
|----------------|---------------|---|----------|---------|
| West Manggarai | 36,843 | 56.2 | 54,758 | 91,601 |
| Ende | 7,434 | 11.3 | 22,638 | 30,072 |
| Kupang City | 6,045 | 9.2 | 203,449 | 209,494 |
| Belu | 3,831 | 5.8 | 24,999 | 28,830 |
| Ngada | 3,233 | 4.9 | 4,617 | 7,850 |
| Sikka | 2,964 | 4.5 | 29,079 | 32,043 |
| Manggarai | 2,778 | 4.2 | 13,034 | 15,812 |

NTT = Nusa Tenggara Timur.

Source: Badan Pusat Statistik.

80 kilometers (km) from the Mota'ain border and 138 km from Dili. According to the Central Bureau of Statistics, on average, 5,000 Timor-Leste nationals visit NTT each month, with the majority crossing at the Mota'ain border.

C. Timor-Leste

Timor-Leste also sees tourism as a strong potential source of economic growth and diversification that is compatible with the SDGs. In March 2017, the Government of Timor-Leste approved a national tourism policy, entitled “Growing Tourism to 2030—Creating a Sense of National Identity” with a vision that by 2030, the country will have a vibrant tourism sector that makes a significant contribution to employment; is economically, socially, and environmentally sustainable; helps promote a positive image of Timor-Leste overseas; and is an industry that people wish to work in.

The Tourism Policy posits five overarching themes (the five Ps) through which government, industry, civil society, academe, and development partners should view tourism and focus their efforts to achieve the goal of sector prosperity and sustainability for Timor-Leste:

- (i) The tourism sector is viewed as a **priority** pillar of economic development that is embraced by government, the private sector, and civil society.
- (ii) The tourism sector produces **prosperity** through linkages with local industries, delivery of employment opportunities, and the creation of profitable ventures.
- (iii) The tourism sector supports the **protection** of the natural environment and the unique cultural heritage of the country, ensures sustainable development, and guarantees its duty to care for international visitors.
- (iv) The tourism sector is characterized by a range of public-private **partnership** (PPP) arrangements that stimulate, develop, and grow a diverse portfolio of tourism products and services.

- (v) The tourism sector is serviced by **people** who are trained and educated to internationally recognized standards to ensure a quality visitor experience.

Headline goals of the tourism policy are that by 2030, Timor-Leste will welcome 200,000 international tourists annually (170% increase on current visitors), earning the country \$150 million in revenues and directly employing 15,000 workers. Furthermore, the tourism policy underpins an ethos of ensuring that social, economic, and environmental sustainability is central to maximizing the future competitiveness of the country as a visitor destination.

According to the UNWTO, international visitor arrivals in Timor-Leste increased from 40,000 in 2010 to 74,000 in 2017. This compares with the 65,499 international visitors to NTT in 2016, but for NTT the total number of visitor arrivals is much larger due to visits by Indonesians from outside of NTT.

International visitor receipts for Timor-Leste are estimated to have grown from \$31 million in 2010 to \$73 million in 2017. This is extremely small compared with total receipts received by other countries in ASEAN, but significant for the Timor-Leste economy and equal to about 2.5% of GDP. Based on international visitor arrivals and an estimated average length of stay of 4 days, this translates into an estimated per visitor spend of \$878. This is comparable to the average estimated per visitor spends in ASEAN (Table 18). It is important to note, however, that research conducted by the Asia Foundation in Timor-Leste suggests that determining the number of actual “holiday maker” arrivals is difficult, as most tourist visas are obtained by people who work temporarily in the country and are not visiting for tourism purposes.

Table 18: Estimated Spending per Visitor, 2016
(\$)

| Country | Estimated Spending per Visitor |
|-------------------|--------------------------------|
| Brunei Darussalam | 657.53 |
| Cambodia | 639.86 |
| Indonesia | 1,036.54 |
| Lao PDR | 214.78 |
| Malaysia | 675.66 |
| Myanmar | 750.69 |
| Philippines | 861.91 |
| Singapore | 1,467.47 |
| Thailand | 1,497.24 |
| Viet Nam | 823.93 |
| Average | 862.56 |
| Timor-Leste | 878.79 |

Lao PDR = Lao People's Democratic Republic.

Source: UN World Tourism Organization. 2018. World Tourism Barometer. Volume 16. March/April.

Despite generating a reasonable per visitor expenditure, Timor-Leste is considered expensive by leading international tour operators. This is partly because it is a US dollar-based economy as well as due to challenges in the services provided, which are explored further in the following chapter.

The information provided in this chapter shows that worldwide tourism is a fast-growing economic sector and a major source of export earnings. It is also a potentially major source of inclusive and sustainable growth under the right circumstances. Both NTT and Timor-Leste are prioritizing the development of their tourism sectors in recognition of this fact. Both have a rich cultural and ecological offering for tourists, making this a suitable sector for focus. Furthermore, the data on visitor arrivals and spending suggests that tourism is already a major contributor to the economies of NTT and Timor-Leste, and growing.

CHAPTER 3

Challenges

This chapter sets forth a comprehensive problem analysis affecting tourism in NTT and Timor-Leste. It is supported by information integrated into the chapters on trade, transport, and investment in Part I. It starts with an overview based on findings of the World Economic Forum (WEF) tourism competitiveness index and goes on to consider challenges to infrastructure and connectivity, business development, marketing, investment, human resources, and institutional frameworks and coordination.

A. Tourism Sector Competitiveness

The WEF compiles a biennial Travel and Tourism Competitiveness Index (TTCI) for 136 countries, which tries to capture some of the crosscutting issues affecting tourism. The results of the 2017 TTCI for the 10 ASEAN member states are presented in Table 19.

At the national level, Indonesia has made considerable progress in developing its tourism sector, as evidenced by its ranking 42nd in the TTCI in 2017, up from 74th in 2011. Indonesia does notably well in the areas of natural resources and cultural resources/business travel. For travel and tourism policy and enabling conditions, it does well in two of the four sub-indexes: (i) prioritization of travel and tourism (12th) and (ii) international openness (17th). It also ranks second globally in visa policy and fifth in price competitiveness.

While NTT is not covered specifically in the TTCI, many of the macro-level performance indicators, e.g., on travel and tourism policy, visa policy, and price competitiveness, also apply to NTT. However, the province does have unique challenges, given its remoteness and relatively nascent stage of tourism development, particularly compared with Bali and other advanced tourism destinations in Indonesia. As explored throughout this chapter, the major challenges for NTT appear to be infrastructure (pillar 10 and pillar 11), tourist services (pillar 12), and human resources (pillar 4).

Although Timor-Leste is not yet included in the TTCI, the index was used as a benchmark for the country's tourism policy, providing an objective baseline for developing a strategy for growth of the tourism sector. Timor-Leste's national tourism policy enumerates the country's challenges as highlighted in Table 20.

As Table 20 shows, Timor-Leste has considerable natural and cultural resources to offer tourists; however, their potential is not yet exploited. Major challenges include price competitiveness, health services, and air connectivity. Many of the areas in the table are explored in more detail in the following sections.

Table 19: 2017 World Economic Forum Travel and Tourism Competitiveness Index Rankings for Association of Southeast Asian Nations Countries

| Pillar No. | 2017 Travel and Tourism Competitiveness Index Rankings | Brunei Darussalam ^a | Cambodia | Indonesia | Lao PDR | Malaysia | Myanmar ^b | Philippines | Singapore | Thailand | Viet Nam |
|-------------------------------------|--|--------------------------------|------------|-----------|-----------|-----------|----------------------|-------------|-----------|-----------|-----------|
| 1 | Business environment | – | 125 | 60 | 47 | 17 | 135 | 82 | 2 | 45 | 68 |
| 2 | Safety and security | 24 | 88 | 91 | 66 | 41 | 125 | 126 | 6 | 118 | 57 |
| 3 | Health and hygiene | 65 | 109 | 108 | 106 | 77 | 101 | 92 | 62 | 90 | 82 |
| 4 | Human resources/labor market | 36 | 110 | 64 | 65 | 22 | 117 | 50 | 5 | 40 | 37 |
| 5 | ICT readiness | 65 | 101 | 91 | 155 | 39 | 140 | 86 | 14 | 58 | 80 |
| 6 | Prioritization of travel and tourism | 123 | 29 | 12 | 54 | 55 | 108 | 53 | 2 | 34 | 101 |
| 7 | International openness | – | 58 | 17 | 71 | 35 | 120 | 60 | 1 | 52 | 73 |
| 8 | Price competitiveness | 2 | 51 | 5 | 14 | 3 | 125 | 22 | 91 | 18 | 35 |
| 9 | Environmental sustainability | 135 | 130 | 131 | 98 | 123 | 110 | 118 | 51 | 122 | 129 |
| 10 | Air transport infrastructure | 45 | 96 | 36 | 97 | 21 | 115 | 65 | 6 | 20 | 61 |
| 11 | Ground and port infrastructure | 67 | 108 | 69 | 111 | 34 | 132 | 107 | 2 | 72 | 71 |
| 12 | Tourist service infrastructure | 86 | 102 | 96 | 86 | 46 | 137 | 87 | 24 | 16 | 113 |
| 13 | Natural resources | 53 | 62 | 14 | 71 | 28 | 80 | 37 | 103 | 7 | 34 |
| 14 | Cultural resources/business travel | 95 | 76 | 23 | 107 | 34 | 92 | 60 | 28 | 37 | 39 |
| Overall Ranking (out of 136) | | 72 | 101 | 42 | 94 | 26 | 134 | 79 | 13 | 34 | 67 |

– = data not available, ICT = information and communication technology, Lao PDR = Lao People's Democratic Republic.

^a Brunei Darussalam was included in the 2013 Travel and Tourism Competitiveness Index (TTCI), but not in the 2015 or 2017 editions. Therefore, 2013 rankings are listed.

^b Myanmar was not included in the 2017 TTCI. Therefore, 2015 rankings are listed.

Source: World Economic Forum Travel and Tourism Competitiveness Index 2017.

B. Infrastructure and Connectivity

Detailed analysis of connectivity for NTT and Timor-Leste is provided in Part I; however, a few points bear highlighting in relation to tourism.

1. Land Connectivity

As noted in Part I, the greatest challenges to land connectivity are the regulations guiding the cross-border movement of vehicles. One Dili-based tour operator expressed his belief that there is considerable interest in overland tours to Oecusse by car and motorcycle. However, he stated that, “without solving the visa and vehicle clearance issues, the product is impossible to sell, and the cost and complications of departing Timor-Leste, entering Indonesia, and then re-entering Timor-Leste in Oecusse are prohibitive.”¹¹⁴

¹¹⁴ Derived from conversations with the director of Timor Adventures in Dili in May 2018.

Table 20: Timor-Leste Benchmarked against Travel and Tourism Competitiveness Index

| TTCI Pillar | Timor-Leste Tourism Policy Observations |
|--|---|
| Enabling environment | Timor-Leste has made progress toward improving its business environment and has introduced legislation and reforms for registering a business and attracting domestic and foreign investment. However, there is much more to be done. The World Bank's Doing Business 2018 report has ranked Timor-Leste 178th out of 190 economies. |
| Safety and security | Timor-Leste has a reputation for petty crime against women and for crocodile sightings on its beaches. |
| Health and hygiene | Basic health services are weak, and Timor-Leste lacks the capacity to deal with medical emergencies and serious accidents. Food hygiene standards are little understood in the country's hotels and restaurants. |
| Human resources and labor market | Tourism training is inadequate and needs to focus on the provision of tourism services in ecotourism, community-based tourism, and marine tourism. Existing tourism training needs to focus attention on practical applications and traineeships and internships. |
| Information and communication technology readiness | The quality of internet and mobile communications is adequate. Mobile internet is good quality, but wireless networks are slow. Many businesses, hotels included, do not have well-developed internet sites and cannot process online bookings or payments. |
| Prioritization of travel and tourism | The Government of Timor-Leste has a strong commitment to developing its tourism industry and a willingness to invest in tourism. An action plan for implementation is needed to identify key areas for moving forward. Accurate and complete tourism statistics, which are required for analysis, monitoring, and evaluation of the sector, are not available. |
| International openness | Entering Timor-Leste requires a visa on arrival at a cost of \$30 for a 1-month stay. There are regular flights scheduled from Darwin (Australia), Singapore, and Bali (Indonesia), but they are generally expensive. |
| Price competitiveness | Timor-Leste is relatively expensive when compared with other countries in the region and is not perceived as a value-for-money destination. |
| Environmental sustainability | Timor-Leste has a relatively untouched natural environment when compared with some tourist destinations in the region. The government has policies in place to preserve the natural environment, but there are challenges to implementation and enforcement. This can put the environment at risk as tourism develops. |
| Air service infrastructure | The Government of Timor-Leste has plans to upgrade the airport to cater to increased traffic. However, aviation experts see the existing facilities at Dili airport as sufficient to meet increased visitor arrivals to 2030, and it therefore is not viewed as a constraint to tourism growth. The runway can handle aircraft the size of an A320, which is within range of most Asian hubs and has a capacity in excess of 100 passengers. Timor-Leste currently has a low level of connectivity and has air service agreements with Australia, Indonesia, and Singapore. |
| Ground and port infrastructure | Road quality has improved over the last several years, but some roads need attention. Port facilities need upgrading to service the increasing numbers of cruise ship arrivals. Ferry services to other tourist destinations such as Ataúro are limited. |
| Tourist service infrastructure | There are sufficient hotel rooms based on current tourist arrivals in Dili and other important tourism destinations. If the government meets its objective of trebling the number of tourist arrivals, then the current supply may be inadequate. There is significant potential for the private sector to develop tourism products. Ecotourism has the potential to develop, given its sufficient attractions. Similarly, linkages between tourism and agriculture such as agritourism can be developed, for example, for coffee. Tours to coffee plantations, purchasing coffee for suitcase trade, and taking part in coffee tasting experiences and laboratories can all further enhance the attractiveness of the tourism offerings. |

continued on next page

Table 20 *continued*

| TTCI Pillar | Timor-Leste Tourism Policy Observations |
|--------------------|--|
| Natural resources | Much of the potential of Timor-Leste's natural resources remains untapped. The marine environment is pristine, but does not have United Nations Educational, Scientific and Cultural Organization recognition. There are opportunities for hiking and trekking, but they are not yet sufficiently promoted. |
| Cultural resources | Timor-Leste enjoys a rich history from both its cultural roots and Portuguese colonial history. The country's resistance movement and fight for independence from Indonesia is celebrated internationally and has the potential to be a significant drawing card for tourists. There is limited access to the Timorese culture and features like the sacred Uma Lulik house, and dance performances are not well publicized nor available as a visitor experience due to lack of information and access. |

TTCI = Travel and Tourism Competitiveness Index.

Source: Timor-Leste National Tourism Policy.

An MOU on cross-border movement of vehicles is currently being negotiated, which should help ease constraints to cross-border travel. However, this will depend on the level of practical implementation. As highlighted in Part I, an intervention in this area would also support adoption of other ASEAN agreements, which would support Timor-Leste's accession.

Road networks are generally poor in Timor-Leste, and slightly better but still requiring improvements in NTT, thus limiting the catchment area of investments along the main corridors. This is recognized by the governments in NTT and Timor-Leste, which have upgrading works in process. Equally, the main artery between Dili and Kupang through the Mota'ain-Batugade border has some poor sections, but they are being upgraded. In the longer term, there may be need for further upgrading if the volume of traffic increases substantially.

One major gap in the road network for tourism is the lack of proper rest areas in which drivers and passengers can rest, eat, or refuel without exiting onto secondary roads. In addition, for tourism purposes, there are no proper viewing platforms at scenic spots, and there is only one petrol station along the Dili-Batugade stretch. This is a gap in the current infrastructure.

As discussed in Part I, joint training and establishing a system for information sharing between border agencies at the border post will boost the capacity for implementing agreements helpful for tourism and for other areas of cooperation.

2. Sea

The major challenge to sea infrastructure for Timor-Leste is that Dili Port is a shallow-water port surrounded by natural reefs. This means that large cruise ships have to anchor offshore and rely on small boats to bring people onshore. The port also suffers from congestion, which could be another reason cruise ships choose to anchor offshore. It also has very limited facilities for large-scale tourism, i.e., its current passenger terminal is quite basic. It is proposed that Dili Port become a dedicated passenger port once its cargo operation is moved to Tibar Port in early 2020. This will provide an opportunity for developing a dedicated international cruise terminal in Dili Port. This opportunity has been identified by the Japan International

Cooperation Agency (JICA), which is currently providing support to the government for Dili Port; however, specific plans have not been made.¹¹⁵

Tenau Port in Kupang also does not have dedicated cruise terminals; however, plans for a new one are under consideration to attract international cruise ships en route to and from Australia. The local government has begun the process of inviting investors to build the terminal, which is estimated to cost more than Rp300 billion (approximately \$21.5 million).

3. Air

NTT is not served by international flight routes. Several years ago, Garuda Indonesia Airlines operated a service between Kupang's Eltair International Airport and Darwin International Airport in northern Australia. The route was heavily subsidized and proved commercially unsustainable. Equally, as discussed in Part I, Air Timor operated a flight between Dili and Kupang between December 2017 and February 2018, which was discontinued due to insufficient passenger load and high operating costs. There are, however, current plans by Garuda to restart flights between Kupang, Dili, and Darwin. Eltair International Airport is well serviced with domestic connections to Denpasar, Surabaya, and Jakarta, with frequent services that are quite reliable. The Government of Indonesia also has plans to move the airport to a new location in or near Kupang City. Air networks from Kupang to Atambua and other parts of NTT are basic but regular and efficient. The government is also considering upgrading Labuan Bajo Airport to international services to support tourism.

As explored in Part I, the major issue with international routes serving Presidente Nicolau Lobato International Airport in Timor-Leste appear to be the air service agreements (ASAs). The airport infrastructure is quite basic, although deemed to be sufficient to meet minimum standards for international flights. The 2017 National Civil Aviation Policy, entitled "Growing Aviation to 2030: Providing Connectivity to Support Economic and Social Development," recommends signing additional ASAs, attracting new airlines, and rehabilitation and extension of the airport infrastructure, among other things. JICA is committed to upgrading the terminal facilities at Presidente Nicolau Lobato International Airport. There are also plans to extend the existing service between Dili and Oecusse and other destinations relevant for tourism including Suai, Same, and Atauro.

By November 2018, Indonesia's aviation industry consolidation appeared to have contributed to a large price increase for flights from Bali to Dili and Kupang.¹¹⁶ Investigating if there are opportunities to mitigate these price increases could be important to ensure tourists can still afford to travel to Timor-Leste and NTT.

A noteworthy development for Timor-Leste connectivity is the soon-to-be-completed Oecusse International Airport (WPOC), which will have considerably expanded facilities capable of servicing larger aircraft. This presents new opportunities for connections for Timor-Leste, as explored in later chapters. Equally, an airport in Suai on the south coast of Timor-Leste (near the border with NTT) was reopened in 2017 and will be looking to accommodate commercial international flights.

¹¹⁵ In consultation with JICA representatives in Dili, Timor-Leste.

¹¹⁶ R. Mufti. 2018. Commission to look into airline merger. *The Jakarta Post*. 21 November. <https://www.thejakartapost.com/news/2018/11/21/commission-look-airline-merger.html>.

4. Visa Policy

An important element of connectivity is visa policies, which can be a barrier to tourism expansion, particularly when acquisition of entry permission is complicated, costs are expensive, and processes onerous. Appendix 3, Table A3.1 compares the visa policies across ASEAN.

Visa policy in Indonesia has improved considerably in the last few years. All ASEAN nationals are allowed to enter the country visa-free. Three presidential decrees (69/2015, 104/2015, and 21/2016) were issued, resulting in nationals from 169 countries being allowed visa-free entry. Early indicators show that these policies have boosted tourism arrival numbers and earnings and are facilitating the achievement of ambitious sector growth targets.

Of course, NTT benefits from Indonesia's liberal visa policy. It should also be noted that, for land border crossings, the process of acquiring a visa is straightforward. At the Mota'ain–Batugade Border Control Post, which is the most heavily traversed border, visas on arrival are provided for 169 countries—similar to arriving at an international airport. This makes the process of crossing from Timor-Leste into NTT relatively easy for most tourists.

For Timor-Leste, nationals of Schengen countries¹¹⁷ are given visa-free entry. Nationals of other countries may apply for a visa upon arrival, valid for 30 days, and pay a \$30 fee if arriving at the international sea or airport. The situation is currently more difficult at the land borders: nationals of Schengen countries are allowed to enter visa-free. Indonesians can secure a visa on arrival, but must pay the \$30 fee. Nationals of all other countries are required to attain a Visa Application Authorization at a Timor-Leste embassy or consulate prior to arrival at any Timor-Leste land border to be granted entry.

Many foreign travelers are said to be reluctant to spend the additional time (up to 3 days) in Kupang to acquire this documentation and cite it as a core reason for not traveling overland from Kupang to Dili.¹¹⁸ It is also worth noting that there are several posts on Trip Advisor (an online travel review site) demonstrating confusion over visa policy into Timor-Leste and opportunities for crossing between Indonesia and Timor-Leste.¹¹⁹

Some Indonesians view the need to pay the \$30 fee as inequitable and lacking in reciprocity. According to Indonesian immigration authorities, many Indonesians choose to enter Timor-Leste illegally through unofficial routes to avoid visa fees, and there is concern for their safety, particularly women.¹²⁰ Moreover, the fee may be prohibitive for business people wanting to conduct cross-border business or for family visits across the island.¹²¹

¹¹⁷ There are 26 Schengen countries comprising most countries in the European Union except Bulgaria, Croatia, Cyprus, Ireland, Romania, and the United Kingdom.

¹¹⁸ Derived from consultations with Dili- and Kupang-based tour operators in May 2018.

¹¹⁹ See for example: https://www.tripadvisor.com.ph/ShowTopic-g295117-i9393-k10169314-Regarding_visa_on_arrival-East_Timor.html; and https://www.tripadvisor.com.ph/ShowTopic-g294225-i7219-k10980611-VOA_Question_Timor_Leste_Land_Border_Crossing-Indonesia.html.

¹²⁰ Derived from conversations with border officials in Mota'ain in May 2018.

¹²¹ However, it is worth noting that, since border residents are entitled to cross into NTT under Traditional Border Crossings and Regulated Market Arrangement between Timor-Leste and Indonesia, this would mostly affect Indonesian residents from outside the border area.

The \$30 visa fee is also applied to cruise ship visitors arriving in Dili Port who may be interested only in making a day trip. It is possible that this fee discourages cruise ship tourists from taking onshore excursions.

In 2016, Timor-Leste collected \$3,689,480 in visa fees—a considerable financial benefit to the government. Also, for many tourists, it is not the fee that is off-putting so much as the inconvenience of acquiring the Visa Application Authorization.

A new law (No. 11/2017) was promulgated in 2017 to address some of these challenges, but it has not yet been implemented.¹²² It is not clear to what degree the law will address the challenges identified, and it is recommended that Timor-Leste consider the costs and benefits of liberalizing its visa policy, particularly for Indonesians and ASEAN member countries as a precursor to ASEAN accession. Additionally, visitors arriving by cruise ship might be exempted to stimulate increased spending and participation in shore excursions.

5. Health, Hygiene, and Power

One major challenge Timor-Leste faces in the development of its tourism industry is a lack of basic facilities for ensuring health and hygiene (Table 20). This includes sufficient medical facilities, proper water and waste management, and food hygiene standards. These issues also exist in NTT outside of urban centers. An assessment in 2009 by UNESCO¹²³ of tourism opportunities in NTT recommended installation of biogas, solar panels, and other technologies for overcoming some of these challenges in tourism communities. While the situation has undoubtedly moved on from that time, it demonstrates the potential of a focus on community and sustainable tourism development.

C. Business Development and Financial Services

The challenges to accessing business development and financial services are outlined in detail in Part I. Most tourism operators and related service businesses in Timor-Leste and NTT are small or medium-sized enterprises (SMEs) and face limitations in accessing loans and sufficient support for business development. The situation in NTT is improved by the existence of a few umbrella organizations such as the Association of Indonesian Tours and Travel Agents (ASITA) and the Indonesian Hotel and Restaurant Association (PHRI), which help operators to access financial services and business services that do exist. There is also more robust private sector provision of business services in NTT than in Timor-Leste, although they are concentrated in urban areas.

In Timor-Leste, the recently established Hotel Owners of Timor-Leste (HOTL) association brings operators together, but linkages between HOTL and other government services still need to be established. However, several international organizations and development

¹²² The document is available here: <http://migracao.gov.tl/pdf/Lei%2011-2017%20LIA%20com%20Indice.pdf>.

¹²³ UNESCO. 2009. *Heritage Tourism in East Nusa Tenggara: Contributing to the Millennium Development Goals; Summary*. <https://unesdoc.unesco.org/ark:/48223/pf00000185476>.

partners provide support in the area of tourism, helping small businesses to access support. See Appendix 3 for details of projects.

D. Marketing

Marketing and branding effectiveness are critical for generating tourism demand. Appendix 3 provides the TPCI rankings on marketing and branding effectiveness for a number of ASEAN countries. The Philippines, due to the award winning “It’s More Fun in the Philippines” campaign, improved 24 positions from 2013 to 2017. Tourism marketing in ASEAN is highly competitive, with countries spending tens of millions of dollars annually to create consumer awareness and stimulate demand.

For Indonesia, the destination brand “Wonderful Indonesia” has been heavily invested in by the Ministry of Tourism in recent years. Indonesia’s ranking in the TPCI also has improved 24 places since 2013. While NTT is represented under this national destination brand, it also established a sub-brand “The New Tourism Territory.”¹²⁴

In 2017, Timor-Leste’s Council of Ministers endorsed the new destination brand “Explore the Undiscovered,” which is currently featured on the government’s official tourism website.¹²⁵ Consequently, both Timor-Leste and NTT see the value of and have invested in marketing and promotion. However, despite this investment, their shared region remains relatively unknown to key international source markets. Destination marketing in ASEAN is highly competitive; hence, methods to increase impact effectively should be sought. As discussed in more detail later, there may be a rationale in conducting combined marketing to pool resources, as marketing is a costly undertaking.

E. Investment

As discussed in Part I, tourism (which includes services such as accommodation and restaurants) is one of the leading recipients of investment in NTT and Timor-Leste, which is encouraging in terms of the prospects for tourism development. Equally, Indonesia has opened sectors relevant to tourism (e.g., restaurants, cafes, entertainment, and post facilities) for 100% foreign investment. Timor-Leste and NTT offer additional monetary incentives for tourism investors. Furthermore, they have made important reforms to issues like land tenure and administrative procedures. Negotiations for an investment agreement have begun further increasing opportunities for investment in tourism in each other’s territories.¹²⁶

Nevertheless, implementation of reforms takes time, and continued progress in this area will be required to support increasing levels of investment in tourism. Two examples of

¹²⁴ New Tourism Territory Facebook Site. <https://www.facebook.com/pages/category/Community/New-Tourism-Territory-622419144576474/>.

¹²⁵ Timor-Leste, East Timor Official Tourism and Travel Guide. <http://www.timorleste.tl/>.

¹²⁶ B. Prasetyo. 2018. Indonesia, Timor Leste to start negotiations on investment agreement. *Antaranews*. 28 June. <https://en.antaranews.com/news/116391/indonesia-timor-leste-to-start-negotiations-on-investment-agreement>.

proposed tourism investments in Timor-Leste (Box 10) suggest that two problems in Timor-Leste are (i) land tenure, and (ii) demand. In combination with efforts to promote tourism demand (i.e., marketing and promotion) dedicated engagement by the respective investment promotion bodies will continue to be required to help investors overcome challenges. Conducting joint investment promotion trips may help to generate interest in facilities and amenities related to cross-border tourism. Timor-Leste and NTT may also consider combining resources to help promote investments in communities to support their focus on community-based, sustainable tourism. One example of joint support for a tourism enterprise is the Mekong Innovative Start-up in Tourism accelerator program mentioned in Box 9 in relation to tourism cooperation in the Greater Mekong Subregion (GMS).

In Part I it is argued that a collaborative working committee for the chambers of commerce in NTT and Timor-Leste be established to build on their existing exchanges of support and knowledge. This should also be considered for the hotel associations and other relevant bodies on both sides of the border.

Box 10: Examples of Proposed Tourism Investments in Timor-Leste

Pelican Paradise. Since 2008, there has been a rumor of Pelican Paradise, a proposed resort development consisting of 564 hectares of prime land strategically located between the Dili International Airport and the future Tibar Bay Port. The vision is to develop a fully integrated township that will become the central hub for tourism, modern living, and commerce in Timor-Leste. The project's components include a five-star 464-room resort; an 18-hole golf course; 93 units of two- to four-bedroom high-end service apartments; and a business hub, school, and youth development center. Based on discussions with the representative of Pelican Paradise, the five-star resort will be self-managed and is expected to be the first luxury resort in Dili, with meetings, incentives, conventions, and exhibitions being the major target market segment. The hotel is expected to also target high-yield foreign independent travelers from both the business and leisure segments. The project is yet to break ground, and there are rumors that it remains on hold due to issues with landownership.

Dili Development Company. The Dili Development Company, founded in 2009 in Dili and part of the Jape Group of Companies, has been working to acquire land 12 kilometers (km) from Dili city center and 4 km from Cristo Rei. Known as the Hera Integrated Resort Development, the vision of the project is to create a tourism hub with a focus on ecotourism and the agriculture sector to create a sustainable local economy. The development comprises four main areas: beach, foothill, hilltop, and farm areas. The beach area includes various land parcels earmarked for hotel and resort development, including the Pacific Beach Resort and Areai Beach Resort. Recent conversations with the Dili Development Company suggest that the hotel developments have been put on hold until such a time as they can acquire foreign investment, which is difficult, given the soft leisure tourism demand at present. For the time being, they will focus their efforts on the expansion of their highly successful Timor Plaza complex, where they will develop a new 150-room hotel to complement their existing Timor Plaza Hotel, which is popular among business travelers and short-term international experts. Rumor has it that they have secured a Singapore investor to support the development.

Source: TradeInvest.

F. Human Resources

The quality of services in NTT (outside Kupang) and in Timor-Leste requires improvements to attract investment and improve the tourist experience. Barriers that render human resources in tourism a major challenge include the poor reputation of the tourism sector as a career path, outdated curricula and learning platforms, inadequate practical experience of instructors' limited English and other foreign language ability, and the absence of a culture of entrepreneurialism.

Some work has already been provided on training for hospitality by Charles Darwin University under the Timor-Leste–Indonesia–Australia Growth Triangle (TIA-GT) framework through the Australian Department for Foreign Affairs and Trade-funded Workforce Development Program. Indonesia also has a few leading hotel schools on the islands of Bali and Java that can provide good practice examples of curricula and training programs. The existing MOU on tourism between Indonesia and Timor-Leste includes agreements to expand this kind of training and negotiations for a new MOU on tourism will also include support for capacity building including formal training in colleges and internships in hotels in places like Bali.

Partnerships and mentoring opportunities for other stakeholders in government agencies, investment promotion boards, and business and industry associations would also be beneficial, as capacity across the board is considered to be holding back development of the sector. Areas for cooperation would include aligning education and training programs with industry needs and regional and international standards, and upgrading formal education programs using good practice models such as Indonesia's Sekolah Tinggi Parawisata (STP).¹²⁷

G. Institutional Frameworks and Coordination

Leadership and coordination on tourism in NTT are relatively high due to the national-level focus on tourism development. Early in his administration, Indonesia President Joko Widodo restructured the Ministry of Tourism and Creative Economy by removing non-tourism elements of the portfolio and renaming it Ministry of Tourism with an exclusive focus on expanding the country's tourism economy. Budgets were also reallocated, providing more than \$100 million per annum in marketing and promotion resources. This focus is also replicated in NTT. The previous provincial governor was protourism and the new governor appears to share this commitment. The Indonesian ambassador to Timor-Leste has been highly engaged in a variety of initiatives to bring the two countries together, particularly in the field of tourism.

Private sector organization in NTT is considered to be quite high, with a number of umbrella organizations, e.g., ASITA (travel agents) and PHRI (hotels and restaurants), working with the government on reforms.

Leadership and coordination in Timor-Leste have been weak, with sporadic follow-up and limited responsiveness. This has undoubtedly been affected by the political uncertainty in the

¹²⁷ STP is an example of a leading hotel and tourism industry college.

last few years. Equally, there is limited engagement and consultation with the private sector. Private sector stakeholders communicate frustration caused by the lack of coordination and partnerships with government required to grow international tourism.¹²⁸ There appear to be no established platforms, such as a tourism marketing board, to enable universal engagement and participation in tourism development. The recent establishment of HOTL has brought key industry stakeholders together; however, it remains to be seen if the new government and minister will engage this platform in a productive manner.

In recognition of the potential of coordination on tourism for NTT and Timor-Leste, the MOU signed between the respective governments in 2012 states that the aims of the cooperation are to (i) promote and develop cooperation in the field of tourism in both countries, (ii) promote the flow of tourists between the two countries, (iii) increase the growth of the tourism industry in both countries, and (iv) enhance human resources development. Specific areas of cooperation include administration and management experience exchange, capacity building, tourism marketing and events, and private sector cooperation. Currently discussions are underway to update the 2012 MOU, providing a significant opportunity for revitalizing the coordination mechanisms between the two countries.

Wider platforms include the TIA-GT and the Coral Triangle Initiative. The TIA-GT has been actively engaged in tourism with some successful initiatives implemented like the Cruise Tourism Study Tour to Papua New Guinea. This platform is particularly beneficial, as Australia is likely to be a source of both tourists and investment.

Development partners have played an important role in tourism development throughout ASEAN by assisting in institutional development, policy development, capacity building, and destination marketing. In NTT, a regional tourism development project known as WISATA has been supported by the Swiss State Secretariat for Economic Affairs with the aim of strengthening the competitiveness of Flores as a tourism destination. A follow-up project to WISATA, known as Sustainable Tourism Destination Development or SUSTOUR, is also being initiated by the Swiss secretariat in Flores and Wakatobi.

Currently, Timor-Leste is the beneficiary of a number of projects, summarized in Appendix 3, Table A3.3. Australia is funding the Market Development Facility, tourism activities through the TIA-GT, and support for workforce development among others; and the United States is commencing a new “Tourism for All” project that will inject \$9 million into Timor-Leste tourism development from 2018 to 2021. A major outcome of the work is expected to be the protection and development of environmental and cultural heritage sites in Timor-Leste. Consultations with tourism stakeholders in May 2018 registered concern that coordination among development partner projects should be strengthened. Therefore, any additional support in this area should prioritize coordination with existing projects.

¹²⁸ Derived from conversations with members of HOTL in Dili in May 2018.

CHAPTER 4

Opportunities

Chapter 3 highlighted some of the outstanding challenges to tourism in NTT and Timor-Leste but also introduced some initial opportunities and recommendations. This chapter will elaborate on four main areas of opportunity identified: tourism promotion under the banner “One Island, Two Nations”; development of Timor Island overland itineraries; marine and cruise ship tourism; and, use of Oecusse as an island transportation hub.

A. “One Island, Two Nations”

Joint land and marine tourism itineraries could be marketed under the tagline “One Island, Two Nations.” This could be an overarching cooperation that would help promote the Timor Island overland tour as well as joint cruise and marine tourism (see below). This would help communicate the unique selling points the Island has to offer, and build awareness among nationals and residents of Indonesia and Timor-Leste as well as key international source markets.

Both the Timor-Leste and NTT tourism brands require substantial marketing and promotion efforts to gain recognition and produce results. A shared marketing campaign between NTT and Timor-Leste could achieve economies of scale through a shared budget and could bolster awareness of this little-known part of the world. Tour operators suggest that this approach could stimulate demand and improve destination knowledge more effectively than the current tactics, which are competitive in nature.¹²⁹ Given the similarities of the tourism offerings of West Timor and Timor-Leste, it is difficult to establish unique selling points. However, as a unified destination, there is greatly expanded scope for competing on the global stage and among ASEAN. Box 11 presents an example of this same approach applied elsewhere.

B. Island Overland Itineraries

Supporting tourism overland between NTT and Timor-Leste, through the Mota’ain–Batugade border post is one potential opportunity for cooperation on tourism. There are several reasons to believe that an overland itinerary would be of interest to some tourists.

First, the shared Timor Island was part of the infamous “hippie trail”—the overland route forged through Asia in the early 1970s by young travelers in search of adventure and spiritual enlightenment. In particular, the city of Baucau was either the first or the last stop along this route.

¹²⁹ Derived from conversations with Dili and Kupang tour operators in May 2018.

Box 11: Example of the “One Island, Two Nations” Approach

The island of Hispaniola in the Caribbean, which has a total area of 76,192 square kilometers, is shared by the Dominican Republic (64%) and Haiti (36%). The two countries have established a memorandum of understanding (MOU) covering tourism cooperation that covers issues like tourism legislation, planning, regulation, training, tourist security and health, air transportation, and the environment. As part of the MOU, both parties have agreed to establish a working plan to exchange their experience on tourism investment, cultural promotion, quality systems, and the organization and operation of tourist services. Haiti has even opened a tourist promotion bureau in the Dominican Republic.

Source: Travel Trade Caribbean. <https://www.traveltradecaribbean.com/dominican-republic-haiti-signed-memorandum-tourism-cooperation/>.

Second, there are certainly sufficient landmarks and tourist attractions along the route as shown by the map (Map 6). The establishment of routes between these sites would allow tourists to experience the natural and cultural diversity of both sides of the border. An appealing route could be constructed around traveler needs and wants (e.g., authenticity, adventure, culture, people).

Cooperation between NTT and Timor-Leste has seen a series of cultural events happening near the land borders which would serve as interesting attractions. Equally, annual events such as Tour de Timor (a mountain bike race) in Timor-Leste could be extended into NTT to conduct a joint itinerary.

Finally, there is already a reasonable level of cross-border activity. It is estimated that 60,000 Timorese visit West Timor and 35,000 Indonesians visit Timor-Leste annually. The majority of these appear to go through the Mota'ain–Batugade border post, which is why this is proposed as a focus. Figure 10 shows that, from 2011 to 2016, 35% of foreign visitors to Timor-Leste came across Mota'ain–Batugade.

The purpose of these visits is assumed to be largely for visiting friends and family, but anecdotal discussions suggest that expatriates living in Dili are not even aware of the possibility of traversing the border to Indonesia, and there appears to be latent demand among them for this type of tourism product.¹³⁰

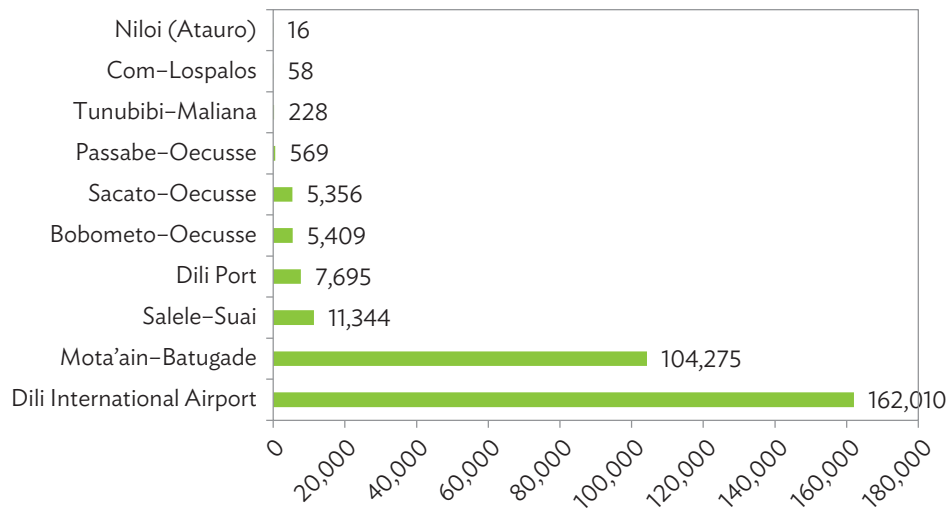
Indeed, as discussed in earlier chapters, the importance of domestic tourism for NTT is enormous. This may be a major untapped source market for tourists to Timor-Leste. If barriers were removed, then it is possible that Indonesians traveling to NTT would add on destinations in Timor-Leste. Indonesians are traveling overseas in increased numbers. According to UNWTO, 8.3 million international trips were taken by Indonesians in 2016, accounting for some \$7 billion in overseas tourism expenditure and ranking the country 22nd globally in the generation of global demand. Middle-class Indonesians are aware of Timor-Leste as a destination due to the close history shared. Bahasa is common to both Indonesia and Timor-Leste. Equally, Indonesia's 24 million Christians could have a

¹³⁰ Derived from conversations with Dili and Kupang tour operators in May 2018.

Map 6: Land-Based Tourist Attractions



Source: Asian Development Bank.

Figure 10: International Visitor Arrivals by Border, 2011–2016

Source: Timor-Leste Ministry of Tourism, Arts, and Culture, 2017.

potential interest in Timor Island, which is half Protestant (West Timor) and half Catholic (Timor-Leste). The whole island is peppered with historical sites from their shared history and also churches, Christian religious symbols, and relics.

Another high-potential target market is expatriates living in Indonesia and working in Jakarta, Surabaya, Bali, and other parts of the archipelago. These people are looking for interesting short weekend and holiday breaks, and an established, well-publicized overland route across Timor Island could stimulate their interest.

A third target market with substantial potential is visitors to popular destinations such as Bali, which is Indonesia's most successful tourism destination. In 2016, Bali welcomed just under 5 million visitors, the majority of whom originated from Australia (1,137,413), the People's Republic of China (986,026), Japan (234,590), and the United Kingdom (221,149). Currently, the Asia and Pacific region produces 62% of international tourism demand for Bali. There is also a strong domestic demand for Bali, which ranges between 6 and 8 million visits annually, mostly originating from Java.¹³¹

An interesting overland tour reflecting the old hippie trail could become a pre- or post excursion for a trip to Bali, especially by Australians. This, however, would be contingent upon good aviation access between hub cities in Australia and Timor Island.

The advantage of an overland itinerary is that it is more likely to benefit border residents than cruise tourism or tourists traveling by air. One planned investment at the Border Control Post of Mota'ain-Batugade is the establishment of a duty-free shopping zone. This will

¹³¹ Bali Discovery Tours. 2017. 2016: Bali by the Numbers, Bali Update 26-01-2017. www.balidiscovery.com.

undoubtedly attract tourists and travelers, and attention could be paid to establishing other attractions in the vicinity.

Another advantage of this opportunity is that the investments to improve land connectivity are minimal compared with those for sea and air. By developing overland itineraries, there is the additional potential to draw tourists away from the main transport hubs (i.e., the main airports on Timor Island) to travel and spend in the inland regions.

However, while there appears to be reason to believe there would be interest in overland itineraries, the current barriers to overland movement make it hard to judge the potential market uptake. This is a source of uncertainty and risk that would need to be addressed in any recommendations involving overland tourism.

C. Marine and Cruise Tourism

Marine tourism, particularly diving, and cruise tourism are two areas of potential cooperation that have been highlighted during consultations in NTT and Timor-Leste. They are also an important area of cooperation under the TIA-GT. Both industries could be developed through joint marketing and investment promotion under the “One Island, Two Nations” brand and through knowledge sharing.

Both NTT and Timor-Leste are blessed with impressive marine attractions. Many of the coral reefs in Timor-Leste are relatively untouched and quite accessible from Dili, as the waters of the northern coast are relatively protected and placid. Large groups of dolphins and pilot whales regularly cross the strait between Dili and Atauro Island, and *dugongs* (a vulnerable species) are also found in Timor-Leste waters. In NTT, diving and snorkeling are currently concentrated around Flores and Komodo National Park, which boast schools of sharks and rays, turtles, and virgin coral. The convergence of warmer waters from the Flores Sea and the cooler Sumba Strait also creates excellent conditions for a rich diversity of marine life.

Worldwide, the scuba diving industry has expanded dramatically since 1967 and today represents a multibillion dollar industry. Dive tourism refers to holidays of which the main purpose is to take part in scuba diving activities, and the average dive holiday would have a duration of around 5 or more days.

There are currently six companies offering scuba diving and snorkeling tours in Timor-Leste: Dive Timor Lorosae, Compass Charters, Aquatica Dive Resort, Atauro Dive Resort, Blue Ventures, and Barry’s Place. In a recent survey, all dive operators noted that the major attraction of diving in Timor-Leste is the uncrowded dive sites.¹³² In NTT, dive operators are many, of high quality, and often have good reputations for protection of the reefs.

Cooperation between NTT and Timor-Leste on diving could include agreements that enable tour operators to run live-aboard itineraries that cross NTT and Timor-Leste—or for day trips, to allow dive operators to do one dive in Timor-Leste and one in NTT. Alor, Wetar, and Kisar are all within sight of Timor-Leste’s north coast and short visits could be

¹³² Survey conducted by the Asia Foundation in 2017.

integrated into the offerings of the growing number of Dili-based dive and boat operators. This would require visa issues to be overcome or else special licenses and/or certifications for approved operators. It is also worth noting that there are plans to install a decompression chamber in NTT (the nearest one is currently in Bali). There are none in Timor-Leste at present. Consideration could be given on joint usage of a decompression chamber to ensure the safety of dive operations in both locations.

There is also potential to attract yachting or sailing enthusiasts. The Darwin–Dili Yacht Rally, run annually since 2011, actively promotes itself as possibly linking with the Sail Indonesia Rally. This could make the route Darwin–Dili–Oecusse–Kupang and onward across Indonesia. Greater collaboration between the organizing committees for both rallies (i.e., a specific Timor-Island route) might be an attractive proposition.

Cruise tourism is also an important opportunity for both NTT and Timor-Leste. In 2017, Timor-Leste recorded four ship visits and an estimated 4,509 cruise passengers. During the same year, NTT received some 70 ship visits and 50,000 passengers, almost exclusively to Labuan Bajo and Komodo National Park.¹³³ NTT benefits from interisland cruise itineraries that call on other ports within Indonesia as part of an extended cruise through the archipelago. It also receives support from the Indonesian Ministry of Tourism, which actively promotes to leading cruise operators by attending annual events such as SeaTrade.

Cruise ship tourism has its disadvantages. First, since the shore visits are limited, spending on shore is more limited than other forms of tourism. Second, large groups on shore for small periods of time can have larger environmental and social impacts than other forms of tourism. It is also a seasonal business that does not provide continuous sources of tourism demand. Nevertheless, it does expose tourists to the attractions of the destination, possibly increasing the chance that they or family and friends will visit for longer periods in the future. Also, it gives locations with limited accommodation facilities a chance to benefit from expenditure on handicrafts and day tours.

Cruise tourism should be viewed from a regional perspective in which itineraries are conceptualized to include ports in both Timor-Leste and Indonesia. With this approach it will be easier to approach international cruise operators and entice them to consider multicountry itineraries. It will be important to ensure that ports-of-call identified in each country offer unique features and are not repetitive in content and product offer.

Marine and cruise tourism could be developed through cooperation between NTT and Timor-Leste in three ways: (i) joint marketing under the “One Island, Two Nations” brand; (ii) knowledge sharing; and (iii) joint investment promotion. The benefits of joint marketing were explored in the previous section. There is also considerable benefit from joint knowledge-sharing activities. Under the TIA-GT, a joint cruise tourism study tour was undertaken in July 2017 to Papua New Guinea. While the cruise ship industries in Timor-Leste and NTT are at different stages of development, the trip provided lessons for both parties. For example, the main takeaway for NTT was the need to develop port infrastructure and expand their offer of agrotourism and traditional cultural experiences. For Timor-Leste, it was recognized that there is a need to develop a national-level strategy and vision for

¹³³ Derived from information provided by the NTT Provincial Tourism Office.

cruise tourism, communicate directly with cruise lines, and increase promotion.¹³⁴ Given the difference in development for cruise tourism between NTT and Timor-Leste, there would also be considerable opportunities for bilateral exchanges.

While this is certainly a promising opportunity, it should also be noted that the impact on residents of the border areas would most likely be limited, with the focus of economic activity at the main ports.

D. Aviation Connectivity

A more ambitious opportunity, highlighted in discussions with tour operators, would be more effective use of existing and emerging aviation infrastructure in NTT and Timor-Leste.

Currently, as explored in Part I, international airports include Presidente Nicolau Lobato Airport in Dili and El Tari Airport in Kupang. There are plans to build a new airport in Kupang in NTT. There are also plans to refurbish and improve the facilities at Dili airport. Both airports can currently service A320 aircraft, which can fly for approximately 5 hours. This is adequate for current and forecasted demand up until 2030. Nevertheless, in the longer term, their runways will need to be expanded to handle larger aircraft with longer ranges. This will be costly and, given their locations in urban areas, there are natural restrictions on their ability to expand runways and terminal buildings.

There are new opportunities arising, however. As stated earlier, the Indonesian government is considering converting Labuan Bajo Airport into an international airport to allow international tourists to fly in directly. The Oecusse International Airport is also due to open in late 2018. This is an enormous investment by the Government of Timor-Leste that will cover an 814-square kilometer area within Oecusse and will be able to service large aircraft required for long-haul flights. Oecusse is centrally located on Timor Island, making short-haul flights to other tourist destinations in NTT and Timor-Leste convenient (e.g., Flores, Komodo, Atauro). Equally the airport in Suai on the south coast of Timor-Leste near the border with NTT has been reopened and is seeking commercial international flights. This provides a host of opportunities for increasing aviation connectivity for joint tourism itineraries between Timor-Leste and Indonesia.

Joint investments and agreements between Timor-Leste and NTT to use this infrastructure more effectively could be highly beneficial. For example, it might mean that the building of a new airport in Kupang is not required and may change longer term expectations of necessary expansions to Dili airport. This opportunity would require a high level of trust between NTT and Timor-Leste; however, given the potential savings gained in infrastructure investment, exploring the relative pros and cons of this opportunity is recommended.

¹³⁴ Market Development Facility (MDF). 2017. Cruise Tourism Trilateral Study Report. MDF. Dili.

Recommendations

Based on the problem analysis and identified opportunities, the following recommendations are made to support cross-border tourism:

- (i) Improve island-wide land, sea, and air connectivity.
- (ii) Support joint tourism and investment promotion.
- (iii) Support leadership and partnerships.

These recommendations are explained below, and a road map with suggested sequencing is provided.

A. Recommendation 1: Improve Connectivity and Infrastructure

Improving the hard and soft infrastructure for connectivity between NTT and Timor-Leste is critical to enabling joint tourism itineraries that go by land, sea, or air. Since tourism is largely a private sector activity, the focus of public sector activity should be on ensuring seamless connectivity and a conducive enabling environment.

Investments in connectivity have the additional benefits of supporting all forms of trade and business development. They also signal to the private sector that the government is serious about tourism. This could encourage private tour operators to also invest in these tourism development opportunities.

The most immediate priority would be supporting implementation of the pending MOU on cross-border movement of vehicles. This is near finalization; however, it is possible that capacity building on implementation for border agencies would ensure that the agreement is carried out efficiently in practice. Further agreements to align with related ASEAN agreements would also be advisable (see Part I). Furthermore, as discussed previously, a review of Timor-Leste's visa policy plans would be useful, particularly in the pros and cons of reducing the \$30 fee for Indonesians and enabling visas on arrival (or online application) for all international tourists at land borders. Consideration should also be given to removing fees for cruise arrivals.

Over time, if the land itineraries become successful, other infrastructure such as petrol and rest stops would be required along the route. There are currently no petrol stations, rest stops, or viewing areas between Dili and Kupang. A few rest stops would improve safety and improve the experience of travelers along the journey. Rest stops also provide an opportunity for local businesses through the sale of food and handicrafts. Investments in

other amenities and accommodation may also be required. One likely area for improvement would be providing a greater variety of accommodation options to travelers (e.g., camping, bed and breakfast, lodges, hotels). Equally, upgrading water and sanitation infrastructure may be required.

Regarding cruise tourism, Dili has been provisionally proposed as a center for cruise ships once Tibar Bay is functioning. It is important to plan for improving the infrastructure for this early on. Equally, in the longer term, appropriate landing facilities in the form of piers and jetties are required to gain access to desirable ports of call. If possible, passenger terminals and land transport centers should be established at Kupang and Dili ports to ensure the safe and efficient movement of visitors partaking in shore excursions. This infrastructure should be undertaken in consultation with international cruise operators to identify appropriate ports of call and potentially to establish PPP investments. A joint mission between Timor-Leste and NTT to meet cruise liners and establish a dialogue is recommended.

Another longer-term objective is to improve air connectivity. Two activities should be undertaken in preparation. First, a review of the fitness of air service agreements (ASAs) in Timor-Leste should be undertaken, particularly in relation to planned new routes between Kupang, Dili, and Darwin. Second, initial discussions and a feasibility study should be considered on opportunities to effectively use international airports in NTT and Timor-Leste. This should include connections to sea and land transport and should include a comprehensive feasibility study and island master plan. This can be done in tandem with reviewing the possibility of introducing direct international air services between Australia and the Timor Island. The outcomes of the feasibility study will determine the longer-term actions.

The major recommendations are summarized below:

Short term:

- (i) Finalize and implement the MOU on Cross-Border Movement of Vehicles.
- (ii) Conduct joint border official training for customs, quarantine, immigration, and security officials.
- (iii) Review and implement visa reform for Timor-Leste (especially the land border).
- (iv) Conduct a joint mission to cruise liners to understand demand and infrastructure requirements.
- (v) Review Timor-Leste international ASAs, particularly for linkages between Kupang, Dili, and Darwin.
- (vi) Conduct a feasibility study on more effective aviation connectivity.

Medium to long term:

- (i) Move toward eventual harmonized and standardized procedures at the border with the establishment of single-stop inspections.
- (ii) Over time, consider upgrading facilities for overland routes such as rest stops and viewing points.

- (iii) Improve provision of clean water, sanitation, and energy to tourist areas.
- (iv) Build port infrastructure in Dili and ports in NTT to support cruise ship tourism (e.g., dedicated passenger terminals).
- (v) Undertake any required soft or hard investments in air connectivity following the feasibility study.

B. Recommendation 2: Joint Tourism and Investment Promotion

Providing the infrastructure for joint tourism itineraries is necessary, but it is unlikely to be sufficient. Significant investment is required for the promotion of tourism itineraries. This requires an understanding of both the product being offered and the potential target markets. This should be matched with higher level objectives around community and environmental impacts.

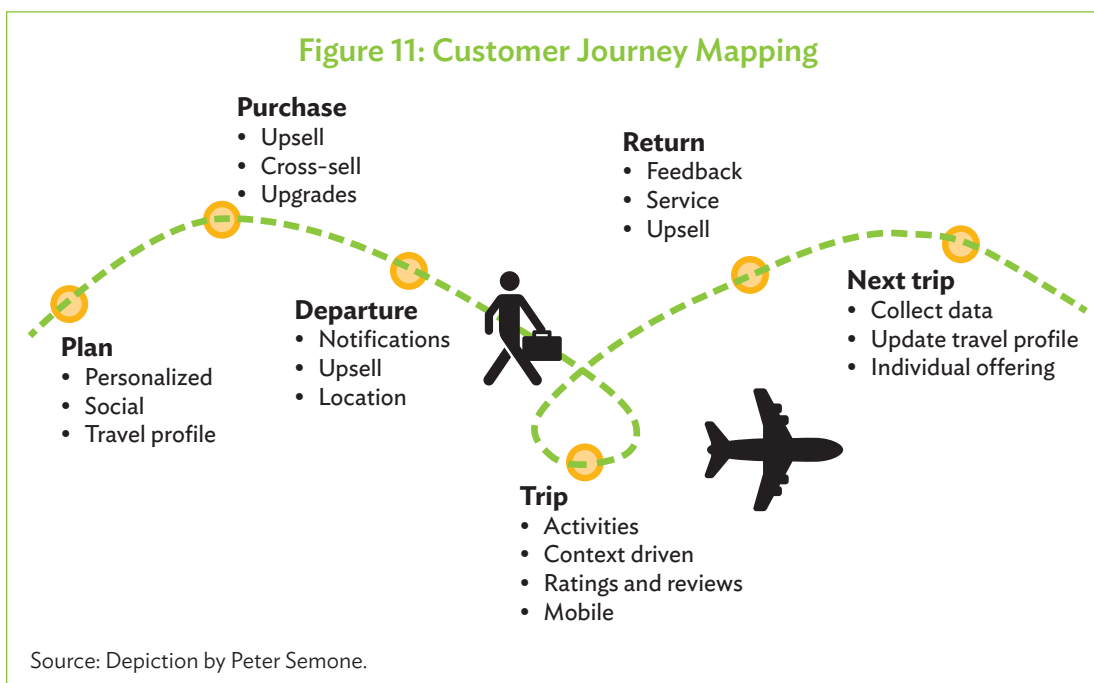
It is recommended here that tourism promotion be conducted under the banner of “One Island, Two Nations” for the reasons highlighted in the opportunities chapter. This branding should be used to augment existing destination brands “Explore the Undiscovered” and “The New Tourism Territory.”

Immediate priorities would be to establish a joint tourism product to be marketed under the joint brand. PPPs with the governments of Timor-Leste and NTT to develop cross-border land or marine itineraries could be a beneficial short-term investment. A PPP could be established to conduct tourism asset mapping (TAM) and customer journey mapping (CJM) (Figure 11) for an overland itinerary. TAM and CJM are beneficial for understanding not only the existing accessibility and assets, but also the experience of tourists. For example, such mapping can be a beneficial exercise for highlighting gaps in amenities such as money changers and ATMs, which may not be normally considered, but will impact the tourist’s enjoyment and ease of movement. A similar exercise could be done to map suitable joint marine itineraries.

Working together will ensure that actions on both sides of the border are coordinated and also that subsequent actions to develop tourist sites will correlate with the private sector perspective on tourist demand. It will also provide a platform for establishing a joint investment plan.

This should also include consultations at the community level to raise awareness and early community participation, which will be essential in the longer term to increase sustainability and inclusive benefits.

The CJM and TAM exercise would be a practical demonstration of the feasibility of joint action. If it is successful, this may indicate the validity of the joint brand. A subsequent step would be to begin to establish a strategy for bilateral tourism development in the short, medium, and long terms. It is advisable that, in the process of developing a joint tourism strategy, key media, trade, and opinion leaders be invited to trial tourism products and make recommendations on taking the products to market. Consideration should also be given to



establishing criteria for monitoring and protecting the social and environmental impact (see section E).

Following these consultations, a joint logo and website could be developed to help promote the joint itineraries. These should target high-potential markets, which include Indonesians and Timor-Leste nationals themselves and tourists in Bali. Short-term marketing initiatives might include exchange of billboard space in respective airports in NTT and Timor-Leste, participation in regional trade shows such as “Bali and Beyond,” and collaborative marketing in select source markets. The previously mentioned hippie trail may provide an anchor theme for bilateral marketing and promotion.

In the medium term, this collaboration could be extended beyond joint marketing to tourists and tour operators to include joint investment promotion to attract investment in tourism infrastructure and services such as accommodations and amenities required for joint itineraries. In the long term, this collaboration could evolve into a joint tourism promotion board similar to the one for Greater Mekong Subregion (GMS) (Box 9).

The major recommendations are summarized below:

Short term:

- (i) Conduct CJM and TAM with the private sector and in consultation with communities.
- (ii) Create a cross-island land or marine itinerary to be marketed under “One Island, Two Nations.”
- (iii) Develop a joint brand and digital promotion strategy.

Medium term:

- (i) Exchange promotion channels such as billboards at airports.
- (ii) Conduct joint investment tours and trade shows.
- (iii) Build a joint investment plan for cross-border tourism.

C. Recommendation 3: Build Leadership and Partnerships

Recommendations 1 and 2 are contingent upon robust and effective partnerships between public and private sector stakeholders. Establishing and facilitating partnerships and a shared sense of responsibility constitute perhaps the greatest single challenge for developing tourist destinations. As a cooperative exercise between two economies, the requirement for platforms for collaboration is even higher.

As previously mentioned, there are existing regional and bilateral initiatives that provide frameworks for cooperation. These include the TIA-GT, the Coral Triangle Initiative, and the MOU on Tourism between Indonesia and Timor-Leste. It is recommended here that a joint task force be developed with the responsibility to take forward the TAM and CJM mapping in Recommendation 2. This should be done under the existing MOU on tourism, in collaboration with the wider regional initiatives and with representatives from the private sector and development partners.

There is a need for improved capacities in Timor-Leste and NTT. Bilateral efforts for collaboration in tourism should consider the design and implementation of capacity building initiatives for public sector officials as well as small and medium-sized enterprise operators. The collaboration outlined in the MOU signed by Indonesia and Timor-Leste on cooperation in tourism ensures that good practices are shared between the two countries. The ASEAN Mutual Recognition Arrangements on Tourism Professionals standards serve as a good benchmark and framework.

There are two streams of capacity building to address: First are public administrators directly or indirectly engaged in tourism to enhance their knowledge of the tourism sector and their respective roles. This will include personnel from tourism authorities, investment promotion boards, chambers of commerce, industry associations, directorates of statistics, immigration officials, and transport authorities.

Second are border communities by evaluating tourism-related employment and entrepreneurial opportunities and conducting labor market needs assessments to inform appropriate education and training programs to be developed and delivered. A second group of beneficiaries will be those residing near locations identified along key tourism routes where private sector investment is likely and there is a high probability of local community employment. They will require similar hospitality and tourism skills development programs.

Capacity building can be provided through a variety of means such as cross-border study visits and tours, funding to attend formal tourism training collages, internships, and community-based skills training for local beneficiaries.

It will also be important to establish a wider platform to communicate with communities, possibly through nongovernment organizations (NGOs), development partner projects, or religious organizations to increase their awareness of the plans and engagement in the work. This is particularly important in preventing negative social or environmental impacts and making sure the benefits are being accrued at the community level.

Furthermore, to support effective private sector participation in joint activities, it is recommended that the chambers of commerce in NTT and Timor-Leste and respective tourism associations and bodies meet regularly to establish common areas for advocacy in relation to the regulatory and legislative environment for cross-border tourism. Capacity building may be needed for tourism bodies in Timor-Leste to engage effectively, as they were established relatively recently.

The major recommendations are summarized below::

Short term:

- (i) Establish a joint tourism task force under the MOU on Tourism.
- (ii) Support capacity building and coordination of cross-border business and tourist associations.
- (iii) Conduct consultations with target communities.

Medium term:

- (i) Review and improve labor market capacity for tourism (use ASEAN mutual recognition agreements on tourism as benchmark).
- (ii) Support targeted cross-border study visits and internships.
- (iii) Support scholarships for formal tourism training.
- (iv) Establish community-based skills training for local beneficiaries.
- (v) Create and promulgate community tourism awareness programs.

D. Complementarities with Existing Programs

Throughout the previous subsections, complementarities have been highlighted between these recommendations and existing strategies and policies of the Government of Indonesia and the Government of Timor-Leste on a bilateral and trilateral basis. There are also considerable complementarities to existing programs by other development partners. Table 21 lists some of these complementarities (though the list is not exhaustive).

Table 21: Complementarities between Recommendations and Existing Initiatives

| | |
|---|---|
| Improve land, sea, and air connectivity | <ul style="list-style-type: none"> • Investments made and underway in Oecusse International Airport and Suai International Airport. Upgrading taking place with JICA support at Dili Airport. Analysis of Dili Airport runway extension by Asian Development Bank. • Investments in Kupang port for passenger terminals identified and underway. Government seeking investors. • Plans for Garuda air Kupang–Dili– Darwin route. • Investments in airport infrastructure– Labuan Bajo (Oecusse and Suai in TL). • Existing MOU between Indonesia and Timor-Leste on cross border movement of vehicles in draft. Support required for finalization and implementation. • Border post infrastructure investments and establishment of National Single Window in Indonesia and ASYCUDA in Timor-Leste (with support from USAID, UNCTAD, and JICA). |
| Joint tourism and investment promotion | <ul style="list-style-type: none"> • Business climate reforms undertaken by both governments. • In June 2018, President Joko Widodo of Indonesia and President Francisco Guterres Lú Olo of Timor-Leste agreed to start negotiations on an investment agreement for promotion and protection. • Chambers of commerce in NTT and Timor-Leste agreed to cooperate. • Activities for tourism promotion under the TIA-GT including cultural events, culinary tourism, a trip to Papua New Guinea on cruise tourism and a Timor-Leste, Indonesia, Australia trilateral business forum. • USAID Tourism for All project seeking to protect and development environmental and cultural heritage sites in Timor-Leste. |
| Leadership and partnerships | <ul style="list-style-type: none"> • NTT as one of the 10 focal areas for tourism in Indonesia. Strong commitment nationally to tourism industry. • New tourism MOU being negotiated between Indonesia and Timor-Leste. • Hospitality training sponsored by Charles Darwin University under the TIA-GT (DFAT). • Success of Indonesia formal training programs such as Sekolah Tinggi Parawisata (STP). |

ASYCUDA = Automated System for Customs Data, DFAT = Department of Foreign Affairs and Trade, JICA = Japan International Cooperation Agency, MOU = memorandum of understanding, NTT = Nusa Tenggara Timur, TIA-GT = Timor-Leste–Indonesia–Australia Growth Triangle, UNCTAD = United Nations Conference on Trade and Development, USAID = United States Agency for International Development.

Source: Asian Development Bank.

E. Impact on Environment and Vulnerable Populations

Tourism is specifically mentioned in the Sustainable Development Goals (SDGs) under SDGs 8, 12, and 14, due to its wide-ranging impacts on communities, gender equality, and climate change. Tourism is one of the driving forces of global economic growth, and currently accounts for 1 in 11 jobs worldwide. The tourism sector gives access to decent work opportunities, particularly for youth and women. SDG 8.9 reads, “By 2030, devise and implement policies to promote sustainable tourism that creates jobs and promotes local culture and products.”

The SDGs also identify the need to develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs; promotes local culture and products; as well as promotes conservation and sustainable use of oceans, seas, and marine resources. The Global Sustainable Tourism Council (GSTC) criteria serve as the global baseline standards for sustainability in travel and tourism. The criteria are used for education and awareness raising, policy making for businesses and government agencies and other organization types, measurement and evaluation, and as a basis for certification. There are two sets of GSTC criteria: GSTC Industry Criteria relate to the sustainable management of the private sector travel industry, focusing on hotels and tour operators. GSTC Destination Criteria relate to the sustainable management of tourism destinations.

Negative impacts from tourism include poor waste management and a loss of cultural integrity. Tourists often consume food and beverages packaged in single-use plastics, and, in many cases, local communities do not have the resources to properly dispose of this waste. Vulnerable communities with substandard economic conditions are also subject to the “demonstration” effect in which tourists’ consumption and behavioral patterns are imitated, causing loss of cultural integrity. This can be particularly dangerous for young community residents and women, in particular. These are risks that should be anticipated and where possible mitigated against.

The commitment by the governments of NTT and Timor-Leste toward sustainable and ecotourism shows that the negative impacts are understood. However, it would be recommended to integrate a monitoring or surveillance mechanism for the impact, such as the criteria promoted by GSTC to ensure standards are being upheld. Consideration could also be given to promoting green tourism certification programs, which can also be used as part of the marketing and branding campaigns.

Further consideration could also be given to joint protection and notification of transboundary resources relevant for marine tourism, for example, coral reefs or breeding areas for endangered species.

F. Stakeholders

Table 22 highlights the main stakeholders of the recommendations. It is anticipated that the main partners would be the ministries of tourism in Indonesia and Timor-Leste, but led through a multi-stakeholder task force.

Table 22: Stakeholders

| Group | Involvement |
|---|--|
| Ministry of Tourism in Timor-Leste and Indonesia and NTT Dinas Pariwisata | Principle partners and implementers |
| Investment promotion agencies, i.e., TradelInvest, BKPM, and DPMPSTP | For joint investment tours and opportunities |
| Immigration, customs, quarantine, and security at headquarters and at Mota'ain-Batugade border post | Implementing partners for connectivity reforms |
| Indonesian embassy in Dili | Supporting joint task force coordination |
| Mission units in Dili and Jakarta for the TIA-GT | Support coordination and reinforcement of bilateral activities at regional level |
| Business development and financial services, i.e., Market Development Facility, IADE | Support for SMEs to identify investment and business development requirements |
| Business and industry associations, e.g., chambers of commerce and industry in NTT and Timor-Leste, ASITA, PHRI, and HOTL | Representatives in task force, possible partners in PPPs, identified investors |
| Development partners, i.e., USAID, DFAT, ILO | Coordination of development projects to ensure complementarity; partners in task force |
| Australia's Northern Territories tourism authority | For coordinating promotional tours |
| Private sector tour operators in NTT and Timor-Leste, i.e., Mega Tours, Timor Adventures, Timor Unearthed | Participation in mapping exercises and consultations |
| Tourist business associations, i.e., ASITA, PHRI, HOTL | Representatives in task force, possible partners in PPPs |
| Communities at tourist destination sites | Partake in consultations, engage in opportunities |
| Community NGOs and charitable organizations | Development of tourism sites in partnership with communities, advocacy for communities, monitoring and oversight |

ASITA = Association of Indonesian Tours and Travel Agents, BKPM = Badan Koordinasi Penanaman Modal, DFAT = Australian Government Department of Foreign Affairs and Trade, DPMPSTP = Dinas Penanaman Modal and Pelayanan Terpadu Satu Pintu Provinsi Nusa Tenggara Timur (Department of Investment and One-Door Integrated Services), HOTL = Hotel Owners Timor-Leste Association, IADE = Instituto de Apoio ao Desenvolvimento Empresarial (Institute of Service Provision to the Private Sector), ILO = International Labour Organization, NGO = nongovernment organization, NTT = Nusa Tenggara Timur, PHRI = Indonesian Hotel and Restaurant Association, PPP = public-private partnership, SMEs = small and medium-sized enterprises, TIA-GT = Timor-Leste-Indonesia-Australia Growth Triangle, USAID = United States Agency for International Development.

Source: Asian Development Bank.

G. Risks

Table 23: Risks

| Risk | Assessment | Mitigation |
|--|---|--|
| Insufficient demand for overland itineraries | High. It is hard to ascertain from current data how much demand there will be for overland tourist itineraries (as opposed to family visits). | Focus initial activities on solving connectivity issues, since these will also benefit trade. Activities should be conducted in partnership with the private sector to ensure they see the value of the investment. |
| Change in political commitment to tourism | Medium due to recent governor elections in NTT and elections in May in Timor-Leste. | Timing of the pilot would coincide with new government administrations; hence, it will go ahead only if political commitment remains strong. |
| Resistance to new procedures at the border | Low. Recommendations in this report have come largely from consultations with border officials, which demonstrates a high degree of engagement. | |
| Negative environmental impact | Medium, despite a public commitment to environment and ecotourism. | Ensure that environmental impact assessments are conducted early in project preparation to allow for modifications in planned investments. |

NTT = Nusa Tenggara Timur.

Source: Asian Development Bank.

H. Road Map

Table 24 shows suggested sequencing for the activities outlined in the recommendations.

Table 24: Road Map of Recommendations

| Recommendation | | Year | | | | |
|----------------|--|--|---|------------------------------------|--|---|
| | | 1 | 2 | 3, 4 | 5, 6, 7 | 8+ |
| Connectivity | Streamline cross-border movement of goods | MOU on vehicles finalized | Joint training with CIQS | SOPs established and implemented | Harmonized procedures and data sharing | Single-stop inspection |
| | Streamline cross-border movement of people | Review visa reform | Visa reform implemented | | | |
| | Amenities and critical infrastructure | | | | Rest stops and viewing points | Accommodation, water, energy, and waste |
| | Support sea connectivity | | Joint mission to cruise lines conducted | Upgrade port facilities for cruise | | |
| | Support air connectivity | Review air service agreements | Review of aviation connectivity | | Investments as required | |
| Promotion | “One Island, Two Nations” | Customer Journey and Tourism Asset Mapping | Joint itinerary established | Draft joined and tourism strategy | Exchange promotion channels | Joint investments in infrastructure |
| Partnership | Cross-border public sector coordination | Joint task force established | | Skills assessment | Scholarship and study visits and community-based skills training | |
| | Community engagement | | Consultations with target communities | Community-based training | | |
| | Public–Private Partnership | | Cross-border tourism association coordination | | | |

CQS = customs, immigration, quarantine, and security, MOU = memorandum of understanding, SOP = standard operating procedure.

Source: Asian Development Bank.

Pilot Project

A. Objectives

The objectives of the pilot project will be to (i) secure agreements for streamlined cross-border movement of goods and people in place; (ii) understand the requirements and viability of a joint itinerary under the “One Island, Two Nations” tagline; and (ii) establish the institutional platforms for future cooperation.

A successful pilot project would mean that at the end of 24 months:

- (i) Procedures for movement of vehicles across the border had been agreed to and are beginning to be practiced.
- (ii) Visa legislation in Timor-Leste had been passed and is being implemented.
- (iii) A joint itinerary had been designed in partnership with the private sector and communities, and tour operators are beginning to sell joint itineraries.
- (iv) Coordination platforms are in place with workplans and sufficient funding.

B. Outputs and Activities

Table 25 details the outputs, activities, framework, performance indicator, and inputs of the proposed Pilot Project.

Table 25: Outputs, Activities, and Time Frame of Pilot Project

| Output | Activity | Time Frame | Performance Indicators | Inputs |
|--|--|------------|--|---|
| 1. Improve Connectivity and Infrastructure | | | | |
| Support for implementation of the MOU on cross-border movement of vehicles | <ul style="list-style-type: none"> Establish a joint cross-border committee. Support finalization of MOU and ensure that necessary mutual recognition agreements and development toward single-stop inspection are included. Raise awareness among key stakeholders and public about the MOU. Establish technical working group to implement agreement. Develop standard operating procedures (SOPs). Conduct joint training of border officials on implementation of the MOU. | Years 1, 2 | MOU signed SOPs adopted Training conducted Time release study | Funding for travel of committee members and meeting facilities, technical assistance for review of MOU, funding for radio and newspaper announcements, technical assistance for SOPs, funding for capacity building |
| Review of Timor-Leste visa policy | <ul style="list-style-type: none"> Review pending legislation. Conduct necessary surveys and research regarding potential impact of reforms. Support implementation of new policy (if required) with capacity building. | Year 1 | Legislation passed and implemented at border | Technical assistance for review and surveys; funding for capacity building |
| 2. Conduct Joint Tourism and Investment Promotion | | | | |
| TAM and CJM conducted with private sector on an overland or marine itinerary | <ul style="list-style-type: none"> Joint tourism task force broker PPP for conducting mapping exercise Survey missions conducted with members of task force to identify highest potential shared routes and itineraries across Timor Island Workshop held to exchange ideas and thoughts on routes and itineraries, identify barriers, and set product development priorities | Years 1, 2 | CJM and TAM complete Joint itinerary agreed to by key stakeholders Investment plan established | Funding for TAM and CJM; funding for workshop (travel and facilities) and consultations |

continued on next page

Table 25 continued

| Output | Activity | Time Frame | Performance Indicators | Inputs |
|--|--|------------|--|--|
| | <ul style="list-style-type: none"> Community consultations at potential destination sites on joint itinerary Tourism route development plan with detailed assessment of supporting infrastructure (including water and sanitation) and investment opportunities produced | | | |
| Draft joint tourism strategy developed under “One Island, Two Nations” | <ul style="list-style-type: none"> Target market identified Marketing message and brand developed Brand messages tested on key media, trade and opinion leaders Digital promotion strategy developed | Year 2 | Target market analysis conducted, draft tourism strategy developed | Technical assistance for identifying target market |
| 3. Partnerships and Leadership | | | | |
| Joint tourism task force established under the MOU | <ul style="list-style-type: none"> Terms of reference developed First meeting conducted and workplan established Provide support to joint meeting of tourist associations. | Year 1 | Task force established; Year 1 workplan finalized | Funding for travel and meeting facilities |

CJM = customer journey mapping, MOU = memorandum of understanding, PPP = public–private partnership, TAM = tourism asset mapping.

Source: Asian Development Bank.

PART III

Livestock

Part III Summary

Why cooperation on livestock?

In the seven districts along the border between West Timor and Timor-Leste, 90%–95% of households are smallholder farmers and rely on livestock as a form of income, food, and savings. Support to the livestock industry has the potential to reduce poverty for these households and open new economic opportunities. Rising demand for beef, chicken, eggs, and pork in Timor-Leste and West Timor creates market demand; and rising demand in the Association of Southeast Asian Nations (ASEAN) and elsewhere also provides strong long-term growth potential for the industry.

What are the challenges to cross-border livestock supply chains?

Challenges to cross-border livestock supply chains are many and complex. The study analyzes crosscutting issues but also details obstacles along the supply chain. The proximate reasons for lack of cooperation and trade in livestock are the trade bans resulting from animal health concerns and insufficient sanitary and phytosanitary (SPS) regimes. However, it is also driven by the fundamental challenge of low productivity, caused by a myriad of factors such as lack of access to financial services, inadequate extension services, lack of inputs, a poor investment climate, and insufficient transport infrastructure.

What are the opportunities?

Based on supply, demand, and existing marketing channels, the study identifies three primary opportunities: (i) the formal export of cattle from Timor-Leste through ports in West Timor to meet demand in Indonesia; (ii) the export of chickens and poultry products from Nusa Tenggara Timur (NTT) to meet demand in Timor-Leste; and (iii) the export of pigs and pork from NTT to Timor-Leste.

What is recommended?

It is recommended that the animal health and SPS barriers to cross-border trade in cattle and poultry be removed in a staged and secure manner to complement ongoing development of the national animal health and SPS regimes. This should be done in addition to tackling horizontal (crosscutting) challenges to the movement of goods and people across the

border and in coordination with projects to boost the productivity of livestock production. Specifically, for cattle, one can choose from two possible recommendations:

1a. Establish a joint health checkpoint for interisland transfer.

What is proposed? Timor-Leste cattle should be allowed to cross the border to West Timor without a health certificate. Quarantine inspection and health certification should be undertaken at the point of exit from the island: Wini, Atapupu, or Tenau Port.

How would it be done? This would be contingent on Timor-Leste strengthening its national cattle identification system and improving the coverage and provision of veterinary services to decrease the prevalence of key diseases. To build confidence and trust, a joint risk management system and local contingency plan for disease outbreak should be jointly developed and implemented.

Who would gain? Livestock producers and traders in Timor-Leste would gain access to the Indonesian market, while the national animal health and SPS regimes are simultaneously being strengthened (a long-term endeavor). For West Timor it would allow greater transparency, oversight, and control of cattle diseases on the island. Greater volumes of cattle from Timor-Leste would also provide economies of scale for traders in West Timor.

1b. Establish a “trusted trader” program for cattle traders in Timor-Leste.

What is proposed? Specific producers and operators in Timor-Leste could be authorized for export of cattle to Indonesia under streamlined procedures at land and sea borders based on verified good animal husbandry and health practices. This is an intermediate step while national systems are strengthened.

How would it be done? This would be contingent on specific commercially oriented producers strengthening their animal control and management, providing veterinary services, and certification of animal health. Audits of operators would be conducted jointly by Indonesia and Timor-Leste to build trust.

Who would gain? Livestock producers and traders in Timor-Leste would gain access to the Indonesian market, while the national animal health and SPS regimes are simultaneously being strengthened (a long-term endeavor). West Timor traders and shippers would benefit from greater volumes and consistency of supply and benefit from economies of scale.

For poultry, the following is recommended:

2. Current agreements on poultry imports to Timor-Leste can be extended to cover all operators in NTT to enable NTT to export poultry to Timor-Leste.

What is proposed? Existing agreements for the export of poultry and poultry products from NTT to Timor-Leste would be extended to cover the whole of NTT, not only avian influenza (AI)-free certified compartments. This is based on the fact that no incidence of AI has been detected in NTT, and the potential gains from trade are high for both parties.

How would it be done? A risk assessment audit of AI in NTT would be required. Then either the Government of Indonesia could issue an AI-free certificate for NTT, or Timor-Leste could extend the current permission to cover NTT and not only authorized operators.

Who would gain? NTT poultry producers who do not currently have AI certificates would benefit from increased market access in Timor-Leste, which has high demand for poultry. Timor-Leste consumers would gain by having cheaper and possibly higher quality chicken and eggs. Timor-Leste poultry producers may also gain by having cheaper day-old chicks for boosting the domestic industry.

Pilot Project

Should recommendation 1b on cattle be selected, it is proposed that a test be undertaken over an 18-month period to assess the viability of the trusted trader program. The pilot should be conducted with a single commercially oriented operator who is open to piloting new approaches. Results of the pilot will be a better understanding of the costs and benefits, a measure of producers' interest in the approach, information on capacity-building requirements for different stakeholders, and an informal institutional framework for scaling up to full implementation.

CHAPTER 1

Introduction

Livestock populations in Timor-Leste and Nusa Tenggara Timur (NTT) have grown in recent years, as has demand for and consumption of meat. Livestock production is also an integral part of livelihoods and social relationships of households in NTT and Timor-Leste, with more than three-quarters of the population living in rural areas, the majority of whom are subsistence farmers.

The governments of Indonesia, NTT, and Timor-Leste have identified livestock as an important sector for reducing poverty and promoting economic growth. Within Indonesia, promotion of the cattle industry has the potential to tackle economic inequality across the nation. Trade in and cooperative production of livestock have the potential not only to meet the rising demand for meat within NTT and Timor-Leste, but also to supply other regions of Indonesia and eventually other countries in the Association of Southeast Asian Nations (ASEAN). This would have direct benefits for smallholder farmers in NTT and Timor-Leste.

Currently cooperation and trade between NTT and Timor-Leste in livestock are limited because of trade bans put in place due to animal health and sanitary and phytosanitary (SPS) concerns as well as broader issues impacting productivity and costs to trade. However, Indonesia, NTT, and Timor-Leste recognize the potential gains from cooperation and are committed to overcoming these challenges. This is shown by the recent signing of a technical cooperation agreement between the respective ministries of agriculture to work together on livestock. It is further shown by efforts made to allow the first exports of poultry (day-old chicks) since 2004 in April 2018 from West Timor to Timor-Leste.

Part III elaborates on the livestock sector, which was identified as one of two key areas for cooperation (the other being tourism) identified through the Interim report and Joint Focus Group Discussion (FGD) that was held in Kupang, NTT on 28 February 2018.

Part III is structured as follows: Chapter 2 provides the rationale for focusing on livestock as an area of cooperation between NTT and Timor-Leste, including broad trends in production and demand. Chapter 3 then provides an overview of the major crosscutting and specific challenges along the supply chains for trade in cattle, pigs, and poultry.

Chapter 4 highlights three opportunities for cross-border cooperation, and Chapter 5 presents the main recommendations on how to realize these opportunities. Chapter 6 provides a discussion on the importance of promoting productivity. Chapter 7 present long-term recommendations on infrastructure and value chain upgrading. Chapter 8 provides an overview of the crosscutting recommendations elaborated upon in Part I. Chapter 9 then provides a road map which sequences all recommendations into one diagram.

Chapter 10 considers potential partners and Chapter 11, initial considerations on environment and gender. Chapter 12 concludes with a suggested pilot project to test some of the recommendations.

Why Livestock?

A. Regional

Livestock production in both NTT and Timor-Leste has strong long-term growth prospects due to the extent of demand for meat in ASEAN (and further abroad). Table 26 shows the value of imports of beef and live cattle into ASEAN and the growth in that demand. The value of imports across ASEAN grew by 41% between 2012 and 2016, with remarkable increases in Cambodia, Indonesia, and Viet Nam. When including the value of poultry and pork and pigs, the increase in import value was 51% over the same time period.

Table 26: Value of Imports of Live Cattle and Beef
(\$'000)

| Country | 2012 | 2016 |
|----------------------------------|------------------|------------------|
| Brunei Darussalam | 17,080 | 19,734 |
| Cambodia | 241 | 4,900 |
| Indonesia | 425,126 | 1,084,833 |
| Lao People's Democratic Republic | 247 | 50,431 |
| Malaysia | 956,591 | 1,076,352 |
| Philippines | 257,974 | 351,510 |
| Singapore | 174,202 | 189,721 |
| Thailand | 98,558 | 112,412 |
| Viet Nam | 71,622 | 521,858 |
| Grand Total | 2,001,641 | 3,411,752 |

Source: United Nations Comtrade (accessed August 2018).

Rising incomes and strong prospects for continued economic growth all suggest that meat demand is on an upward trajectory in the region. For Timor-Leste, greater cooperation with Indonesia on livestock trade, as well as broader preparation for joining the ASEAN economic community, reduces the costs of access to this growing market.

B. Indonesia/Nusa Tenggara Timur

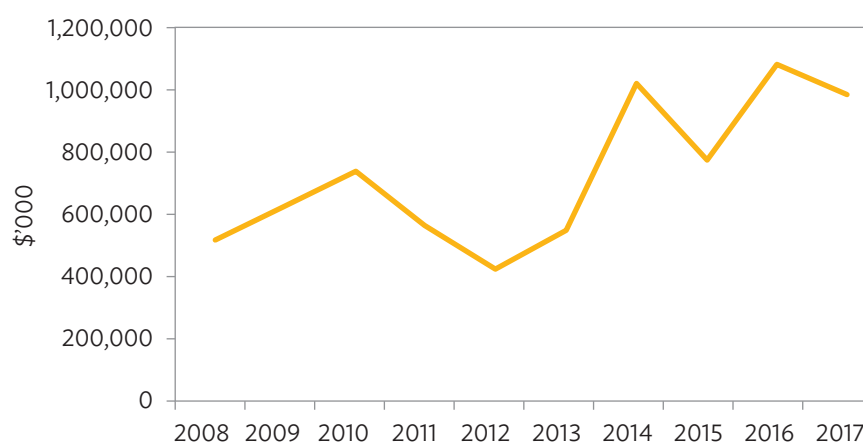
Indonesia has growing domestic demand for cattle and beef, which NTT is well placed to meet. As a largely agrarian economy, NTT is a significant source of cattle within Indonesia; however, productivity is low. The government is committed to addressing poverty and

inequality in NTT as the second poorest province in Indonesia. One component of this is the national Beef Self-Sufficiency Program, which seeks to build national cattle production to meet consumer demand. NTT currently produces a small surplus (compared with local demand) of cattle, but productivity is low compared with other regions of Indonesia. Actions to help boost production and profits of livestock actors in NTT would directly tackle poverty in the region. Furthermore, production of poultry and pork has increased in NTT in recent years, and an expansion of commercial opportunities, particularly into neighboring Timor-Leste, could help foster this growth.

Demand for beef within Indonesia has been growing steadily over the last decade. Rapid population growth, urbanization, and rising incomes have all contributed to this. The Beef Self-Sufficiency Program is aimed at boosting domestic production to meet this demand and support the livelihoods of local farmers. Nevertheless, indications suggest that domestic production has struggled to consistently meet this demand, and imports of beef and cattle have grown significantly in the last few years. In 2017, imports were estimated to be meeting 41% of domestic beef consumption.¹³⁵ Figure 12 shows the change in the total value of Indonesia's imports of live cattle and fresh and frozen beef since 2008.

Imports of live cattle in 2017 were valued at \$515,774,000 (167,671 tons), and imports of fresh or frozen beef were valued at \$466,866,000 (115,720 tons). Together this is equivalent to approximately 1.6 million head of cattle per year.¹³⁶ Beef prices have also been high compared with world and regional standards. The focus of government continues to be on increasing productivity of smallholder farmers to meet this demand, and NTT has been identified by the government as a key region for meeting this need.

Figure 12: Imports of Live Cattle, Fresh and Frozen Beef to Indonesia, 2008–2017
(\$'000)



Source: International Trade Centre Trade Map.

¹³⁵ Global Islamic Economy Gateway. https://www.salaamgateway.com/en/story/how_much_has_indonesia_achieved_in_beef_selfsufficiency-SALAAM19072017053221/.

¹³⁶ The assumption is that a live cow weighs 250 kilograms (kg) and produces 125 kg of meat. For imported meat, 125 kg is equivalent to one cow.

NTT provided 6.1% of domestic production in 2017,¹³⁷ which was an increase from 5.1% in 2012. West Timor is the main producer of cattle within NTT, accounting for about 60% of NTT's cattle population. Livestock production is also increasing in West Timor. Production of cattle grew by 28% from 2010 to 2015 (Table 27).

Table 27: Livestock Population in West Timor, 2010 and 2015

| Livestock | Livestock Numbers (head) | | Change (%) |
|------------------|-----------------------------|-----------|---------------|
| | 2010 | 2015 | |
| Cattle | 461,904 | 593,408 | 28 |
| Pigs | 614,796 | 686,820 | 12 |
| Native chickens | 3,828,782 | 3,983,956 | 4 |
| Broiler chickens | 246,428 | 341,349 | 39 |

Source: Bidang Integrasi Pengolahan dan Diseminasi Statistik Pertanian Nusa Tenggara Timur, 2010–2017.

It also appears that production in NTT is in surplus over local demand. Table 28 shows that West Timor consumption of beef in 2016 was equivalent to 35,808 head per year in 2016.

Table 28: Beef Consumption in West Timor

| Item | Beef |
|--|--------|
| West Timor per capita consumption (kilograms per year) | 2.4 |
| West Timor consumption (tons per year) | 4,476 |
| West Timor head of cattle equivalent | 35,808 |

Source: Bidang Integrasi Pengolahan dan Diseminasi Statistik Indonesia, 2016.

NTT ships about 70,000 head of cattle per year domestically to the rest of Indonesia. To help this, the government has introduced additional cattle ships to carry cattle from ports at Tenau, Wini, and Atapupu interisland, particularly to Java, where demand is highest.

NTT also has a rapidly increasing broiler production industry. Production of native chickens in NTT increased by only 4% from 2010 to 2015 (Table 27). However, production of broiler chickens jumped significantly. From 2010 to 2015, it increased by 39%, and from 2015 to 2016 (not shown in table) it reportedly increased tenfold to 3,723,828. This is indicative of strong growth in the industry.

West Timor appears to be just about meeting local demand for chickens (both native and broiler), making the opening of new market opportunities timely (Table 29).

¹³⁷ Bidang Integrasi Pengolahan dan Diseminasi Statistik Indonesia, June 2018.

Table 29: West Timor Chicken Consumption

| Item | Chickens |
|--|-----------|
| West Timor per capita consumption (kilograms per year) | 2.2 |
| West Timor consumption (tons per year) | 4,103 |
| West Timor head equivalent | 6,838,333 |

Source: Bidang Integrasi Pengolahan dan Diseminasi Statistik Indonesia 2016.

Pig production in West Timor increased by 12% between 2010 and 2015 (Table 27) and appears to also be in surplus to demand. Analysis of pig production can be challenging, because it varies considerably from year to year with seasonality and in relation to large cultural events and holidays. Nevertheless, reports from the Promoting Rural Income through Support for Markets in Agriculture (PRISMA),¹³⁸ a project working with smallholder pig producers in NTT, indicate that production has increased rapidly, and they are currently seeking new market opportunities.

The most compelling reason for interventions in livestock is the potential impact on the livelihoods and incomes of rural households, including those along the border with Timor-Leste. Fully 90%–95% of the households in the seven districts along the land border between West Timor and Timor-Leste (Kupang, Timor Tengah Utara, Belu, Malaka, Oecussi, Bobonaro, and Cova Lima) are smallholder farmers, with cattle, pigs, and indigenous chickens as integral parts of mixed farming activities.¹³⁹

Cattle and pigs are the main source of family income and source of savings. Around 60% of cattle farmers¹⁴⁰ and 66% of pig farmers¹⁴¹ in NTT and Timor-Leste¹⁴² raised animals primarily for economic purposes and only secondarily for reasons related to cultural ceremonies. In subdistricts of NTT (Timor Tengah Selatan, Timor Tengah Utara, Soe, and Belu), cattle sales can make up more than 80% of a family's cash income. A survey conducted in Kupang District¹⁴³ revealed that 62.9% of total household income was derived from cattle farming. A study completed in 2015, which looked at 32 commodities in eastern Indonesia for their ability to impact livelihoods of the poor, found that cattle was the number one option.¹⁴⁴

¹³⁸ PRISMA. Commodities—Pigs. <https://aip-rural.or.id/en/prisma/commoditiesdetail/13>.

¹³⁹ Bidang Integrasi Pengolahan dan Diseminasi Statistik Nusa Tenggara Timur. 2017.

¹⁴⁰ S. Waldron et al. *Final Report: Eastern Indonesia Agribusiness Development Opportunities—Analysis of Beef Value Chains*. ACIAR Project AGB-2012-005.

¹⁴¹ C. Johns et al. 2010. *SADI Final Report: Smallholder Commercial Pig Production in East Nusa Tenggara—Opportunities for Better Market*. Australia Indonesia Partnership Project. ACIAR, January 2010.

¹⁴² E.M. Bettencourt et al. 2015. *The Role of Livestock Production in Timor-Leste*. PDS (2015) RESR, Piracicaba-SP, Vol. 53 Suppl 1, pp. SO63-SO80.

¹⁴³ M.L. Mullik et al. 2014. *Final Report: East Amarasi Cattle Production System*. ILO Decent Work Project.

¹⁴⁴ S. Waldron et al. 2014. *Eastern Indonesia-Agribusiness Development Opportunities*. https://ei-ado.aciar.gov.au/sites/default/files/docs/beef_presentation_final.pdf.

C. Timor-Leste

Table 30 shows that livestock numbers have also been increasing in Timor-Leste.

Table 30: Livestock Population in Timor-Leste, 2010–2015

| Livestock | Livestock Numbers (head) | | Change (%) |
|-----------------|-----------------------------|---------|---------------|
| | 2010 | 2015 | |
| Timor-Leste: | | | |
| Cattle | 161,654 | 221,767 | 37 |
| Pigs | 321,993 | 419,169 | 30 |
| Native chickens | 702,474 | 928,806 | 32 |

Sources: Directorate of National Statistics 2011 and 2015.

The population of cattle in Timor-Leste is less than half that in West Timor; however, production does seem to be increasing. From 2010 to 2015, the number of cattle increased from 161,654 head to 221,567 head, a 37% increase.¹⁴⁵ This production appears to be surplus to domestic consumption demand, which is around 16,000 head per year.¹⁴⁶ However, numbers on the population of cattle should be used with caution as they are not considered accurate. This is expected to be significantly improved following the completion of Timor-Leste's first agricultural census which started in November 2018.

Timor-Leste does import beef from overseas (Table 31) to meet the high-end supermarket and restaurant trade. However, this is probably due to a lack of domestic capacity for fattening and probably reflects the differences in customer preferences rather than a lack of domestic supply.

Table 31: Timor-Leste Meat Imports, 2017

| Meat | Weight (tons) | Value (\$) | Main Country of Origin |
|------------|------------------|---------------|---------------------------|
| Poultry | 10,963 | 13,711,000 | Brazil |
| Pork | 823 | 2,313,000 | Portugal |
| Hens' eggs | 4,652 | 1,699,000 | Malaysia via Singapore |
| Beef | 174 | 1,123,000 | Australia, New Zealand |

Source: International Trade Centre.

¹⁴⁵ Directorate of National Statistics 2011 and 2015.

¹⁴⁶ Domestic demand is estimated at 5,000 head/year for home consumption/ceremonies, 5,000 head/year for sale as meat in municipal markets, and 6,000 head/year for sale as meat in Dili by Waldron et al. 2016. *Sub-sector Analysis of the Timor-Leste Beef Industry*. ACIAR.

Domestic production of chickens in Timor-Leste increased from 2010 to 2015 (Table 32). However, it remains small compared with demand. Production in 2015 was estimated at 928,806 head of native chickens, and demand/consumption was equivalent to 16,146,667 head (Table 33).

Table 32: Livestock Population in Timor-Leste, 2010–2015

| Livestock | Livestock Numbers (head) | | |
|-----------------|-----------------------------|---------|---------------|
| | 2010 | 2015 | Change (%) |
| Timor-Leste | | | |
| Native chickens | 702,474 | 928,806 | 32 |

Sources: Directorate of National Statistics 2011 and 2015.

Table 33: Chicken Consumption in Timor-Leste

| Item | Chickens |
|--|------------|
| Timor-Leste per capita consumption (kilograms per year) | 8.3 |
| Timor-Leste national consumption (tons per year) | 9,688 |
| Timor-Leste head equivalent ^a | 16,146,667 |

^a Carcass weight conversion: 1 chicken = 0.6 kilogram.

Source: National Directorate for Fisheries and Aquaculture 2011.

This huge production shortfall is met by imports. In 2017, Timor-Leste imported 10,963 tons of poultry worth \$13.7 million and 4,652 tons of eggs worth \$1.7 million. Poultry was sourced largely from Brazil and eggs largely from Malaysia via Singapore.¹⁴⁷ In the past, there have been some occurrences of delays in shipping, with concomitant deterioration of the quality of the meat. If greater chicken and poultry products could be sourced from West Timor and NTT, this could introduce a competitively priced alternative for Timor-Leste consumers.

As with NTT, the best reason for interventions in livestock is the potential impact on rural households. In Timor-Leste, the large majority (87%) of households raised livestock in 2015. The number of households raising livestock also appears to be on the rise. Table 34 shows that the number of households raising chickens increased by 17%, pigs by 18%, and cattle by 23% from 2010 to 2015.

¹⁴⁷ International Trade Centre trade data.

Table 34: Household and Animal Numbers of Selected Livestock in Timor-Leste

| Livestock | Household/Animal | 2004 | 2010 | 2015 | % Change, 2010–2015 |
|-----------|--------------------------------------|---------|---------|---------|------------------------|
| Chickens | Households | 141,343 | 124,658 | 146,158 | 17 |
| | Animals | 659,066 | 702,474 | 928,806 | 32 |
| | Average no. animals per household | 4.66 | 5.64 | 6.35 | 13 |
| Pigs | Households | 140,683 | 123,862 | 146,449 | 18 |
| | Animals | 331,895 | 330,435 | 419,169 | 27 |
| | Average no. animals per household | 2.36 | 2.67 | 2.86 | 7 |
| Cattle | Households | 39,711 | 43,028 | 52,864 | 23 |
| | Animals | 133,577 | 161,654 | 221,767 | 37 |
| | Average no. animals per household | 3.36 | 3.76 | 4.20 | 12 |

Sources: Australian Centre for International Agricultural Research, 2017 and Timor-Leste 2015 Census.

Cattle were raised by 26% of all households (52,864 households) across Timor-Leste in 2015, but production appears to be more widespread in the provinces bordering Indonesia. More than 48% of households in Bobonaro and Cova Lima raised cattle in 2015, suggesting that it is a more important source of livelihood for border residents. Equally, many of these households live in poverty. In Timor-Leste, 60% of farming households live below the national poverty line.

It is anticipated that supporting the growth of an industry that is important to the livelihoods of rural households would directly support economic diversification, address spatial inequality, reduce food insecurity, and reduce poverty.

Situation and Problem Analysis

This chapter seeks to summarize important aspects of the supply chains for cattle, poultry, and pigs in NTT and Timor-Leste.¹⁴⁸ The emphasis is on identifying major challenges to cross-border trade. Due to the commonality between challenges for all livestock, the analysis is not separate for the different animals. The chapter begins with a look at crosscutting issues such as government policy, institutional arrangements, infrastructure, and access to financial services. It then goes into greater depth concerning different components of supply chains, namely inputs and services, production, marketing, cross-border trade, and retail.

A. Government Policy

The Ministry of Agriculture and Fisheries (MAF) in Timor-Leste has formulated a long-term strategic plan (2013–2020) to increase domestic livestock production for import substitution and, in the case of cattle, for export. In the last 3 years, the National Directorate of Livestock has implemented community empowerment programs to distribute cattle, pigs, and goats to smallholder farmers, although the program does not cover all municipalities.

In Indonesia, the livestock industry is impacted heavily by a large array of sector policies and regulations. In the beef subsector, the government has launched a few variants of policies around the Beef Self-Sufficiency campaign, with the main target of increasing domestic cattle populations and beef production. One aspect of this program is the regulation that, for every five feeder cattle that are imported, one heifer or breeder must also be imported to help boost domestic production. Domestic strategies include banning the slaughter of breeding age cows; increasing pregnancy; subsidizing cattle insurance and microcredit for farmers; and facilitating interisland transportation and trade of live cattle through the provision of cattle ships in the national sea tollway program (discussed in more detail in following sections).

The Ministry of Agriculture, Indonesia (MOA-RI) also launched a “Chicken for the Poor” program in early 2018, which provides 50 chickens, feed, and medical services for one production cycle to rural households for household consumption and sale. The program is currently being trialed and will be rolled out in 2019, but may prioritize rural households in border areas.

Another important initiative is MOA-RI support for strengthening border areas for food production with an export orientation. This is a synchronized program between central and

¹⁴⁸ It is not designed to be an exhaustive account, which we feel is provided by a number of in-depth analyses of the different livestock value chains conducted by the Australian Centre for International Agricultural Research (ACIAR) and the International Labour Organization (ILO), and others. See the list of references.

local governments. In 2017, 30 tons of shallots from Malaka and Belu districts were exported to Timor-Leste through this initiative.

B. Institutional Arrangements

In 2018, the director general of livestock for MAF Timor-Leste and the director general of livestock and animal health for MOA-RI signed a technical cooperation agreement to improve livestock production and trading between the two countries. This agreement is under the broader memorandum of understanding (MOU) on agriculture signed by the two countries in 2015, which agrees to develop the agriculture sectors of Timor-Leste and Indonesia through technical and scientific cooperation.

One key area of cooperation is the harmonization of animal health standards, regulations, and services concerning trading of live animals and their products. However, this agreement is still at a rudimentary stage and requires follow-up discussions on detailed operational procedures, mechanisms, and budgeting for implementation.

One recent step forward was the revision of national animal health regulations by MAF Timor-Leste to allow the limited importation of day-old chicks from PT Charoen Pokphand in Kupang. This was permitted due to PT Charoen Pokphand being certified as one of the 55 avian influenza (AI)-free compartments in Indonesia. This agreement was recently extended for several years.

The Indonesian embassy in Dili played an important role in facilitating this exchange and should be included in future negotiations in this area.

C. Infrastructure

SPS facilities and transport infrastructure are considered in the following sections, but it is also important to highlight that waste and water management systems in rural parts of West Timor and Timor-Leste are often relatively rudimentary. This undermines the development of commercial-scale enterprises. The lack of access to electricity undermines the development of cold storage and cold chain facilities for moving from the trade of live animals to trade in meat. Equally, communication is a crosscutting challenge. Mobile phone networks in the border regions of Bobonaro, Cova Lima, Belu, Malaka, Kupang, and Timor Tengah Utara (TTU) are often limited due to poor signal coverage. This impacts communication along the supply chain between producers and traders and also makes it harder for farmers to receive information on market prices and demand.

D. Access to Finance and Insurance

For the limited number of commercial-scale poultry, pig, and cattle farms that exist on Timor Island, access to finance was not highlighted as a major barrier. Smallholders, on the other hand, do have difficulty in sourcing finance. Many households raise livestock as a form of

savings. Livestock is kept to be sold when emergencies arise, which is at least partly due to a broader lack of access to loans and bank accounts. The impact of this situation is that animals are kept much longer than is productive.

Analysis of the pig value chain in NTT,¹⁴⁹ however, highlighted that delays in payments between retailers and slaughterhouses influence the supply of high-quality meats; hence it is possible that access to financing solutions along the supply chain results in challenges even for medium-sized enterprises. The solution to this problem may, however, differ from the kind of solutions for microenterprises. Experience from the PRISMA project suggests that better communication and integration among supply chain actors can help provide financing solutions.

In Timor-Leste, commercial bank lending is available for medium-scale agroenterprises, but there is no provision for loans to livestock smallholders, since the production cycle is too long. There is an opportunity for financing through the establishment of groups or cooperatives if support can be provided—e.g., from the Institute of Service Provision to the Private Sector (IADE)—to develop cash flow projections and business plans. Even so, the rates for loans are at commercial rates. The few microfinance institutions (MFIs) that exist for microenterprises are limited in terms of outreach and are also accentuated by the limited outreach of business development services and by insecure land tenure rights.

In NTT, Bank Rakyat Indonesia (BRI), Bank Pembangunan Daerah NTT (BPD-NTT), and Bank Mandiri, along with a number of Ban Perkreditant Rakyat (BPRs), have specialized in lending programs supporting agriculture. The central government provides an incentive to livestock farmers through microcredits and interest rate subsidy programs wherein farmers pay only 7% of the credit's interest rate. In practice, many smallholders do not meet the qualification standards to avail of these lending programs due to poor animal-raising practices. However, BPD-NTT does have a pro-poor policy that if a least one credible institution is willing to provide technical assistance to smallholder farmers for a husbandry and livestock business and assist them in producing an economically viable business plan, then collateral is not required.

Farming is a risky business. As with finance, a lack of access to insurance can trap farmers into low-input, low-output (and low-risk) livestock systems. There is currently no cattle insurance in Timor-Leste, but for the last 2 years, PT Jasindo has started to implement cattle insurance in West Timor. Partnerships among producers, banks, and insurance providers can help overcome these limitations.

For example, one cattle group in Kupang received an Rp1 billion (\$74,000) credit from the bank because the District Livestock Office is providing technical assistance and PT Jasindo provided insurance coverage to minimize production-related risks. This provides an opening for initiatives that follow a similar model.

¹⁴⁹ Analysis done by PRISMA project.

E. Investment

In NTT, livestock was among the top three sectors for investment licenses issued in 2017, and it was in the top 10 sectors in terms of realized investments in 2016 (approximately \$4 million). It is also promoted as an investment priority. The NTT government has some latitude for the provision of special incentives for investment, although land tenure and administrative hurdles still pose challenges. Nevertheless, there have been some examples of livestock investments in NTT from external companies (e.g., PT Asiabeef Biofarma Indonesia).

In Timor-Leste, agriculture is also in the top 10 sectors for investment, but this was equal to only \$2.6 million¹⁵⁰ from 2006 to 2016. The most significant investments appear to be two egg farms, animal feed production by domestic investors, and a prawn farm. Timor-Leste has brought in a significant amount of new legislation and institutions to help improve the investment climate in the country, although this is not yet making a difference in the indicators for the ease of doing business or increased investments. Furthering official collaboration with Indonesia on livestock would undoubtedly provide additional incentives to potential investors by increasing the size of the potential market through improving access to Indonesia. For example, investors may be tempted to invest in cattle production in Timor-Leste if market access to Indonesia is improved. Furthermore, access to breedstock from West Timor for poultry and pork production could increase incentives for investments in these areas too.

In June 2018, President Joko Widodo and President Francisco Guterres Lú Olo announced they would start negotiations toward an agreement on investment promotion and protection. Following this announcement, the president of Timor-Leste's Industry and Commerce Chambers announced that the private sectors in Timor-Leste and Indonesia had signed a cooperation agreement to support the private sector in exploring areas for cooperation in the future. This forms an excellent foundation for attracting foreign and domestic investment into developing the livestock industry in the region.

F. Climate Change and Natural Disasters

Timor-Leste and NTT are susceptible to natural hazards such as earthquakes, tsunamis, cyclones, and the cyclical effects of El Niño Southern Oscillation-related weather anomalies. Climate change is predicted to make these climatic changes more acute in the future, making the area increasingly vulnerable to droughts, floods, temperature increases, and sea-level rise. Increases in temperature can affect agricultural productivity and spread diseases more quickly. Floods exacerbate land degradation, leading to landslides, and drought can have a devastating impact on crop and livestock production in an area with little or no irrigation.

Given the importance of agriculture for the livelihoods of households in NTT and Timor-Leste, reducing their exposure to risk from climatic events is critical. Examples might include

¹⁵⁰ Data provided by TradeInvest.

adopting sustainable and integrated farming practices, which can help diversify risks, and introducing agricultural insurance.

G. Inputs and Services

1. Breedstock

Most smallholders in NTT and Timor-Leste raise native breeds of pigs, poultry, and cattle. These are generally well adapted to local conditions and hardier than other breeds but tend to produce less meat (and fewer eggs in the case of poultry). In NTT, there are some limited artificial insemination and cross-breeding programs of Bali cattle with other breeds. Some beneficiaries of past technical assistance and grant programs in NTT have also cross-bred pigs; the offspring produce a leaner meat and have a better food-to-weight gain ratio. Large-scale producers in Kupang raise only imported breeds of pigs, and the government of NTT maintains one pig breeder farm (UPTD Tarus) to help meet the demand for cross-bred piglets. There is also some production of improved commercial breeds of poultry.

There are no commercial suppliers of genetically improved calves, day-old chicks, or piglets in Timor-Leste. Therefore, farmers breed their own replacements or buy from other farmers.

2. Animal Health

Animal health is a major issue. The mortality rate of chickens in NTT and Timor-Leste is very high, exceeding 70%. Timor-Leste is currently free of highly pathogenic avian influenza (HPAI), but the close contacts among poultry, people, and swine raise the risk of contraction. HPAI is endemic in most provinces of Indonesia, but there have been no recorded cases of the disease in NTT. NTT has also established strong controls to prevent the entry of HPAI. Nevertheless, NTT has not been declared HPAI-free.

For pigs, diarrhea is common and due to limited understanding of animal health by smallholder producers; the mortality rate of pigs when they are sick is more than 50%. Classical swine fever virus (CSFV) is a serious illness affecting pig populations that is still prevalent in eastern Indonesia. In 2017, an outbreak of CSFV on Flores wiped out more than 10,000 pigs, leading to estimated economic losses for farmers of \$1.7 million¹⁵¹ and \$3 million for feed companies. Other serious diseases include foot and mouth disease, Aujeszky's disease, and pork tapeworm (*Taenia solium*), which can affect humans as well. In Timor-Leste, the vaccination rate required to be effective against CSFV is 75%, but it is believed only 28% are vaccinated.

For cattle, the main diseases of concern are brucellosis and hemorrhagic septicemia as well as internal and external parasites. Brucellosis is of particular concern as it is zoonotic. Brucellosis is found on both sides of the island. In Timor-Leste, the prevalence rate varies

¹⁵¹ Information provided by PRISMA project.

among districts, with the highest figures reaching 25%.¹⁵² The figure for West Timor is around 5%, but again this varies among regencies. The higher brucellosis prevalence rates in Timor-Leste and lack of controlling measures have been the main reasons for the ban on the importation of live cattle.

A coordinated approach to tackling brucellosis across the different district governments in West Timor is facing increasing challenges. The decentralized governmental system adopted in Indonesia has given full authority to district governments to set their own strategic plans and development priorities. As a consequence, it is more challenging to synchronize programs among district governments to solve cross-border issues. However, the provincial government is the leading institution to coordinate and encourage district governments' comments on crucial cross-border problems such as containment of zoonotic diseases.

3. Veterinary Services

There are fewer than 10 qualified veterinarians in Timor-Leste, all of whom are based in Dili. Vaccination services are provided by MAF at the municipal level through animal technicians, but limited funding means that the service is stretched, and coverage is low. Village livestock workers who have received training but operate on a volunteer basis are sometimes no longer operating or have been incorporated into local extension offices. Research by Amaral (2016) showed that the average vaccination coverage rate was below 50%, with the highest for buffalos (47%), followed by Bali cattle (30%), pigs (28%), and village chickens (18%). Interest by farmers in paying for these services has been small, since most production is for personal consumption.

Programs over the years on biosecurity with partners such as Food and Agriculture Organization of the United Nations (FAO), Australian Government DFAT, International Labour Organization (ILO), and the United States Agency for International Development (USAID) have supported the establishment of a well-equipped laboratory for diagnosis of infectious animal diseases. This has competent staff, but is often underutilized. A recent grant of A\$200 million (\$138 million) to establish a sentinel cattle herd in Lautem represents an improvement in the nation's offshore surveillance network and has enhanced Timor-Leste's capacity to detect and prevent exotic diseases. A recent review of animal health services provided in Timor-Leste, supported by the European Commission recommends that consideration be given to introducing payments for services to help provide additional financial resources.¹⁵³

In NTT, government-funded animal health services are provided by animal health centers staffed by veterinarians or animal paramedics, and services are paid for directly by farmers. However, limited budgets and personnel mean that outreach to more remote locations is limited. Commercial livestock producers in NTT tend to use private services.

¹⁵² Consultation with Dr. Richard Copland, adjunct associate professor, School of Agriculture and Food Sciences, University of Queensland, Australia.

¹⁵³ A. Batalha. 2018. *Assessment Mission on Animal Health in Timor-Leste. Report of Assessment Mission*. European Commission. Timor-Leste.

4. Extension Services

Livestock extension services in NTT and Timor-Leste tend to be provided primarily by the public sector, and service provision is limited, particularly in remote areas. Many extension workers do not have the training needed in specialized areas of animal husbandry such as animal health and breed management. Limited extension services mean that production practices are not efficient.

However, some examples of approaches to partnerships across the supply chain, and improvements to rearing practices have been successful and serve as useful examples for implementation elsewhere (Box 12). Based on experiences in West Timor, the presentation of market opportunities and access may be more effective at changing husbandry methods than greater provision of public extension services.¹⁵⁴

Box 12: Promoting Rural Income through Support for Markets in Agriculture

Established in 2014 in Flores and in 2017 on Timor Island, the Promoting Rural Income through Support for Markets in Agriculture or PRISMA project works with market actors (farmers, feed companies, retailers, and pharmaceutical companies) to deepen the pig market to increase its sustainability and profits. It focuses on strengthening market linkages between farmers and buyers and has had considerable success. The project has resulted in increased access to extension services by encouraging feed companies to recruit private extension agents. This is a win-win proposition, since it also results in greater sales for companies. Pharmaceutical suppliers trained government extension workers on modern health products, which resulted in greater engagement by extension workers in the hog cholera vaccination campaign in Flores in 2017. The project has also stimulated a number of organic deepening of the market. For example, demonstration plot farms established through the project took the initiative to also become swine feed retailers, thereby increasing the access of farmers to necessary inputs. The project demonstrates the impact of market-based approaches to changing incentives for producers.

Source: AIP-PRISMA. 2018. Pig Sector Growth Strategy Document in East Nusa Tenggara. March.

5. Fodder and Feed

Feed is a major challenge for livestock production in NTT and Timor-Leste. Due to the semi-arid climate and short rainy season, production of grains, tubers, and forage can occur for only a short period each year. For pigs and poultry, only commercial producers use commercial animal feeds, which are typically imported from other parts of Indonesia and are relatively costly (resulting in low usage). There are, however, some producers of animal feeds in NTT, but they are not readily available in rural areas. Only about 25% of pig farmers in West Timor use commercial feeds. These are typically combined with locally available feedstock such as maize, cassava, dried fish, and *leucaena*. Smallholder producers cannot afford commercial

¹⁵⁴ Experience of the author.

feed, and pigs and poultry forage for their feed and/or receive household scraps. Greater production and productivity for pigs and poultry will require greater access to cost-effective concentrated feeds.

In 2017, a private company in Dili (Cladotia FU LDa) installed a medium-sized feedmill (production capacity of 30 tons per day), but it has still not been operational due to a lack of raw materials. Currently the company is using imported materials from Indonesia to produce processed feeds for local pig producers.

The experience of the PRISMA project in NTT on pig production suggests that access to commercial feeds is more effective than access to improved breeds in terms of increasing production and the market orientation of smallholders.¹⁵⁵

Most cattle are fed from on-farm resources such as grazing, cut grass, and crop residues due to the cost of commercial feeds. A study conducted by the Australian Centre for International Agricultural Research (ACIAR) in 2016¹⁵⁶ on fattening systems in eastern Indonesia highlighted the potential for the development of *leucaena* for supporting cattle feed production locally.¹⁵⁷ However, in Timor-Leste, a challenge is the lack of fodder availability. It is estimated that there are 206,227 hectares of native pasture in Timor-Leste, which is already overgrazed.¹⁵⁸ If cattle exports were to be increased there would also have to be an improvement in fodder availability. Research suggests that 683 forage trees in the wet season and 1,076 forage trees in the dry season are needed to fatten a bull for 3–4 months, requiring a significant amount of cut-and-carry labor.¹⁵⁹

6. Prices in Timor-Leste

The prices of farm inputs such as breedstock, animal feed, and medicines are particularly high in Timor-Leste. There are three farm input stores in Dili selling seeds, fertilizers, medicines, and farm equipment. Many of these products originate from Indonesia. As the market in Timor-Leste is still small, none of the farm input stores have become official distributors yet, which requires sales of more than \$500,000. Farm input stores in Dili typically buy from second- or third-tier distributors in Indonesia and import the products themselves. Due to low demand, they are not imported in bulk via shipping container from Surabaya, but are transported overland from stores in Kupang. As such, they are expensive. For example, basic 16% broiler feed costs \$1.20 per kilogram (kg) in Dili, whereas in Kupang it costs just over half that amount at \$0.66 per kg. The high cost of concentrate feed currently makes intensive pig and poultry production financially unviable in Timor-Leste. Lack of access to and availability of essential inputs of production constitute a serious limitation on the growth of the domestic livestock industry in Timor-Leste.

¹⁵⁵ AIP-PRISMA. 2018. *Pig Sector Growth Strategy Document in East Nusa Tenggara*. March.

¹⁵⁶ S. Waldron et al. 2015. *Economic Analysis of Cattle Fattening Systems Based on Forage Tree Legume Diets in Eastern Indonesia*. ACIAR.

¹⁵⁷ ACIAR has conducted a number of studies in eastern Indonesia and Timor-Leste that confirm the potential of these feeding systems including LPS/2013/021, LPS/2013/022, LPS/2014/022, and LPS/2014/034.

¹⁵⁸ S. Waldron et al. 2016. *Sub-Sector Analysis of the Timor-Leste Beef Industry*. ACIAR Project LPS2009-036: Enhancing Smallholder Beef Production in Timor-Leste.

¹⁵⁹ Halliday et al. 2014. *Biomass Measurements of Forage Tree Legume Diets in Eastern Indonesia*. ACIAR.

H. Production

One of the important aspects to highlight is that livestock production in NTT and Timor-Leste is largely seen as a means of savings and/or meeting cultural obligations. Livestock is generally raised in low-input, low-output grazing systems and sold for emergency income or slaughtered for household consumption and cultural events or festivities. Consequently, it is predominantly a subsistence activity, and farmers are not oriented or motivated toward commercial production. Therefore, farmers are reluctant to make investments in better production techniques.

The production of cattle in NTT and Timor-Leste is in an extensive rather than intensive system, and overstocking has led to grassland degradation, poor nutrition, and weed invasion. The size of the national herd in Timor-Leste is currently above the grazing capacity of existing natural pasture, and very little supplemental feeding is carried out. Use of semi-intensive or commercial livestock-raising practices in NTT and Timor-Leste is extremely limited. A lack of awareness about improved practices or methods means that productivity is generally low. Cattle under traditional rearing systems in Timor Island have an average growth rate of less than 0.3 kg per day, calf mortality can reach 35%, and the average calving interval is 24 months. This compares with improved systems, where the growth rate can reach 0.8 kg per day, calf mortality is less than 1%, and the calving interval is 15 months (Box 13).

Stall feeding and finishing cattle is widely practiced in West Timor using the “Amarasi” system¹⁶⁰ (Box 13), wherein forage legumes such as *sebania*, *leucaena*, *gliricida*, *kaliandra*, and

Box 13: Australian Centre for International Agricultural Research Support for Higher Productivity Cattle Systems

An integrated village management system for smallholder production in East Java and NTT with support from the Australian Centre for International Agricultural Research (ACIAR) (AS2/2000/103; SMAR/2006/096; LPS2008/038) was scaled up in Lombok and applied in the “Straw Cow” project. Interventions included managing forage, feed strategies, use of pens, and controlled mating. Other projects focused on calf management (LPS/2006/005) and forage (LPS/2006/003; LPS/2008/054). The results of these projects show that integrated systems can reduce calf mortality and increase calf growth rates, leading to higher productivity and increased incomes. Other methods, such as breed improvement and veterinary care are dependent on the success of these more fundamental changes to livestock management.

These techniques were adopted by Dinas Peternakan Kab Kupang and have become a model for productive fattening systems in the region (including the Amarasi region). This approach has also been used in ACIAR projects in Timor-Leste.

Sources: Dahlanuddin et al. 2014 and Fordyce et al. 2017.

¹⁶⁰ Amarasi is a region of Kupang District where cattle farming is an important business.

grasses are integrated into farming systems specifically for cattle fattening; as such, cattle fattening in West Timor is more productive.

The growth rate of cows under this system can achieve 0.8 kg per day, with a higher turnover rate. This practice used to be followed in Timor-Leste when it was part of Indonesia, and initiatives to reintroduce it are supported by an ACIAR project in Liquica and Bobonaro.¹⁶¹

Pig raising historically has acted as a store of wealth, with pigs being eaten as a food source, sold or traded, or used for community and cultural obligations. Two-thirds of pig raisers in NTT are smallholder producers owning fewer than three sows. There are a few larger producers with more than 50 sows, but very few intermediate-scale producers with 5–20 sows. Pigs are generally raised near the house in pens or kept on a tethered line. PRISMA in NTT has supported good rearing practices and better access to inputs, which have achieved promising results.

In Timor-Leste, 90% of pig raising is done by smallholder livestock producers, and there are only a handful of semicommercial pig producers. In Timor-Leste, most pigs are free range, although extension services have made some progress in increasing the use of pens and tethered lines to increase control over feed and fattening. Greater use of inside pens is recommended as a semi-intensive production model in Timor-Leste by To'os Ba Moris Di'ak (TOMAK).¹⁶²

In Timor-Leste, native chickens are raised much the same as pigs under a free-range scavenging system. Intensive broiler farmers have not been established due to the high cost of day-old chicks and concentrated feeds, although two commercial egg farms have been established sourcing day-old chicks from Malaysia and importing concentrated feeds in bulk from Indonesia via container ship. Recently, day-old chicks were imported from the Charoen Pokphand farm in West Timor for only \$0.8 per head compared with \$3.00 per head from Malaysia, greatly reducing production costs. This is a good example of the potential benefit to the Timor-Leste domestic livestock industry of greater trade with NTT.

Native chicken production in West Timor is much the same as in Timor-Leste. However, in Kupang, there are now several large commercial broiler farms using day-old chicks and concentrated feeds. These intensive production systems are capable of producing 1.2 kg birds ready for slaughter in 30–45 days.

¹⁶¹ Dahlanuddin and M.L. Mulik. 2017. *Review of Integrated Cattle-Forage-Crops Programs in TLS*. Report. Large Ruminant Consortium.

¹⁶² To'os Ba Moris Di'ak (TOMAK). 2017. *Assessment of Smallholder Pig Production Development Opportunities in Timor-Leste*. Technical Report No.14, July. An experiment conducted in four villages through the National University of Timor-Leste found that pigs housed in low-cost facilities and fed diets with local proteins grew six times faster than traditionally housed and fed pigs.

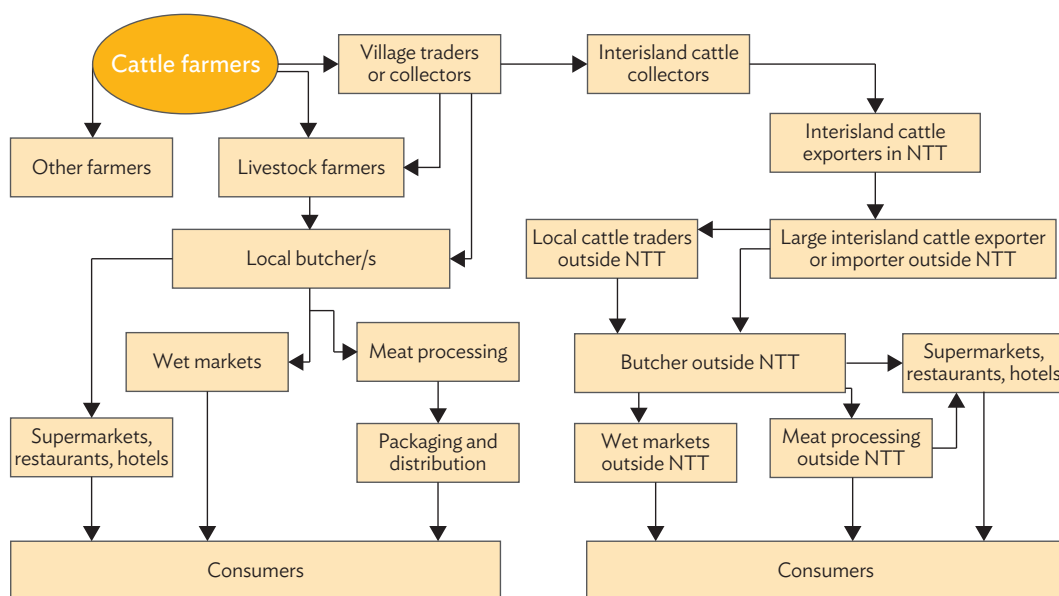
I. Market Channels

Very few chickens or pigs are sold or enter a formal supply chain. Most chickens and more than 50% of pigs are produced and slaughtered at home for household or ceremonial consumption. Some poultry and fattened pigs are sold live to local markets or entrepreneurs, who typically sell in traditional wet markets or directly to restaurants.

The cattle marketing channel is more developed in NTT than those for chickens or pigs. Collectors typically assist traders to source and aggregate cattle. Traders typically buy from households and sell at the market or to slaughterhouses or for export. As of 2015, there were 10 large cooperatives linking cattle farmers and providing them with financing and marketing operations. Figure 13 depicts the NTT beef marketing channel.

Cattle marketing in Timor-Leste is simpler than in West Timor, as shown in Figure 14. Cattle farmers sell either to other farmers for ceremonies and festive purposes; to traders, who sell the cattle for slaughter in other municipalities; or to local meat vendors, who sell in local markets.

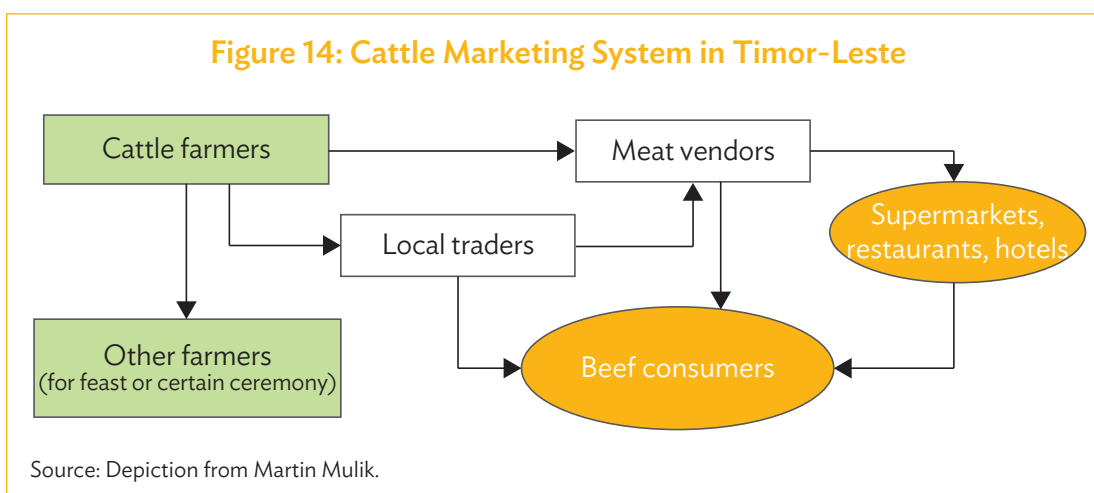
Figure 13: Cattle Marketing System in Nusa Tenggara Timur



NTT = Nusa Tenggara Timur.

Source: Depiction from Martin Mulik.

Figure 14: Cattle Marketing System in Timor-Leste



J. Transportation

As discussed in Part I, the national road networks in NTT and Timor-Leste are in poor condition, making it hard for traders to source cattle, particularly in the wet season, when some roads become impassable. In Timor-Leste, farmers will typically sell one animal at a time, requiring traders to collect cattle from multiple locations and making poor road networks a challenge. Poultry, pigs, and cattle are typically transported, in 4-ton trucks (for cattle) or motorbikes, with their legs tied or tethered, and the animals are thus subjected to a high degree of stress during transportation, which sometimes results in injury or even death. It is important to note that this not only limits opportunities for farmers to sell to the market, but also restricts the number of traders operating in the market to only the most well-equipped or well-established.

Cattle in West Timor are shipped to other parts of Indonesia from the ports of Tenau, Atapupu, and Wini. Six additional cattle ships (*cemara nusantara*) will be launched and integrated into the national sea tollway (*tol laut*) designed to increase connectivity between eastern and western Indonesia. The cattle ships are managed by PT Pelni. Four of them will transport cattle from NTT to Java, Sumatera, and Kalimantan at 2-week intervals, and each ship can carry 500 head of cattle per trip. In addition, two ships will also call at Wini and Atapupu. The current cost of transportation is Rp720,000 (\$50) per animal, with the government providing a subsidy of Rp120,000 (\$8) per head. The subsidy, which is provided as part of the Beef Self-Sufficiency Program, was actually reduced in 2018. The former cost of transportation per head was Rp330,000 (\$22). It is the intention of the government to eventually remove the subsidy altogether.

There are currently no shipments of cattle from Dili port, which suffers from severe congestion challenges, raising the cost of trade significantly. A new port is being built in Tibar specifically for cargo trade. However, it is not likely that shipping cattle directly from Tibar to ports in Indonesia will be viable in the short or medium term. First, cattle are shipped from Atapupu by boats adapted for transporting hundreds of animals at one time. But Timor-Leste does not have the production capacity currently to export such large numbers in one

batch. Second, cattle importers in Java, Sumatera, and Kalimantan would be unlikely to undertake the paperwork for small numbers of cattle coming from Timor-Leste.

By pooling cattle from Timor-Leste and West Timor, the transport would become more commercially viable and more attractive to buyers. Consequently, allowing the formal cross-border movement of cattle from Timor-Leste to NTT could help shippers cover rising costs by compensating with higher volumes.

Cold storage is practically nonexistent on the island, making trade in live cattle the predominant form. As the industry develops the capacity to transport, meat will be required to capture greater value from trade.

K. Processing

There is only one operational slaughterhouse in Timor-Leste, and for cattle only. It has a killing box, stun gun, boning room, and overhead rails, but no electricity to power the cold store. It is run by a private operator who charges \$30 per head to slaughter and pays a fee of \$7.50 to MAF, which carries out premortem and postmortem inspections. It has a capacity of 50 head per day but typically only processes 50 per month, and at present it is financially unviable as a pure private sector operation. The slaughterhouse supplies two butcher shops in Dili. This would be a challenge only in the medium to longer term with greater commercialization, since underutilization at present suggests that it has sufficient capacity for current demand.

Poultry and pigs are slaughtered largely at home or at the place of consumption. No chickens are slaughtered in slaughter houses in Timor-Leste and very few in NTT, although some broiler chickens raised by commercial enterprises are processed in private slaughterhouses; 60% of pigs in NTT are slaughtered at home for household consumption, bypassing the slaughterhouse system. There is only one designated pig slaughterhouse in Kupang.

In West Timor, there are three formal slaughterhouses and around 29 informal slaughterhouses. The formal slaughterhouses include two government facilities and one private one (Aldia).¹⁶³ One public slaughterhouse for cattle and pigs in Oeba processes around 13,000 head of cattle a year. The facilities in Oeba are in poor condition, but renovation of both public abattoirs is underway. Aldia processes 2,500 head of cattle a year and supplies its own outlets. All meat is freshly distributed, as there is no cold storage available.

Both public and private slaughterhouses in NTT can be involved in the purchase, retailing, and marketing of beef, so are important actors; Aldia has a butcher shop and a supermarket. There is no indication at present that there is an insufficient number of slaughterhouses in NTT, and indeed their activity in the supply chain provides a suitable entry point for further medium- to long-term development of value-adding activities. There is, however,

¹⁶³ Until 2016, there was a second private slaughterhouse in Sagaru, which exported frozen beef to Java, but it closed due to bankruptcy.

considerable room for improvement. An assessment of the hygiene and slaughtering standards for pigs in NTT slaughterhouses for PRISMA¹⁶⁴ found them to be inadequate.

There is no poultry slaughterhouse in NTT, as chickens are slaughtered by meat vendors or consumers themselves. Big supermarkets such as Hypermart source chicken meat directly from intensive broiler producers using a contract-based system for continuity and quality control.

Slaughterhouses are adequate for current development of the market, but to strengthen linkages with retail markets the facilities and procedures in both NTT and Timor-Leste will need upgrading. Transforming a live bull into beef increases its value by up to 46%.¹⁶⁵ Hence, development of these facilities is critical to generating higher incomes for producers.

L. Cross-Border Trade

The challenges to cross-border trade include those of moving goods and people across the border, which is elaborated on in Part I. The other challenges are (i) sanitary and phytosanitary (SPS) and certification, and (ii) exchange rates.

1. Sanitary and Phytosanitary and Certification

SPS and animal health concerns are the current reasons for bans on trade in poultry and cattle between Timor-Leste and Indonesia.

After the independence of Timor-Leste, the export of live cattle and buffalo continued under a simplified regime. Officially, legal cattle exports into Indonesia require quarantine inspection of 7 days, documentation of vaccinations against anthrax and septicemia epizootica, and customs forms. There was, however, a special arrangement with Timor-Leste whereby cattle transported overland to West Timor were accepted with an export permit rather than a health certificate. This was with the provision that standards set out in the World Trade Organization (WTO) agreement on SPS measures would be adhered to over time, and the ban in 2010 was put in place when it appeared that Timor-Leste would not be able to meet these criteria.

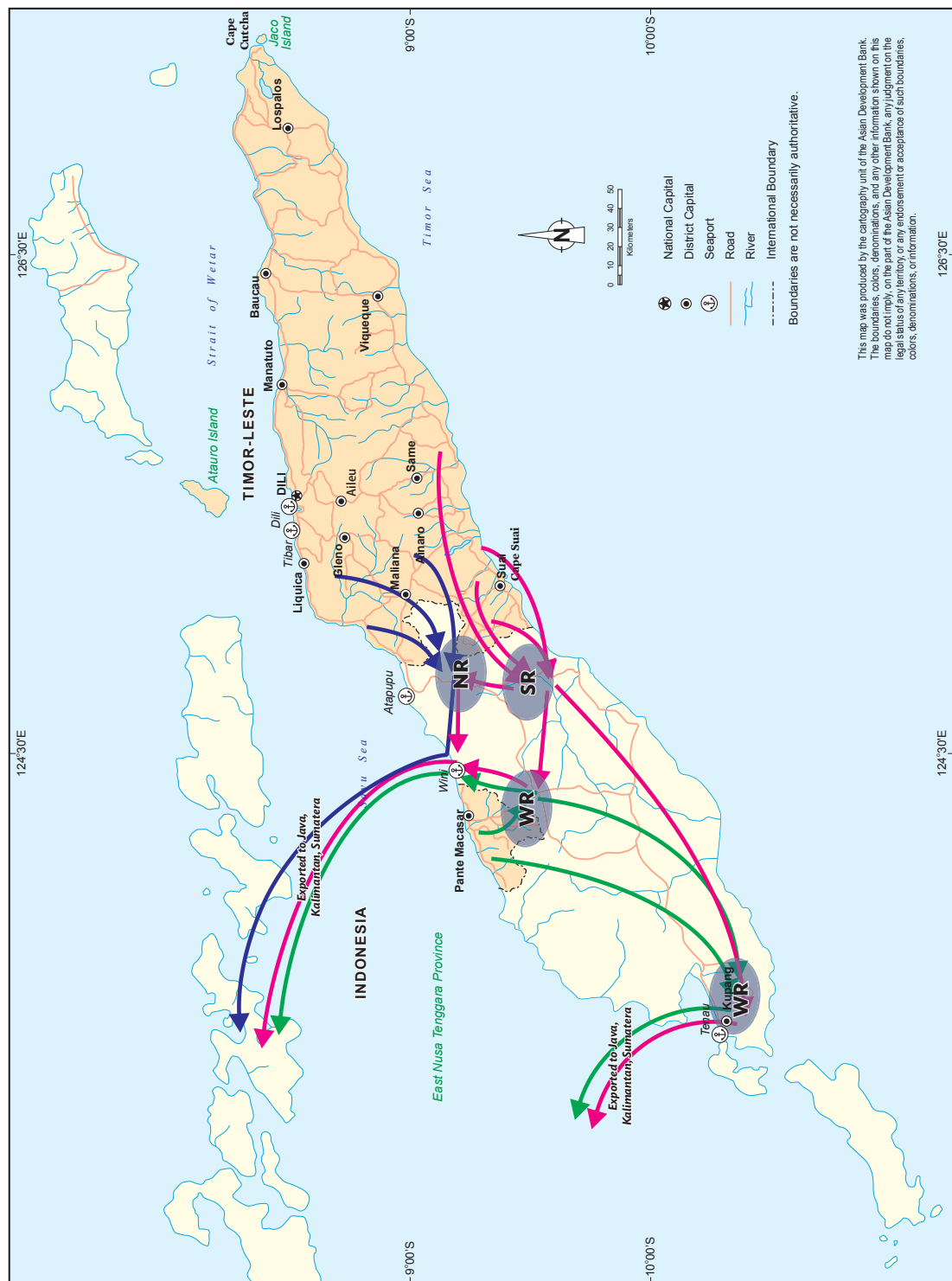
Prior to the embargo, the unofficial estimate of live cattle exported from Timor-Leste to West Timor was 5,000 head per year, although official export statistics state a high of only 2,913 head in 2005. A study by ACIAR in 2016 estimated that unofficial exports of cattle have continued despite the ban at a rate of around 5,000 head per year, the same number as before the embargo. Map 7 shows the main trading routes of cattle across and out of the island.

The map shows roughly three main routes: the northern route, the southern route, and the western route. The northern route sources cattle from Bobonaro, Malianse, Balibo, and Cailico. They enter into Belu and are sold to cattle traders in Atambua, Kefamenanu,

¹⁶⁴ Australian Government DFAT-funded project supporting pig production in NTT.

¹⁶⁵ Author's calculations.

Map 7: Cross-Border Flow of Live Cattle from Timor-Leste to West Timor



Source: Asian Development Bank based on information in Waldron et al. 2015.

or Kupang. The southern route sources cattle from Cova Lima through Suai to Malaka, where they are transported to Atambua or Kupang. There are several traders and integrated fattening operations specialized in buying, feeding, and selling cattle for the Indonesian market in Oecussi. Cattle are traded through the southeastern area of Oesilo and Passabe, where they are sold in Kefamananu, Atambua, or Kupang. The NTT government stipulates that all cattle should have ownership documents issued by the head of a village. Cattle from Timor-Leste are issued these documents by the head of the village at the crossing points, so the cattle are legally acknowledged as produced in West Timor.¹⁶⁶

Although Timor-Leste has promulgated Decree Law no. 21/2003 on Quarantine and Sanitary Control on Goods Imported and Exported and Decree Law No. 1/2006 on General Regulations on Quarantine, the country does not comply with internationally recognized SPS measures established by Codex Alimentarius and the World Organisation for Animal Health (OIE). Nonetheless, the Ministry of Agriculture and Fisheries (MAF) does issue health certificates for exporting livestock.

As discussed earlier, a technical cooperation agreement was recently signed to help address this situation. It is also important to note that Australia has provided some support to livestock disease surveillance as part of its early warning system for livestock diseases. Both of these initiatives provide an opportunity for strengthening the animal health system in Timor-Leste.

Timor-Leste is a highly pathogenic avian influenza (HPAI)-freezone, and the import of poultry and poultry products from Indonesia to Timor-Leste has been banned since 2004 following the outbreak of AI in Indonesia. Despite no recorded cases of avian influenza (AI) in NTT, the central government in Indonesia has yet to certify the region as AI-free. However, there have been recent moves to address this issue. Following a risk assessment by the Timor-Leste Ministry of Agriculture, animal health regulations were revised to allow the importation of poultry and poultry products from AI-free compartments in Indonesia. Based on this new trading policy, PT Charoen Pokphang in NTT, which is one of the 55 certified compartments in Indonesia, signed an agreement to export up to 10,000 day-old chicks to chicken companies in Timor-Leste (one in Oecussi and one in Ermera). By April 2018, one container of frozen processed chicken, six containers of poultry feed and 2,000 day-old chicks had been exported. This agreement was recently extended for several years. This is an exciting opportunity, and if the agreement could be extended it would open up the potential for smaller producers to also engage in trade.

No ban is imposed by either Timor-Leste or Indonesia on pig trade other than regular SPS standards. However, traders find the procedures very rigid, and there are many agencies involved, raising the costs to traders of compliance (finding out whom to contact and what to do). Harmonization and simplification of procedures are required to promote more trade in all livestock.

¹⁶⁶ S. Waldron et al. 2015. *Economic Analysis of Cattle Fattening Systems Based on Forage Tree Legume Diets in Eastern Indonesia*. ACIAR SRA Project LPS-2014-034.

2. Exchange Rate and Prices

Timor-Leste uses the US dollar, which has appreciated significantly against the Indonesian rupiah over the last decade. On the one hand, this makes the purchase of livestock inputs and indeed meat from Kupang a little cheaper for Timor-Leste, but it means the price for potential exports of livestock from Timor-Leste into NTT may be declining in attractiveness.

Table 35 shows prices of meat in Dili and Kupang based on a brief market survey conducted in June 2018. It shows that the price of fresh beef in Kupang is \$2.6 per kg less than in Dili. This has been impacted largely by variable exchange rates in recent years, and anecdotal evidence suggests that this is leading to declines in cross-border informal trade of cattle from Timor-Leste to NTT.¹⁶⁷ Although the cattle are exported live, the beef retail price is often taken as a proxy indicator. While the prices of meat are taken as an indication of potentially falling prices in West Timor, the current price of live cattle in West Timor is estimated as roughly similar to that which can be achieved for producers selling to Dili; hence, this issue requires further attention.

Table 35: Retail Meat Prices in Dili and Kupang

| Meat | Dili Supermarket | Dili Local Market | Kupang Local Market |
|---------------------------|------------------|-------------------|----------------------------|
| Imported broiler (frozen) | \$3.25/kg | \$3.25/kg | |
| Local chicken (live) | n.a. | \$8/kg | |
| Local broiler | | | \$2.80/kg |
| Imported pork (frozen) | \$5.50/kg | n.a. | |
| Local pork (fresh) | n.a. | \$8/kg | \$4.30/kg (Rp60,000/kg) |
| Local beef (fresh) | \$13/kg | \$9/kg | \$6.40/kg (Rp90,000/kg) |

kg = kilogram, n.a. = not applicable, Rp = Indonesian rupiah, .

Source: Consultant Market Survey, June 2018.

The retail price of chicken meat in Dili appears to be 16%, or \$0.45 per kg, higher than in Kupang. This would present an opportunity for imports into Timor-Leste, which is explored in Chapter 4 (Opportunities). However, this also requires a more thorough review. A quick look at frozen chicken prices in Dili in November 2018 suggests prices for imported chicken may be around \$2.3 per kg. Further information on the price of the current limited imports from NTT to Timor-Leste would be particularly useful.

¹⁶⁷ Based on discussions of Adam Sendall with livestock producers in the border areas.

M. Retail

The sale of meat in retail outlets is largely limited due to problems in consistency of supply and hygiene concerns.

There are two butcher shops in Dili, which are thought to sell around 10% of the beef purchased; 25% of purchased beef is imported frozen and sold through supermarkets. Most beef (65%) is sold fresh in traditional wet markets. Supermarkets are reluctant to sell domestic beef due to food safety concerns.

In NTT, 80% of meat is sold at wet markets, 15% through meat shops, and 5% directly to restaurants and hotels.¹⁶⁸ Cold storage and transport facilities for processed meat are not yet developed on Timor Island outside of the major urban centers of Dili and Kupang.

In NTT, the poultry retail market has shown consistent growth, though not at the rates observed in more densely populated regions of Indonesia, where demand is growing quickly—driven largely by increases in fast-food restaurants. Restaurants serve both broiler-type chicken meat as well as traditional native chicken, which commands a premium price among local consumers, who prefer the taste of the local chicken breeds.

In Timor-Leste, poultry generally does not enter the formal market but is consumed at the household level or used in ceremonial events. Most restaurants serve only imported chicken. Therefore, the retail market system in Timor-Leste is not as well developed as in NTT.

There is almost no secondary meat and by-product food processing on Timor Island for poultry meat.

Pigs are sold either as piglets or as older pigs (6 months to 3 years) to raise cash or for ceremonial events. Most pork is sold in village markets. A growing number of restaurants in Kupang are now serving pork products, and demand for pork products (*babe se'l* or smoked barbecued pork) has been growing in popularity in recent years.

N. Conclusion

The preceding chapters provide a comprehensive overview of the current situation and challenges for livestock production and trade in West Timor and Timor-Leste. It is important to note, however, that some issues are more fundamental than others in terms of affecting change. Appendix 4 presents a problem tree arguing that lack of market opportunities and poor husbandry techniques are the central challenges to be overcome. The experiences of livestock projects active in the region (Box 13) show that a focus on fundamental changes in livestock management (such as use of pens) is crucial to the success of more enhanced animal husbandry practices (e.g., use of improved breeds and veterinary services). They also show the gains from supporting relationships across supply chain actors in sparking an organic deepening of the market.

¹⁶⁸ M.L. Mullik et al. 2016. *Masterplan of Beef Cattle Development Based on Geographic Information System in Kupang District for Decent Work in 2016–2035*.

At present, the formal ban on trade in livestock is the most pressing issue in promoting cross-border supply chains, but while overcoming this challenge is necessary, it will be far from sufficient. The reasons behind low productivity are multifaceted and require a multicomponent approach across both the public and private sectors. It is anticipated that increases in productivity will help incentivize further investment in the kinds of infrastructure to increase the value captured by supply chain actors in NTT and Timor-Leste in the longer term.

The priorities for intervention include (i) providing market opportunities to incentivize farmers to seek out better livestock management practices; (ii) supporting stronger linkages among market actors to enable new relationships and provision of services (e.g., feed, medicine, extension services, loans); and (iii) support for integrated livestock management systems that promote better feed, calving, and mating practices.

Opportunities

This chapter highlights three potential opportunities for greater trade and cooperation in livestock between Timor-Leste and NTT: (i) the export of Timor-Leste cattle to Indonesia, (ii) the export of chicken and poultry from NTT to Timor-Leste, and (iii) the export of pigs and pork from NTT to Timor-Leste.

A. Opportunity 1: Export of Timor-Leste Cattle through Nusa Tenggara Timur to the Rest of Indonesia

There may be an opportunity for trade of Timor-Leste cattle through NTT to the rest of Indonesia. This could potentially be beneficial not only to Timor-Leste cattle producers, but also to livestock traders in West Timor and buyers in Indonesia. However, this opportunity is subject to important caveats.

There is reason to believe that there is such an opportunity for several reasons: (i) demand for beef in Indonesia is high and increasing; (ii) the continuing “grey trade” across the border is testament to continuing cross-border relationships; and (iii) existing maritime transport routes for cattle from Wini, Atapupu, and Tenau might benefit from economies of scale.

The demand for cattle and beef is growing steadily within Indonesia. Indonesia’s current beef and cattle import requirements are equivalent to 1.6 million head per year, which is more than seven times the size of Timor-Leste’s national herd. NTT, with a net surplus, is a significant source for meeting that demand and already sends 70,000 head per year through interisland transfer. Timor-Leste may have surplus production of cattle (compared with demand), but formal trade with NTT was stopped in 2010 due to animal health concerns, particularly about brucellosis.

Despite the ban on formal trade, grey trade has continued across the border. This is a testament to the continuing market channels and relationships required to support more formal exports. Based on our understanding of cross-border flows, cattle from Timor-Leste are currently being combined with NTT cattle and shipped interisland to meet demand in other regions of Indonesia. This makes it possible for shippers in NTT to ship greater numbers and is a more attractive proposition for buyers. The existing maritime transport for cattle from Atapupu, Wini and Tenau are useful routes to market. Providing a channel for formal cross-border trade could benefit shippers and buyers in NTT, Indonesia by offering greater volumes and consistency of cattle supply from Timor-Leste. This is particularly important as the subsidies for the costs of maritime transport will be removed over time.

Once Tibar Port is opened in Timor-Leste, it may provide an alternative route for the transport of cattle. However, this is unlikely to be economical in the short or medium term. Given the low volumes of production from Timor-Leste, direct shipping to other parts of Indonesia will not be cost-effective, especially when competing with the established routes from West Timor.

By formalizing the cross-border relationship, there is a chance to improve the monitoring and surveillance of animal health issues. As pointed out earlier, cattle diseases including brucellosis are found on both sides of the island, but with higher prevalence rates in Timor-Leste. By conducting joint monitoring and surveillance of animal health, the cost of surveillance could also be shared. This would also enable the establishment of joint actions to address the spread of disease, which is more in line with the natural spread of disease across the island.

Given the current size difference between the herds in Timor-Leste and West Timor, there is no reason to believe that increased formal trade would be detrimental to smallholders in West Timor. Indeed, greater formal trade would also increase the opportunities for formal supply chain linkages across the island, for example, for feed and breedstock. This could help boost the livestock input and service industries in NTT.

However, there are important caveats to this opportunity. First, it is assumed in this analysis that removing formal barriers to trade will increase the ability of Timor-Leste producers to access inputs and services from West Timor to boost productivity (e.g., farmer knowledge exchanges, feed, medicines) as well as investment. Increasing productivity will be critical to realizing benefits to smallholders from opening trade.

Furthermore, it is expected that formalizing trade opportunities would create an incentive for some producers who do not currently trade to start doing so. Conversations with livestock producers in Oecusse over the last 8 years showed that when formal trade was banned many of the producers cut down their *leucaena* and *sesbani* trees (fodder for cattle) due to lack of a market for fattened cows.¹⁶⁹ This demonstrates the relationship between market incentives and the use of improved feeding techniques.

Nevertheless, it ignores that prices for cattle in West Timor are falling compared with those in Timor-Leste. Anecdotal evidence suggests that exports of Timor-Leste cattle to West Timor are declining as the Indonesian rupiah devalues against the dollar. Indeed, the price for beef in Dili is \$9 per kg compared with \$6.4 per kg in Kupang. However, the prices of live cattle in West Timor and Dili are believed to be roughly similar at this point. Trade may be continuing due to the established market channels; but this may be disrupted by further depreciation. If formalization of trade leads to increased costs for farmers to export, then this, combined with falling prices, could remove the incentive of farmers to trade.

With this in mind, the potential opportunity remains substantial. Currently the turn-off rate for cattle production in Timor-Leste is around 9.5%. Low productivity in Timor-Leste means this may be a suitable level; however, if turn-off rates could be increased to the same as in Indonesia (13%), then this would translate into exports of 12,380 head (net increase of

¹⁶⁹ Based on years of work by the author with border populations raising cattle.

7,830 head). At an estimated retail price of \$600 per head, this would translate into just under \$4.7 million additional income for cattle producers in Timor-Leste.

B. Opportunity 2: Export of Chickens and Day-Old Chicks from Nusa Tenggara Timur to Timor-Leste

The import of poultry and poultry products from Indonesia to Timor-Leste has been banned since 2004 following the outbreak of AI in Indonesia. However, there have been recent moves to address this issue. Following a risk assessment by the Timor-Leste Ministry of Agriculture, animal health regulations were revised to allow the importation of poultry and poultry products from AI-free compartments in Indonesia. As mentioned earlier (see page 157), PT Charoen Pokphang is a good example.

In 2017, Timor-Leste imported 10,963 tons of poultry worth \$13.7 million and 4,652 tons of eggs worth \$1.7 million. Poultry was sourced largely from Brazil and eggs largely from Malaysia via Singapore.¹⁷⁰ In the past there have been some delays in shipping, lessening the quality of the meat. If more chickens and poultry products could be sourced from West Timor and NTT, this could introduce a competitively priced alternative for Timor-Leste consumers. By enabling imports of poultry and poultry products from West Timor (and NTT) into Timor-Leste, consumers would have access to an alternative (and possibly cheaper) source of chicken. The potential market for NTT chicken producers, through substitution of Timor-Leste's imports, would be up to \$13.7 million per year.

Furthermore, as explored in Chapter 3, access to quality and competitively priced inputs for poultry production (i.e., feed, medications, breedstock or day-old chicks) is a major issue holding back increased poultry production in Timor-Leste. Recently, day-old chicks were imported from the Charoen Pokphand farm in West Timor for only \$0.8 per head compared with \$3.00 per head from Malaysia, greatly reducing production costs. West Timor could export up to 11 million day-old chicks to Timor-Leste worth \$8.8 million per year.¹⁷¹ This would have even greater benefits for Timor-Leste's economy, assuming it is able to overcome challenges to growth of the domestic industry. Based upon a labor requirement of 1 person-hour per day to look after 500 chickens, this would create 2,750 full-time jobs. Based on a net profit of \$0.2 per bird for poultry farmers,¹⁷² this could create additional income of \$2.2 million per year.

One concern might be that imports from West Timor would hinder the development of Timor-Leste's domestic industry. As previously discussed, Ministry of Agriculture, Indonesia (MOA-RI) will be rolling out a national program of "Chicken for the Poor," which will provide chickens and feed to households. If successful, households may use this to increase their sale of chicken products, which would then compete with the Timor-Leste domestic industry. However, this is countered by the current scale of production in NTT and also by the large demand in Timor-Leste. Production in NTT has only recently become

¹⁷⁰ International Trade Centre trade data.

¹⁷¹ Timor-Leste imports 10,963,000 kg of chicken meat per year, which is equivalent to 9,135,833 birds at 1.2 kg each. Accounting for mortality rates, demand for chicks would be about 11 million.

¹⁷² Based on industry standard of 7% return on investment for broiler production.

surplus to demand (estimated surplus of around 869,451 head of poultry), and the demand for chickens (as shown by the value of imports) is high. This would suggest that there is sufficient market demand for many providers. Nevertheless, consideration could be given to focusing cooperation on importation of inputs, e.g., day-old chicks, rather than chicken meat, to support Timor-Leste's domestic industry.

Risks involved include the spread of HPAI into Timor-Leste. However, this is considered to be very low. NTT has not had a single positive AI test, and the NTT government has put in place strict regulations on importation of poultry and poultry products from other provinces in Indonesia. Assuming these practices remain in place, the risk to Timor-Leste would not be heightened by allowing trade with NTT.

C. Opportunity 3: Export of Pork and Piglets from Nusa Tenggara Timur to Timor-Leste

There may also be an opportunity to support exports of pork and piglets from NTT to Timor-Leste. The rationale is similar to that for chicken and poultry, although the opportunity is probably smaller due to lower market demand for pig meat in Timor-Leste.

The retail price of pork in Dili is 86% or \$3.7 per kg higher than in Kupang, which provides a strong incentive for NTT producers to supply the market. While production of pigs in Timor-Leste appears to be meeting local demand, imports from overseas continue. This is assumed to be meeting the upmarket retail and supermarket trade, which currently is not serviced by the domestic industry, being largely subsistence-based.

While pig production in NTT is also largely informal and production increases appear to be quite variable and driven by cultural and social events, work by PRISMA on the Timor Island suggests that production is increasing and opportunities for expansion are being sought. As a Christian and pork-eating nation, Timor-Leste presents a potential market opportunity for this production.

If Indonesia were able to substitute Timor-Leste's pork imports, it would be worth \$2.3 million per year. Alternatively, West Timor could export 23,000 piglets a year to Timor-Leste worth \$1.15 million per year (at \$50 per piglet), enabling Timor-Leste to benefit from increased employment and value-captured by producing its own pork. Based upon a labor requirement of 1.5 person-hours per day to look after 10 pigs, this would create 431 full-time jobs. Also, based on a net profit of \$20 per pig for pig farmers,¹⁷³ that would create an additional income of \$460,000 per year.

While there is no official ban on trade, challenges to meeting SPS requirements have been reported by traders as reducing access. Furthermore, constraints to productivity (lack of feed, veterinary services, extension services, etc.) hold back the development of Timor-Leste's pork industry. Greater linkages between input and service providers and the pork industry across the Timor Island, combined with efforts to harmonize and streamline procedures at the border, would have large potential gains for smallholder farmers.

¹⁷³ Based on industry standard of 11% return on investment for commercial pig production.

D. Conclusion

The opportunity with the largest potential benefits is the export of NTT chickens and poultry to Timor-Leste. Current demand for imports of chicken in Timor-Leste is \$13.7 million, and for eggs is \$1.7 million. By sourcing some of this from NTT instead of Brazil and Malaysia, it may be possible to decrease the prices charged to Timor-Leste consumers and increase the freshness due to shorter transportation times. There is also the opportunity to increase the supply of day-old chicks from NTT to help support the development of Timor-Leste's domestic poultry and egg industries. A day-old chick from NTT costs \$0.8 compared with \$3 from Malaysia. A similar argument exists for pork and pig products, which have a smaller current market in Timor-Leste. However, there is currently no formal ban on pigs from NTT to Timor-Leste. Imports of pork to Timor-Leste have been equal to \$2.3 million per year.

The formal export of Timor-Leste cattle through NTT to Indonesia has the potential to benefit both Timor-Leste producers and NTT traders. If production in Timor-Leste could be improved to similar levels achieved in NTT, then this could lead to \$4.7 million in additional income for producers.

Many of the steps required to enable cross-border trade are the same for cattle, pigs, and poultry. These include streamlining procedures at the border, addressing animal health and SPS concerns, and building relationships between producers and suppliers of inputs such as feed and medicine. Hence, all three opportunities could be realized, providing an overall gain to livestock producers and meat consumers on both sides of the border.

Animal Health and Sanitary and Phytosanitary Standards Recommendations

It is recommended that the animal health and SPS barriers to cross-border trade in cattle and poultry be removed in a staged and secure manner to complement ongoing development of the national animal health and SPS regimes.¹⁷⁴ There are two options for how the barriers on cattle can be removed.

For cattle, it is recommended that

- (i) joint health checkpoints for cattle be established for Timor Island, or
- (ii) a system of trusted traders be established for Timor-Leste cattle exports.

For poultry, it is recommended that permission for poultry trade to Timor-Leste be extended to the whole of NTT.

These recommendations should be undertaken in addition to tackling horizontal (crosscutting) challenges to the movement of goods and people across the border and in coordination with projects to boost the productivity of livestock production. By tackling the immediate barriers to cross-border trade, the opportunities and incentives for livestock producers to trade (and take advantage of the opportunities) will be increased. However, to see incomes grow for producers, it will be necessary that interventions on productivity be undertaken simultaneously.

A. Recommendation 1a: Joint Health Checkpoints to Be Established for Cattle Exiting the Island

Description: The ban on trade in cattle from Timor-Leste to Indonesia should be removed and animal health certification requirements waived in favor of joint health checkpoints established for cattle exiting the island. Livestock would be subject to the process outlined in Table 36. This would be subject to implementation of the Timor-Leste animal identification system, new approaches to improving veterinary services, and a joint risk management system. This would be part of a longer term vision supporting an island-wide SPS zone.

Rationale: Cattle diseases are common to both sides of Timor Island. Cross-border trade is happening despite the formal ban. This arrangement would recognize this and provide greater transparency and accountability, enabling better risk management.

¹⁷⁴ This should be part of the “One Health” strategy approach to disease control.

Table 36: Steps in the Joint Health Checkpoint Scheme

| | |
|----------------|--|
| 1. Farm | <p>Producer groups and villages receive support (from Ministry of Agriculture and Fisheries, village livestock workers, and/or private sector agents)^a to</p> <ul style="list-style-type: none"> – introduce cattle yards and better animal feed systems, – tag and identify animals, – vaccinate, and – certify for transit and/or export. |
| 2. Land border | <ul style="list-style-type: none"> – transit, export, and vaccination documents provided; – requirement for health certificate waived; – duty waived. |
| 3. Sea border | <ul style="list-style-type: none"> – cattle undergo 7-day quarantine, and – cattle undergo health test and be certified. |

^a Model based on PRISMA M4P and scheme with APS by BOSS and UNCTL could be considered.

Source: Asian Development Bank.

Caveats: The scheme assumes that prices for live cattle in Indonesia are comparable to those in Dili as a minimum. Benefits are dependent on support being provided to producers to improve animal husbandry techniques and administer vaccines. Models adopted for implementation of the cattle identification (ID) and vaccination systems should be scalable; otherwise the approach will not be a stepping stone toward national level implementation.

Table 37 shows some of the costs and benefits that might be expected to accrue to different stakeholders from establishing a joint health checkpoint.

Objectives and Outputs:

1. **Support animal health and productivity.** Establish partnerships among farmers, the MAF, existing village livestock workers, the private sector, and development partners to

- (i) use cattle yards and better forage systems to improve animal control and health,
- (ii) receive better access to and availability of medicines and veterinary services, and
- (iii) deliver permanent tags or certification of vaccinations.

Any model used should be scalable. Lessons learned from the Markets for the Poor approach of PRISMA and previous interventions by other donors such as FAO and ILO should be integrated. Legislation for the conduct of pharmaceutical companies will need to be passed.

2. **Implement cattle identification system.** Implement a national cattle ID system well. The framework already exists, but implementation is limited. The first step is to establish chain of command in regions, municipalities, and districts. The system must allow for definitive identification of vaccinated animals (consider permanent ear tags).

Table 37: Costs and Benefits of Joint Health Checkpoint

| Benefits | Costs |
|---|--|
| <p><u>Timor-Leste Producers:</u></p> <ul style="list-style-type: none"> – Increased income from support for productivity (if productivity could be raised to levels in Indonesia this would be up to additional \$4.7 million) – Increased access and availability (and possibly lower prices) of inputs and services^a – Possible savings due to lower disease incidence – Can sell higher volumes compared with informal trade – Reduced certification costs <p><u>Timor-Leste Traders and Agents:</u></p> <ul style="list-style-type: none"> – Remove need for informal payments for cross-border sale – Duties waived – Possibly greater volumes <p><u>Timor-Leste Government:</u></p> <ul style="list-style-type: none"> – Reduces cost of certification <p><u>Timor-Leste Livestock Industry:</u></p> <ul style="list-style-type: none"> – May attract investors if Indonesia market opens <p><u>NTT Traders and Shippers:</u></p> <ul style="list-style-type: none"> – Depending on market channel, could benefit as above for Timor-Leste traders – Greater volume for transport provides economies of scale. <p><u>Private Sector Providers of Inputs:</u></p> <ul style="list-style-type: none"> – Better access and volume of trade | <p><u>Timor-Leste Producers:</u></p> <ul style="list-style-type: none"> – Cost of improved livestock techniques (e.g., cattle yards) <p><u>NTT Traders:</u></p> <ul style="list-style-type: none"> – Loss of informal payments for re-certification of cattle crossing the border <p><u>Timor-Leste Government:</u></p> <ul style="list-style-type: none"> – Cost of implementing national identification or ID system and vaccinations <p><u>Port Authorities and Quarantine:</u></p> <ul style="list-style-type: none"> – Facilities may require upgrading for larger numbers; may require separate holding pens for Timor-Leste versus West Timor cattle. |

NTT = Nusa Tenggara Timur.

^a Based on the assumption that a public-private partnership or equivalent would be established for inputs, lower prices would arise from (i) trade facilitation activities at the border and (ii) an increase in sales volume. Price of broiler feed in Dili is \$1.20 per kilogram and \$0.66 per kilogram in Kupang, as Timor-Leste often imports overland from Kupang from second or third-tier suppliers due to limited demand.

Source: Asian Development Bank.

3. **Establish joint risk management system.** This would require the following:
 - (i) Exchange data on risks and/or hazards and risk management measures.
 - (ii) Develop risk management options.
 - (iii) Develop local contingency plans for disease outbreaks.
 - (iv) Conduct joint training.
 - (v) Pilot a risk assessment system.
4. **Upgrade quarantine and SPS testing facilities.** Review the quarantine and certification facilities at Atapupu, Wini, and Kupang ports. It is possible that investments for upgrading or indeed facilities to enable the separation of vaccination-certified and uncertified cattle would be required. Capacity building for staff in the new procedures would also be necessary.

Table 38 shows some of the main risks arising from establishing a joint health checkpoint and how these might be mitigated.

Table 38: Risks of a Joint Health Checkpoint

| Risks | Assessment | Mitigation |
|--|--|---|
| Spread of cattle diseases from Timor-Leste to West Timor | Possible, although low impact given current cross-border flows | Status quo improved upon by strengthening ID and vaccination delivery systems |
| Cost for Timor-Leste producers too high compared with informal channels | Possible, and impact high | Cost assessment to be conducted and system piloted prior to establishment |
| False positive tests at the health checkpoints (brucellosis vaccine is live) | Possible, and impact high | Consider permanent ear tags for vaccinated animals. |

Source: Asian Development Bank.

B. Recommendation 1b: A System of “Trusted Traders” (Authorized Economic Operator) Be Established for Timor-Leste Cattle Exports

Description: Exports of Timor-Leste cattle would be permitted for “trusted traders” (i.e., an authorized economic operator scheme). This would be an intermediate step while the animal health and SPS systems in Timor-Leste are being fully implemented. Trusted traders would be agents who would have had their supply chain audited by Timor-Leste and Indonesia (and eventually only Timor-Leste) to ensure that animals are meeting WTO SPS standards. Trusted traders would be provided a streamlined process at the border crossings points, duty charges would be waived, and cattle would be eligible to move off Timor Island without the 7-day quarantine at the port (Table 39).

Table 39: Steps in the Trusted Trader System

| | |
|------------------------------|--|
| 1. Farm | <p>Producer groups and villages receive support (from MAF, village livestock workers, and/or private sector agents)^a to</p> <ul style="list-style-type: none"> – introduce cattle yards and better animal feed systems, – tag and identify animals, – take samples for disease testing, – vaccinate, and – certify for transit and/or export and health. |
| 2. Testing | Laboratory undertakes animal health blood testing and provides certification. Linked to individual cattle IDs. |
| 3. Audit | <p>Timor-Leste trader or agent identified</p> <p>Producer, agent, and transportation (supply chain) audited to ensure that WTO SPS and OIE standards are met</p> <p>Audit conducted by Indonesia in partnership with Timor-Leste; once trust is established, Timor-Leste to do independently</p> <p>If standards are met, then agent receives trusted trader status.</p> |
| 4. Land border | <p>Processes streamlined for trusted operators (no-stop or single-stop inspection)</p> <p>Duties waived</p> <p>Over time could establish joint digital database to track animal movements</p> |
| 5. Sea border— West Timor | Export processes simplified including waiving quarantine requirements |

MAF = Ministry of Agriculture and Fisheries, OIE = World Organisation for Animal Health, SPS = sanitary and phytosanitary, WTO = World Trade Organization.

^a Model based on PRISMA M4P and scheme with APS by BOSS and UNCTL could be considered.

Source: Asian Development Bank.

Rationale: A trusted trader system would provide some level of market access for more commercially oriented producers while the national cattle ID and animal health systems are being strengthened. This would also provide incentives for more producer groups to adopt commercially oriented procedures and provide a system for building trust with Indonesia on animal health standards.

Caveats: Assumes that prices for live cattle in Indonesia are comparable to those in Dili as a minimum. Benefits are dependent on support being provided to producers to improve animal husbandry techniques. Models adopted for implementation of the cattle ID and vaccination systems should be scalable; otherwise, the approach will not be a stepping stone toward national implementation.

Table 40 shows some of the costs and benefits that might be expected to accrue to different stakeholders from establishing a trusted trader scheme. The main differences between this and the joint health checkpoint are the reduced time spent by livestock in quarantine prior to being shipped and the higher costs required to agree and establish an authorized economic operator agreement.

Table 40: Costs and Benefits of Trusted Trader Scheme

| Benefits | Costs |
|--|--|
| <p><u>Select Timor-Leste Producers:</u></p> <ul style="list-style-type: none"> – Increased income from support for productivity (if productivity could be raised to levels in Indonesia, this would be up to an additional \$4.7 million) – Increased access and availability of inputs and services – Possible savings by lower disease incidence – Can sell higher volumes compared with informal trade <p><u>Timor-Leste Traders:</u></p> <ul style="list-style-type: none"> – Reduced informal payments for cross-border trade – Duties waived – Streamlined processes at border – Streamlined processes at sea border and removal of quarantine costs <p><u>Timor-Leste Livestock Industry:</u></p> <ul style="list-style-type: none"> – May attract investors if Indonesia market opens <p><u>NTT Traders and Shippers:</u></p> <ul style="list-style-type: none"> – Depending on market channel, could benefit as above for Timor-Leste traders – Greater volume for transport provides economies of scale – Lower quarantine and holding costs at port <p><u>Indonesian Port Authorities and Quarantine</u></p> <ul style="list-style-type: none"> – Lower quarantine, testing, and holding costs <p><u>Private Sector Providers of Inputs:</u></p> <ul style="list-style-type: none"> – Better access and volume of trade | <p><u>Timor-Leste Producers:</u></p> <ul style="list-style-type: none"> – Cost of animal health certification (\$20 and approximately 7 days) – Cost of improved livestock techniques (e.g., cattle yards) <p><u>Timor-Leste and Indonesian Border Agencies:</u></p> <ul style="list-style-type: none"> – Cost of establishing trusted trader channel at border (operating procedures, risk management) <p><u>Indonesian Auditors and Testing Facilities:</u></p> <ul style="list-style-type: none"> – Cost of conducting tests and/or audits and providing capacity building if required |

NTT = Nusa Tenggara Timur.

Source: Asian Development Bank.

Objectives and Outputs:

1. **Support animal health practices of selected producers.** Establish partnerships among farmers, MAF, existing village livestock workers, the private sector, and development partners to
 - (i) use cattle yards and better forage systems to improve animal control and health, and
 - (ii) receive better access to and availability of medicines and veterinary services.

Any model used should be scalable. Lessons learned from the Markets for the Poor approach of PRISMA and previous interventions by other donors such as FAO and ILO should be integrated. Legislation for the conduct of pharmaceutical companies will need to be passed. It is recommended that costs of certification be covered by traders to ensure financial sustainability at the national level.¹⁷⁵

2. **Develop capacity of laboratory and audit staff.** Indonesia should support knowledge exchange and mentoring programs for laboratory staff in Timor-Leste, conducting tests for cattle health certification.

3. **Implement cattle ID system for selected operators.** National cattle ID system must be implemented well. The framework already exists, but implementation is limited. The first step is to establish a chain of command in regions, municipalities, and districts.

4. **Streamline Border Procedures for Trusted Traders.** Establish an MOU for the trusted trader system and duty waiver and quarantine waiver, develop operating procedures (to include no-stop or single-stop inspection), and conduct joint training on the system. Over time consider development of a database for monitoring cattle movement with joint data exchange.

Some of the potential risks of the trusted trader scheme and ways to mitigate them are provided in Table 41.

Table 41: Risks of Trusted Trader Scheme

| Risks | Assessment | Mitigation |
|---|--|---|
| Spread of cattle diseases from Timor-Leste to West Timor | Low probability and low impact, given current cross border flows | Incorporated into system |
| Cost for Timor-Leste producers too high compared with informal channels | Possibility high and impact high | Cost assessment to be conducted and system piloted prior to establishment |

Source: Asian Development Bank.

C. Recommendation 2: Permission for Export of Poultry to Timor-Leste to Be Extended to Nusa Tenggara Timur

Description: Permission for the trade of poultry and poultry products would be extended to cover NTT rather than certified compartments.

Rationale: There have been no cases of avian influenza (AI) in NTT, and the controls established by NTT against AI are relatively high. A broader agreement on poultry would

¹⁷⁵ As recommended in A. Batalha. 2018. *Assessment Mission on Animal Health in Timor-Leste*. Report of Assessment Mission. European Commission. Timor-Leste.

enable more producers in NTT to benefit, and increased competition may benefit buyers and consumers in Timor-Leste.

Caveats: The size of demand in Timor-Leste should be sufficiently high for the supply from NTT without reducing opportunities for the growth of domestic suppliers, but the focus could be on allowing inputs for domestic production (i.e., day-old chicks).

Table 42 shows some of the potential costs and benefits of poultry imports into Timor-Leste. These are only indicative, and the figures are based on full substitution of existing poultry imports in Timor-Leste, which is not a stated objective.

Table 42: Costs and Benefits of Poultry Imports

| Benefits | Costs |
|---|--|
| <p><u>NTT Poultry Traders:</u></p> <ul style="list-style-type: none"> – More traders and producers would have market access; market for imported chicken in Timor-Leste equal to \$13.7 million per year or \$8.8 million for day-old chicks. Egg imports are worth \$1.7 million. <p><u>NTT Feed Suppliers:</u></p> <ul style="list-style-type: none"> – Possibly greater volumes of feed required in NTT and Timor-Leste <p><u>Timor-Leste Chicken Consumers:</u></p> <ul style="list-style-type: none"> – Possibly cheaper, better quality chicken meat and eggs <p><u>Timor-Leste Poultry Producers:</u></p> <ul style="list-style-type: none"> – Price of chicks (input for Timor-Leste domestic industry) from NTT \$0.8 compared with \$3 from Malaysia. – If importing day-old chicks rather than poultry, this would require up to 11 million chicks, which would produce 2,750 full-time jobs and additional income of \$2.2 million a year.^a | <p><u>Government of Indonesia</u></p> <ul style="list-style-type: none"> – Cost of audit and certification |

NTT = Nusa Tenggara Timur.

^a This is based on complete substitution of existing imported poultry products and an estimated net profit of \$0.20 per bird based on industry standard of 7% return on investment for broiler production.

Source: Asian Development Bank.

Objectives and Outputs

1. Conduct Risk Assessment

- (i) Surveillance and risk assessment would be by BBVet Bali following World Organisation for Animal Health (OIE) standards and MOA-RI Decree no. 28/2008 on animal disease compartmentation and zonation in Indonesia.

2. Establish Agreement

- (i) Indonesian government would certify NTT as AI-free, and/or
- (ii) Timor-Leste would expand poultry importation policy to encompass NTT.

Table 43 describes a few potential risks to this recommendation and suggestions on how to mitigate them.

Table 43: Risks of Poultry Imports

| Risks | Assessment | Mitigation |
|---|---|---|
| Spread of AI to Timor-Leste | Low probability | Audit conducted |
| Nascent Timor-Leste producers cannot grow | Considered to be low, given size of market in Timor-Leste | Consideration given to limiting access to inputs of day-old chicks |
| False positives in audit (vaccines for HPAI are live) | Possible and high impact | Means of taking this into consideration for the audit will be required. |

AI = avian influenza, HPAI = highly pathogenic avian influenza.

Source: Asian Development Bank.

Productivity

The recommendations on SPS and animal health are contingent on the need to simultaneously increase productivity. Without productivity increases through better animal husbandry techniques, agricultural households will not be able to gain from increased market access. Therefore, we recommend that all actions be undertaken as part of a comprehensive sectorwide program that incorporates programs run by MAF, MOA-RI, private sector, and development partners. Chapter 10 lists the development partners recently and currently engaged in livestock in this region that could serve as potential partners.

Based on our understanding of the challenges to productivity, the following recommendations should be considered:

- (i) **Build linkages between producers and service providers.** A model similar to that adopted by PRISMA in NTT for pig farmers could be considered in Timor-Leste. This would involve
 - (a) identifying distribution channels for feed and other inputs and establishing formal agreements that include the provision of extension services,
 - (b) establishing village-level agents and promoters to support distribution, and
 - (c) encouraging input suppliers to recruit and establish veterinary assistants to work with and supplement government assistance.
- (ii) This focuses on building distribution channels, creating village-level market agents, and encouraging add-on services to be provided by companies for and by providers of inputs and services. This may be more cost-effective than attempting to provide all of these services centrally through public funding. The existing network of village livestock workers (where they still operate) is a fantastic resource to start this relationship. Lessons learned from interventions in cattle in Timor-Leste under the ILO Business Opportunities Support Services project from 2011 to 2016 should be incorporated.
- (iii) **Establish model farmer groups.** Linkages across the supply chain can be supported by farmer groups. We recommend that integrated models be established for cattle and pig breeding and fattening and the production of semi-endogenous chicken. These groups could be established along the border to (a) ensure that benefits accrue to border residents, (b) concentrate support in areas with the highest numbers of livestock households, and (c) enable cross-border cooperation more easily.

Medium- to Long-Term Objectives

A. Feed

Consideration could be given to building a year-round feed mill to provide nutrient-rich feed for animals. This could be linked to initiatives such as the agriculture program in Malaka or a sugarcane company that will be planning to ensure a reliable source of raw materials in the area of Wini and Atapupu.

B. Value Chain Upgrading

In the medium to longer term, improving the quality of meat for consumers through better transportation of live animals, slaughtering facilities and practices, and meat processing is important for higher value added and income.

Development of cold chain infrastructure will also be important to enable the export of meat (as opposed to cattle) from the Timor Island to reach markets in Indonesia and ASEAN. Investment in this area would, however, need to be subject to further cost-benefit analysis to determine the cost competitiveness of Timor Island compared with continuing the export of live cattle for processing elsewhere in Indonesia.

If upgrading of local facilities is to take place, some of the priorities would be

- (i) training butchers and other staff in slaughterhouses;
- (ii) upgrading the physical facilities for public slaughterhouses in NTT (already underway) to meet international slaughter standards;
- (iii) supporting the use of vehicles and ships designed for livestock transportation and the use of OIE standards for livestock transportation; and
- (iv) developing the cold chain, which would include introducing cold storage facilities in slaughterhouses, refrigerated trucks for transportation, refrigerators and refrigerated display units for retailers, and refrigerated or freezer shipping containers if transporting the meat off the island.

Crosscutting Recommendations

In addition to the specific recommendations on SPS and animal health for cross-border trade, several recommendations will also be critical to success (Table 44). Further background on these recommendations is provided in Part I.

Table 44: Crosscutting Recommendations

| | |
|--|--|
| Streamline the movement of goods and people across the border | <ul style="list-style-type: none"> • Finalize a bilateral MOU on cross-border movement of vehicles. • Develop an MOU for border agencies cooperation, including, among others, customs cooperation on the exchange of data and mutual assistance. • Establish a bilateral technical working group to monitor and implement MOUs. • Develop standard operating procedures to operationalize MOUs. • Review the costs and benefits of removing the \$30 visa requirement for Indonesians. • Identify areas for joint capacity building and knowledge sharing of customs, immigrations, quarantine, and security border agencies collaboration. |
| Improve access to financial services | <ul style="list-style-type: none"> • Review legislative and regulatory framework for cross-border partnerships in financial services. • Consider partnership between Banco Nacional de Comercio de Timor-Leste and Bank Indonesia or Bank Rakyat Indonesia in opening a small and medium-sized enterprise or agricultural focus lending window in partnership with Ministry of Agriculture and Fisheries and/or producer groups. |
| Infrastructure | <ul style="list-style-type: none"> • Continue to invest in national road network upgrading to increase the catchment area for economic development. • Improve access to waste management, water, and power infrastructure. |

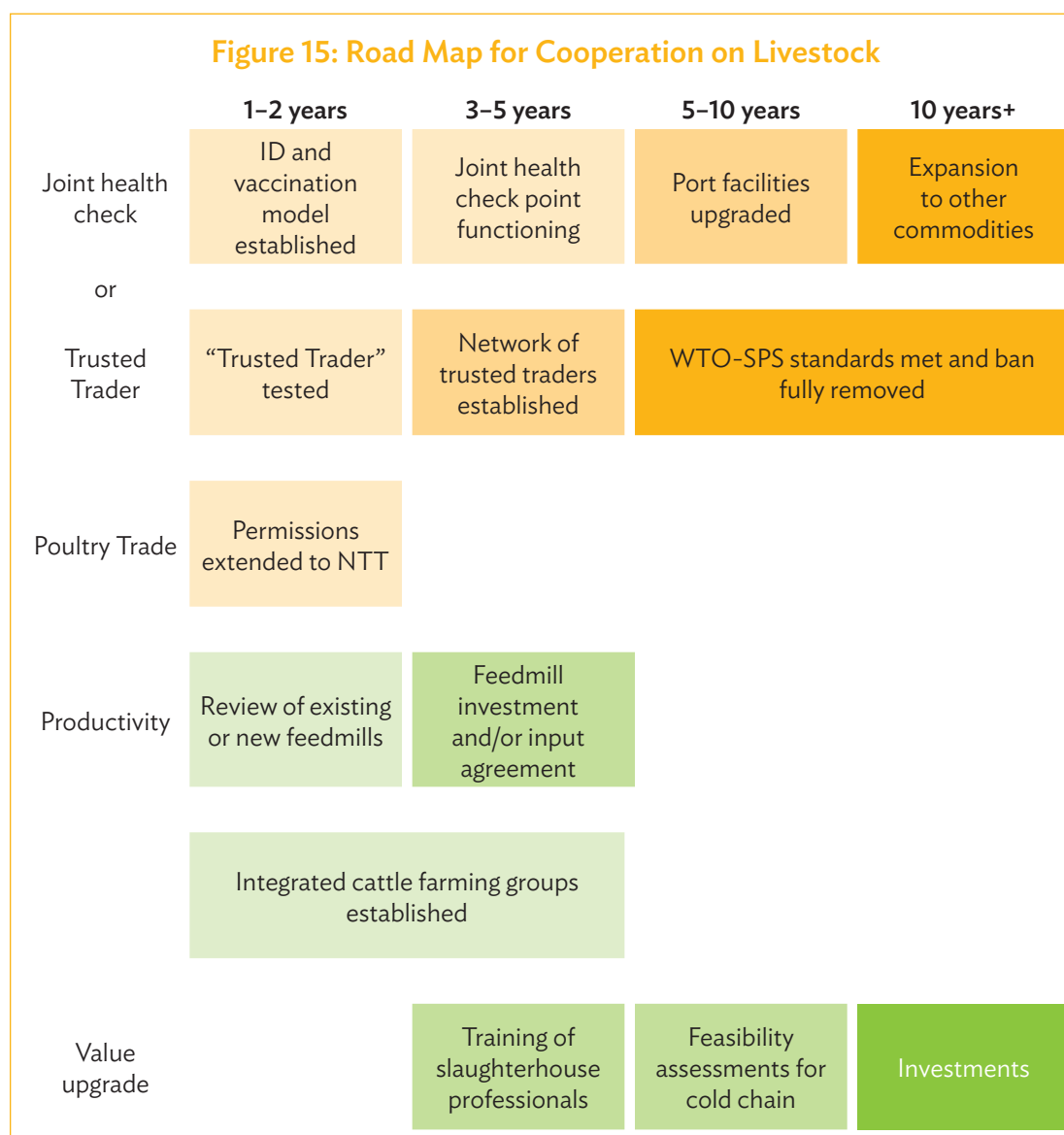
MOU = memorandum of understanding.

Source: Asian Development Bank.

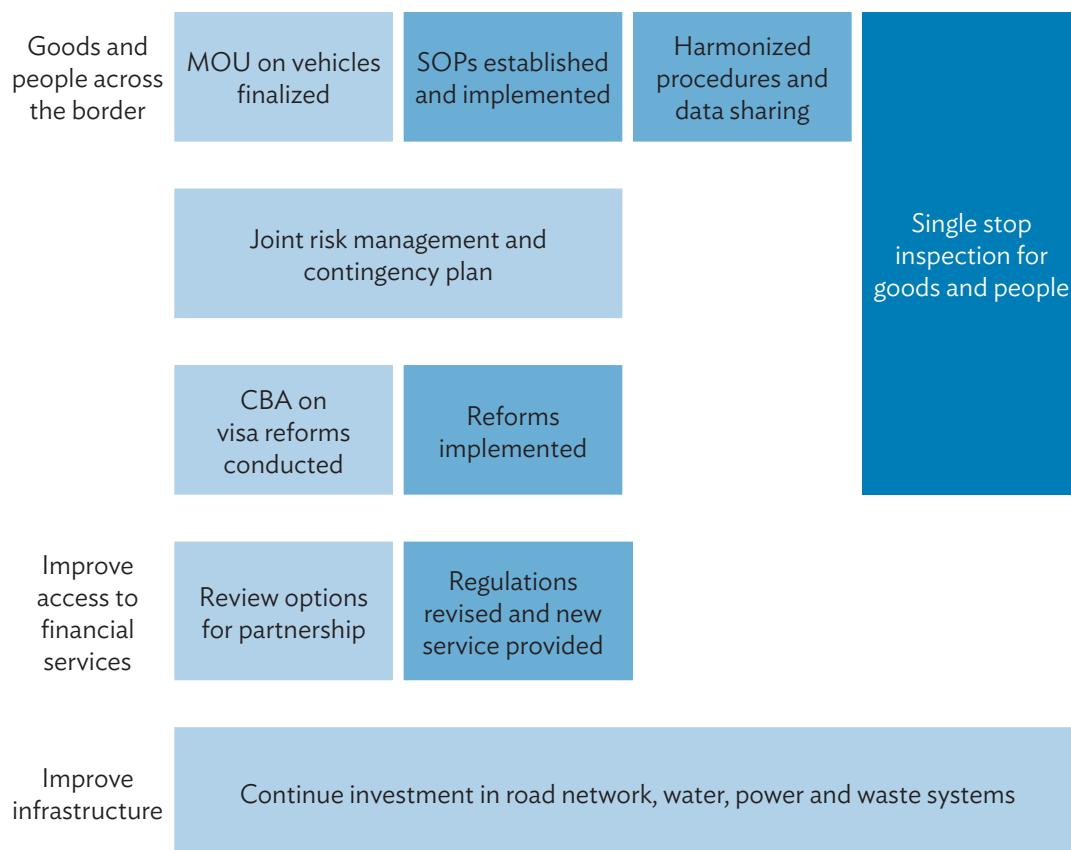
CHAPTER 9

Road Map

Figure 15 shows the sequencing of all recommendations over a 10-year time frame.



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Figure 15 *continued*

CBA = cross-border agreement, MOU = memorandum of understanding, NTT = Nusa Tenggara Timur, SOP = standard operating procedure, SPS = sanitary and phytosanitary, WTO = World Trade Organization.
 Source: Asian Development Bank.

CHAPTER 10

Development Partner Partnerships

Table 45 highlights a few of the current and ongoing projects funded by development partners that may be important for partnerships in implementing recommendations.¹⁷⁶

Table 45: Development Partner Livestock Projects

| Name | Description |
|--|--|
| Smallholder cattle enterprise development in Timor-Leste. | Research conducted by University of Queensland with funding from ACIAR in partnership with MAF. Phase II of project that ran from 2012 to 2015 (Enhancing Smallholder Cattle Production in East Timor). Focus on enabling smallholders to transition to more commercial production systems. Have established network of producer groups with commercial orientation. |
| Promoting Rural Income through Support for Markets in Agriculture (PRISMA) | Agricultural commodity support program for eastern Indonesia using a “Making Markets Work for the Poor” approach. Currently has pig support program in NTT, which has provided useful lessons on appropriate approaches to supporting the sector. |
| Business Opportunities and Support Services (BOSS) | Ran from 2011 to 2016 in Timor-Leste. Implemented by ILO with funding from Irish Aid and New Zealand Aid. Objective to support SMEs. Included work on cattle including building the national abattoir and work with animal health workers and private enterprises to stimulate sector growth. |
| IndoBeef | Joint Australia–Indonesia program for improving capability of smallholder-based beef industry in Indonesia. Nationwide initiative with a focus on animal husbandry and combining beef value chains with oil palm plantations. |
| To’os Ba Moris Di’ak (TOMAK) Farming for Prosperity | Based in Timor-Leste and funded by the Government of Australia. Objective is to support food security, nutrition, and rural incomes. Program recently signed MOU with Timor-Leste MAF and ACIAR to work on a research project for smallholder pig production. |

ACIAR = Australian Centre for International Agricultural Research, ILO = International Labour Organization, MAF = Ministry of Agriculture and Fisheries, MOU = memorandum of understanding, NTT = Nusa Tenggara Timur, SMEs = small and medium-sized enterprises.

Source: Asian Development Bank.

¹⁷⁶ Not an exhaustive list.

Gender and Environment

A. Women's Participation

Any intervention in livestock in NTT and Timor-Leste should be done with the understanding that different initiatives will impact men and women differently due to the different roles they play. With regard to our recommendations, this means gender sensitivity and mainstreaming in the areas of trade facilitation as well as any potential support for productivity increases.

In semi-intensive production systems (i.e., where animals are penned), women tend to play a dominant role in production, largely through the collection of forage for the animals. In rainy season, when feed is plentiful, this may require one hour per day per two head of cattle; however, during dry season, women will need to collect feed from farther away. Measures to reduce the amount of time required to collect feed would, therefore, potentially enable women to reduce the time spent on these activities.

In more intensive cattle productive systems, women tend to be most involved at the beginning and end of the supply chain. They tend to do the bulk of animal care, i.e., mixing feed, fetching water, and managing animal health and disease, although men play a greater role in feed collection. Women also do the bulk of work around boning and retail. Men's involvement tends to be around the middle of the supply chain, i.e., marketing.

For pigs, as with cattle, women tend to play a dominant role in animal husbandry and feeding, particularly in semi-intensive and intensive systems. Chicken raising, typically a domestically focused activity for household nutrition, is the only activity entirely dominated by women. Hence, interventions in smallholder chicken production have the potential to directly benefit women's empowerment.

Given the role of women in livestock production and animal husbandry, they might provide a suitable focus when considering the establishment of village-level agents or promoters. This would provide a new and possibly more profitable role for women in the livestock supply chain.

Equally, it will be important to take care to ensure effective participation of women in discussions on the design of trade facilitation measures. This is particularly important for livestock, since women are typically less involved in this aspect of the supply chain. Without their inclusion, it may be harder to ensure their participation in cross-border trade in the future.¹⁷⁷

¹⁷⁷ We recommend the specific recommendations found in Indian Council for Research on International Economic Relations (ICRIER), 2018. *Trade Facilitation Measures to Enhance Participation of Women in Cross-Border Trade in Bangladesh–Bhutan–India–Nepal (BBIN)* to be carried out in future work between NTT and Timor-Leste. http://icrier.org/pdf/Cross-border_Trade_in_BBIN-Jan-2018.pdf.

B. Environmental Impact

Increases in the raising of livestock have the potential for negative environmental impacts, which would need to be addressed. As highlighted throughout the proceeding chapters, Timor Island has a semiarid climate. Timor-Leste is already stretched beyond its natural capacity for the provision of forage for cattle production, requiring the provision of better managed feed systems. More intensive farming systems also have issues around the management of waste and use of water. The current infrastructure in NTT and Timor-Leste for waste and water management is generally limited. Consideration should be given to investing in improved water and waste management systems. Climate change is expected to increase the strain on water resources in NTT and Timor-Leste where most freshwater withdrawal already go to agriculture. One example of better waste management included in the recommendations would be considering the use of animal waste for biogas generation.

Pilot Project

Objective: If the trusted trader recommendation is selected, we propose that a pilot be conducted over an 18-month period to test its viability. This could be done by working with one producer or agent in Timor-Leste. Even if the joint health check point recommendation were selected, the pilot approach would be appropriate and could be adapted.

Outcomes: The results of the pilot would be

- (i) a better understanding of the costs and benefits of a trusted trader program for different market actors in Timor-Leste and Indonesia cattle trading systems,
- (ii) livestock producers' interest and motivation in such a scheme,
- (iii) information on the viability of a support model for greater access to and availability of inputs and services for cattle raising,
- (iv) assessment by cattle traders of the effectiveness of better animal husbandry practices in terms of lowering diseases and increasing animal weight,
- (v) information on the capacity building required of different government agencies in Timor-Leste and Indonesia,
- (vi) identification of regulation and legislation required to support implementation of a full trusted trader program, and
- (vii) an informal institutional framework suitable for formalizing and/or scaling up for full implementation.

Partners: The pilot should be a joint initiative among cattle producers and traders, MAF, existing development partners operating in Timor-Leste, the Government of Indonesia Department of Livestock and Quarantine, and ADB (Table 46).

Activities

1. **Issue agreement for authorized operator to export.** MOA-RI Department of Livestock and Quarantine issues authorization for pilot to proceed and authorized operator at border.
2. **Identify cattle producer or group in Timor-Leste.** Existing commercially oriented producer groups in Timor-Leste should be assessed for suitability. Groups that have been identified for existing support programs for improved animal husbandry and feed practices would be suitable. Other considerations for assessment include distance to land border, distance to port, existence of village livestock workers, and availability of traders and/or agents.

Table 46: Structure of Proposed Pilot Project

| Stakeholder | Participation |
|--|--|
| Producer group supported by existing development partner or government project | Main actors |
| Development partners | Provide technical assistance to producer groups on good animal husbandry practices; support strengthening of national SPS regime |
| Timor-Leste MAF, Department of Livestock | Key partner for designing and implementing models for improved animal health and husbandry practices |
| Border agencies | Implement reforms |
| MOA-RI Department of Livestock | Broker permission for pilot |
| Asian Development Bank | Technical assistance for designing agreements and capacity building with government agencies |

MAF = Ministry of Agriculture and Fisheries, MOA-RI = Ministry of Agriculture, Indonesia, SPS = sanitary and phytosanitary.

Source: Asian Development Bank.

3. **Broker agreement for provision of support by private sector.** Consider piloting a model agreement of support for inputs and services to the producer group by the private sector, which might form a basis for roll-out in the future.
4. **Raise cattle using improved methods.** Raise cattle over a 12-month period with better animal husbandry practices and increased access to medicines and veterinary services. Gain animal health certification through testing by Dili laboratory.
5. **ID and tag.** Implement cattle ID system with producer group. Link ID with vaccination record, health certificate, and export or transit permits.
6. **Border training.** Conduct joint awareness raising with customs, immigration, quarantine, and security (CIQS) agencies at the land and sea borders on pilot and protocols for authorized operators.
7. **Audit.** Conduct a joint audit between Timor-Leste and Indonesia of the operator and trader to ensure that animal health and SPS standards in line with WTO and OIE have been met. Provide certification of authorized operator status.
8. **Export cattle.** Trader transports cattle through land and sea borders for interisland transfer.
9. **Monitor and recommend.** Conduct business process analysis of authorized operator scheme and provide recommendations for future improvements.

Timeline

The timeline for the pilot is outlined in Table 47.

Table 47: Proposed Timeline for the Pilot Project

| Activity | Month | | | | | | | | | | | | | | | | | |
|---|-------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
| 1. Agreement for authorized operator exports issued | | | | | | | | | | | | | | | | | | |
| 2. Cattle group identified | | | | | | | | | | | | | | | | | | |
| 3. Public-private partnership established | | | | | | | | | | | | | | | | | | |
| 4. Cattle raised | | | | | | | | | | | | | | | | | | |
| 5. ID implemented | | | | | | | | | | | | | | | | | | |
| 6. Border training | | | | | | | | | | | | | | | | | | |
| 7. Audit | | | | | | | | | | | | | | | | | | |
| 8. Export | | | | | | | | | | | | | | | | | | |
| 9. Monitor | | | | | | | | | | | | | | | | | | |

Source: Asian Development Bank.

Appendixes

Appendix 1

Consultations

Table A1: Consultations

| Name | Position | Location |
|-------------------------|--|-----------|
| A. Wira Kusuma | Macropolicy Unit at Fiscal Policy Agency, Ministry of Finance | Indonesia |
| Abed Frans | President, Association of Indonesian Tours and Travel Agents (ASITA), Nusa Tenggara Timur (NTT) | Indonesia |
| Abraham Paul Liyanto | General Chairman and Member, House of Regional Representatives, Chamber of Commerce and Industry NTT (CCI-NTT) | Indonesia |
| Achmed Buch | Macropolicy Unit at Fiscal Policy Agency, Ministry of Finance | Indonesia |
| Adam Abraham | DTTP Badan Perencanaan dan Pembangunan Nasional (BAPPENAS) | Indonesia |
| Adhi Angi, SE | Vice Chairman on Organization, Membership and Regional Empowerment, CCI-NTT | Indonesia |
| Adhi Kusuma Yudha Halim | Ministry of Commerce | Indonesia |
| Adriyanto | Head, Center for Macroeconomic Policy, Fiscal Policy Agency, Ministry of Finance | Indonesia |
| Adwiena | Regional and Bilateral Policy Center, Fiscal Policy Agency, Ministry of Finance | Indonesia |
| Agrus Bale | Director, Bale's Chicken Farm | Indonesia |
| Agus Loekman | Senior Fellow, IPMI International Business School | Indonesia |
| Ali Moechtar | Head of Subdivision for Welfare and Employment Analysis, Fiscal Policy Agency, Ministry of Finance | Indonesia |
| Alma Karma | Director of Promotion Development, Badan Koordinasi Penanaman Modal | Indonesia |
| Andi Hidayat | Head of Section (Epidemiology and Animal Health Information), Ministry of Agriculture | Indonesia |
| Andri Andovo | Head of Livestock and Product Marketing Division, Ministry of Agriculture | Indonesia |
| Andri Batak | Head of Immigration (Mota'ain) | Indonesia |
| Ani Andayani, M. Agr. | Senior Advisor to the Minister on Agriculture Infrastructure, Ministry of Agriculture | Indonesia |
| Annisa Hartoto | Program Manager, Infrastructure, Australian Embassy | Indonesia |
| Anton M. Dardjiputra | Head of Region V Division, Border Area Development Division | Indonesia |

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Table A1 *continued*

| Name | Position | Location |
|--------------------|--|-----------|
| Atep S. | Ministry of Manpower | Indonesia |
| Ayok Wahyu Saputro | Ministry of Tourism | Indonesia |
| Baharuddin | Pelindo III, Tenau, NTT | Indonesia |
| Bambang Permana | Head, Livestock Office (Kupang District) | Indonesia |
| Bambang Wijanarko | Special Economic Zone Secretariat | Indonesia |
| Bayu Budiaoso | KADIN, NTT | Indonesia |
| Benjamin Williams | Second Secretary Infrastructure, Australian Embassy | Indonesia |
| Benny Pellu | Head of Credit Marketing, Bank NTT | Indonesia |
| Blasium Lema | Vice Chairman on Agribusiness, Food and Forestry, CCI-NTT | Indonesia |
| Bobby C. Siagian | Director for Asia Economic Cooperation, Coordinating Ministry of Economic Affairs | Indonesia |
| Boy Nunuhitu | Microcredit Coordinator, Bank NTT | Indonesia |
| Boyke Joenan | Vice Chairman on Renewable Energy and Environment, CCI-NTT | Indonesia |
| Bramantiyo | Macropolicy Unit at Fiscal Policy Agency, Ministry of Finance | Indonesia |
| Cardial Lao Penu | Researcher, Politani | Indonesia |
| Chrisman Marthin | Regional and Bilateral Policy Center, Fiscal Policy Agency, Ministry of Finance | Indonesia |
| Christina Tallo | KADIN, NTT | Indonesia |
| Dadam Mahdar | Ministry of Tourism | Indonesia |
| Dalex | Macropolicy Unit at Fiscal Policy Agency, Ministry of Finance | Indonesia |
| Danny Suhadi | Head of NTT Livestock Office | Indonesia |
| Dara Ayu Prastiari | Head of Subdivision of Western Indonesia Economic Affairs, Coordinating Ministry of Economic Affairs | Indonesia |
| David A. N. Fiya | Director YAO (Yayasan Alfa Omega) | Indonesia |
| David Fina | NGO Community Representative | Indonesia |
| Deasi Widya | Regional and Bilateral Policy Center, Fiscal Policy Agency, Ministry of Finance | Indonesia |
| Demaytri Narashita | Center for State Revenue Policy, Fiscal Policy Agency, Ministry of Finance | Indonesia |
| Diani Ledo | Assistant to the Director, Timor-Leste-Indonesia-Australia Growth Triangle (TIA-GT) | Indonesia |
| Diyas Gandara | Sales Representative (NTT and Dili) Meratus Line | Indonesia |
| Donna Gultom | Director for ASEAN Negotiation, Ministry of Trade | Indonesia |
| Pudjiatmoko | Medik Veteriner Madya, Ministry of Agriculture | Indonesia |
| R. Sigit Nurtanto | Head of Section (Animal Health Resources), Ministry of Agriculture | Indonesia |

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Table A1 *continued*

| Name | Position | Location |
|------------------------|---|-----------|
| Dwika Darimda | Macropolicy Unit at Fiscal Policy Agency, Ministry of Finance | Indonesia |
| Eddy Margo Gozali | Director, Yogyakarta Isti Parama Eco Industrial Park | Indonesia |
| Edy Wardoyo | Secretary for the Deputy Marketing Development, Ministry of Tourism | Indonesia |
| Eko Adi Priyono | Ministry of Small and Medium Enterprises | Indonesia |
| Eladirman | Regional and Bilateral Policy Center, Fiscal Policy Agency, Ministry of Finance | Indonesia |
| Elvira Rosa | Ministry of Small and Medium Enterprises | Indonesia |
| Elvis Marunduri | Manager, Bank Indonesia | Indonesia |
| Elwin Hamzah | Head of Region IV Division, Border Area Development Division, Ministry of Villages, Development of Disadvantaged Regions and Transmigration | Indonesia |
| Endang Supriyani | Director of Border Areas Development, Ministry of Villages, Dev. Of Disadvantaged Regions and Transmigration | Indonesia |
| Erlinel Manuel | Regional and Bilateral Policy Center, Fiscal Policy Agency, Ministry of Finance | Indonesia |
| Eusebio dos Santos | Junior Technical Support for Export Promotion, TradeInvest | Indonesia |
| Evan Oktavianus | Subdivision head, Center for regional and bilateral cooperation, Fiscal Policy Agency, Indonesia | Indonesia |
| Eveline Mauboy | Vice Chairman of Woman Empowerment, CCI-NTT | Indonesia |
| Eveline Mauboy | KADIN, NTT | Indonesia |
| Frans P. Pasaribu | Marketing Staff, PT Asuransi Jasa Indonesia (JASINDO) | Indonesia |
| Freddy H. Ongkosaputra | Head, Association of Indonesian Entrepreneurs (APINDO)- NTT Branch | Indonesia |
| Geusan | Regional and Bilateral Policy Center, Fiscal Policy Agency, Ministry of Finance | Indonesia |
| Ghofar Ismail | Deputy Director Ministry of Foreign Affairs, Republic of Indonesia, Directorate of Southeast Asia | Indonesia |
| Halida Sukmala | Program Manager, Infrastructure Australian Department of Foreign Affairs and Trade (DFAT), Australian Embassy | Indonesia |
| Harminto Rony | Transport and border representative, BAPPEDA NTT Province | Indonesia |
| Hendrik Hartono | Director PT Hadi Dinamis | Indonesia |
| Hendry | Director of Tourism Marketing, NTT and Timor-Leste, Ministry of Tourism | Indonesia |
| Heri D. Rahardja | Statistics Agency- NTT | Indonesia |

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Table A1 *continued*

| Name | Position | Location |
|------------------------|--|-----------|
| Heru Susilo | Animal Quarantine, Ministry of Agriculture | Indonesia |
| Hindro Surahmat | Secretary, Directorate General, Land Transportation Ministry of Transportation | Indonesia |
| I G. N. Jelantik | Independent Consultant/Researcher Faculty of Animal Science, Nusa Cendana University | Indonesia |
| I ketut Jaya | Poultry Consultant Politani/Charoen Pokphan | Indonesia |
| I Putu Sukadana | General Manager, Pelindo III Pelindo Tenau (SOE) Ports | Indonesia |
| In Ary Darma (Nyoman) | Head of Customs, Atambua | Indonesia |
| Indri Yani Zaini | Ministry of Maritime and Fishery | Indonesia |
| Irfan Anwar | Chairman of Association of Indonesia Coffee Exporters and Industries Coffee Association | Indonesia |
| Irpansyah Batu Bara | Head of Sub-Directorate of Animal Health Institution and Animal Health Resources– Directorate General of Livestock and Animal Health, Ministry of Agriculture | Indonesia |
| Ishak Gerald | Head, PELNI, Kupang | Indonesia |
| Ismawadi | Plant Quarantine, Ministry of Agriculture | Indonesia |
| Jefry Suhay Basuki, SE | Vice Chairman on Cultural-based Traditional Industry, CCI-NTT | Indonesia |
| Jemie Antonius | Director, Namsurya Citrasari Lines (NCL) | Indonesia |
| Jimmy Gani | Executive Director and CEO, IPMI International Business School | Indonesia |
| Johan H. Dok | Representative Malaka Regency, NTT | Indonesia |
| Johanis Ly | Pig consultant/Researcher, Faculty of Animal Science, Nusa Cendana University | Indonesia |
| John Side | Regency Branch Group Manager, Kupang Regional Development Bank – BPD-NTT | Indonesia |
| Kali Yuan | Second Secretary (Economy) Australian Embassy | Indonesia |
| Ketut Suardinaya | Customs NTT | Indonesia |
| Kris Afulit | Head of Controlling Section, BPMPTSP -NTT | Indonesia |
| Leonard Tampubolon | Deputy Minister for Economy, BAPPENAS | Indonesia |
| Liklik W.M. Julius | Head of Infrastructure and Regional Development Division, NTT Government | Indonesia |
| Luke Brown | First Secretary (Economic) DFAT, Australian Embassy | Indonesia |
| Marcel Bria Seran | Socio Anthropologist | Indonesia |
| Marselus Mulu | Marketing Manager, PT Charoenpokphan | Indonesia |
| Marthen Mole | Senior Extension Staff, Dinas Peternakan Kupang | Indonesia |
| Merita Pahleni | PKAPBN (Center for State Revenue and Expenditure Budget at FPA) Ministry of Finance | Indonesia |

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Table A1 *continued*

| Name | Position | Location |
|-------------------------|--|-----------|
| Mohamad Gaus | Secretary, BPMPTSP-NTT | Indonesia |
| Momka Dwi Meilani | Customs, Ministry of Finance | Indonesia |
| Karnadi | Director P.T. Rumpin- NTT | Indonesia |
| Parjiono | Director, Macroeconomic Policy Centre Fiscal Policy Agency, Ministry of Finance | Indonesia |
| Meliasari | Head of Livestock & Product Marketing, Ministry of Agriculture | Indonesia |
| Rinche | Head of Animal Health Division, Ministry of Agriculture | Indonesia |
| Secilia | Head of Livestock Breeding and Production Division, Ministry of Agriculture | Indonesia |
| N.W. Giri Adnyani | Acting Deputy Minister for Marketing, Ministry of Tourism | Indonesia |
| Nadia Tambuan | Customs, Ministry of Finance | Indonesia |
| Naomi Cook | Department for Foreign Affairs, Australian Embassy | Indonesia |
| Ni Made Ayu Martini | Director of Bilateral Negotiations, International Trade Cooperation, Ministry of Trade | Indonesia |
| Nicky Diosdao | Travel Agent and guide Soe, West Timor | Indonesia |
| Nicolas Syed | Programme Officer IFAD Sub-Regional Office for Southeast Asia and the Pacific | Indonesia |
| Nita A. | Regional and Bilateral Policy Center, Fiscal Policy Agency, Ministry of Finance | Indonesia |
| Noerosi | Macropolicy Unit at Fiscal Policy Agency, Ministry of Finance | Indonesia |
| Nugroho | Representative, Investment Board, BAPPEDA NTT Province | Indonesia |
| Nurhartanto | Head, Quarantine | Indonesia |
| Nurul Ichwan | Director Indonesia Investment Promotion Council (IIPC) | Indonesia |
| Otniel Nuban | Coordinator of Farmer Groups of NTT | Indonesia |
| Pedro Martins | Senior Economist, World Bank | Indonesia |
| Petrus Christian Mboeik | Vice Chairman on Telematics, Technology, CCI-NTT | Indonesia |
| Piter Nuwa Wea | Director, Komodo Pig Farm | Indonesia |
| Prius K Hale | NTT Livestock Office | Indonesia |
| Putri Mayang | Coordinating Ministry of Economic Affairs | Indonesia |
| Rabin Hattari | Lead Adviser, Coordinating Ministry for Economic Affairs | Indonesia |
| Rifki Arkin P. Rangkuti | Customs, Atambua | Indonesia |
| Rizki Z. Arfendi | Macropolicy Unit at Fiscal Policy Agency, Ministry of Finance | Indonesia |

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Table A1 *continued*

| Name | Position | Location |
|-----------------------|---|-----------|
| Roben Dima | Head of Operations, Customs, Atambua, NTT | Indonesia |
| Sam Porter | Advisor, Coordinating Ministry of Economic Affairs | Indonesia |
| Semual Rebo | Head BPMPTSP -NTT | Indonesia |
| Silvester Banfatin | Director, TIA-GT | Indonesia |
| Siti Rofiah | Quarantine | Indonesia |
| Sondang Sihotang | Vice Chairman on Strategic Food Industry, CCI-NTT | Indonesia |
| Sony Libing | Head, Economic Development Planning, BAPPEDA NTT Province | Indonesia |
| Sugent Santoso | Sales Representative (NTT) Meratus Line | Indonesia |
| Sukma Hadi | PKAPBN-BKF | Indonesia |
| Tay Ranggi | Head of Agribusiness Division, NTT livestock office | Indonesia |
| Theo Widodo | Vice Chairman on Education and Health, CCI-NTT | Indonesia |
| Theresia M. Florensia | BAPPEDA, NTT Province | Indonesia |
| Tribuana Wetang Terah | Customs and Excise Supervisor, Atambua, NTT | Indonesia |
| Welly Rame Rohimone | Deputy Director, NTT Tourism | Indonesia |
| Wempy Bate | Head of Marketing Division, NTT Trade Office | Indonesia |
| Werdi Ariyani | Head of Investments, SMEs, Competitiveness and other ASEAN issues, Directorate of ASEAN Negotiation, Ministry of Commerce | Indonesia |
| Wisnu Bawa Tarunajaya | Deputy Assistant for Human Resources Development of Tourism and Institutional Relations, Ministry of Tourism | Indonesia |
| Yasir Niti Samudro | Head of Subdivision for Modelling Fiscal Policy Agency, Ministry of Finance | Indonesia |
| Yeskiel Natonis, SH | Vice Chairman on Labor and Industry Relationship, CCI-NTT | Indonesia |
| Yoga Raharjo | APBN-BKF | Indonesia |
| Yohanis Sandy | JASINDO, Kupang | Indonesia |
| Yohanis Silnamin | Head of Development and Promotion Section, BPMPTSP -NTT | Indonesia |
| Yosef Boli Sura | Bank Indonesia | Indonesia |
| Yoseph Liem | Vice Chairman on Construction and Infrastructure, CCI-NTT | Indonesia |
| Yuana R. Astuti | Head of Division of Regional Economy, Coordinating Ministry of Economic Affairs | Indonesia |
| Yudistira | Head of Division Bank | Indonesia |
| Zuivoi Yenni | Ministry of Trade | Indonesia |
| Geoffry Fordyce | Senior Research Fellow, University of Queensland | N/A |

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Table A1 *continued*

| Name | Position | Location |
|--------------------------|--|-------------|
| Richard Copland | Former Australian Centre for International Agricultural Research (ACIAR) Project Leader | N/A |
| Terry Mills | Northern Territory Parliament and Former Chief Minister | N/A |
| Alan Jape | Owner and Chairman, Timor Plaza | Timor-Leste |
| Alva Lim | Owner, Algora Food Lab | Timor-Leste |
| Ann Turner | Expert, Ministry of Culture and Tourism | Timor-Leste |
| Anna L C Gusmao Guterres | United States Agency for International Development (USAID) Customs Reform Program Focal | Timor-Leste |
| Antero Veiga | Senior Advisor, Coordinating Ministry of Economic Affairs | Timor-Leste |
| Antero Veiga | Adviser to the Prime Minister's Office | Timor-Leste |
| Arsenio Paixao Bano | Acting President, Zonas Especiais de Economia Social de Mercado de Timor-Leste | Timor-Leste |
| Boavida Ribeiro | Director of Immigration | Timor-Leste |
| Calosti Varella | Senior Staff/ Food and Agriculture Organization of the United Nations (FAO) Chicken Project, Ministry of Agriculture and Fisheries | Timor-Leste |
| Candido da Conceicao | Project Management Specialist, Economic Growth Program, USAID | Timor-Leste |
| Carlos A. Amaral | Chief of Abattoir Department, Ministry of Agriculture and Fisheries | Timor-Leste |
| Celestino de Freitas | Manager, Timor Lodge and Hotel Owners Timor-Leste (HOTL) Association | Timor-Leste |
| Celestino Gonclaves | Former ACIAR Project Leader | Timor-Leste |
| Chaitanya Varma | Director and Business Head, Olam International | Timor-Leste |
| Claudino Nabais | Director-Research/Policy, Ministry of Agriculture and Fisheries | Timor-Leste |
| Claudio Guterres | Director General-Fisheries, Ministry of Agriculture and Fisheries | Timor-Leste |
| Cosme | Manager, Mega Tours | Timor-Leste |
| Cristino Gusmao | Director, Statistics Directorate | Timor-Leste |
| David Carlos | Owner, Timor Adventures | Timor-Leste |
| Davida Mesquita | Export Promotion Manager, TradeInvest | Timor-Leste |
| Decio Sarmento | Director of Export Promotion, TradeInvest | Timor-Leste |
| Dedi Jayadiputra | Second Secretary, Embassy of the Republic of Indonesia | Timor-Leste |
| Deonisia Maria Almeida | Assistant to Senior Representative, Japan International Cooperation Agency (JICA) | Timor-Leste |
| Diana Putman | Head of Mission, USAID | Timor-Leste |

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Table A1 *continued*

| Name | Position | Location |
|---------------------------------|--|-------------|
| Domingos Gusmao | National Director of Livestock and Quarantine, Ministry of Agriculture and Fisheries | Timor-Leste |
| Domingos Mesquita | ASEAN and World Trade Organization (WTO) accession preparation ADB Consultant | Timor-Leste |
| Elias Ferreira | Director General, Statistics Directorate | Timor-Leste |
| Emercia Costa | Assistant to the President, Port Authority of Timor-Leste (APORTIL) | Timor-Leste |
| Jose Rocha Soares | Chief Consultant, Oecusse Airport Project ISQ Group | Timor-Leste |
| Ezaquiel Babo | Investment Promotion Manager for Agriculture, TradeInvest | Timor-Leste |
| Farancisco Lemos | Strategic Advisor, Office of the Vice Minister, Ministry of Foreign Affairs and Cooperation | Timor-Leste |
| Felisiano da Conceiano | Chief of Department, Vet Laboratory, Ministry of Agriculture and Fisheries | Timor-Leste |
| Fernanda Borges | Fiscal Reform Coordinator Fiscal Policy Commission, Ministry of Finance | Timor-Leste |
| Flavia A. da Silva | Project Management Specialist, Climate Integration Lead Economic Growth Program, USAID | Timor-Leste |
| Florencio Sanches | Executive Director, Serviço de Registo e Verificação (SERVE) | Timor-Leste |
| Germano da Costa Boavida | Officer, Governance Program, USAID | Timor-Leste |
| Gizela Mesquita | Investment Promotion Manager for Tourism, TradeInvest | Timor-Leste |
| Glen F.J. Mackenzie Frazer | Chief of Party, USAID Customs Modernisation Program | Timor-Leste |
| Gobie Rajalingam | Expert- Tourism Portfolio, The Asia Foundation | Timor-Leste |
| Harry Hall | Second Secretary, DFAT, Australian Embassy | Timor-Leste |
| Herminia Martins | Advisor to the Prime Minister Government of Timor-Leste | Timor-Leste |
| Hernani Viterbo da Costa Soares | Executive Director IADE-Institute of service provision to private sector | Timor-Leste |
| Idrisiyah Sagan | Business Adviser, Market Development Facility (MDF) | Timor-Leste |
| Inácio Freitas Moreira | Vice Minister of Public Works, Transport and Communication, Timor-Leste | Timor-Leste |
| Joanico Gonçalves | Director General, Transport and Communication Ministry of Public Works, Transport and Communications | Timor-Leste |
| Joanita B. da Costa Jong | National Director of Livestock Health and Veterinary Services | Timor-Leste |
| Joao Gomes | Project Manager, Coordinating Ministry of Economic Affairs | Timor-Leste |

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Table A1 *continued*

| Name | Position | Location |
|-----------------------------|---|-------------|
| João Gonçalves | Head TIA-GT Mission Unit | Timor-Leste |
| Joaquim José Gusmão Martins | Minister for Agriculture and Fisheries, Ministry of Agriculture and Fisheries | Timor-Leste |
| John Heather | Chief of Party, USAID Tourism for All Project | Timor-Leste |
| Jorge Camões | Director General for ASEAN Affairs, Ministry of Foreign Affairs and Cooperation | Timor-Leste |
| Jose Abilio | Director General Customs | Timor-Leste |
| Jose Carlos Sequeira | General Manager/ Deputy Head, Talho Moris/ TIA-GT Mission Unit | Timor-Leste |
| Jose Guterres | Socioeconomic Advisor, TIA-GT Mission Unit | Timor-Leste |
| Jose Luis | Director for ASEAN Economic Community, Ministry of Foreign Affairs and Cooperation, | Timor-Leste |
| Jose Pereira | Infrastructure Specialist, ADB | Timor-Leste |
| Jose Quintas | Director General, Ministry of Tourism | Timor-Leste |
| Juliao Jose Ximenes | Director General Customs, Ministry of Planning and Finance | Timor-Leste |
| Kenji Sasa | Advisor for Port Planning and Facility, JICA | Timor-Leste |
| Kristopher Rowell | Agriculture Officer, USAID | Timor-Leste |
| Luis Caldeira | Legal Adviser, TradeInvest | Timor-Leste |
| Luisa Cardoso | Business Adviser, Market Development Facility (MDF) | Timor-Leste |
| Maria Odete do Céu Guterres | Director General for Agriculture, Ministry of Agriculture and Fisheries | Timor-Leste |
| Marina Wari | Second Secretary, Indonesia Embassy in Timor-Leste | Timor-Leste |
| Mario Spencer | Advisor, Ministry of Public Works, Transport and Communications | Timor-Leste |
| Mark Hamill | Deputy Chief of Party, USAID Customs Modernization Program | Timor-Leste |
| Mark Henderson | Director, Office of Economic Growth USAID | Timor-Leste |
| Mark Notaras | Owner, Agora Food Lab | Timor-Leste |
| Martin Browne | Livestock Expert, To'os Ba Moris Di'ak (TOMAK) Project | Timor-Leste |
| Mateus Ximenes | Fiscal Reform Units- ASYCUDA team | Timor-Leste |
| Matsumoto Hideaki | Senior Representative, JICA | Timor-Leste |
| Cosme | Managing Director/Owner, Mega Tours | Timor-Leste |
| Nidia Preza | Technical Support for Export Promotion, TradeInvest | Timor-Leste |
| Orofus da Costa | Chief of Department, Ministry of Agriculture and Fisheries | Timor-Leste |

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Table A1 *continued*

| Name | Position | Location |
|----------------------------|--|-------------|
| Paolo Toselli | Cooperation Attache- Rural Development EU Delegation | Timor-Leste |
| Paulo Vieira | Senior Advisor TIA-GT Mission Unit | Timor-Leste |
| Richard Holloway | Team Leader, TOMAK project | Timor-Leste |
| Rita Pires | Advisor to the Prime Minister, Government of Timor-Leste | Timor-Leste |
| Roberto Lai | Director of External Relations and Marketing, TradeInvest | Timor-Leste |
| Rodrigo Garcia | Senior Expert, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) | Timor-Leste |
| Rui Castro | Director and Vice President Cladotia FU and CCI-TL | Timor-Leste |
| Sahat Sitorus | Ambassador, Indonesian Embassy in Timor-Leste | Timor-Leste |
| Sally Foreman | Managing Director/Owner, Timor Unearthed | Timor-Leste |
| Shariful Islam | Country Director, Market Development Facility | Timor-Leste |
| Stephen Cox | Consultant, Asian Development Bank (ADB) | Timor-Leste |
| Teresa Miller | Head of Human Rights, Governance Programme, USAID | Timor-Leste |
| Todd Wassel | Country Director, Asia Foundation | Timor-Leste |
| Tony Jape | Chairman, HOTL Association | Timor-Leste |
| Vitorino Tilman | Officer, Directorate for ASEAN Economic Community, Ministry of Foreign Affairs and Cooperation | Timor-Leste |
| Wonesai Workington Sithole | Chief of Mission, International Organization for Migration | Timor-Leste |
| Yaser Arnaldo Bin Ali | Port Operations and Safety Officer, APORTIL | Timor-Leste |
| Zannatul Ferdous | Senior Adviser, Market Development Facility | Timor-Leste |
| Zeca Guterres | Customs Operation Manager, SDV Logistics East Timor, UnipessoalLda | Timor-Leste |

Source: Asian Development Bank.

Appendix 2

Part I—Additional Tables

Table A2.1: Nusa Tenggara Timur Imports by Origin, 2012–2016
(\$'000)

| Destination | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | Total | Average |
|----------------------------|--------|--------|--------|--------|--------|-------|--------|--------|---------|
| People's Republic of China | 12,751 | – | 12,762 | 12,368 | 21,307 | 3,629 | 3,142 | 65,958 | 13,192 |
| Viet Nam | 13,026 | 12,035 | 33,117 | 2,672 | – | – | – | 60,850 | 15,212 |
| Singapore | 8,777 | 1,706 | 7,028 | 7,410 | 5,377 | 1,153 | 15,888 | 47,338 | 6,763 |
| Thailand | 329 | – | 8,191 | – | 624 | – | 8,358 | 17,503 | 4,376 |
| United States | 4,911 | 251 | 5,573 | 2 | 3 | – | 3 | 10,744 | 2,149 |
| Republic of Korea | – | – | – | 2,714 | 881 | 2,783 | 669 | 7,047 | 1,762 |
| Japan | 169 | – | 2,770 | – | 3,586 | – | – | 6,525 | 2,175 |
| Australia | 4,440 | – | – | 364 | – | – | – | 4,803 | 2,402 |
| United Kingdom | 1,011 | – | 3,527 | – | – | – | 30 | 4,568 | 653 |
| Malaysia | 723 | – | 644 | 1,443 | – | – | – | 2,810 | 937 |
| Timor-Leste | 148 | 8 | 130 | 83 | 143 | – | 796 | 1,309 | 262 |
| France | 989 | – | – | – | – | – | – | 989 | 989 |
| Norway | 908 | – | – | – | – | – | – | 908 | 908 |
| Austria | 327 | – | – | – | – | – | – | 327 | 327 |
| A Samoa | 251 | – | – | – | – | – | – | 251 | 251 |
| Philippines | 228 | – | – | – | – | – | – | 228 | 228 |
| Christmas Island | 206 | – | – | – | – | – | – | 206 | 206 |
| Italy | 201 | – | – | – | – | – | 1 | 203 | 101 |
| New Zealand | 163 | – | – | – | – | – | – | 163 | 163 |
| Switzerland | 158 | – | – | – | – | – | – | 158 | 158 |
| Spain | – | – | – | – | – | – | 151 | 151 | 151 |
| Germany | 143 | – | – | – | – | – | – | 143 | 143 |
| Brunei Darussalam | 101 | – | – | – | – | – | – | 101 | 101 |
| Faeroes | 101 | – | – | – | – | – | – | 101 | 101 |
| United Arab Emirates | – | – | – | – | – | – | 36 | 36 | 36 |

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Table A2.1 *continued*

| Destination | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | Total | Average |
|---------------|---------------|---------------|---------------|---------------|---------------|--------------|---------------|----------------|---------------|
| Pakistan | – | – | – | – | – | – | 7 | 7 | 7 |
| India | – | – | – | – | – | – | 4 | 4 | 4 |
| Ukraine | – | – | – | – | – | – | 2 | 2 | 2 |
| Mexico | – | – | – | – | – | – | 2 | 2 | 2 |
| Taipei, China | – | – | – | – | – | – | 2 | 2 | 2 |
| Total | 50,061 | 14,000 | 73,742 | 27,055 | 31,920 | 7,565 | 29,091 | 233,435 | 33,348 |

Source: Badan Pusat Statistik.

Table A2.2: Revealed Comparative Advantage Timor-Leste

| HS2 code | Description | 2014 | 2015 | 2016 |
|----------|------------------------------------|-------|-------|-------|
| 09 | Coffee | 53.54 | 37.49 | 52.56 |
| 27 | Petroleum | 5.06 | 25.74 | 3.91 |
| 14 | Vegetable plaiting material | 0.00 | 0.00 | 3.25 |
| 63 | Other textiles | 0.04 | 0.03 | 1.20 |
| 19 | Preparation of cereals | 0.55 | 1.67 | 0.86 |
| 86 | Railway locomotive and parts | 3.73 | 0.14 | 0.78 |
| 12 | Oil seeds and miscellaneous grains | 0.19 | 0.44 | 0.70 |

HS2 = harmonized system 2.

Source: Data sourced from International Trade Centre Trade Map.

Table A2.3: Companies Interested in Investing in Nusa Tenggara Timur

| Company | Business | Location |
|---|--|----------|
| PT. Sudevam Anugerah Sakti | Cane plantation | Kab. TTU |
| PT. Tamaris Garam Nusantara | Salt pond | Kab. TTU |
| Accor hotels Indonesia dan Malaysia (Malaysia), Ultimate Global Group (New Zealand) | Investment opportunities on hotel and resort, property and real estate development | NTT |
| The Lost Paradise (Singapore) | Investment opportunities on tourism | NTT |
| Seres Hotel And Resort Pte Ltd (Singapore) | Investment opportunities on hotel management and tourism | NTT |
| NV Vogt (Singapore) | Investment opportunities on solar photovoltaic development in tourism area | NTT |

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Table A2.3 *continued*

| Company | Business | Location |
|---|--|--------------------------------------|
| Grand Komodo dan Raja Ampat Dive Lodge (Indonesia); dan Jaringan Kapal Rekreasi (JANGKAR) (Indonesia) | Investment opportunities on tourism | NTT |
| China Hospitality Sinergy Group (PRC); dan China CYTS Group (PRC) | Investment opportunities on tourism and infrastructure | NTT |
| PT. Manunggal Sentral Baja | Steel factory | NTT |
| ISDN Resource–Singapura | Cane plantation | Kab. Kupang, TTS, TTU, Belu, Malaka) |
| PT. Golbalaruna Persada | Solar power | Kab. Malaka |
| Kinaara Resort and Villa | Hospitality | Kab. TTU |
| PT. Ecomec Resources Indonesia | Chemical-based manganese purification | NTT |
| PT. China Communication Construction Indonesia | Construction | NTT |
| PT. China Railway Group Limited | – | NTT |
| PT. China Construction and Engineering Corp. | Construction and civil building | NTT |
| China Construction Bank | – | NTT |
| Energy, Trade and Investment Department for International Trade, British Embassy | Energy | NTT |
| GJH Pte Ltd- 460 Alexandra Road, PSA Building Singapore | Tourism | NTT |
| PT. Yala Persada Angkasa- Kyeryong Construction Industrial. Co.Ltd. | Construction | NTT |
| Korea Eximbank, Economic Development Cooperation Fund | Banking | NTT |
| Wyndam Hotel Group. Southeast Asia and Pacific Rim, Australia | Hospitality | NTT |
| Naser Farhan (O962795773806) | – | NTT |
| Vocational Education, Training, and Employment (VETEA) Australia Ltd. | – | NTT |
| BWT Investment PTE Ltd. (Leslie Chan) - Singapore | Tourism-Resort | NTT |

DPMPTSP = Dinas Penanaman Modal and Pelayanan Terpadu Satu Pintu Provinsi, NTT = Nusa Tenggara Timur, PRC = People's Republic of China, TTS = Timor Tengah Selatan, TTU = Timor Tengah Utara.

Source: DPMPTSP- NTT.

Map A2: Map of Mota'ain Border Control Post



Source: Indonesian Customs.

Table A2.4: Dili Shipping Connections

Dili Port, Connection with ASEAN, and Rest of the World

Indonesia

| Route | Vessel Name | Vessel Type ^a | Notes |
|---------------|---------------|--------------------------|--|
| Surabaya–Dili | Meratus Dili | General cargo | Owned and managed by Meratus, an Indonesian shipping company |
| Surabaya–Dili | Selatan Damai | Container | Owned and managed by Mariana Express Lines, a subsidiary of the Singapore-incorporated Pacific International Lines |
| Surabaya–Dili | ISA Clarity | General cargo | Owned and managed by ISA Line of Indonesia |

ASEAN and Rest of the World

| Route | Vessel Name | Vessel Type | Notes |
|-----------------------|---------------------------------------|---------------|--|
| Singapore–Dili–Darwin | Vessels operated by Swire Shipping | General cargo | Owned and managed by Swire Shipping of the PRC. Headquartered in Singapore |
| Darwin–Dili–Singapore | ANL Dili Trader and ANL Darwin Trader | General cargo | ANL has its headquarters in Melbourne, Australia |

Rest of the World

| Route | Vessel Name | Vessel Type | Notes |
|------------------------|--------------|---------------|--|
| Dili–Yangzhou, PRC | Song Shan | General cargo | Owned and managed by Changtian Shipping, Dalian, PRC |
| Dili–Zhangjiagang, PRC | Grand Tajima | General cargo | Owned and managed by Yantai Jack Shipping in the PRC |

ANL = Australian National Line, ASEAN = Association of Southeast Asian Nations, PRC = People's Republic of China.

Note: General cargo vessels are multipurpose vessels that can handle both containers and all sorts of dry nonbulk cargo, such as steel, project and heavy lift cargo, machinery, and agriocommodities.

Sources: Private sector input; and MarineTraffic, http://www.marinetraffic.com/en/ais/details/ports/20120/Timor_Leste_port:DILI.

Table A2.5: Indonesia Targets on Small and Medium-Sized Enterprises and Cooperatives Competitiveness, 2015–2019

| Targets | Indicators |
|--|---|
| 1. Increasing SMEs economic contribution | 1. SMEs contribution growth on GDP (average/year) 6.5%–7.5% 2. Number of employment growth (average/year) 4.0%–5.5% 3. SMEs contribution growth on non-gas-and-oil export (average/year) 5.0%–7.0% 4. SMEs contribution growth on investment (average/year) 8.5%–10.5% |
| 2. Improving SMEs' competitiveness | 5. SMEs productivity growth (average/year) 5.0%–7.0% 6. Proportion of SMEs accessing formal financing (target of 2019) 25.0% 7. Number of SMEs applying quality standard and product certification |
| 3. Increasing start-up enterprises | 8. Number of nascent entrepreneur established through central and regional |
| 4. Improving institutional work and cooperatives business | 9. Participation of cooperatives member on capital (target of 2019) 55.0% 10. Number of cooperatives member growth 7.5%–10.0% 11. Sales volume growth of cooperatives 15.5%–18.0% |

ILO = International Labour Organization, OECD = Organisation for Economic Co-operation and Development, SMEs = small and medium-sized enterprises.

Source: ILO/OECD Workshop for Policy Makers on Productivity and Working Conditions in SMEs, Jakarta, 13 June 2017.

Table A2.6: Summary of Considerations for Sectors

| Importance to Economy | | Importance to Border Region | Area of Existing Cooperation | Government Priority | | Other Considerations and Conclusion |
|--|--|-----------------------------|--|---|--|--|
| NTT | Timor-Leste | | | NTT | Timor-Leste | |
| Fisheries | | | | | | |
| Agriculture, which includes fisheries, consistently accounts for 30% of GRP and 53% of workers are employed in agriculture, forestry, or fishing industry; however, fisheries is a smaller contributor than crops and livestock. | Agriculture, which includes fisheries, accounts for 18% of non-oil value added in 2015 and 60% of fisheries contribution to this is minimal. | N/A | 2015 MOU on Fisheries with focus on illegal fishing practices and fish conservation. | Related to food security which is one of two priorities for NTT in National Medium-Term Development Plan. | One of the sector pillars in the Strategic Development Plan but focus is on community aquaculture as offshore fisheries seen as long-term objective. | The Republic of Korea recently invested \$6 million in a new fisheries technology training center in Timor-Leste. |
| | Fisheries industry is currently small and traditional and comprised of 7,000 fishermen and 700 motorized fishing boats. | | Agreed area of cooperation under the TIA-GT. | NTT 2012–2018 Medium-Term Development Plan highlights fisheries and tourism. | 5-year plan in development by government but funding for infrastructure upgrades cannot be met by limited fishing vessel licensing at present. | In consultations, APINDO, an NTT-based nongovernment organization, highlighted seaweed and aquaculture as an important area of growth for NTT and cooperation with Timor-Leste. |
| Fisheries was the third most important sector for investment licenses issued in 2017 | Exports of seaweed produced on Ataruro are about three containers a month to the Philippines and Viet Nam. | | | | | |
| NTT exported shrimp larvae and fresh water fish fingerlings to Timor-Leste for pond culture. West Timor has a small, but growing aquaculture industry producing shrimp, milkfish, grouper, and tilapia for the local market. | In 2017, only 6 hectares of pond fish existed in Timor-Leste (according to MAF) and domestic consumption of fish is minimal. | | | | Focus of development is on aquaculture production. | This sector does appear to hold promise for cooperation in the longer term with some promising private sector initiatives commencing. However, given the relatively nascent development of the industry in |

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Table A2.6 *continued*

| Importance to Economy | | Importance to Border Region | Area of Existing Cooperation | Government Priority | | Other Considerations and Conclusion |
|---|---|---|--|---|---|--|
| NTT | Timor-Leste | | | NTT | Timor-Leste | |
| Timber and Furniture | | | | | | |
| Forestry is part of agriculture contribution to GRP and jobs. | Forestry appears to have limited contribution to agriculture value added and employment in Timor-Leste. | Agroforestry would have potential for smallholder farmers, but it is limited in both NTT and Timor-Leste compared to crops and livestock. | Not explicitly included in MOU on Agriculture. | Not explicitly highlighted in development strategies. | Focus in SDP is on forestry for a sustainable environment and protection of natural resources. | Timor-Leste at present and also the limited impact on border populations, this was not selected as a priority. |
| Furniture making is an important part of local manufacturing industry and consistent export to Timor-Leste. | Focus of forestry is on agroforestry for smallholder livelihoods and environmental sustainability. Much of the country's indigenous tree stock depleted after unsustainable practices during periods of conflict. | | | | Bamboo, however, noted as having potential. | |
| Production of sawn timber has fallen by more than half from 2012 to 2016. | | | | | However, furniture production in Timor-Leste is a nascent industry. For this reason, as well as the environmental considerations, timber and furniture was not considered a priority for cooperation. | |
| | TradeInvest highlighted some small furniture businesses seeking to grow | | | | | |

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Table A2.6 continued

| Importance to Economy | | Importance to Border Region | Area of Existing Cooperation | Government Priority | | Other Considerations and Conclusion |
|--|---|---|---------------------------------|---|---|---|
| NTT | Timor-Leste | | | NTT | Timor-Leste | |
| Crops | | | | | | |
| Agriculture consistently accounts for 30% of GRP. | Agriculture accounted for 18% of non-oil value-added in 2015. It is also responsible for 60% of jobs in 2015. | 90%-95% of households in the seven districts along the land border of West Timor and Timor-Leste are smallholder farmers. | 2015 MOU on Agriculture signed. | NTT important supplier of agricultural products for 'domestic export'. Related to food security, which is one of two priorities for NTT in National Medium Term Development Plan. | Agriculture highlighted in ADB Country Partnership Strategy as the productive sector with greatest potential for poverty reduction. | Due to similar climates and importance of agriculture for both production and employment, it is a critical area for cooperation. It is particularly relevant due to its importance for livelihoods of households at the border. Within the sector, coffee is important for Timor-Leste, but not identified by all parties as an area for cooperation. Food crops such as maize, cassava and high value niche products might have potential but livestock highlighted as having particular potential |
| 53% of workers employed in agriculture, forestry, or fishing industry. | Coffee is the biggest non-oil export for Timor-Leste. | | | | Maize, cassava, rice, vegetables and coconut highlighted in SDP as key for development | |
| Domestic exports of NTT show cashew nuts, coffee, candlenuts, seaweed, tamarind, and cattle are common exports (2009). | | | | Poultry, live cattle, agricultural products and salt identified by national government as priorities to meet shortfalls in domestic supply. | | |

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Table A2.6 continued

| Importance to Economy | | Importance to Border Region | Area of Existing Cooperation | Government Priority | | Other Considerations and Conclusion |
|--|--|--|--|---|--|---|
| NTT | Timor-Leste | | | NTT | Timor-Leste | |
| Livestock | | | | | | |
| Agriculture consistently accounts for 30% of GRP. Livestock provides 1/3 of this. | Agriculture accounted for 18% of non-oil value-added in 2015. It is also responsible for 60% of jobs in 2015. | 90%–95% of households in the seven districts along the land border of West Timor and Timor-Leste are smallholder farmers. | Agreed area of cooperation under the TIA-GT. MOU on Agriculture signed in 2015. | Related to food security, which is one of two priorities for NTT in National Medium-Term Development Plan. | One of the sector pillars in the Strategic Development Plan. Agriculture highlighted in ADB Country Partnership Strategy as the productive sector with greatest potential for poverty reduction. | Due to reasons provided above in agriculture, livestock appears to be particularly relevant for the livelihoods of households in the border regions and should be prioritized for cross-border cooperation. |
| 53% of NTT workers are employed in the agriculture, forestry, or fishing industry. | Unofficial estimates suggest that grey trade in cattle from Timor-Leste to NTT would make cattle the third-largest export. | 60% of NTT cattle production is in West Timor. In subdistricts of NTT (TTS, TTU, Soe, and Belu) cattle sales can make up over 80% of the family's cash income. | Technical Cooperation Agreement on Livestock between director generals of livestock in 2018. | Highlighted as key industry in consultation with provincial government. | | |
| NTT exports 7,000 live cattle per year to other Indonesian provinces. | | | | Poultry, live cattle, agricultural products and salt identified by national government as priorities to meet shortfalls in domestic supply. | Livestock and tourism part of zonal priorities in SDP for Bobonaro and Cova Lima | |
| Livestock was the second most important sector for investment licenses issued in 2017. | | Livestock raising in Timor-Leste is most prominent in Bobonaro and Cova Lima at the border with NTT. | | | | |

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Table A2.6 *continued*

| Importance to Economy | | Importance to Border Region | Area of Existing Cooperation | Government Priority | | Other Considerations and Conclusion |
|--|---|--|---|--|---|--|
| NTT | Timor-Leste | | | NTT | Timor-Leste | |
| Tourism | | | | | | |
| Earned \$80 million in 2016 in tourist revenues. | Accommodation and food services account for 18% of non-oil value added. Services accounted for 36.3% of jobs in 2015. | Overland tourism on the Timor Island may provide an opportunity for benefiting border populations. | Agreed area of cooperation under the TIA-GT. | One of two priorities in National Medium-Term Development Plan 2012–2018 | One of the sector pillars in the Strategic Development Plan. | Tourism market appears to be growing in both Timor-Leste and NTT, and may have some level of resilience to economic downturns in other sectors making it appropriate for diversification. |
| Hotels and tourism-related water investments had the largest value for realized investments in 2016. | International air arrivals continued to grow in 2017 downturn. Visitor receipts equal to \$73 million in 2017. | | 2012 MOU on Tourism with commitment to collaboration for shared growth of these industries. | Medium-Term Development Plan, which highlights fisheries and tourism. Labuan Bajo in NTT is one of 10 strategic zones for tourism in national strategy. | 2017 national tourism policy finalized. Livestock and tourism part of zonal priorities in SDP for Bobonaro and Cova Lima | Strategic focus of both governments is firmly on tourism as sector for development and there may be potential for impact on border populations through land based tourism. Consequently, this is selected as a priority for cooperation. |
| DPMPTSP said majority of investment request relate to tourism. | Tourism attracted most FDI (certificates issued) from 2006 to 2016. | | | | | |
| Manufacturing | | | | | | |
| Provides 1.26% of GRP (modest increase from 2013) | 1% of non-oil value-added in 2015. Manufacturing accounted for 1.9 % of jobs in 2015. | Manufacturing is largely centered in urban areas. | Agreed area of cooperation under the TIA-GT. | Not highlighted as a priority sector for development. | One of the sector pillars in the Strategic Development Plan. | Manufacturing is a critical source of economic diversification for both NTT and Timor-Leste and with the investment agreement this may help cross-border |

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Table A2.6 *continued*

| Importance to Economy | | Importance to Border Region | Area of Existing Cooperation | Government Priority | | Other Considerations and Conclusion |
|--|---|-----------------------------|------------------------------|---|---|--|
| NTT | Timor-Leste | | | NTT | Timor-Leste | |
| Construction | | | | | | |
| Provides 10.74% of GRP with modest increase from 2013. | 18% of non-oil national value-added in 2015. Construction accounted for 2.1% of jobs in 2015. | N/A | Unknown. | Not highlighted as a priority sector for development. | Investment in infrastructure is important in SDP particularly to enable economic diversification in other areas. | investments in the sector. However, the sector currently provides a minority of jobs and the impact would be expected largely in the urban centers and not the border areas. |
| Cement is a major export of NTT to Timor-Leste. | Construction attracted most domestic investment certificates issued from 2006 to 2016. | | | | Construction is an important provider of value added and production in NTT and Timor-Leste. Cement, in particular due to trade across the border, might be an area of cooperation however contribution to jobs is minimal and impact on border populations would potentially be limited hence this is not a priority for cooperation. | |

N/A = not applicable; ADB = Asian Development Bank; APINDO = Asosiasi Pengusaha Indonesia, DPMPTSP = Dinas Penanaman Modal and Pelayanan Terpadu Satu Pintu Provinsi, GRP = gross regional product; MAF = Ministry of Agriculture and Fisheries, MOU = memorandum of understanding; NTT = Nusa Tenggara Timur, SDP = strategic development plan, TIA-GT = Timor-Leste-Indonesia-Australia Growth Triangle, TTS = Timor Tengah Selatan, TTU = Timor Tengah Utara.

Source: Asian Development Bank.

Appendix 3

Part II—Additional Tables

Table A3.1: Visa Openness Rankings, 2013–2017

| Country | Visa Requirements | 2013 (n=140) | 2015 (n=141) | 2017 (n=136) | Change 2013– 2017 (+/-) |
|-------------------|---|-----------------|-----------------|-----------------|----------------------------------|
| Brunei Darussalam | The majority of countries do not require a visa. | 104 | — | — | — |
| Cambodia | For most visitors to Cambodia, a visa can be obtainable upon arrival at either Phnom Penh and Siem Reap international airports for \$30 (tourist) or \$35 (business). Nationals of ASEAN member countries do not need a visa. | 30 | 8 | 5 | +25 |
| Indonesia | No visa required for 169 countries. | 100 | 28 | 2 | +98 |
| Lao PDR | Those from ASEAN member countries as well as Japan, Luxembourg, Mongolia, the Russian Federation, the Republic of Korea, and Switzerland do not require a visa. The majority of other nationals can apply for a visa on arrival for a fee ranging between \$30 and \$45. | — | 23 | 18 | +5 |
| Malaysia | The majority of countries do not require a visa. | 3 | 33 | 25 | -22 |
| Myanmar | The majority of countries are required to apply online for an e-Visa prior to arrival. ASEAN nationals are exempt. | — | 132 | — | — |
| Philippines | The majority of countries do not require a visa. | 7 | 2 | 41 | -34 |
| Singapore | The majority of countries do not require a visa. | 5 | 20 | 16 | -11 |
| Thailand | The majority of countries do not require a visa. | 90 | 25 | 21 | +69 |
| Viet Nam | ASEAN member countries as well as Belarus, Denmark, Finland, France, Germany, Italy, Japan, Norway, the Russian Federation, the Republic of Korea, Spain, Sweden, and the United Kingdom do not require a visa. The majority of other nationals can apply for an e-Visa prior to arrival for a fee of \$25. | 15 | 119 | 116 | -101 |

continued on next page

Table A3.1 *continued*

| Country | Visa Requirements | 2013 (n=140) | 2015 (n=141) | 2017 (n=136) | Change 2013– 2017 (+/-) |
|-------------|---|-----------------|-----------------|-----------------|----------------------------------|
| Timor-Leste | Visitors arriving by air or sea may apply for a visa on arrival for a fee of \$30. Visitors arriving by land must apply in advance for a Visa Application Authorization at a Timor-Leste Embassy or Consulate and present it to an immigration official at the border. Schengen countries are exempt from the visa requirement. Citizens of Indonesia must acquire a visa on arrival and pay the \$30 fee; however, they do not need a Visa Application Authorization to enter at land borders. | N/A | N/A | N/A | N/A |

— = data not available, ASEAN = Association of Southeast Asian Nations, Lao PDR = Lao People's Democratic Republic, N = number of countries ranked.

Sources: World Economic Forum. Travel and Tourism Competitiveness Index 2013, 2015, and 2017 editions.

Table A3.2: Effectiveness of Marketing and Branding to Attract Tourists, 2013–2017

| Country | Rank 2013 (1–140) | Rank 2015 (1–141) | Rank 2017 (1–136) | Change 2013–2017 (+/-) |
|-------------------|----------------------|----------------------|----------------------|------------------------------|
| Brunei Darussalam | 65 | — | — | — |
| Cambodia | 43 | 61 | 73 | -30 |
| Indonesia | 75 | 51 | 51 | +24 |
| Lao PDR | — | 47 | 55 | -8 |
| Malaysia | 14 | 8 | 7 | +7 |
| Myanmar | — | 83 | — | — |
| Philippines | 85 | 29 | 49 | +36 |
| Singapore | 2 | 6 | 5 | -3 |
| Thailand | 11 | 23 | 20 | -9 |
| Viet Nam | 97 | 102 | 80 | +17 |

— = data not available, Lao PDR = Lao People's Democratic Republic.

Sources: World Economic Forum. Travel and Tourism Competitiveness Index 2013, 2015, and 2017 editions.

Table A3.3: Development Partner Tourism-Related Projects in Timor-Leste

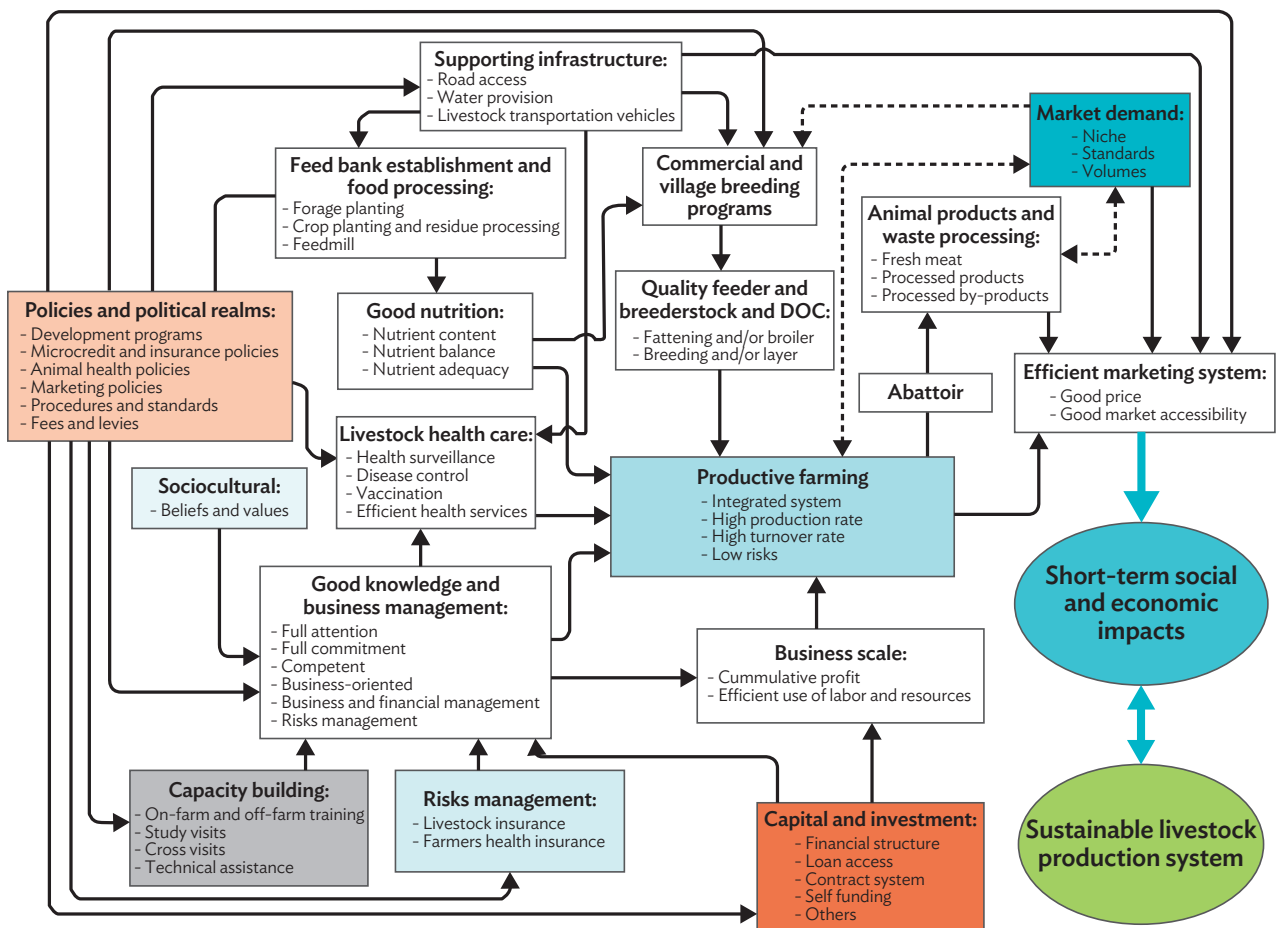
| Development Partner | Initiative | Actions |
|---|---|---|
| International Labour Organization, New Zealand Aid, and Irish Aid | Business Opportunities and Support Services Project Tourism Component (2012–2016) | Established district tourism working groups, developed relevant technical and business management training, supported tourism destination marketing, developed a national tourism association, facilitated public–private dialogue, supported development of a tourism visitors’ center, supported creation of a national tourism policy |
| The Asia Foundation, Australian Aid, and New Zealand Aid | Nonspecific (2014–present) | Evidence-based policy making, marketing, and advocacy; conduct annual International Visitors Survey; created the Explore the Undiscovered brand; developed the www.timorleste.tl website; supported strategy and action planning for implementation of the the national tourism policy; established HOTL Association; organized tourism symposium |
| Australian Aid | Market Development Facility (2015–present) | Organized cruise tourism study tour to PNG, developed standard operating procedures for cruise tourism, facilitated collaboration and coordination among tour operators in Timor-Leste |
| USAID | Tourism for All (2018–present) | Community-based tourism development, conservation, institutional strengthening, public–private partnerships |
| Australian Aid | Cardno and Coordinating Ministry for Economic Affairs | Civil aviation policy |
| Australian Aid | Workforce Development Program Timor-Leste | Hospitality and tourism skills development |
| JICA | | Tourism infrastructure at port and airport; facilitation of cooperation among the Bali Tourism Board, Ministry of Tourism, and the industry |
| Australian Aid | TIA-GT | Cruise tourism collaboration, stakeholder workshops, and good practice exchange |

HOTL = Hotel Owners Timor-Leste Association, JICA = Japan International Cooperation Agency, PNG = Papua New Guinea, TIA-GT = Timor-Leste–Indonesia–Australia Growth Triangle, USAID = United States Agency for International Development.

Source: Asian Development Bank.

Part III—Additional Tables

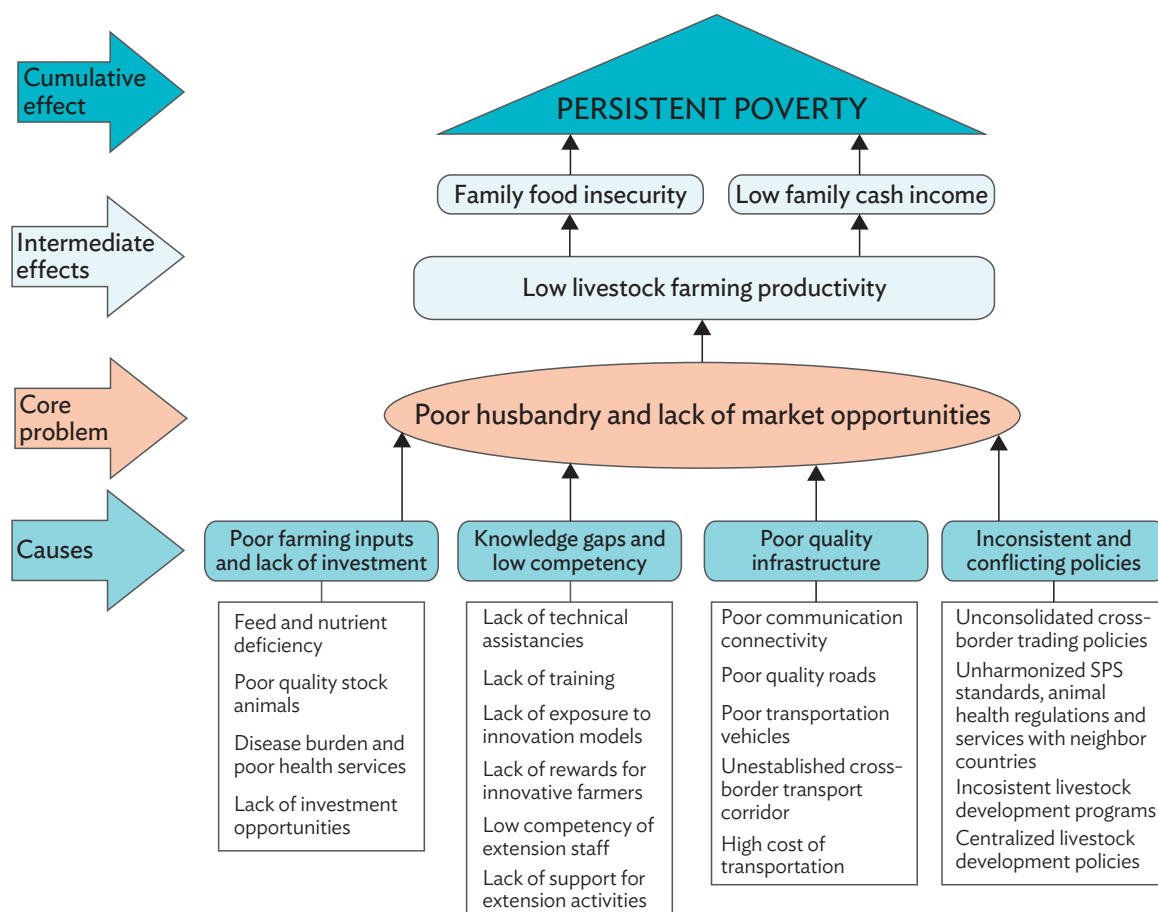
Figure A4.1: Livestock in Nusa Tenggara Timur and Timor-Leste



DOC = day-old chick.

Source: Depiction by Martin Mulik.

Figure A4.2: Problem Tree



SPS = sanitary and phytosanitary.

Source: Depiction by Martin Mulik.

Table A4: Timor-Leste Cattle Households

| Location | Total Private Households | Private Households Involved in Livestock Rearing | Private Households with Cattle 2015 | Cattle in 2015 (head) | Average Herd Size 2015 (head / household) | % Households with Cattle 2015 | Cattle in 2010 (head) | Annual Average Increase Since 2010 (compounded %) |
|-------------|--------------------------|--|-------------------------------------|-----------------------|---|-------------------------------|-----------------------|---|
| Timor-Leste | 204,597 | 178,363 | 52,864 | 221,767 | 4.2 | 26 | 16,1654 | 7 |
| Alieu | 7,598 | 7,344 | 2,788 | 7,099 | 2.5 | 37 | 4,697 | 9 |
| Ainaro | 10,601 | 10,122 | 2,629 | 9,968 | 3.8 | 25 | 6,435 | 9 |
| Baucau | 22,976 | 21,706 | 2,483 | 11,593 | 4.7 | 11 | 6,165 | 13 |
| Bobonaro | 17,635 | 16,725 | 8,489 | 37,052 | 4.4 | 48 | 29,235 | 5 |
| Cova Lima | 12,564 | 12,116 | 6,969 | 33,525 | 4.8 | 55 | 22,378 | 8 |
| Dili | 42,485 | 24,452 | 1,240 | 4,324 | 3.5 | 3 | 3,597 | 4 |
| Ermera | 20,671 | 19,063 | 6,052 | 14,172 | 2.3 | 29 | 11,255 | 5 |
| Lautem | 12,050 | 11,420 | 4,113 | 25,884 | 6.3 | 34 | 16,874 | 9 |
| Liquica | 11,885 | 11,390 | 4,252 | 10,726 | 2.5 | 36 | 8,018 | 6 |
| Manatuto | 7,467 | 6,960 | 1,831 | 11,012 | 6.0 | 25 | 6,204 | 12 |
| Manuhafi | 9,023 | 8,790 | 3,183 | 14,184 | 4.5 | 35 | 7,559 | 13 |
| Oecusse | 14,345 | 13,718 | 3,719 | 11,004 | 3.0 | 26 | 16,562 | -8 |
| Viqueque | 15,297 | 14,557 | 5,116 | 31,224 | 6.1 | 33 | 22,675 | 7 |

Source: Timor-Leste 2015 Population Census.

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Enhanced Cooperation and Integration between Indonesia and Timor-Leste

Scoping Study

This report recommends how Indonesia and Timor-Leste can enhance cross-border cooperation and integration to help boost economic growth and reduce poverty. It focuses on opportunities in the tourism and livestock sectors and reviews transport connectivity, trade, and the business and investment climate. The report was undertaken at the request of the governments of Indonesia and Timor-Leste and involved extensive consultations with government, the private sector, and civil society.

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