BIMP-EAGA
Investment Opportunities in Corridor Value Chains

Brunei Darussalam-Indonesia-Malaysia-Philippines
East ASEAN Growth Area
(BIMP-EAGA)

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Cover Photos: plywood finishing and pressing (IDEC Abadi Wood Industries Indonesia, Tarakan, North Kalimantan); port operations (General Santos, Mindanao); fish classifying and loining (RD Group of Companies, Mindanao, Philippines); banana plantation (TADECO, Mindanao, Philippines); seaweed drying (Tarakan, North Kalimantan); frozen prawns (PT. Sabindo Raya Gemilang, Tarakan, North Kalimantan).

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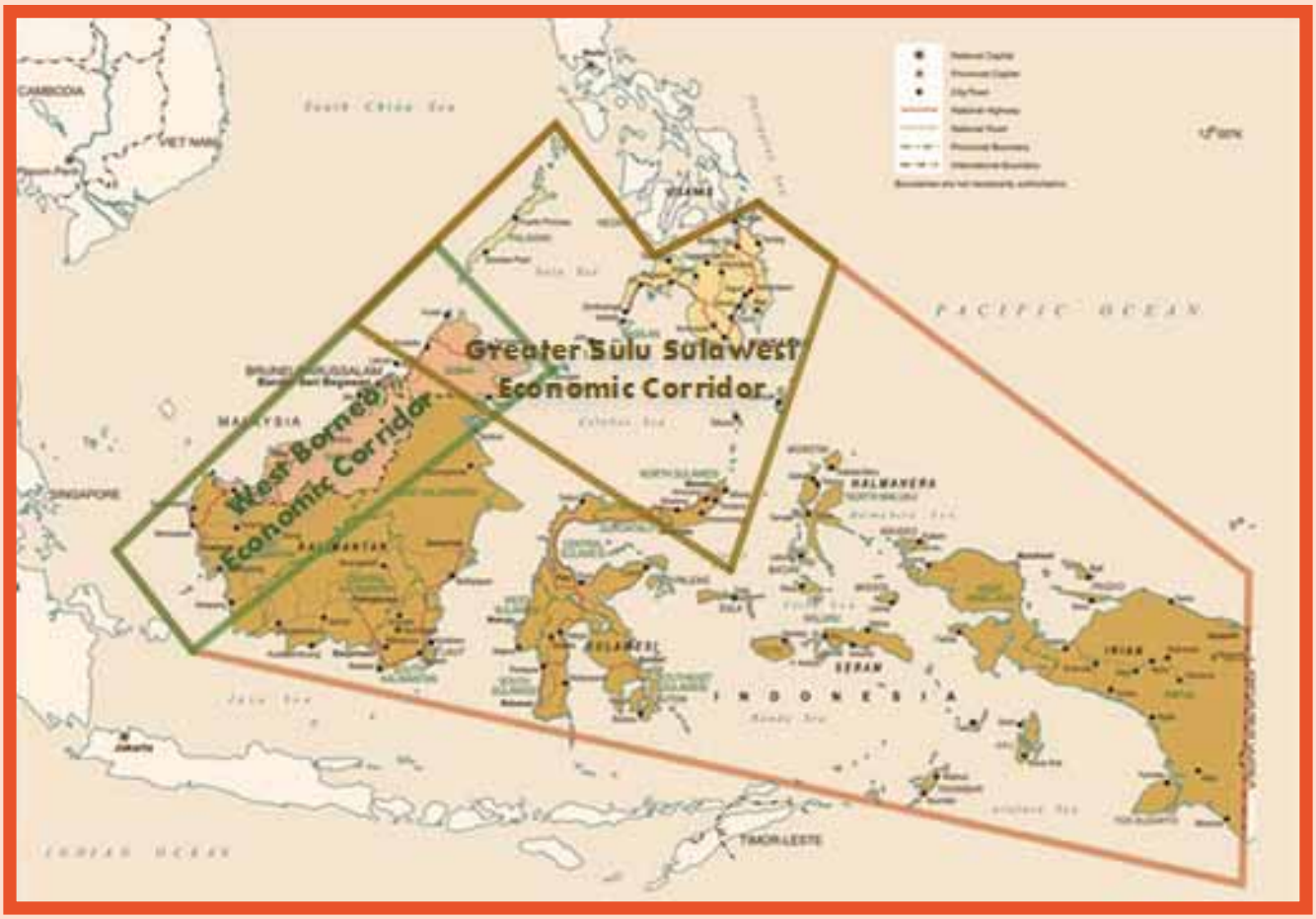

Source: Adapted from Google Maps.

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Abbreviations

ACIA	ASEAN Comprehensive Investment Agreement
ADB	Asian Development Bank
AEC	ASEAN Economic Community
ALS	Alternative Learning System
ARMM	Autonomous Region in Muslim Mindanao
BEDB	Brunei Economic Development Board
BIMP	Brunei Darussalam, Indonesia, Malaysia, Philippines
BIMP-EAGA	Brunei Darussalam-Indonesia-Malaysia-Philippines East ASEAN Growth Area
BKPM	Indonesia Investment Coordinating Board
BOI	Board of Investments
BRISc	Brunei Research Incentive Scheme
CPO	crude palm oil
DNA	Dimembe Nyiur Agripro
DRC	disaster recovery center
EU	European Union
FDI	foreign direct investment
FFB	forms of fresh fruit bunches
FTZ	free trade zones
GDP	gross domestic product
GRP	gross regional product
GSSEC	Greater Sulu-Sulawesi Economic Corridor
HS	harmonized system
ICT	information and communication technology
IPP	Investment Priorities Plan
ISIC	International Standard Industrial Classification
MFN	most favored nation
MIDA	Malaysia Investment Development Authority
MinDA	Mindanao Development Authority
MOU	memorandum of understanding
MRO	maintenance, repair, and overhaul
NSO	National Statistics Office
OECD	Organisation for Economic Co-operation and Development
OSS	one-stop service
PEZA	Philippine Economic Zone Authority
PMB	Pulau Muara Besar
PPP	public–private partnership
PTPN XIII	PT Perkebunan Nusantara XIII
R&D	research and development
RBD	refined, bleached, and deodorized
RCA	revealed comparative advantage

RD	RD Corporation
SCORE	Sarawak Corridor of Renewable Energy
SEDIA	Sabah Economic Development and Investment Authority
SEZs	special economic zones
SIP	Salambigar Industrial Park
SMEs	small and medium-sized enterprises
TADECO	Tagum Agricultural Development Company Incorporated
TFA	Trade Facilitation Agreement
TIF	Trade and Investment Facilitation
UNIDO	United Nations Industrial Development Organization
US	United States
VAT	value-added tax
VC	venture capital
WBEC	West Borneo Economic Corridor
WIPO	World Intellectual Property Organization

Summary

Study Objective: This study examines potential investment opportunities for cross-border value chains in the economic corridors of the Brunei Darussalam-Indonesia-Malaysia-Philippines East ASEAN Growth Area (BIMP-EAGA).

Geographic Context: BIMP-EAGA is a cooperation initiative by its four member governments to close the development gap within a well-defined subregion. It covers the entire sultanate of Brunei Darussalam; the Indonesian provinces of Kalimantan, Sulawesi, Maluku and West Papua; the Malaysian states of Sabah and Sarawak and the federal territory of Labuan; and in the Philippines, the Mindanao island group and province of Palawan.

BIMP-EAGA's two economic corridors cover the following areas:

- The *West Borneo Economic Corridor* extends approximately 1,500 kilometers along the western part of the island of Borneo. It covers Brunei Darussalam, West Kalimantan in Indonesia, and Sabah and Sarawak in Malaysia.
- The *Greater Sulu-Sulawesi Economic Corridor* is a maritime corridor that is mainly delimited by the geography of the Sulu-Sulawesi Sea. It covers North Sulawesi in Indonesia, Sabah in Malaysia, and the Mindanao island group and Palawan in the Philippines.

Study Motivation: Cross-border value chains are important because they offer a means of creating value across neighboring states by separating different stages of production in different locations and adding value to products. They are part of the worldwide proliferation of production fragmentation across borders, driven by falling connectivity costs and the dismantling of trade barriers. As such, corridor value chains are a means by which new forms of production, technologies, logistics, labor processes, infrastructure, and organizational relations and networks can help transform the two BIMP-EAGA transport corridors into full-fledged economic corridors. In the context of economic corridors, cross-border production sharing has advantages over global value chains because they offer proximity to factor inputs and markets, and for the BIMP-EAGA corridor provinces and states they build on established relations from social, cultural, and historical ties in the areas.

Study Methodology: The study offers an investment perspective that is grounded on extensive interviews with company representatives and public sector officials. Qualitative and quantitative-based surveys were conducted over a six-week period by the study team that interviewed 70 companies distributed over 20 industry classifications or divisions in six BIMP-EAGA corridor states and provinces. The surveys were carried out through one-on-one interviews with company representatives and the results were used to rate not only investment opportunities in different industries, but also soft and hard infrastructural conditions that affect the investment climate.

Organization of the Study

The study is divided into five parts:

- *Part I* covers the report's background and examines the development of economic corridors in the subregion.
- *Part II* summarizes the results of three approaches to identifying and rating corridor value chains based on (a) provincial and state development priorities along the corridors; (b) business perceptions about corridor-wide opportunities; and (c) mapping the comparative advantages revealed by the exports from corridor provinces and states into different types of industry classifications.
- *Part III* provides details about potential areas for investment in the context of each of the methodologies for identifying opportunities.
- *Part IV* showcases representative companies in the two economic corridors.
- *Part V* highlights investment incentives and value chain implementation opportunities.

Major Findings

- **Building connectivity and attracting corridor investments**. Both of the BIMP-EAGA corridors are at early stages of development, and the Greater Sulu-Sulawesi Economic Corridor more so than the West Borneo Economic Corridor. Their successful transformation into full-fledged economic corridors depends on trade and investment facilitation policies and programs, and the establishment of appropriate connectivity, with the necessary hard and soft infrastructure. To that end, policymakers are focusing on connectivity and helping to facilitate the efficient movement of goods and people along the corridors in order to attract investment that supports and builds networks of high value and technologically sophisticated industries across borders.
- **Matching local priority industries.** There are 12 priority industries identified by provincial or state governments along the two corridors having a large potential for success as corridor-wide value chains, specifically from increased competitiveness, complementarities, cost efficiencies, employment generation, and increased access to inputs and markets. They included industries producing physical goods as well as those that provide services: agro-processing; aquaculture and fishery products; palm oil; pharmaceuticals; crude oil and gas extraction and petrochemicals; coal, aluminum and steel; agricultural products; livestock products; timber-based products; tourism; information and communication technology (ICT); and education.
- **Private sector perspectives.** Business investment sentiments about the impact of cross-border value chains are favorable, and the survey conducted across the two BIMP-EAGA corridors found overwhelming agreement on the potential success of corridor value chains. Survey respondents noted the following benefits: (i) greater market access; (ii) strengthened competitiveness; (iii) value-additions to production; (iv) cost-of-production efficiencies; (v) greater access to inputs; and (vi) expanded employment. Using factor analysis and other statistical methods for calculating internal consistency, we found that each of these factors contributes to the overall benefit of cross-border value chains.

- **Business rankings of potential corridor value chains.** In addition to the 12 priority industries already identified by provincial or state governments along the two corridors, an additional 8 industries were identified as having a large potential for success as corridor-wide value chains. In the West Borneo Economic Corridor, the rank order of industries with the highest expected impact from cross-border value chains occurs in manufactures of food products and components, rubber, fabricated metals, and chemical products, as well as activities related to warehousing and logistics, education, electricity and gas, and tourism. In the Greater Sulu-Sulawesi Economic Corridor, the highest expected impact from value chains occurs in manufactures of food products, wood products and refined oil products, as well as activities related to fishing and aquaculture, forestry and logging, gas and electricity, tourism, and warehousing and logistics.
- **Mapping comparative advantages in high value industries.** Both corridors concentrate much of their productive activities in low-technology industries. Yet there are many opportunities for companies to move up the value chain through process, product, functional and chain upgrading methods. High-tech hubs are already emerging in some of the corridor provinces and states, and cross-border networking can help spread their coverage across the corridors.
- **Regulatory environment.** BIMP-EAGA member countries have greatly expanded efforts to promote and facilitate domestic and foreign-sourced investments and to create a stable, predictable and transparent regulatory environment.
    - Brunei Darussalam's efforts to attract foreign direct investment (FDI) into high-tech industries include investment incentives; a low tax regime with no capital gains or personal income taxes; exemptions from corporate taxes; exemption from import duties and taxes; and adjustment of capital allowances and losses.
    - Indonesia's investment incentives provide a choice between tax holidays and a tax incentive program in high-priority sectors; special economic zone incentives; import duty exemptions; pioneer industry status; and investment guarantees.
    - Malaysia's investment promotion program in technologically sophisticated manufacturing and service industries includes a variety of tax incentives to attract investment in different sectors and regions of the country.
    - The Philippines' investment reforms of the past 4 years have bolstered the country's economic fundamentals, and its incentive programs have targeted six broad priority sectors that are part of the country's industrialization plan.

Overall, the study finds that opportunities for investment in corridor value chains abound in both BIMP-EAGA corridors. Among the most compelling reasons to invest in these types of cross-border value chains are their internal and external effects generated by knowledge transfers, scale economies, upstream and downstream linkages, the ability of corridor value chains to attract investment from multinational enterprises, the subregion's favorable policy and regulatory environment, and the ability of these types of investments to substantially broaden existing markets for goods and services in the subregion.

PART I

BIMP-EAGA Economic Corridors

Introduction to BIMP-EAGA Economic Corridors

1

A. Background

The Brunei Darussalam-Indonesia-Malaysia-Philippines East ASEAN Growth Area (BIMP-EAGA) is a cooperation initiative by the four national governments to close the development gap within the BIMP-EAGA member countries. Its two main corridors, the *West Borneo Economic Corridor* and the *Greater Sulu-Sulawesi Corridor*, lie in the center of the historically important commercial routes in Southeast Asia and they are once again emerging as important investment and business destinations.

In the last two decades, the Southeast Asia region has experienced a profound transformation toward much greater intra-regional trade and investment than in their global integration, based largely on their cross-border division of production activities and the booming market for goods and services in the area. As part of this process, widespread improvements have taken place in the region's infrastructure, specifically in transport systems and soft infrastructure, all of which has helped to accelerate connectivity and mobility across borders. The BIMP-EAGA member countries in particular have enjoyed a healthy growth and increased stability in their economic and political systems, and this process has created enormous business opportunities along the subregion's two economic corridors.

B. Coverage

BIMP-EAGA covers a land area of 1.6 million square kilometers (km^2) and it has a combined population of 57.5 million covering the Sultanate of Brunei Darussalam, the Indonesian provinces of Kalimantan, Sulawesi, Maluku, and West Papua in Indonesia; the Malaysian states of Sabah and Sarawak and the federal territory of Labuan in Malaysia; and the Philippine provinces in the Mindanao region and Palawan.

The subregional initiative was launched in 1994, but limited progress was achieved during the early stages of the initiative. The 1997–1998 Asian Crisis and a series of natural and man-made phenomena during that period combined to prevent implementation of subregional proposals. In order to revitalize the subregional initiative, the 8th BIMP-EAGA Summit in 2012 adopted the *BIMP-EAGA Implementation Blueprint 2012–2016.* It sought to increase project delivery and strengthen institutional mechanisms by fast-tracking the implementation of various priority infrastructure projects in the subregion, especially transport, energy, trade facilitation, and information and communication technology in line with the *Master Plan on ASEAN Connectivity*.

Economic corridor development is a key driver of BIMP-EAGA's strategy. The 4th BIMP-EAGA Summit in Singapore in November 2007 endorsed the development of economic corridors to

better direct infrastructure investments to well-defined geographic spaces in the subregion. The *BIMP-EAGA Implementation Blueprint 2012–2016* defined economic corridors as "areas where synchronized and systematic development efforts aims to facilitate the efficient cross-border movement of factors of production and stimulate trade, tourism, investment, and other economic activities." In effect, economic corridors are intended to enhance the subregion's competitiveness by linking production with supply and value chains, as well as strengthening opportunities for SMEs to participate in those production and distribution systems.

Infrastructure development is a prerequisite for these goals, but it is also part of a process that involves the transformation of transport corridors into economic corridors. Full-fledged economic corridors can mobilize and accelerate cross-border activities; promote access to markets; reduce trade and transport costs; facilitate growth across production, export and consumption points; and improve the general well-being of people in the areas.

This report explores investment opportunities in cross-border value chains in BIMP-EAGA's two corridors. It reviews overall investment opportunities in the corridors, emphasizing aspects of the subregional framework, complementarities in cross-border production activities and services, and key sectors and industries that are poised to take off as demand for their products and services grows. In so doing, it covers leading questions about (a) how to integrate the member countries' national corridors into subregional corridors; (b) how to transform the transport corridors into economic corridors; (c) what characterizes the land and maritime corridors; and (d) what incentives exists to support cross-border value chains.

In an effort to provide an in-depth analysis of investment opportunities at the industry level in the BIMP-EAGA corridors and the investment climate in general, extensive surveys were carried out at the local provincial and state levels across the two corridors. Time limitations prevented the full coverage of the Philippine province of Palawan and Malaysia's federal territory of Labuan. Nor does the study cover investment opportunities in the financial sector to the extent deserved. Nevertheless, it does cover all the industry-level opportunities that have been suggested by existing businesses, government planning authorities, and those suggested by product-level trade patterns among the corridor provinces and states.

The study is divided into five parts:

- *Part I* covers the report's background and examines the development of economic corridors in the subregion.
- *Part II* summarizes the results of three approaches to identify and rate corridor value chains based on (a) local development priorities along the corridors; (b) extensive company interviews across industries in the two corridors; and (c) mapping the comparative advantages revealed by the exports from corridor provinces and states into different types of industry classifications.
- *Part III* provides details about potential areas for investment in the context of each of the methodologies for identifying opportunities.
- *Part IV* showcases some of the representative companies in the two economic corridors having high industry-based investment opportunity ratings.
- *Part V* highlights incentives available to investors and new directions of corridor-level investments in the BIMP-EAGA subregion.

Corridor and Local Development Strategies

2

A. Historical Context

Early Malay Archipelago trade dates back to the second century A.D. when merchants from the Malay Peninsula and the southern coast of Viet Nam expanded their horizons from India and the People's Republic of China (PRC) to eastward activities in Borneo, Sulawesi, and Maluku. Those traders taking the 'Borneo route' would begin their voyage in Thailand, Cambodia, Viet Nam or the Malay peninsula, cross the South China Sea until they reached Borneo, and follow the coast northeastward until they entered the Sulu Sea and moved eastward toward Sulawesi and Maluku.[1]

A few centuries later the eastern trade routes of the Nanhai (South China Sea), extending from the Philippines to Borneo and onward to Sulawesi and Maluku, were used extensively by early Chinese traders. Use of these routes grew rapidly with the development of shipbuilding during the Tang Dynasty (A.D. 618 to 907).[2] During this period, Mindanao became an important distribution point for merchants shipping their goods through the Sulu Sea to the western part of Borneo and through the Celebes Sea to Sulawesi and the Maluku Islands. These islands were the only Asian producers of clove and it was mainly for this reason that trading vessels went there, although there were other motivating factors like their parrots, pearls and tortoise shells. Close ties with the islands between Mindanao and Maluku, which included Talaud and Sangihe, eventually contributed to the emergence of a Sangil-speaking population in Mindanao.[3]

Highlights of BIMP-EAGA's Economic Corridors

- The present-day BIMP-EAGA corridors reflect trade patterns that date back to the 2nd century A.D. when merchants from south and eastern Asia expanded their trade into Borneo, Sulawesi, and Maluku. Renewed interest in these trade routes is being driven by economic advantages offered by physical connectivity and by the proliferation of cross-border production networks that form part of subregional value chains.
- The *West Borneo Economic Corridor* has a fairly well established transport infrastructure, with linkages from Indonesia's West Kalimantan province to Malaysia's Sarawak state, then through Brunei Darussalam and onward to Malaysia's Sabah state. Cross-border trade and investment within this corridor is already well entrenched.
- The *Greater Sulu-Sulawesi Economic Corridor* is a maritime corridor that is mainly delimited by the geography of the Sulu-Sulawesi Sea. It covers North Sulawesi in Indonesia, Sabah in Malaysia, and Mindanao and Palawan in the Philippines. Connectivity is primarily through port-to-port trade flows and shipping services within the Sulu-Sulawesi Sea.
- The success of these economic corridors is based on supply-chain linkages and value additions that cross-border production networks offer. Their expansion, in turn, depends on (a) the degree of cross-border spillover of infrastructural projects, and (b) the extent to which wider cross-border projects impact on connectivity along the corridors.

[1] R. Ptak (1992), "The Northern Trade Route to the Spice Islands: South China Sea - Sulu Zone - North Moluccas (14th to early 16th century)." Archipel 43: 27–56. Available: http://www.persee.fr/web/revues/home/prescript/article/arch_0044-8613_1992_num_43_1_2804

[2] C. Moore (2003), "New Guinea: Crossing Boundaries and History." Honolulu, University Of Hawai'i Press. http://www.uhpress.hawaii.edu/p-2978-9780824824853.aspx

[3] N.M. Saleeby (1908), "The History of Sulu." Vol. IV, Part II. Department of Interior, Ethnological Survey Publications. Manila, Bureau of Public Printing. Available: http://www.gutenberg.org/files/41771/41771-h/41771-h.htm

Between the 15th and 17th centuries the trade passage between western Borneo and Mindanao flourished under the Bruneian Empire.[4] When the area of Sultanate of Sulu became independence of the Bruneian Empire in 1578, the Sultanate took control of portions of Mindanao and Borneo, and its economic influence over the region continued well into the 18th century.[5] Although there were some overlaps with the areas controlled by the Bruneian Empire, for the most part the Sultanate of Sulu dominated trade because of its so-called Moro raids or acts of piracy over the Spanish-controlled Philippine Islands between 1521 and 1898.[6]

Maritime supremacy of the Sulu Sultanate over the Spaniards lasted until the 19th century, when the Spanish merchants and navy acquired steam-powered ships that were able to curb piracy in the region. By the last quarter of the 19th century, Moro pirates had virtually disappeared and the maritime influence of the Sultanate became dependent on the Chinese junk trade.[7] During that same period the Sultanate of Sulu ceded or leased its rights to northern Borneo to British commercial interests, effectively ending their control over the Borneo-Mindanao trade route.

B. Modern-Day Corridors

1. Subregional Context

Renewed interest in the geographic areas that once represented some of the most important historical trading routes in Southeast Asia is based not only on social, cultural and historical ties, but also the advantages offered by present-day physical connectivity and the proliferation of cross-border production networks that form part of regional and global value chains. These value chains are being built throughout East Asia and are making the region into a 'global factory' in which different stages of production are distributed across spatially integrated economic corridors or subregions. The process is, in turn, paving the way for closer integration and the facilitation of trade in goods and services that has gone well beyond subregional integration to encompass strategic considerations related to a broad range of issues needed to cover production networks, including factor mobility, investment, and the breakdown of border and behind-the-border trade barriers.

Present-day subregional cooperation began in 1992, when the then president of the Philippines, Fidel V. Ramos, proposed to the heads of state of Brunei Darussalam, Indonesia and Malaysia the creation of a subregional cooperation area that would accelerate economic development in focal areas that lagged behind other regions (except in the case of Brunei Darussalam).[8] The Brunei Darussalam, Indonesian, and Malaysian leaders responded positively to the initiative and in March 1994 the Brunei Darussalam-Indonesia-Malaysia-Philippines East ASEAN Growth Area was formally launched in Davao City, Philippines.

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[4] G. Saunders (2013). *A History of Brunei*. Routledge. Available: http://books.google.co.th/books/about/A_History_of_Brunei.html?id=tW7-AQAAQBAJ&redir_esc=y

[5] P. Church (2012). *A Short History of South-East Asia*. John Wiley & Sons. Available: http://as.wiley.com/WileyCDA/WileyTitle/productCd-1118350448.html

[6] J. Kleinen and M. Osseweijer (2010), "Pirates, Ports, and Coasts in Asia: Historical and Contemporary Perspectives." Institute of Southeast Asian. Available: https://bookshop.iseas.edu.sg/publication/747

[7] J.L. Phelan (1959), The Hispanization of the Philippines: Spanish Aims and Filipino Responses, 1565–1700. Madison: University of Wisconsin Press. Available: http://uwpress.wisc.edu/books/1605.htm

[8] These BIMP-EAGA areas consist of the entire sultanate of Brunei Darussalam; the provinces of Kalimantan, Sulawesi, Maluku, West Papua and Papua in Indonesia; the states of Sabah and Sarawak, and the federal territory of Labuan in Malaysia; the island of Mindanao and the province of Palawan in the Philippines.

The strong commitment of the four BIMP governments enabled BIMP-EAGA to demonstrate tangible results within the first couple of years of its inception. National policies were modified, cooperative agreements were reached, and cross border arrangements were facilitated. However, that progress was short-lived. The 1997–1998 Asian Crisis, the El Niño phenomenon, and other natural and man-made events combined to prevent implementation of various initiatives.

By 2001, the Southeast Asian economies had recovered significantly from the crisis. As a result, at the 7th ASEAN Summit held in Brunei Darussalam in November of that year, the BIMP leaders announced their renewed commitment and support for the revitalization of the subregional cooperation initiatives as part of the larger ASEAN initiative to integrate the region's economies.

Several measures were implemented to bolster the revitalization efforts, and a *BIMP-EAGA Roadmap to Development* was launched at the 2nd BIMP-EAGA Leaders Summit in 2005.[9] The road map's targets during the 5-year period (2006–2010) were more or less achieved, and the next plan set out to strengthen project preparation and implementation in the form of the *Implementation Blueprint* for 2012–2016. The need to accelerate BIMP-EAGA's project implementation also took on a wider context in view of the ASEAN Economic Community (AEC) target realization date of 2015. Also, the prolonged global financial crisis of 2007 underscored the need to reinforce regional cooperation in trade and investment as a means of cushioning the region's vulnerability to external shocks.

2. Corridor Developments

In the last decade, economic corridors have emerged as one of the main vehicles for BIMP-EAGA subregional development. The *West Borneo Economic Corridor* and the *Greater Sulu-Sulawesi Corridor* where initially proposed in 2004 by the Asian Development Bank (ADB), which is the regional development advisor for BIMP-EAGA, and they were endorsed in the 4th BIMP-EAGA Summit in Singapore in November 2007.[10] A subsequent ADB technical assistance (TA) assessed the viability of potential economic corridors based on existing and potential trade and tourism flows. That TA also identified potential public–private sector investments in transport infrastructure, trade and logistics.[11]

The two corridors were formally incorporated into the BIMP-EAGA strategy under the *Implementation Blueprint (2012–2016)*.[12] According to the Blueprint, the BIMP-EAGA corridors form the basis for priority infrastructure projects that aim to activate and accelerate cross-border activities, promote access to markets, reduce trade and transport costs, and facilitate growth between neighboring production, export or consumption points. As economic instruments, those corridors aim to promote efficient cross-border movement of the factors of production and stimulate trade, investment, tourism and other economic activities.

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[9] "BIMP-EAGA Roadmap to Development (2006–2010)." Available: http://www.asean.org/archive/18500-b.pdf

[10] Asian Development Bank (2004), "Prioritizing Strategic Directions for BIMP-EAGA." Manila. Available: http://books.google.co.th/books?id=Ni0WAQAAMAAJ&source=gbs_navlinks_s

[11] Asian Development Bank (2007), "Efficiency Improvement and Connectivity Strengthening in Archipelagic Southeast Asia Project." Manila. RETA 6441 Cofinanced by the Regional Cooperation and Integration Fund under the Regional Cooperation and Integration Financing Partnership Facility. Available: http://www.adb.org/projects/documents/efficiency-improvement-and-connectivity-strengthening-archipelagic-southeast-as-0

[12] BIMP-EAGA Implementation Blueprint (2012–2016). Available: http://bimp-eaga.org/Documents/ef4b1b8e-7291-40a5-9a0a-2d0250543801.pdf

(a) Corridor Characterization

The two main BIMP-EAGA corridors represent well-defined geographic areas within the subregion. Each has important economic nodes that provide connectivity and networking of production, distribution and market functions within and outside their respective areas. They are not stand-alone areas, but are instead important vehicles for subregional networking of activities, which together represent the whole of BIMP-EAGA.

The *West Borneo Economic Corridor* (Figure 2.1) extends approximately 1,500 kilometers (km) and covers Brunei Darussalam, West Kalimantan in Indonesia, and Sarawak and Sabah in Malaysia. The BIMP-EAGA Blueprint does not explicitly include the Federal Territory of Labuan (Malaysia).

Figure 2.1: West Borneo Economic Corridor

Source: Map by Google, modified by authors.

The corridor's notable features are as follows:

- *Commercial Nodes*—The corridor links important *commercial nodes* in each area: (a) Pontianak (West Kalimantan, Indonesia); (b) Kuching (Sarawak, Malaysia); (c) Bandar Seri Begawan (Brunei Darussalam); (d) Federal Territory of Labuan (Malaysia); and (e) Kota Kinabalu (Sabah, Malaysia).
- *Border Nodes*—The corridor contains the *border nodes* of Entikong in West Kalimantan and Tebedu in Sarawak; Miri in Sarawak and Sungai Tujuh in southwest Brunei Darussalam; Limbang in Sarawak and Kuala Lurah in northeast Brunei Darussalam, Limbang in Sarawak and Bangar in Brunei Darussalam; and Temburong in Brunei Darussalam and Lawas in Sabah.

- *Gateway Nodes*—The corridor includes the *gateway nodes* of Pontianak in Indonesia and Kota Kinabalu and Sandakan in Malaysia as gateways to regional and international markets.

Oil and gas is exported from the Malaysian and Brunei Darussalam areas of the corridor and there are major exporters of forestry products throughout the corridor. Moreover, there are cross-border opportunities for light manufacturing, palm oil processing, wood processing and tourism. In financial services, Brunei Darussalam and Labuan (Malaysia) have the potential to become important hubs for the subregion. Major corridor imports consist of food, machinery and equipment, and manufactured goods.

The *Greater Sulu-Sulawesi Economic Corridor* (Figure 2.2) is a maritime corridor that is mainly delimited by the geography of the Sulu-Sulawesi Sea. It covers North Sulawesi in Indonesia, Sabah in Malaysia, and Mindanao and Palawan in the Philippines. Connectivity is primarily through port-to-port trade flows and shipping services within the Sulu-Sulawesi Sea, particularly in the form of barter trade in agriculture and aquaculture.

Figure 2.2: Greater Sulu-Sulawesi Economic Corridor

Source: Map by Google, modified by authors.

Its notable corridor characteristics are as follows:

- *Commercial Nodes*—The corridor *commercial links* consist of (a) Palawan (Philippines)–Sabah (Malaysia); (b) Zamboanga Peninsula (Philippines)–Sabah (Malaysia); (c) Davao area (Davao del Sur Province, Philippines); (d) General Santos (Philippines)–North Sulawesi (Indonesia).

- *Gateway Nodes*—The corridor includes the *gateway port links* of (a) Brookes' Point (Palawan, Philippines) and Kudat (Sabah, Malaysia); (b) Zamboanga (Mindanao, Philippines) and Sandakan (Sabah, Malaysia); (c) Zamboanga, Jolo, and Bongao (Mindanao, Philippines) and Sandakan (Sabah, Malaysia); (d) Davao and General Santos (Mindanao, Philippines) and Manado and Bitung (North Sulawesi, Indonesia).

Regular air and shipping services are presently limited. There were plans to reintroduce the Davao to Manado air passenger service in 2014 through Sriwijaya Air, but regular service has not yet started.[13]

C. Stages of Corridor Development

Both of the BIMP-EAGA corridors are at early stages of development, and the Greater Sulu-Sulawesi Economic Corridor more so than the West Borneo Economic Corridor. In the Greater Sulu-Sulawesi Economic Corridor, connectivity is largely in the form of informal barter trade. In this maritime corridor, demand for transportation is mainly for passenger-related travel for family visits or employment-related activities, rather than business exchanges or commercial trade.[14] In contrast, the West Borneo Economic Corridor has a fairly well established transport infrastructure, with linkages from Indonesia's West Kalimantan province to Malaysia's Sarawak state, then through Brunei Darussalam and onward to Sabah state in Malaysia. A memorandum of understanding (MOU) under BIMP-EAGA on land transport extends direct transport links from Pontianak to Kota Kinabalu.[15] As a result, trade and investment within the corridor through traditional border crossing points are well entrenched.

The success of the two corridors depends on their ability to attract investment, which in turn depends on the establishment of appropriate infrastructure and facilitation policies. In effect, that means that at the early stages of development, policymakers need to concentrate on building connectivity in the first of what is often been described as the four stages of economic corridor development:[16]

Stage	Type of Corridor	Definition
1	Transport	Corridor that physically links a well-defined geographic space.
2	Multimodal	Corridor that physically links an area through the integration of various modes of transport, and extends those linkages to the subregional or broader global context.
3	Logistics	Corridor that not only physically links an area, but also harmonizes the corridor institutional framework to facilitate the efficient movement of goods and people.
4	Economic	Corridor that is able to attract investment and generate economic activities along its less developed areas. As a prerequisite, physical linkages and logistics facilitation must be in place.

[13] BIMP Today, "North Sulawesi – Southern Mindanao Strengthen Ties." Available: http://bimptoday.com/2014/11/03/north-sulawesi-southern-mindanao-strengthen-ties/

[14] "BIMP-EAGA Roadmap to Development (2006–2010)." Available: http://www.asean.org/archive/18500-b.pdf

[15] Ibid.

[16] R. Banomyong (2008), "Benchmarking Economic Corridors Logistics Performance: a GMS border crossing observation." *World Customs Journal* 4(1).

The first stage provides an efficient movement of cargo and people within the corridors. The second stage offers efficient movement of cargo and people within and outside the corridors. The third one adds the efficient flow of knowledge and information as well as flow of funds. The final stage builds commercial, border and gateway nodes and develops townships and urban centers along the corridor to support cross-border supply or value chains that connect to subregional, regional and global value chains.[17] The BIMP-EAGA member governments' roles are to act as facilitators to the private sector in order to attract investment and support the operations of cross-border high value added industries. At times a fifth stage is added to cover the building of corridor-level institutions, including the coordination of policies and regulations, and the implementation of cross-border socioeconomic and environmental policies, programs, and institutional capacity building.[18]

Corridor performances are, in general, based on value chain theory, where the measure of success is determined by the weakest link in the chain. In this context, the achievement of the goals for the BIMP-EAGA's economic corridor development is affected by constraints that exist in the physical infrastructure along the entire length of the corridor, or in cross-border policies and the regulatory environment.[19] Elimination of these constraints will typically require bilateral initiatives, for example, along areas of border nodes to facilitate the movement of goods and people, rather than multilateral initiatives at the corridor or subregional level.[20]

While the stages approach to economic corridor development provides a useful general framework for the BIMP-EAGA corridors, it lacks clarity and rigor in terms of how transition between the four or five stages is to be achieved. Moreover, while transport and logistics stages are prerequisites for the economic corridors and a spatial approach provides a useful way to prioritize regional projects, there remains considerable scope for defining how investments will be generated and used to drive growth in the lesser developed areas of the corridor.

One way to conceptualize the transitional mechanism to a fully functioning economic corridor is to frame the corridor initiatives in terms of (a) the degree of cross-border spillover of infrastructural projects, and (b) the extent to which wider cross-border projects impact on connectivity along the corridor.[21] In this approach, cross-border spillover of infrastructural projects refers to the effects that infrastructural projects have on trade in goods and services and cross-border value chains. For example, a national highway may impact on neighboring countries by facilitating the transportation of cargo across borders. The second transmission channel refers to the ways that corridor-related projects, programs and institution building widen connectivity along a corridor.

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[17] A. Sze (2011), "NAFTA Economic Corridor Development." 10th Ministerial Conference 22–24 November 2011, Baku, Azerbaijan. Available: http://www.carecprogram.org/uploads/events/2011/SOM-Nov/NAFTA-Economic-Corridor-Development.pdf

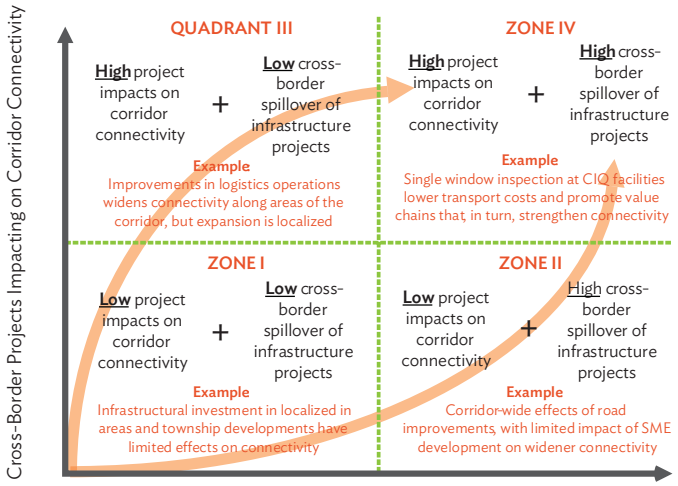
[18] African Development Bank (2013), "Developing Economic Corridors in Africa: Rationale for the Participation of the African Development Bank." Abidjan, Côte d'Ivoire. Available: http://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/Regional_Integration_Brief_-_Developing_Economic_Corridors_in_Africa_-_Rationale_for_the_Participation_of_the_AfDB.pdf

[19] ADB Institute and CAREC Institute (2013), "Economic Corridor Development: Supply Chain Analysis." Panel Discussion – Central Asia's Participation in Global Supply Chains: Policy Priorities, Strategic Issues and Areas of Cooperation. Available: http://www.adbi.org/files/2013.11.13.cpp.sess5.samukhin.economic.corridor.dev.pdf

[20] B. Manale (2010), "International Benchmarking Study of Economic Corridors." Joint Programme Management Unit for the Maputo Corridor Development Programme. Available: http://www.mcli.co.za/mcli-web/downloads/docs/01_mdc_corridor_benchmark_research_report_2010_05_31_final.pdf

[21] The material that follows draws extensively from P. Srivastava (2011), "Regional Corridors Development in Regional Cooperation." Asian Development Bank. ADB Economic Working Paper Series No. 258. Available: http://www10.iadb.org/intal/intalcdi/PE/2011/08976.pdf

Figure 2.3: Two Paths to a Full-Fledged Economic Corridor



Source: P. Srivastava (2011), "Regional Corridors Development in Regional Cooperation." Asian Development Bank. ADB Economic Working Paper Series No. 258. Available: http://www10.iadb.org/intal/intalcdi/PE/2011/08976.pdf

For instance, multination tourism projects can broaden corridor activities beyond the main area covered by the highway, while cross-border value chains can widen the area covered by production or commercial clusters along the corridor. All these economic projects help to expand corridor connectivity.

The first type of initiative promotes economic corridor development through infrastructural improvements, while the second type bolsters economic development along corridors through improved connectivity. In other words, there is a two-way causality between infrastructural and economic project development along corridors.

Figure 2.3 shows two paths to the transformation of an economic corridor to a fully functioning economic corridor.

- *Zone I:* At the initial stage of corridor development, described by Zone I, the focus is on corridor development that can take place through infrastructure, largely in the form of localized transportation projects.
- *Zone II:* Movement to a higher level of corridor development can involve the construction of localized roads that forms part of a transnational highway. These types of cross-border spillover effects allow corridor development to move from Zone I to Zone II. At this stage there is little, if any, corridor-wide connectivity effects.
- *Zone III:* Projects and programs that widen corridor activities within an area help move the corridor from its initial stage of development to a higher level characterized by Zone III. At this stage there is considerable clustering of activities outside the main highway traversing the corridor.
- *Zone IV:* The final stage occurs when corridor development takes place through both a widening of connectivity from various corridor projects and programs, and the widening of localized transportation infrastructure to the corridor.

PART II

Value Chain Opportunities

Finding Value Chain Opportunities

3

A. Growth of 'Trade in Tasks'

Trade within East Asia is increasingly shifting from trade in products to 'trade in tasks' as companies become more closely integrated into global value chains (GVCs). The proportion of GVCs in the region's total trade is now nearly 40% more than it was two decades ago.[22] As a consequence, East Asia's GVC participation rate equals over half of all its trade, which is larger than that of any other developing region.[23] These export dynamics have driven much of the regional clustering and networking of industries, and it has paved the way for closer regional cooperation as a means of accelerating the rise in cross-border value chains.

For BIMP-EAGA member countries, manufactured exports have a much higher proportion of value added than do mineral, agricultural, forestry and fish products.[24] Indeed, Figure 3.1 shows how foreign value added of gross exports of manufactures is always higher than that of mining, agriculture, forestry and fisheries. That means that the benefits of participating in GVCs of manufacturing goods are potentially larger than for GVCs of primary products.

The evidence indicates there are important benefits to be had from participating in value chains in terms of enhanced productivity, sophistication and

Highlights

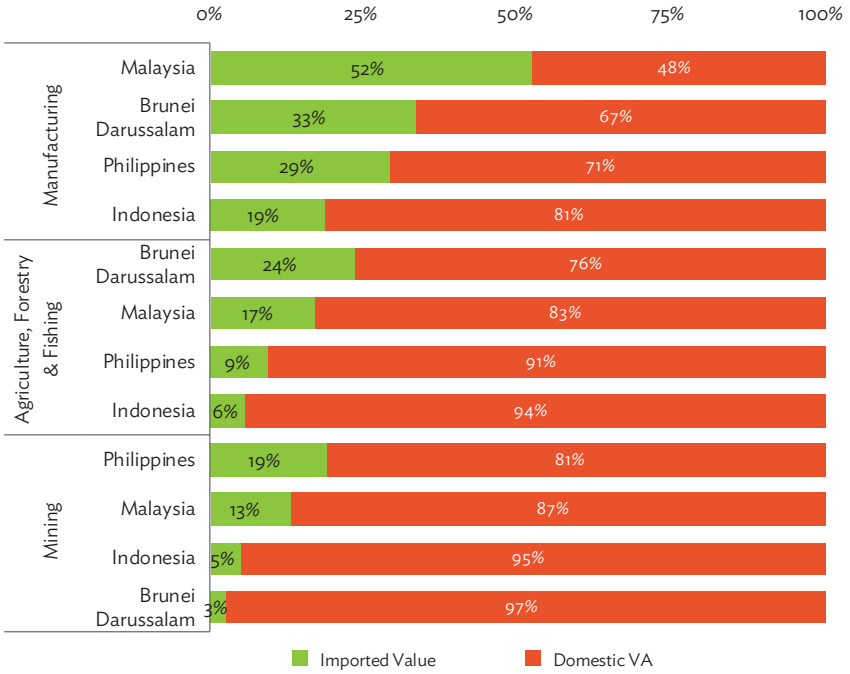
- The proliferation of global value chains (GVCs) for processed foods and beverage products and manufactured exports has brought potentially large benefits to BIMP-EAGA member countries in terms of enhanced productivity, sophistication and diversification.
- Backward and forward linkages across borders can create value additions through (a) domestic value-added absorbed abroad; (b) foreign value added from neighboring states; and (c) value added from products that are first exported in semi-finished forms and then returned home as completed products.
- Three methodologies are used to identify potential corridor value chains in BIMP-EAGA:
    - Matching priority industries across states.
    - A survey of over 70 companies ranking opportunities and constraints of potential corridor industries.
    - Mapping the comparative advantage revealed by corridor members' exports to industry-level designations.
- The results show a progressive industry coverage that starts with a relatively narrow programing-based approach, expands with the company interviews, and finally broadens considerably in the light of comparative advantages revealed by existing export patterns of BIMP-EAGA corridor provinces.

[22] Based on data from OECD (2013b, 2013c), where a country's integration in GVCs is measured as the share of imported intermediate inputs embodied in its exports following their incorporation in the production of goods and services. Data from OECD-WTO, Trade in Value Added (TiVA) Database, http://oe.cd/tiva as reported in Statlink at http://dx.doi.org/10.1787/888932904355. See also "Measuring Trade in Value Added: An OECD-WTO Joint Initiative." Available: http://www.oecd.org/sti/ind/measuringtradeinvalue-addedanoecd-wtojointinitiative.htm. For access to the TiVA database, see http://stats.oecd.org/Index.aspx?DataSetCode=TIVA_OECD_WTO

[23] Based on data reported in UNCTAD (2013) from UNCTAD-Eora GVC database.

[24] Manufacturing products cover food and beverage products, textiles and leather products, processed wood products, chemical and non-metallic mineral products, fabricated metal products, electrical and optical equipment, and transport equipment.

Figure 3.1: Domestic Value Added in Gross Exports



Note: Excludes value-added first exported and then returned home after further processing in another country.

Source: Based on OECD 2015 edition of Trade in Value Added (TIVA) database. Available: http://stats.oecd.org/Index.aspx?DataSetCode=TIVA2015_C1

diversification of exports.[25] Moreover, structural factors, such as geography, market size and level of development, are key determinants of the magnitude of those potential benefits. Trade and investment policy reforms as well as improvements of logistics and customs, intellectual property protection, infrastructure and institutions also play an important role in disseminating benefits.

B. Domestic Contents of Exports

In examining value chains along BIMP-EAGA economic corridors, we follow recent advances in the literature on international production sharing.[26] In the new accounting framework for value additions to trade, gross exports are decomposed into (a) foreign value added; (b) domestic value added absorbed abroad; and (c) value added first exported and then returned to home country. To illustrate, consider how gross trade in the food processing industry decomposes these three value-added components along the West Borneo Economic Corridors (Figure 3.2).

In this example for the food processing industry, Brunei Darussalam produces mixtures of juices from imported fresh fruits originating in Sarawak and West Kalimantan. The resulting juice is then

[25] Kowalski et al. (2015), "Participation of Developing Countries in Global Value Chains: Implications for Trade and Trade-Related Policies." Paris, Organisation for Economic Co-operation and Development. OECD Trade Policy Paper No. 179.

[26] Koopman, Robert, Zhi Wang, and Shang-Jin Wei (2014), "Tracing Value-Added and Double Counting in Gross Exports." American Economic Review, 104(2): 459–94.

Figure 3.2: Example of Brunei Darussalam's Gross Export Components of Fruit Juice Mixtures

Source: Map by Google, modified by authors.

exported to Sabah for bottling and some of it is returned to Brunei Darussalam for consumption. The gross exports of Brunei Darussalam reflect value added from Sarawak and West Kalimantan, as well as own domestic value added used to produce the intermediate product (mixtures of juices). In the case of Sabah, its gross exports to Brunei Darussalam of bottled mixtures of juice reflect intermediate inputs from Sarawak, West Kalimantan, and Brunei Darussalam.

For Brunei Darussalam, the value added to the product by Sabah does not enter into its gross exports calculation, but it does count in the country's gross domestic product (GDP) since the tradables sector for the beverage industry includes the domestic value addition by Brunei Darussalam, less the foreign value additions by Sarawak, West Kalimantan, and Sabah. Backward and forward linkages across borders in the corridor, therefore, give rise to several layers of value additions to products traded across borders in the BIMP-EAGA corridors.

C. Identifying Potential Corridor Value Chains

There are three methods used in this study to identify corridor value chains. Each method seeks to determine the feasibility of cross-border value chains along the two BIMP-EAGA economic corridors by deducing whether the theory and application of regional and global value chains can be applied to existing and potential conditions along the two economic corridors.

By corridor value chains we mean cross-border investments along provinces and states of each of the BIMP-EAGA corridors. In some cases we include industries that have opportunities to create corridor-wide supply chains and whose development can increase scale economies and reduce operating costs. Finally, we cover the more limited one-way trade along the corridor,

which is represented by traditional (Heckscher–Ohlin, or HO) trade of products, since closeness of 'distance to markets' can benefit corridor members. Finally, while a corridor-wide value chain is the ideal model, we also identify cross-border trade and investment opportunities between two or more members of the BIMP-EAGA corridors, rather than the entire corridor.

The following three methods are used to identify potential corridor industries:

a. **Matching priority industries across provinces and states:** Each corridor member state/province has a set of focal industries in its development plans and common industries among member states/provinces along the corridors are matched with one another.
b. **Survey results on potential corridor industries and the regulatory environment affecting potential benefits:** A perception-based questionnaire was used to identify potential benefits from corridor value chains and to determine possible effects from the regulatory environment.
c. **Mapping the comparative advantages revealed by each corridor member's exports to their industry classification, and then matching those industries across corridor borders:** A technological-intensity methodology has been used to map potential corridor value chains, including both infant industries and well-established ones like the petroleum industry in Brunei Darussalam. The aim is to add value across borders, not just within individual corridor member states.

Each of these research tools allow us to test whether the wide range of industries that exist within the BIMP-EAGA corridor provinces and states could function more effectively in terms of cross-border activities and whether those activities could give rise to increased business activity and greater investment inflows into the economic corridors.

Ranking Industries for Potential Corridor Value Chains

4

A. Corridor Value Chain Potential Preferences

Each of the three methods for identifying potential corridor value chains result in a different, though somewhat similar, coverage of possible cross-border industries for the two corridors. This chapter generalizes the results.

There are two dimensions to that determine corridor value chain rankings. The first is the scoring of each industry for potential cross-border investment; and, the second, is the number of states or provinces within a given corridor where there is potential for investment along the industry's value chain.

Ratings, however, depend on the type of stakeholder involved, namely, whether it is the public sector or private sector that is rating the industries. The three methods used to determine corridor value chains represent the potential of stakeholders having difference preferences. The first method represents public sector priorities; the second, preferences of investors in existing companies operating in the two corridors; and the third represents preferences for high-value industries based on technological intensity.

- *Scoring*: For the scoring of each industry's corridor venture capital (VC) potential, the mean average ratings of industries is used from the three different types of stakeholder preferences, namely, (a) public sector with interests in social welfare maximization; (b) private sector with interests in existing companies; and (c) public and private sector with interests in high value industries.[27]

Highlights

- There is a trade-off between an industry's actual or potential corridor value chain rating and the number of corridor provinces and states involved. Corridor-wide industries would likely have the most pervasive welfare improving effect on business activity and the population at large, while high-value industries that are likely to be focused on somewhat fewer provinces but would attract the most value addition and knowledge transfer.
- Examples of corridor value chains that would impact the most provinces and states are
  - *Agro-processing, including palm oil*
  - *Marine industry, including fishing and canning*
  - *Timber-based products, including furniture*
  - *Rubber and rubber manufactures*
  - *Tourism*
- Examples of more concentrated high-tech corridor value chains are
  - *Manufacturing, including pharmaceuticals, cosmetics, glass*
  - *Machinery and equipment*
  - *Manufacturing, including auto parts*
  - *Information & communication technology (ICT)*
  - *Education*
- The optimal welfare impacting solution would be to introduce high-tech processing and distribution systems into industries that are commonly found in nearly all BIMP-EAGA provinces and states. This type of investment would greatly increase competitiveness, attract foreign investment and provide large value additions to industries such as:
  - *Agro-processing, including halal foods*
  - *Tropical woods and furniture*
  - *Marine industry, including fishing and canning*
  - *Logistics services*

[27] Note that the average is for the ratings of those industries identified by the three methods. The overall rating is therefore calculated only for those industries that are identified by each of the methods. Thus if one industry is identified in two of the three methods, the average refers to only that of the two methods in order to avoid any downward bias in the overall results.

Stakeholder preferences are based on different objectives. Government industrial or sector priorities are likely to reflect an interest in socioeconomic development of local households that improve impact a broad sector of the population. Private sector preferences, in contrast, are likely to reflect narrower commercial interests in specific industries and possibly the concern of small businesses in their involvement with transnational companies that would allow them to operate in cross-border value chains. High-value industry preferences could reflect both private sector profit maximization interests and also public sector interests in diversifying into activities that would generate greater value added in the provinces and states.

- *Geographic Coverage*: For the geographic coverage, the number of provinces or states where companies could form part of the industry's value chain is the key determiniant. In West Borneo Economic Corridor (WBEC), there are four provinces or states, and in GSSEC there are three provinces or states. Sabah forms part of both corridors and it is at the intersection of the two corridors. The possibility of companies operating along a value chain in Sabah positively affects the count in both corridors.

Aggregation of stakeholder preferences across the three value chain identification methods follows economic theory, and in particular the branch dealing with social welfare functions.[28] There are two reasons for using the methodology. First, for purposes of selecting corridor value chains, it offers a way to aggregate value chain ratings and to compare alternative value chains. Second, once industries are selected, preference functions in different areas along the corridors can be used to maximize the use of cross-border investment strategies.

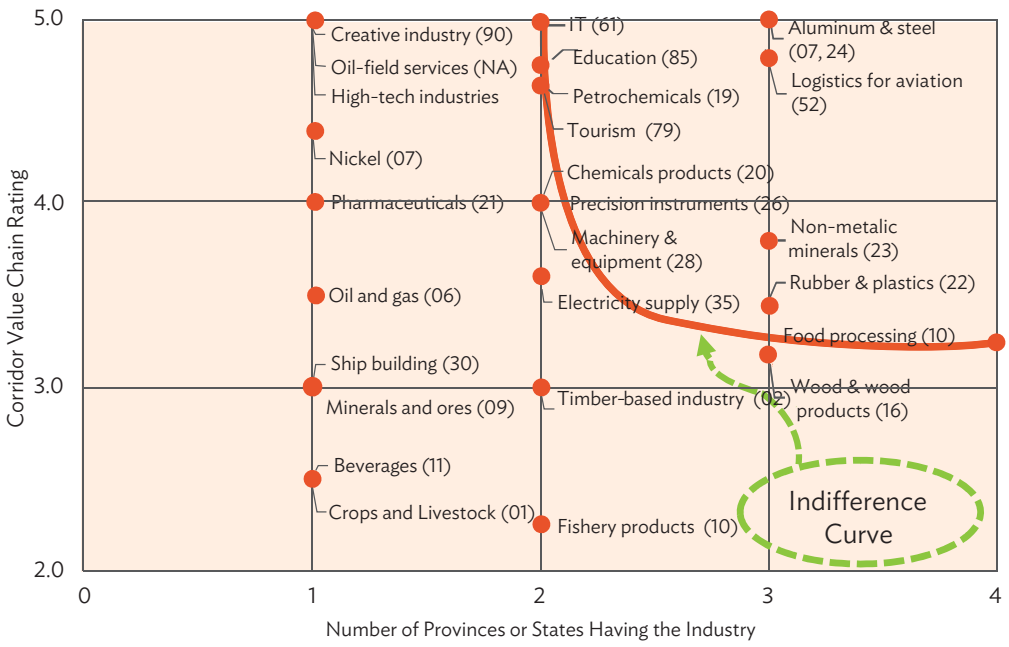
B. West Borneo Economic Corridor

In the West Borneo Economic Corridor there are 16 industries where two or more provinces or states could develop cross-border value chains, based on the results of the three methodologies used to identify corridor value chains. In Figure 4.1 the 10 industries where only one province or state has potential has little interest since other corridor member provinces or states do not demonstrate similar potentials. Several of the single-province industries are traditional ones where the governments have expressed a desire to diversify into other areas. Examples are oil and gas in Brunei Darussalam, and crops and livestock in Sabah and Sarawak. There are, however, a number of high-tech industries with considerable potential for corridor VC development if more corridor members were to promote them also. They include pharmaceuticals (Brunei Darussalam), education (Brunei Darussalam), logistics (Brunei Darussalam), ship repair and building (West Kalimantan), and creative industries (Sabah).

Figure 4.1 shows the trade-off between an industry's actual or potential corridor value chain rating and the number of corridor provinces and states that are involved in an industry. Public and private stakeholders interested in high-value industries would likely select industries with high corridor VC ratings, even if only two corridor member provinces or states were involved. Alternatively, public sector stakeholders, especially those having subregional interests, would likely select

[28] For a step-by-step technical derivation of preference ordering and its representation in the generalized constant-elasticity-of-substitution (CES) utility function, see M. Lord (1992), "Imperfect Competition and International Commodity Trade." Oxford: Clarendon Press. Available: http://books.google.co.th/books/about/Imperfect_competition_and_international.html?id=wXaLAAAAIAAJ&redir_esc=y

Figure 4.1: West Borneo Economic Corridor: Actual or Potential Industry Ratings and Province or State Count



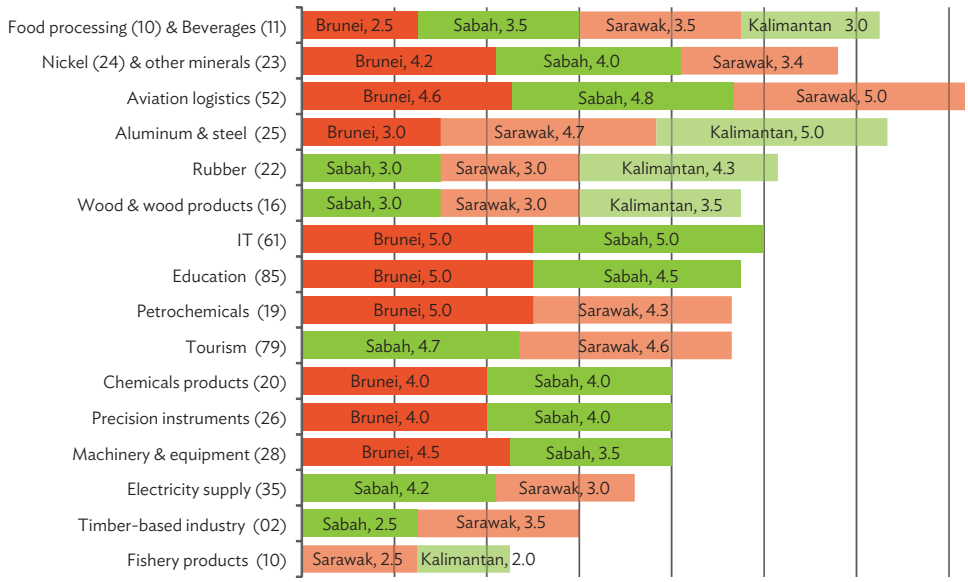
Source: Compiled by authors.

industries with a medium to low rating if all provinces and states were involved in the corridor value chain. An example of this latter situation is the food processing, which as a moderate rating but high participation level across WBEC member provinces and states. Examples of high-rated industries having low participation rates are information technology and education services. In between and along the indifference curve are such industries as the rubber and machinery and equipment industries, which have relatively high VC ratings and moderate participation rates among WBEC provinces and states.

Food processing is the most prevalent industry in the corridor (Figure 4.2). Its development is an explicit government priority in all provinces or states, and Sabah and West Kalimantan business leaders are especially interested in promoting its expansion across WBEC provinces and states in order to achieve scale economies and larger markets. It is, however, generally considered to be a low technology-intensive industry.

There are, nonetheless, opportunities to integrate novel technologies to food processes that create networks of excellence along the WBEC, especially in terms of food processing and packaging. In that way, the WBEC food industry could move from its existing fragmented structure, largely dominated by small and medium sized enterprises (SMEs), to corridor-wide VCs that incorporate advances in the areas of biotechnology, nanotechnology and information and communication technology.

Figure 4.2: West Borneo Economic Corridor: Member Participation in Potential Corridor Value Chains



Source: Compiled by authors.

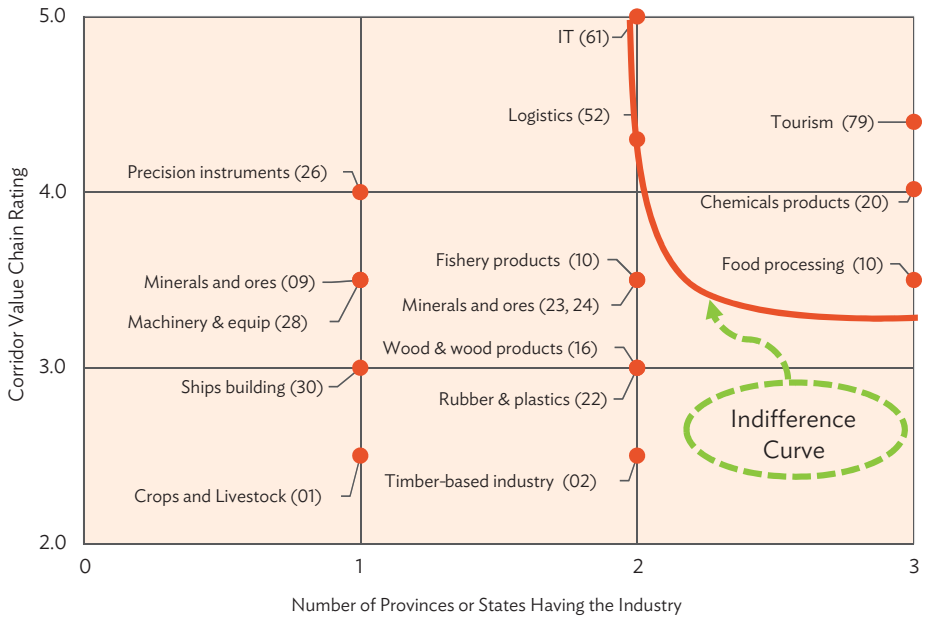
In the halal food industry, high standards for manufacturers and the need to detect non-halal materials in food that is halal certified makes large-scale production a technologically sophisticated process. High-tech hubs are emerging as a necessary type of infrastructure for successful regional and global competition. In Malaysia, Nestle has established the standards of halal excellence from farm to fork for multinationals. In Sabah, there are 249 companies that are halal certified, of which 20 are multinationals, 125 are small companies and 104 are medium sized enterprises. In Sarawak, efforts have been made to promote a halal high-tech hub with financing from the Middle East. Brunei Darussalam plans to open a halal hub in 2017 and has signed a memorandum of understanding (MOU) with Sarawak to collaborate in the halal industry, as well as developing support areas in transport and communications.

There are several industries in which three of the corridor provinces or states have actual or potential activities. In order of ratings (from high to low), they are aluminum and steel, aviation logistic services, non-metallic metals, rubber, and wood and wood products. Brunei Darussalam and Sarawak have a comparative advantage in steel, while Sarawak and West Kalimantan have a comparative advantage in the aluminum industry. In logistics, only the Brunei Darussalam government has made it a priority industry, while business leaders in Sabah, Sarawak, and Brunei Darussalam believe that a logistics value chain along WBEC would greatly improve the competitive positioning of those services in the subregion.

C. Greater Sulu-Sulawesi Economic Corridor

In the Greater Sulu-Sulawesi Economic Corridor (GSSEC), there are 10 industries where two or more provinces or states could develop cross-border value chains (Figure 4.3). While food

Figure 4.3: Greater Sulu-Sulawesi Economic Corridor: Actual or Potential Industry Ratings and Province Count



Source: Compiled by authors.

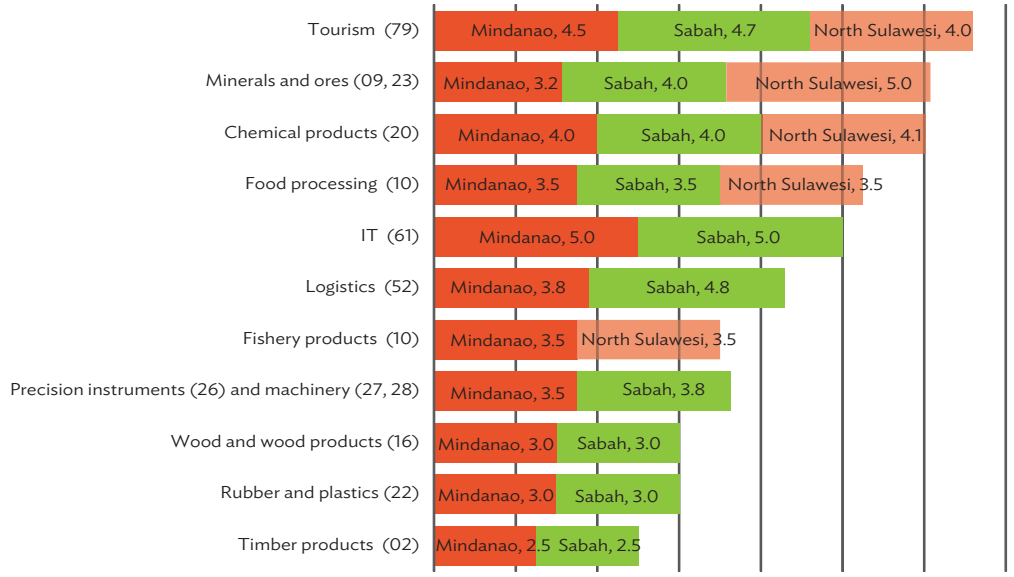
processing has the most potential for cross-border VC development, all GSSEC stakeholders are interested in developing their tourism industry. Those industries in which two of the three corridor members have VC potential are fisheries, wood-based manufacturing, minerals and ores, rubber, logistics and information technology.

As with WBEC, there is a trade-off between an industry's actual or potential corridor value chain rating and the number of GSSEC provinces and states that are involved in the industry. Public or private sector stakeholders who prefer high-value industries would select those with high VC ratings such as information technology, even though there were only 2 corridor members involved in value chain. Alternatively, public sector stakeholders who want to maximize corridor-wide welfare would select industries with a medium to low rating like food processing if all provinces and states were involved in the value chain.

Figure 4.4 shows the VC rankings and number province or state in each industry. Cross-border tourism is important because efforts are being made to develop multi-country packages. For example, North Sulawesi's marine tourism and cruise attractions are largely associated with the government-protected reefs and abundant aquatic life, as well as the province's ethnic heritage and modern culture, while ecotourism is being promoted in Mindanao under a tourism cluster approach in the Government's Development Framework Plan through 2030. Sabah is also developing tourism linkages with both Palawan and Mindanao.

The food processing industry is a leading candidate for corridor VC development because of government efforts to target this industry, widespread interest by business leaders to develop

Figure 4.4: Greater Sulu-Sulawesi Economic Corridor: Member Participation in Potential Corridor Value Chains



Source: Compiled by authors.

scale economies and wider markets through cross-border VCs, and the fairly wide diversity of existing processed food exports by corridor members. Commonly produced products include processed coconuts and their derivate, palm oil products, cocoa, fruit juices, and a wide variety of food preparations, especially in Mindanao. Many business leaders throughout the Greater Sulu-Sulawesi Economic Corridor are concerned about their lack of scale economies in the food processing industry, and the predominance of SMEs in the industry. They, therefore, favor development of corridor value chains to provide much-needed scale economies, broaden their markets, and increase their access to cheaper factors of production.

In the halal food industry, Mindanao's Halal Food Industry Development Plan is a major initiative under the 2004–2010 Medium Term Philippine Development Plan. It specifically provides that the Autonomous Region in Muslim Mindanao (ARMM) be the halal-production base for the Philippines. At the same time, Sabah is establishing high standards for its manufacturers of halal foods and emphasizing the use of technologically sophisticated processes. Standards of halal excellence from farm to fork in Sabah offer large opportunities for collaboration with ARMM in Mindanao.

There is also extensive agricultural activity in GSSEC to support cross-border investment in food processing. In Mindanao the top agricultural products are banana, coconut, rice, corn and abaca. Coconut production is spread throughout Mindanao, and palm oil production occurs in the Caraga region. Desiccated coconut manufacturing is also important to North Sulawesi, where fertile soil produces high-yield crops like corn, onions, cloves, and potatoes. Nevertheless,

production is fairly low-tech. Mindanao's Cavendish banana, for example, is largely exported in its fresh form, though some efforts are being made to produce banana chips using Cardaba bananas. And banana fiber is being used to make handicrafts.

The fisheries industry is among Mindanao's top three export industries. It is also important to North Sulawesi because of its tuna canning and activities related to other aquatic resources like squid, sardines, mackerels, clams and mollusks. High-tech processing and distribution systems could be introduced into the industry on a wider scale to promote international competition and develop products for high premium markets.

The wood processing industry also has potential to add value in the sector if cross-border investments were to develop marketing and logistics capacity and introduce scale economies into the industry. North Sulawesi's coconut wood furniture manufacturing is capable of producing a wide range of products and has a large market. But it currently lacks large-scale production facilities. Mindanao provides over 60% of Philippine wood product exports, and it has high-end architectural and structural wood products based on its light mahogany wood production, as well as a variety of plywood, veneer, and lumber products.

There are five industries with corridor VC potential in only one province or state, and some of these industries also exist in WBEC. As a result, there are opportunities for those industries to develop cross-corridor value chains, that is, cross-border value chains extending over the two corridors. Among the industries are ship building and repairs in GSSEC's Mindanao and WBEC's West Kalimantan.

PART III

Three Ways to Identify Opportunities

Value Chains Based on Local and National Priorities

5

A. Priorities in West Borneo Economic Corridor

Each BIMP-EAGA member state and province along the West Borneo Economic Corridor has put forward a set of priority industries, which are summarized below. The numbers in parenthesis next to the industries refers to the United Nation's International Standard Industrial Classification, Revision 4 (ISIC, Rev 4) code.

- Brunei Darussalam's priority industries:[29]
  - Agro-processing (10)
  - Pharmaceuticals (21)
  - Oil and gas-based petrochemicals (19)
  - Education (85)
  - Information and communication technology (ICT, 61)
  - High-tech industries (NA)
  - Logistics for aviation (52)
  - Oil-field services (NA)
- Indonesia's priority industries in West Kalimantan: [30]
  - Palm oil (10)
  - Timber (02)
  - Steel (25)
  - Coal (05)
  - Oil and gas (06)
- Malaysia's priority industries in Sabah:[31]
  - Agro-processing, including palm oil (10)
  - Marine industry (03)
  - Livestock (01)
  - Oil and gas (06)

Highlights

- Based on the local development priorities, the potential corridor value chains for the West Borneo Economic Corridor are as follows:
  - *Agro-processing, including palm oil*
  - *Marine industry, including fishing and canning*
  - *Manufacturing, including pharmaceuticals, cosmetics, glass*
  - *Timber-based products*
  - *Coal, aluminum and steel*
  - *Livestock*
  - *Tourism*
  - *Education*
  - *Information and communication technology (ICT)*
- For the Greater Sulu-Sulawesi Economic Corridor, the potential corridor value chains are:
  - *Agro-processing, including palm oil*
  - *Marine industry, including fishing and canning*
  - *Rubber and rubber manufactures*
  - *Machinery and equipment*
  - *Manufacturing, including auto parts*
  - *Agriculture and livestock*
  - *Tropical woods and furniture*
  - *Oil and gas*
  - *Tourism*

[29] Government of Brunei Darussalam (2014), "Investment Opportunities in Brunei Darussalam." Presented at the 2nd BIMP-EAGA Trade And Investment Facilitation Cluster Meeting, Kota Kinabalu, Sabah, Malaysia, 17–18 September, 2014.

[30] Indonesia Investment Coordinating Board (BKPM, 2014), "Indonesia: Investment Outlook, Policy and Opportunity." Presented at the 2nd BIMP-EAGA Trade And Investment Facilitation Cluster Meeting, Kota Kinabalu, Sabah, Malaysia, 17–18 September, 2014.

[31] Government of Malaysia (2014), "Potential Growth and Investment Opportunities in Malaysia." Presented at the 2nd BIMP-EAGA Trade And Investment Facilitation Cluster Meeting, Kota Kinabalu, Sabah, Malaysia, 17–18 September, 2014.

    - Manufacturing (32)
    - Tourism (79)
    - Creative industry (90)
    - Information and communication technology (ICT, 61)
    - Education (85)
- Malaysia's priority industries in Sarawak:[32]
    - Aluminum (25)
    - Glass industries (23)
    - Steel (25)
    - Oil-based industries (19)
    - Palm oil (10)
    - Fishing and aquaculture (03)
    - Livestock (01)
    - Timber-based industry (02)
    - Tourism (79)

B. Priorities in Greater Sulu-Sulawesi Economic Corridor

In the Greater Sulu-Sulawesi Corridor the main cross-border investment opportunities are in the areas of agribusiness products, food and fish processing, and tourism. However, the realization of these opportunities will very much depend on improved shipping and air connectivity between the corridor's commercial and gateway nodes. Each BIMP-EAGA member country has recently presented its priority industries for their subregional interests, which are summarized below (with the corresponding ISIC, rev 4 code in parenthesis).

- Indonesia's priority industries in North Sulawesi:[33]
    - Nickel (24)
    - Agro-processing (10)
    - Oil and gas (19)
    - Cocoa (01)
    - Fishery products (10)
- Philippines' priority industries for Mindanao:[34]
    - Agro-processing (10)
    - Information technology and business process management (61)
    - Tourism, including medical and food, and community-based ecotourism (79)
    - Infrastructure (42)
- Malaysia's priority industries in Sabah:[35]
    - Agro-processing (10)
    - Manufacturing (32)
    - Marine industry (03)
    - Palm oil (10)
    - Livestock (01)

[32] Ibid.
[33] Ibid.
[34] Philippine Government (2014), "Mindanao: the Next Preferred Trade and Investment Destination." Presented at the 2nd BIMP-EAGA Trade And Investment Facilitation Cluster Meeting, Kota Kinabalu, Sabah, Malaysia, 17–18 September, 2014.
[35] Government of Malaysia (2014), "Potential Growth and Investment Opportunities in Malaysia." Presented at the 2nd BIMP-EAGA Trade And Investment Facilitation Cluster Meeting, Kota Kinabalu, Sabah, Malaysia, 17–18 September, 2014.

- Oil and gas (06)
- Information and communication technology (ICT, 61)
- Creative industry (90)
- Tourism (79)
- Education (85)

C. Corridor-Wide Value Chain Potential

Given the existing priorities within each province or state along the West Borneo Economic Corridor, there are several industries or sectors having a high degree of cross-border or corridor-wide potential for supply or value chain investments:

Crude oil and gas extraction (06) and petrochemicals industries (19)	Brunei Darussalam – West Kalimantan – Sabah – Sarawak
Marine industry (03) and fishery products (10)	Brunei Darussalam – Sabah – Sarawak
Palm oil industry (10)	West Kalimantan – Sabah – Sarawak
Pharmaceuticals industry (21)	Brunei Darussalam – Sabah
Agro-processing (10)	Brunei Darussalam – Sabah
Livestock industries (01)	Sabah – Sarawak
Timber-based industries (02)	West Kalimantan – Sarawak
Coal (05), aluminum and steel (25) industries	West Kalimantan – Sarawak
Information & communication technology (61)	Brunei Darussalam – Sarawak
Education(85)	Brunei Darussalam – Sabah
Tourism industry (79)	Sabah – Sarawak

For the Greater Sulu-Sulawesi Economic Corridor, the main priority-based industries having cross-border or corridor-wide investment potential for supply or value chains are the following:

Agro-processing (10)	Mindanao – North Sulawesi – Sabah
Agricultural products (01)	Mindanao – North Sulawesi – Sabah
Marine industry (03) and fishery products (10)	Mindanao – North Sulawesi – Sabah
Crude oil and gas extraction (06) and petrochemicals industries (19)	Sabah – North Sulawesi
Tourism (79)	Mindanao – Sabah

D. Understanding Priorities within Local Corridor Context

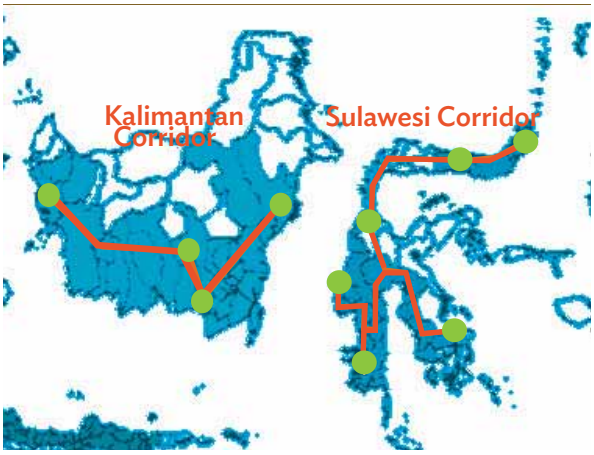
Indonesia, Malaysia and the Philippines each have national and local corridors that coexist with the BIMP-EAGA corridors that could reinforce connectivity and, in some cases, strengthen the economic transformation of the subregion's corridors.

- *Brunei Darussalam*—Although there are no formal development corridors, Brunei Darussalam does have industrial corridors such as its Bio-Innovation Corridor and the industrial plan that can, in general, be designated as a development corridor for the country (Figure 5.1). The development areas include a proposed oil and gas-related cluster at Pulau Muara Besar; a petrochemical estate at Sungai Liang Industrial Park; a

Figure 5.1: Brunei Darussalam's Development Areas

Source: Brunei Economic Development Board.

Figure 5.2: Indonesia's Kalimantan and Sulawesi Corridors



Source: Indonesia Investment Coordinating Board (BKPM, 2014), "Indonesia: Investment Outlook, Policy and Opportunity." Presented at the 2nd BIMP-EAGA Trade And Investment Facilitation Cluster Meeting, Kota Kinabalu, Sabah, Malaysia, 17-18 September, 2014.

light manufacturing industries estate at Salambigar Industrial Park; and a high-tech estate at Rimba Digital Junction.

- *Indonesia's Corridors*—Indonesia has national corridors in Kalimantan and Sulawesi (Figure 5.2). The Kalimantan Corridor is considered to be the country's center for extracting and manufacturing mineral and energy resources, while the Sulawesi Corridor is the country's center of production and manufacture of agricultural and fisheries products as well as nickel.[36] Investment priorities therefore focus on high value added products, tourism, food security, marine products and services, and activities leading to capacity improvements in human capital. There are also investment opportunities in upgrading of existing infrastructure and construction of new infrastructure in areas that generate improved connectivity.[37]
- *Malaysia's Corridors*—In East Malaysia there are two economic corridors (Figure 5.3). The Sabah Development Corridor aims to provide higher value economic activities, balanced economic growth with equitable distribution, and sustain growth through environmental conservation. It recently completed its second phase (2011–2015) of moving Sabah to higher order value-added activities, while the current phase (2016–2025) focuses on the emergence of Sabah as a leading economic center in the Asian region. There are presently five focal areas of development:
  - Kinabalu Gold Coast Enclave (tourism)
  - Brunei Bay Integrated Development (energy)
  - Interior Food Valley (livestock)

[36] Indonesia Investment Coordinating Board (BKPM, 2014), "Indonesia: Investment Outlook, Policy and Opportunity." Presented at the 2nd BIMP-EAGA Trade And Investment Facilitation Cluster Meeting, Kota Kinabalu, Sabah, Malaysia, 17–18 September, 2014.

[37] Strategic Asia (2012), "Implementing Indonesia's Economic Master Plan (MP3EI): Challenges, Limitations and Corridor Specific Differences." Available: http://www.strategic-asia.com/pdf/Implementing%20the%20MP3EI%20Paper.pdf

Figure 5.3: Malaysia's Sabah and Sarawak Corridors

Source: Government of Malaysia (2014), "Potential Growth and Investment Opportunities in Malaysia." Presented at the 2nd BIMP-EAGA Trade And Investment Facilitation Cluster Meeting, Kota Kinabalu, Sabah, Malaysia, 17-18 September, 2014.

- Bio-Triangle (R&D)
- Agro-Marine Belt (marine resources and palm oil industry)

The key drivers for the corridor are human capital development, infrastructure and utilities, policies and regulations, and fiscal incentives.[38]

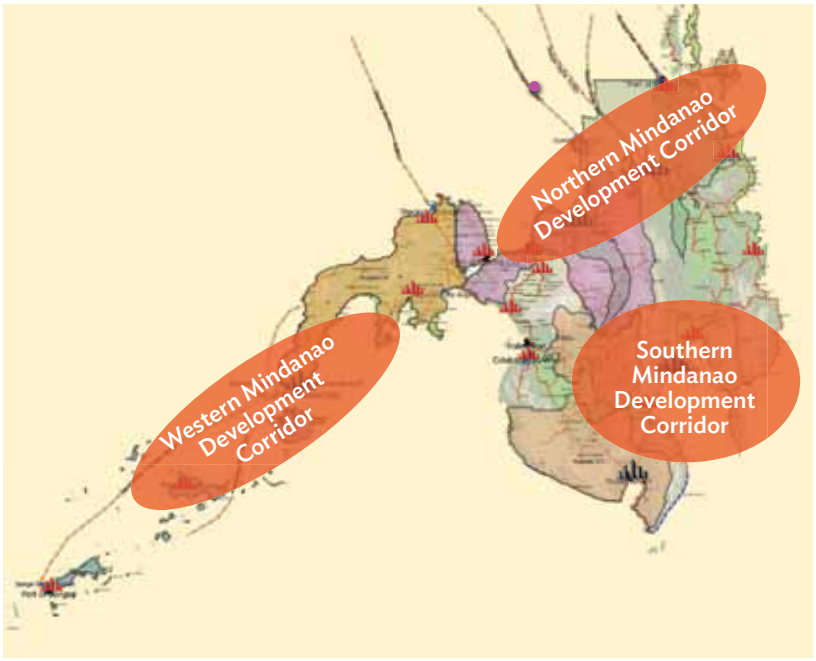
The *Sarawak Corridor of Renewable Energy* (SCORE) in central Sarawak targets 10 key industries for development: tourism, oil, aluminum, metals, glass, fishing, aquaculture, livestock, forestry, ship building, and palm oil. It focuses on five geographic growth nodes. Because of the state's large energy resources, investors are being drawn to the area by the low energy prices and opportunities to investment in power generation and energy-intensive industries. Commercial node connectivity is improving through the expansion of road and highway systems.[39]

Philippine Corridors—In Mindanao, there are three development corridors (Figure 5.4) that generally aim to improve transport and logistics support to tourism, manufacturing and agriculture

[38] Government of Malaysia (2014), "Sabah Development Corridor 2008–2025." ABC Media Conference & Workshop 2014, Ho Chi Minh City, Viet Nam May 22–25, 2014. Available: http://abcm.org.my/abcmfiles/uploads/2014/06/mr-chong-shu-yaw-sabah.pdf

[39] Based on information provided in official SCORE website at http://www.recoda.com.my/ by the Regional Corridor Development Authority (RECODA), which is the agency tasked with overseeing and managing SCORE.

Figure 5.4: Mindanao's Development Corridors



Source: Mindanao Development Authority, "Local execs endorse Mindanao Development Corridors program." Official Gazette, 17 September 2014. Available: http://www.gov.ph/images/uploads/MINDA-Mindanao-Development-Corridors-program-09.17.2014.png

through infrastructure development. Within these, there are five industrial clusters that have complementary roles and competitive advantages.[40]

- Western Mindanao Development Corridor contains the Mari-Culture and Trade Cluster.
- Northern Mindanao Development Corridor contains the Business and Industrial Cluster.
- South-Central Mindanao Development Corridor contains (a) Food Basket Cluster; (b) Food, Agri-Business and Logistics; and (c) Biodiversity and Ecotourism Cluster.

The Western Mindanao Development Corridor is especially suitable to the BIMP-EAGA corridors because of its proximity to Sabah, North Sulawesi, and Brunei Darussalam. In an effort to increase trade relations between Mindanao and North Sulawesi, plans have recently been announced for the establishment of a Davao City – General Santos City – Tahuna – Bitung shipping service.[41]

[40] Mindanao Development Authority (MinDA, 2014), "Mindanao Development Corridors." In MinDA homepage. Available: http://www.minda.gov.ph/index.php/project-management-and-coordination/mindanao-development-corridors-mindc

[41] R.J.F. Lumawag (2014), "Infra support, add'l trade routes needed in Mindanao." SunStar Davao, 2 September 2014. Available: http://www.sunstar.com.ph/davao/business/2014/09/02/infra-support-addl-trade-routes-needed-mindanao-363150

Value Chains Based on Business Perception Surveys

6

A. Coverage and Overall Findings

While the previous chapter used the governments' industry priorities as a means of identifying possible corridor-wide value chains, this chapter looks at potential cross-border value chains from the private sector's point of view. These business perceptions are based on a survey conducted over a six-week period with company representatives located in all the provinces and states making up the two economic corridors. Each survey was completed through one-on-one interviews with company leaders and all responses were anonymous.

The survey coverage, described in Box 6.1, consisted of 70 companies distributed over 20 industry classifications or divisions in six states or provinces along the two BIMP-EAGA economic corridors (see schematic diagram in Box 6.2 and 6.3). The survey was composed of 44 questions, of which 36 questions each consisted of a choice of five responses to express how much respondents agreed or disagreed with a particular statement. The Likert scale ranged from a low of 1 (strongly disagree) to 5 (strongly agree), with a neutral response of 3. There were also two open-ended questions about benefits and challenges for the companies' participation in corridor value chains.

This chapter ranks the potential of industries in corridor value chains based on the survey findings. Opportunities for such cross-border value chains are reflected in five types of benefits: (a) complementary value chain activities, (b) cost efficiencies, (c) competitiveness strengthening, (d) input sourcing, and (e) broadening markets.

Highlights

- There is overwhelming agreement by high-level company representatives located in the BIMP-EAGA two corridors that cross-border value chains will benefit their industries.
- These results are based on a 6-week survey of 70 companies distributed over 25 industry classifications or divisions in six corridor states.
- Corridor-wide value chains will have the following benefits:
    - *Greater market access*
    - *Strengthened competitiveness*
    - *Value-additions to production*
    - *Cost-of-production efficiencies*
    - *Greater access to inputs*
    - *Expanded employment*

  Using factor analysis and statistical methods for calculating internal consistency, we found that each of these factors contributes to the overall benefit of cross-border value chains.
- In the West Borneo Economic Corridor, the rank order of industries with the highest expected impact from cross-border value chains occurs in manufactures of rubber, plastics, fabricated metals and chemical products, as well as activities related to warehousing and logistics, education, electricity and gas, and tourism.
- In the Greater Sulu-Sulawesi Economic Corridor, the highest expected impact from corridor value chains occur in manufactures of food products, wood products and refined oil products, as well as activities related to fishing and aquaculture, forestry and logging, gas and electricity, tourism, and warehousing and logistics.

Box 6.1: Structured Questionnaire

A structured questionnaire was used to reveal cross-border value chain opportunities along BIMP-EAGA's two economic corridors. It focused on industry-specific opportunities and constraints in the corridor provinces and states. The sample size consisted of 70 companies that are considered representative of 20 industries operating within 9 sectors classifications (see schematic summary in Box 6.2). All the questionnaires were completed on a one-on-one meeting with company executives during field visits in October and November 2015.

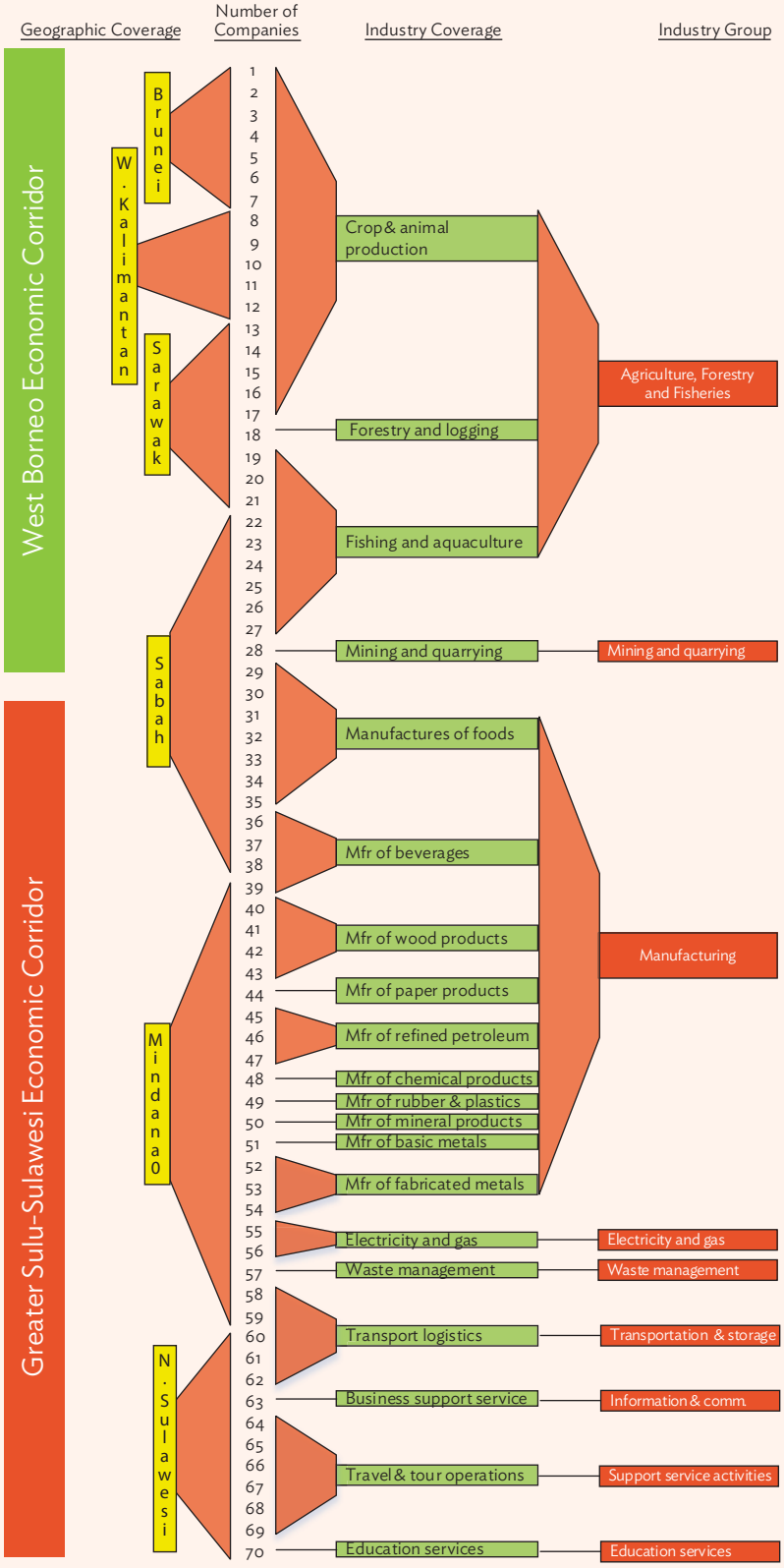
The questionnaire focuses on the following areas:

- *Company profile and description of operations* – Location, legal status, type of operation, ISIC revision 4 industrial classification.
- *Opportunities for complementary value chain operations along corridor* – Possible distribution of different levels of value chain operations across borders, impact on competitiveness, upstream linkages, and access to regional and global markets.
- *Constraints to cross-border value chain development* – Perceived competition in same stages of value chains, taxes and other costs of doing business, unofficial payments, transportation and logistics, and regulatory environment.
- *Competitive position relative to other corridor suppliers* – Product quality, production size, and unit costs of production.
- *Internal supply constraints* – Management capacity, labor skills, technological sophistication, market information, capital availability, and labor costs.
- *Trade policies* – Policies impacting cross-border value chains, information availability on corridor value chains, and border and behind-the-border trade costs.
- *Core value chain processes* – Stage(s) of value chain activities, and geographic origin of input supplies.
- *Open questions* – Major challenges and opportunities for participating in BIMP-EAGA corridor value chains.

A Likert Scale was used to measure the degree of agreement about a set of statements. Under this type of scaling method, respondents were given a choice of 5 responses to express how much they agree or disagree with a particular statement. The choices ranged from a low of 1 (strongly disagree) to 5 (strongly agree), with a 3 to express a neutral position (neither agree nor disagree).

In general, most companies agreed or strongly agreed that corridor value chains would strengthen their production and market opportunities. But there were differences in the extent to which business leaders from different industries believed them to be viable. In addition to the 12 priority industries or sectors already identified by provincial or state governments along the two corridors, an additional 8 industries were identified as having a large potential for success as corridor-wide value chains. They included industries produced physical goods as well as those that provided services.

Box 6.2: Schematics of Questionnaire Survey Coverage by Province/State and by Industry



Source: Compiled by authors.

Box 6.3: Distribution of Surveyed Companies across Industries

ISIC Rev.4 Section	WBEC	GSSEC	Total
Agriculture, forestry and fishing	10	17	27
Manufacturing	18	8	26
Support service activities	3	3	6
Transportation and storage	4	1	5
Electricity and gas supplies	1	1	2
Mining and quarrying	1	0	1
Water supply	0	1	1
Information and communication	0	1	1
Education	1	0	1
Total	38	32	70

Source: Survey conducted by Study Team.

B. Perceptions about Corridor Value Chains across Industries

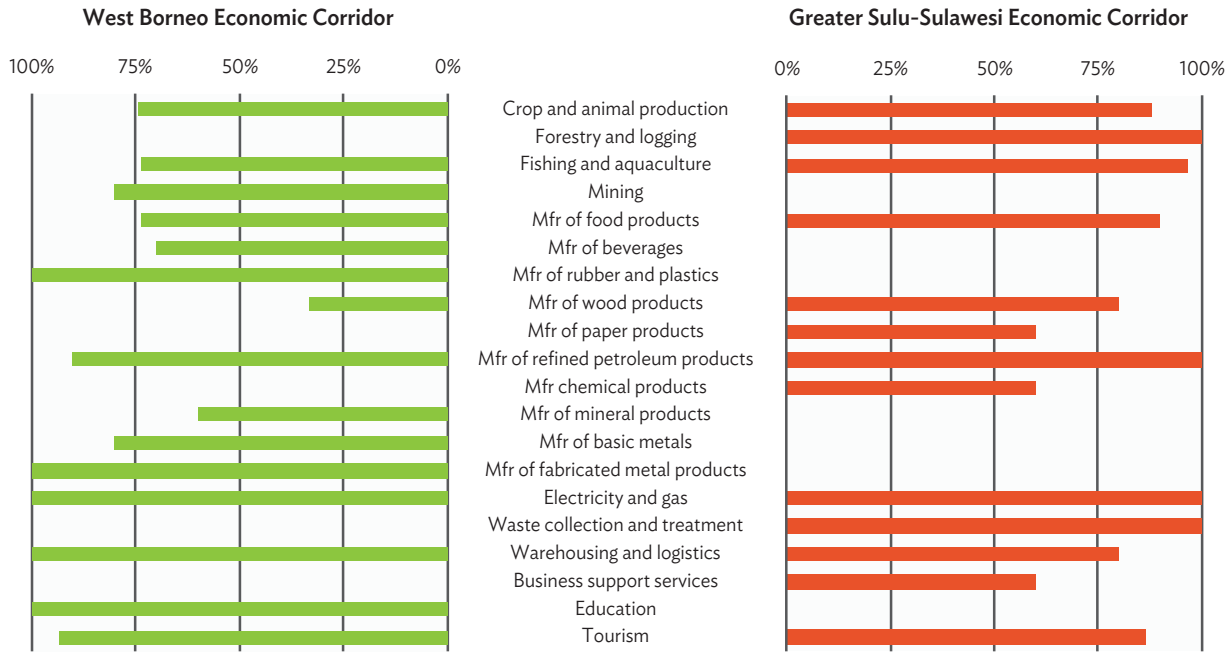
Figure 6.1 summarizes the ratings across industry groupings in each state or province of the West Borneo Economic Corridor and the Greater Sulu-Sulawesi Economic Corridor. Overall, there is overwhelming agreement on the potential success of corridor value chains in most of the industries surveyed.[42] In those industries, 85% or more of the respondents agree or strongly agree on the positive benefits of these types of cross-border value chains, specifically from increased competitiveness, complementarities, cost efficiencies, employment generation, and increased access to inputs and markets.

In fact, there is complete (100%) agreement on the potential success of corridor value chains on the part of company leaders in several industries, namely, those related to manufacturing of rubber, plastics, and fabricated metal parts, as well as forestry and logging, electricity and gas, and education. There is also near agreement (90%–95%) on the potential for corridor value chains by representatives of manufactures of refined petroleum products, warehousing and logistics, and tourism. And there is strong (80%–85%) agreement on the part of industry leaders of companies producing food products and in activities related to fishing and aquaculture, crop and animal production, mining and manufactures of basic metals.

In the West Borneo Economic Corridor, the rank order of industries with a high positive impact expectation of cross-border value chain is similar to the average across both corridors. At least 90% of company leaders believe that corridor value chains will positively impact their industries in manufacturing of rubber, plastics, fabricated metals and refined petroleum products, as well as activities related to warehousing and logistics, education, electricity and gas, and tourism.

[42] For the percent of respondents across the 20 industries who agree or strongly agree that corridor value chains will favorably impact their industries, the statistical mode is 100%, while the median is 83% and the mean is 82%. These averages suggests that 100% appears most frequently as the success likelihood of corridor value chains among industries surveyed, and there is a negative skewness with a fairly short tail since the median (83%) and mean (82%) values are close to one another.

Figure 6.1: Percent of Respondents Who 'Agree' or 'Strongly Agree' about Success of Corridor Value Chains, by Industry



Source: Survey conducted by Study Team.

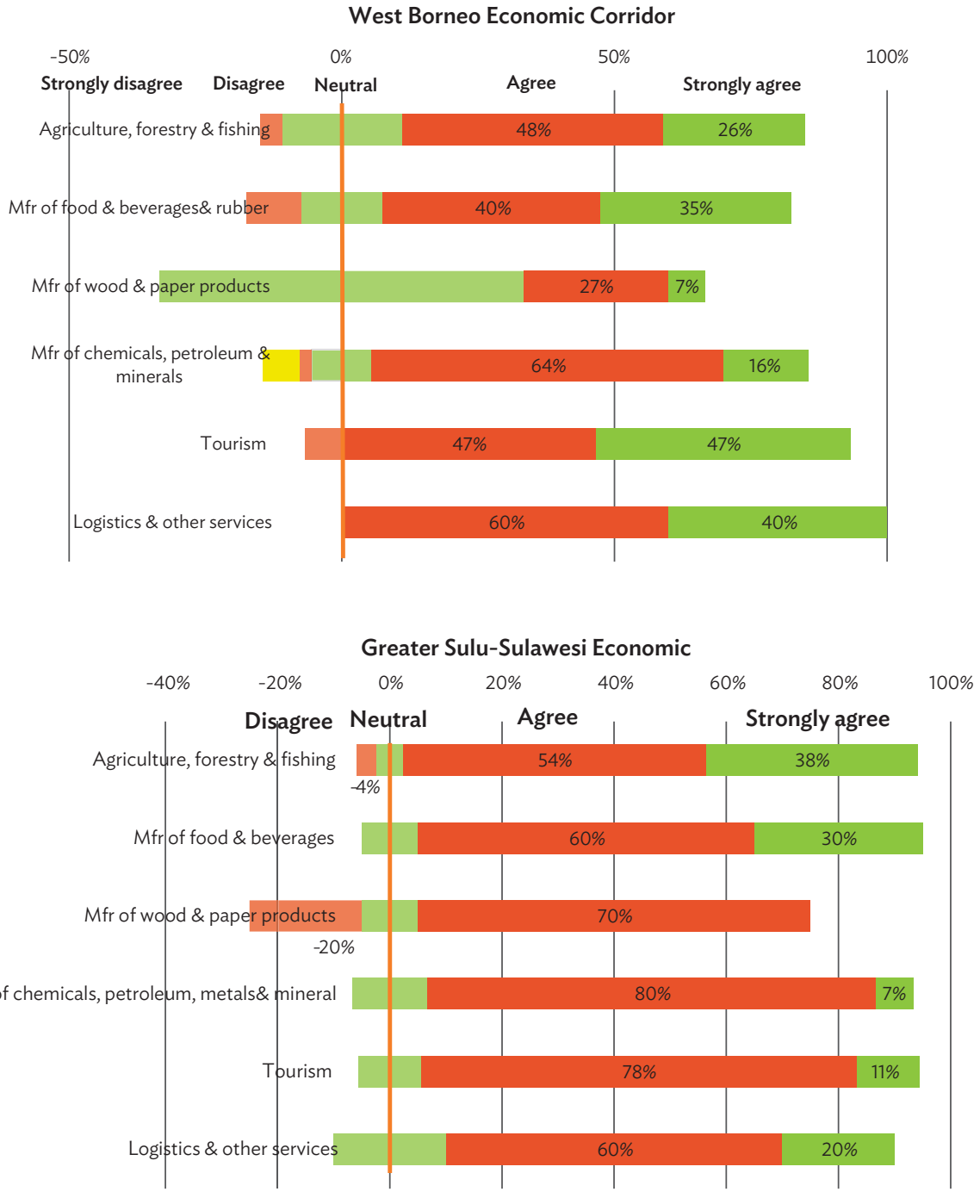
However, there was a somewhat lower positive impact expectation about activities related to food production, crops and livestock, and fishing and aquaculture.

In contrast, industry leaders in the Greater Sulu-Sulawesi Economic Corridor rated highly the potential positive impact of corridor value chains in the manufacture of food products, wood products and refined petroleum products, as well as activities related to fishing and aquaculture, forestry and logging, gas and electricity, tourism and warehousing and logistics.

The industry-level results are summarized in Figure 6.2 across six industry groupings (for details of the consolidation coverage, see Box 6.4). The diagram shows company perceptions about the potential success of developing WBEC and the GSSEC value chains in the industry groupings.[43]

[43] The industry groupings consist of the following International Standard Industrial Classification (revision 4) divisions, where figures in parenthesis are ISIC codes:
Agriculture, forestry and fishing: Crop and animal production (01); forestry (02); and fishing and aquaculture (03).
Manufactures of foods, beverages & rubber: Manufacture of food products (10), beverages (11), and rubber (22).
Manufactures of wood and wood products: Manufacture of wood (16), paper and paper products (17).
Manufactures of petroleum, chemical and mineral products: Mining (04–09), manufactures refined petroleum products (19), chemicals (20), non-metallic mineral products (23), basic metals (24), fabricated metal products (25); and electricity and gas (35).
Tourism: Tourism (79).
Transport logistics & other services: Waste collection and treatment (38); warehousing and transportation logistics (52); business support services (62); and education (85).

Figure 6.2: Company Perceptions about Success of Corridor Value Chains, by Industry Grouping



Source: Survey conducted by Study Team.

The percentages of respondents who agree with the statement are shown to the right of the zero line, while the percentages who disagree are shown to the left.

The percentages for respondents who neither agree nor disagree are split down the middle and are shown in a neutral grey color, using a common baseline. As such, we are primarily interested in the total percent to the right or left of the zero line; the breakdown into agree or disagree strongly or not is of lesser interest than the primary comparisons between agree or disagree to the right and left of the zero line.[44]

In the West Borneo Economic Corridor, 90%–100% of business leaders in service industries like tourism, logistics and other related business development services believe that corridor value chains will have a positive impact on their industries. There as also significant (75%–80%) agreement about the benefits of cross-border value chains among manufacturers of foods, chemicals, petroleum, and mineral products as well as producers of agricultural, forestry, and fishery products.

Box 6.4: Industry Groupings

ISIC	Industry Description	Grouping
01	Crop and animal production	Agriculture, forestry and fishing
02	Forestry	
03	Fishing and aquaculture	
10	Manufacture of food products	Mfr of foods, beverages & rubber
11	Manufacture of beverages	
22	Manufacture of rubber	
16	Manufacture of wood	Mfr of wood and wood products
17	Manufacture of paper and paper products	
04-09	Mining	Mfr of petroleum, chemical and mineral products
19	Manufacture refined petroleum products	
20	Manufacture of chemicals	
23	Manufacture of non-metallic mineral products	
24	Manufacture of basic metals	
25	Manufacture of fabricated metal products	
35	Electricity and gas	
79	Tourism	Tourism
38	Waste collection/treatment	Services
52	Warehousing and transportation logistics	
62	Business support services	
85	Education	

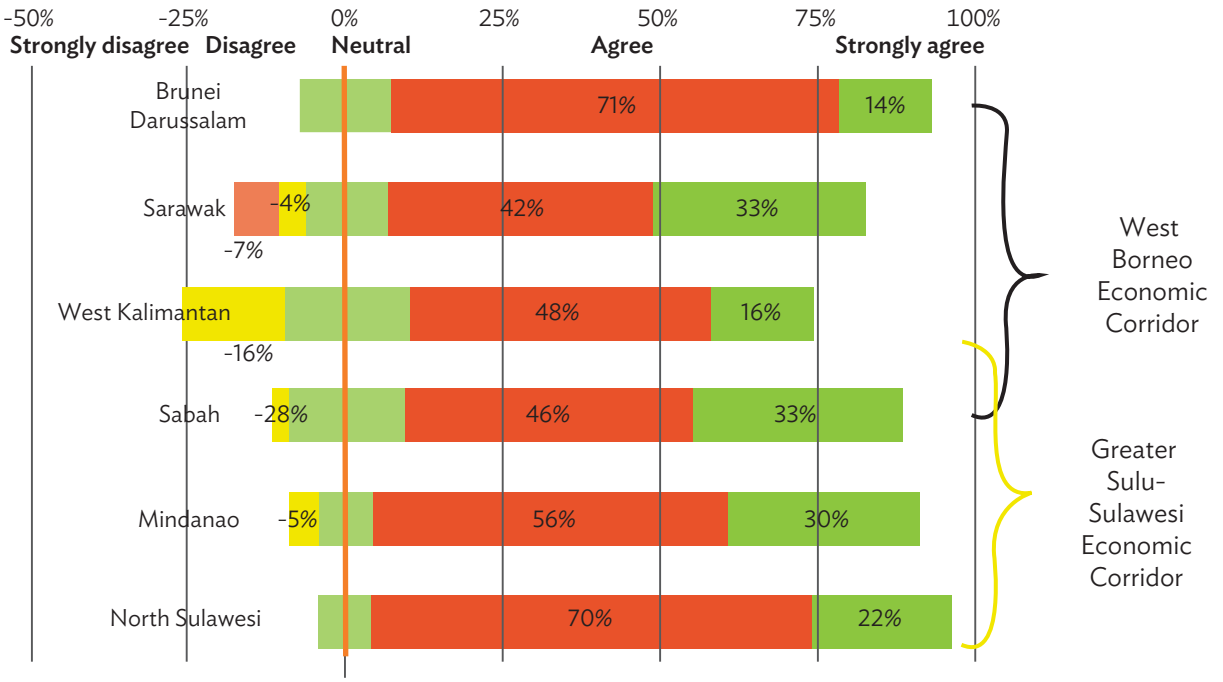
Source: United Nations, "ISIC 4: Detailed structure and explanatory notes." Online: https://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=27

C. Perceptions about Industries across States and Provinces

Another way to view business leaders' sentiment about cross-border value chains is to consolidate the survey responses across industries and summarize the findings at the provincial and state level within the corridors. Figure 6.3 shows that at least two-thirds of all business leaders in the provinces or states agree that cross-border value chains will provide significant benefits to their industries. The states or provinces having the highest proportion of businessmen with strong positive expectations about corridor value chains are North Sulawesi (92%), Mindanao and Brunei Darussalam (both with 86%). Between 75% and 80% of businessmen in the Malaysian states of Sabah and Sarawak expect value chains to have a positive impact on their industries.

[44] The graphic summaries of the questionnaire results based on a Likert scale are commonly used to represent findings based on a Likert scale. See N.B. Robbins and R.M. Heiberger, "Plotting Likert and Other Rating Scales." *Proceedings of the 2011 Joint Statistical Meetings*, 1058–1066.

Figure 6.3: Respondent Perceptions about Success of Corridor Value Chains, by Corridor State



Source: Survey conducted by Study Team.

In general, the provinces or states with the highest frequency of respondents who expect corridor value chains to have positive effects on their industries are those that operate companies in downstream activities where more value added exists at those stages of production or service activities. West Kalimantan produces comparatively low technology-intensive products and tends to focus on midstream or upstream activities, where value additions tend to be low. In contrast, the industries surveyed in Brunei Darussalam, Mindanao, and North Sulawesi generally focus on downstream activities within medium to high technology-intensive industries, where there are significant opportunities for value additions through expanded operations.

Box 6.5: Are There Five Factors Explaining the Potential Benefits of Corridor Value Chains?

One question that arises from the questionnaire design is whether, in fact, all five factors are needed to explain possible benefits from corridor value chains. That is, whether it is necessary to explicitly separate potential types of benefits into (a) competitiveness, (b) complementarities, (c) cost effectiveness, (d) input access, and (e) market access. It might, for example, instead be better to simply use increased input and market access to measure perceptions about the potential impact of corridor value chains.

We use a statistical technique called *exploratory factor analysis* to analyze the interrelationships among the five potentially beneficial factors of corridor value chains. In particular, we want to know whether the impact could instead be explained in terms of a smaller number of factors. For example, it might be possible to combine cost effectiveness and competitiveness or to combine complementarities with input access in order to explain the potential benefits of cross-border value chains with a fewer number of implicit variables (called *factors*).

Our goal in designing the questionnaire with five explanatory factors was to ensure that they were related to one another, but that each factor contributed some unique information as well. We used *Cronbach's alpha statistic* to test for their internal consistency. This statistic generally increases when the correlation between factors increases within a range of 0 to 1. The commonly accepted rule-of-thumb is that an alpha of 0.7 indicates reliability and 0.8 indicates good reliability. However, any alpha over 0.95 can suggest redundancy among the factors.

The resulting calculations of the Cronbach alpha statistics for the five factors are as follows:

All factors	0.825
All factors less complementarity benefits	0.776
All factors less cost effectiveness benefits	0.776
All factors less competitiveness benefits	0.755
All factors less increased access to inputs	0.697
All factors less increased access to markets	0.757

Since the test is whether the alpha statistic increases when all factors are included, we conclude that each factor contributes some unique information. Therefore it is appropriate to separate the potential effect of corridor value chains into five potential factors: a) competitiveness, (b) complementarities, (c) cost effectiveness, (d) input access, and (e) market access.

7 Value Chains Based on Technological Intensity

Highlights

- High value added is associated with high-tech industries. Based on the pattern of provincial or state exports and their associate level of technological sophistication, the following are potential value chains for the West Borneo Economic Corridor:
    - *Pharmaceuticals (2423)*
    - *Aircraft parts (253)*
    - *Precision instruments (33)*
    - *Chemicals (24 ex 2423)*
    - *Machinery and equipment (29)*
    - *Electrical apparatus (31)*
- For the Greater Sulu-Sulawesi Economic Corridor, the following are the potential high-tech cross-border value chains for Mindanao and North Sulawesi (Sabah is covered in WBEC):
    - *High-tech food processing (15-16), including that for halal foods, that incorporate advances in the areas of biotechnology, nanotechnology and information and communication technology to produce more innovative products.*
    - *Fisheries (05), especially high-tech canneries.*
    - *Machinery and equipment (29).*
- Despite the current concentration of companies in both corridors on low-tech industries, there is ample opportunity to introduce high-tech processes to make them more regionally and internationally competitive.

A. Mapping the Technological Sophistication of Industries

The third method for identifying potential corridor vaue chains is based on the pattern of provincial and state exports that are revealed to have a comparative advantage, ranked by their industry-based level of technological sophistication. The approach involves, first, identifying industries having cross-border value chain potential based on their comparative advantage; then ranking their potential to deliver high-value products or services to markets based on their level of technological sophistication.

In the specific case of the BIMP-EAGA economic corridors, the mapping approach offers a useful way to determine which provinces and states have a comparative advantage in providing upstream and downstream activities along corridor-wide value chains. It also offers a way to establish the amount of value added likely to be generated by provinces or states that specialize in low, medium or high technology industries.

This method involves three analytical stages:

• First, for each province or state in a corridor, the importance of each industry is measured by the value of specific exports associated with the industry. In practice, 'importance' is calculated by ranking detailed product-level exports according to their contribution to total exports, and then mapping those exports to their associated industries.

- Second, the relative advantages of provinces or states in the production of specific goods or services are reflected in the revealed comparative advantage that is evidenced in trade flows. Those industries having the highest potential to impact economic growth in the area are (a) exports whose share in total provincial or state exports is greater than the world average (that is, those having a revealed comparative advantage), and

(b) exports whose contribution to total provincial or state earnings is the largest among the entire range of products exported by the province or state.

- Third, potential industries are ranked according to the degree of their technological intensity, since value added is closely related to the degree of technological sophisticaltion embodied in the production process. Those industries producing high technology goods contribute more value added than do industries producing low technology goods.

The practical steps involved in computing these analytical components are as follows:

1. Obtain detailed export data from the customs authorities in Brunei Darussalam and in each corridor province of Indonesia, Malaysia, and the Philippines. The level of disaggregation is at the 6-digit level of the harmonized system (HS) classification of international trade.
2. Calculate the revealed comparative advantage (RCA) of each exported product and rank the results according to the importance of each product to total export earnings of the state or province.
3. Select the top exported products whose RCA is greater that 1, which indicates that the province or state has a comparative advantage in the export of that product. In general, the top exports in the BIMP-EAGA economic corridors are those that contributed at least US$1 million to each province or state's total export earnings in 2014.
4. Use the technology-intensity classification of industries to determine whether the provincial or state has high, medium-high, medium-low or low technological intensive industries.[45] The classification is based on indicators of (direct and indirect) technological intensity that reflects 'technology-intensive producers' or 'technology-intensive users'.[46] It method is generic insofar as it does not differentiate the extent to which there is high-technology content in an industry, nor does it distinguish between lower technology-intensive industries that contain different levels of technological intensity.
5. Finally, corridor value chain opportunities are identified for two or more provinces or states having a revealed comparative advantage in the same industry.

The methodology has been developed and applied extensively by the Organisation for Economic Co-operation and Development (OECD) in value chain analysis.[47] High technology intensive products contribute over 20% of the total value of global manufactured exports.[48] In advanced economies, they account for more than half of manufacturing activity.[49] Low-technology products

[45] Organisation for Economic Co-operation and Development (OECD, 2011), "ISIC Rev 3 Technology Intensity Definition: Classification of manufacturing industries into categories based on R&D intensities." Paris, OECD Directorate for Science, Technology and Industry. Available: http://www.oecd.org/sti/ind/48350231.pdf

[46] In the present case, the OECD classification is extended in two ways. First, the OECD's consolidation of textile and textile products and leather and footwear has been separated into (i) textile and textile products, (ii) leather, and (iii) footwear. Second, raw material and intermediate products have been added to four industries: (a) petroleum, gas and electricity; (b) wood products; (c) food products; and (d) other manufactures.

[47] Organisation for Economic Co-operation and Development (OECD, 2011), "ISIC Rev 3 Technology Intensity Definition: Classification of manufacturing industries into categories based on R&D intensities." Paris, OECD Directorate for Science, Technology and Industry. Available: http://www.oecd.org/sti/ind/48350231.pdf

[48] United Nations Industrial Development Organization (UNIDO, 2013), "Industrial Development Report 2013. Sustaining Employment Growth: The Role of Manufacturing and Structural Change." Available: https://www.unido.org/fileadmin/user_media/Research_and_Statistics/UNIDO_IDR_2013_main_report.pdf

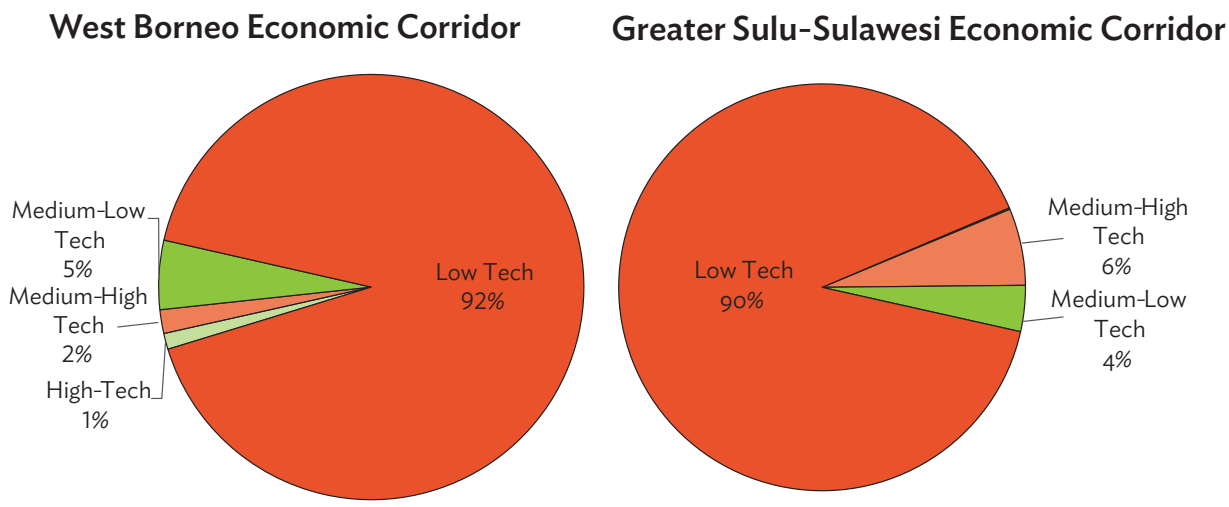
[49] Organisation for Economic Co-operation and Development (OECD, 2011), "OECD Science, Technology and Industry Scoreboard 2013." Paris. Available: http://dx.doi.org/10.1787/sti_scoreboard-2013-en

rank in the lower half of global trade in terms of importance, and they contribute less value added to producing countries than do medium to high technology intensive products.[50]

B. Technology Intensity of Industries

Both the West Borneo Economic Corridor and the Greater Sulu-Sulawesi Economic Corridor concentrate their productive activities in low-technology industries. Figure 7.1 shows the distribution of activities in both corridors among the four major technology-intensity classifications. At present, 90% or more of all exports from companies in the two corridors are involved in low-tech segments of the value chain. In the WBEC, medium-low technology intensive industries contribute 5% of exports, while medium-high and high-tech industries account for another 3% of the total. In the GSSEE, medium-low tech industries account for 4% of all exports from companies in the corridor, and medium-high tech industries account for 6% of all exports, which is somewhat more than in WBEC. In any event, the fact that industries with some degree of technological sophistication contribute no more than 10% to the value of exports suggests that both corridors have considerable room to upgrade their activities to higher value segments of the value chains.

Figure 7.1: Technology Intensity of Leading Industries in BIMP-EAGA Economic Corridors

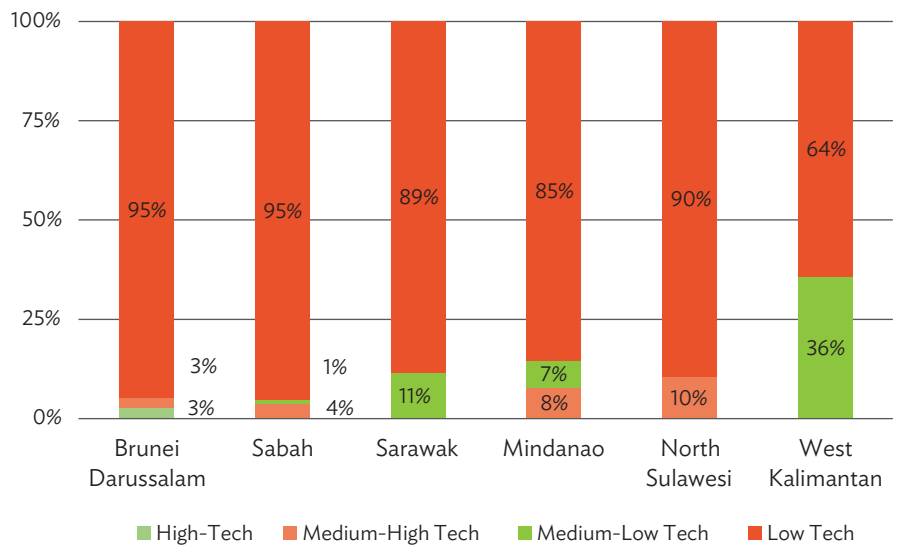


Source: Based on a mapping HS export data to ISIC industry classification.

Within the two corridors, nearly all provinces and states concentrate their activities on low-tech industries (Figure 7.2). In Brunei Darussalam and Sabah, 95% of the leading products exported by companies are low-tech, and 85%–90% of company exports in Mindanao, Sarawak, and North Sulawesi are low-tech. Only West Kalimantan has a significantly large proportion

[50] Organisation for Economic Co-operation and Development (OECD, 2013), *Interconnected Economies: Benefiting from Global Value Chains*. Paris, OECD Publishing. Available: http://dx.doi.org/10.1787/9789264189560-en

Figure 7.2: Technology Intensity of Leading Industries in Corridor Provinces and States



Source: BIMP-EAGA corridor-level industries based on mapping HS export data to ISIC industry classification.

of exports with somewhat higher technology intensity because of its large volume of natural rubber exports, which are classified as medium-low technology exports.

In Brunei Darussalam, crude oil and gas dominates industrial activity. If that sector is excluded, then its technology-intensive distribution of industries changes dramatically. In that case, nearly 95 percent of companies produce and export medium-high to high-tech products. The most important high-tech industry is that of organic chemicals, which depends on oil and natural gas. Among medium-high tech industries, methyl alcohol is the leading industry and it is produced from the methane component in natural gas. Other high-tech industries represent a much smaller share, though their significance is rising as efforts are made to diversify the economy. Among the important emerging industries are those of aircraft parts, precision instruments for surveying, signal generators used on electronic devices, and machinery parts.

In both Sabah and Sarawak, the food processing industry dominates the manufacturing sector. It is led by the palm oil industry and contributes over 90% of earnings from the leading exports in Sabah and nearly 70% of those from Sarawak. Wood and wood processing account for 20% of Sarawak's major competitive exports, and the remaining 10% share is made up of basic and fabricated metals, mainly unwrought aluminum. In Sabah, the forestry and wood processing industry is also important, contributing 4% of the state's leading exports, as is the chemical industry (3% of the total) and the rubber industry (1% of the total).

In North Sulawesi and West Kalimantan, there are some differences in the patters of manufacturing and service activities. North Sulawesi's companies produce and export two main types of low-tech products, namely, agricultural and fishery products in both unprocessed

and processed forms. Together, these two industries account for 90% of the leading exports from the province. Among fishery products, fresh, frozen and prepared tuna account for almost three-fourths of all major types of products exported, while copra and coconut products account for 80% of the leading agricultural exports. Spices are also important and currently represent 13% of all major exports.

Another 10% of North Sulawesi's exports are in the form of active carbon, which is classified as a medium-high tech product. Manufacturing of active carbon uses coconut husk left over from processing copra; it is used to produce a wide range of products like water purifier systems, removal of organic impurities in metal finishing, and treatment of poisoning in medical uses. Since North Sulawesi is one of the primary coconut producing provinces of Indonesia and production is dominated by small producers, the active carbon industry offers an important source of income for a large proportion of farmers. Foreign companies in the active carbon industry originate from Denmark, Sri Lanka, and the Republic of Korea, among others.

West Kalimantan's exports are concentrated in wood and food processing industries. Processed wood exports account for 45% of the province's leading exports and processed food exports represent another 50% of those exports. Nearly all processed wood is in the form of either plywood or wood chips, and nearly all processed food originates in the palm oil industry.

Mindanao has the most diversified industrial structure of any province or state in the two corridors. Although most activity is concentrated in agriculture, processed foods and mineral ores, all of which are classified as low-tech industries, there is also considerable activity in medium-technology intensive industries such as chemicals, rubber, basic metals, and electrical machinery components.

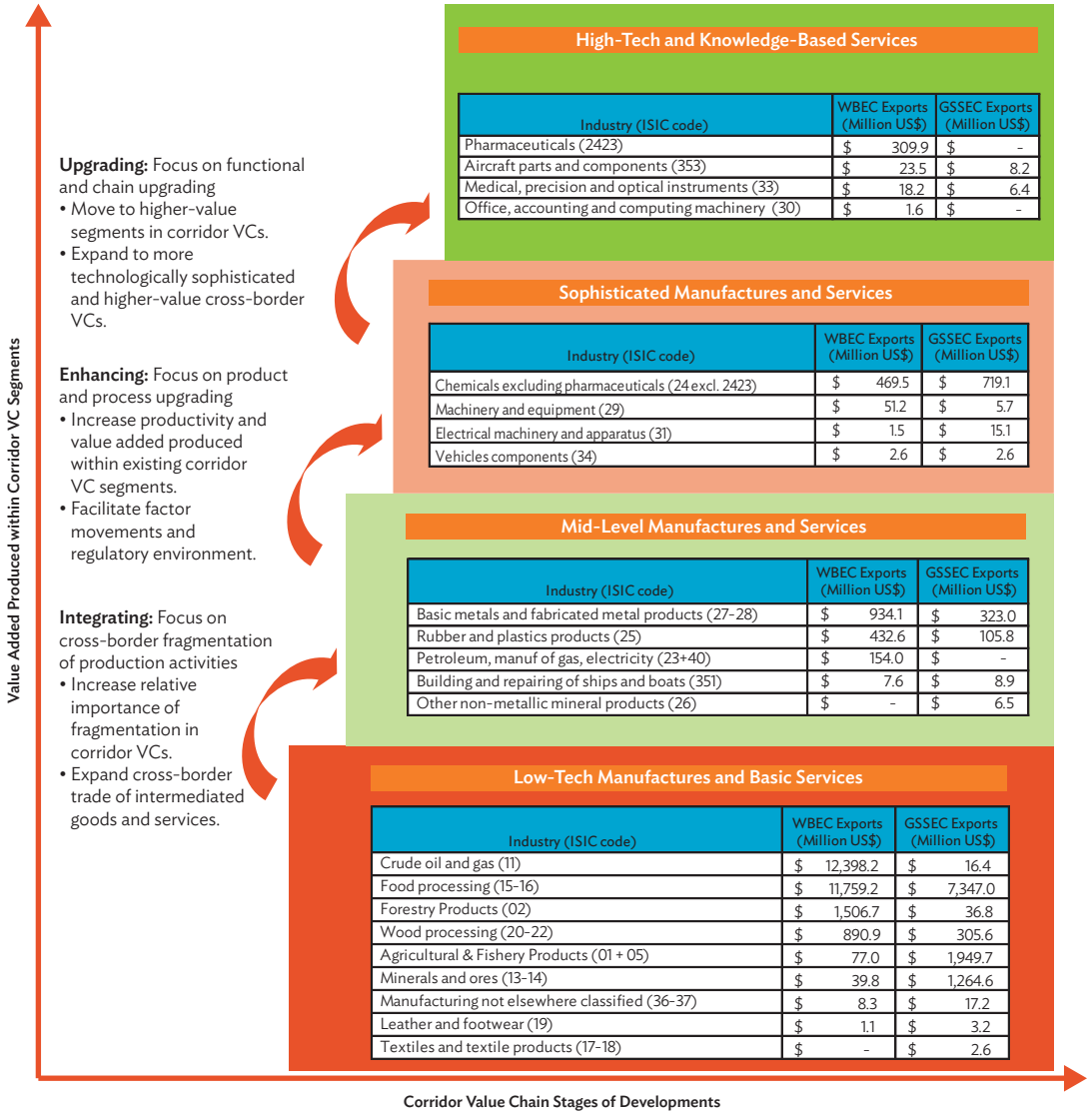
C. Moving Up the Value Chain

Successful value chain creation in BIMP-EAGA depends not only on cross-border fragmentation of production along the two economic corridors, but also on the progressive introduction of technological sophistication in manufacturing and service activities. Figure 7.3 shows the current industrial portfolio of the WBEC and the GSSEC.

The first step in the corridor VC ladder shows that there is considerable activity in the food processing industry for both corridors. There is also widespread activity in oil and gas, forestry and wood processing, agriculture, fisheries and mining. In the next step of the VC ladder, both corridors have large rubber and basic or fabricted metal industries; WBEC also has refined petroleum and gas manufacturing activities. More sophisticated manufactures in the third step of the VC ladder exist in chemicals, machinery and equipment, and electrical machinery and apparatus. Finally, at the highest step of the VC ladder, WBEC manufactures pharmaceuticals and both corridors manufacture aircraft parts and components, as well as medical, precision and optical instruments.

The key issue to be considered for the BIMP-EAGA corridors in terms of cross-border value chain investments is how much value can be captured from corridor value chains by the provinces or states in terms of employment, income, technology diffusion, and sustainable development.

Figure 7.3: Stages of Value-Added Investments by Level of Technological Sophistication in WBEC and GSSEC Corridors



High-Tech and Knowledge-Based Services

Industry (ISIC code)	WBEC Exports (Million US$)	GSSEC Exports (Million US$)
Pharmaceuticals (2423)	$ 309.9	$ -
Aircraft parts and components (353)	$ 23.5	$ 8.2
Medical, precision and optical instruments (33)	$ 18.2	$ 6.4
Office, accounting and computing machinery (30)	$ 1.6	$ -

Sophisticated Manufactures and Services

Industry (ISIC code)	WBEC Exports (Million US$)	GSSEC Exports (Million US$)
Chemicals excluding pharmaceuticals (24 excl. 2423)	$ 469.5	$ 719.1
Machinery and equipment (29)	$ 51.2	$ 5.7
Electrical machinery and apparatus (31)	$ 1.5	$ 15.1
Vehicles components (34)	$ 2.6	$ 2.6

Mid-Level Manufactures and Services

Industry (ISIC code)	WBEC Exports (Million US$)	GSSEC Exports (Million US$)
Basic metals and fabricated metal products (27-28)	$ 934.1	$ 323.0
Rubber and plastics products (25)	$ 432.6	$ 105.8
Petroleum, manuf of gas, electricity (23+40)	$ 154.0	$ -
Building and repairing of ships and boats (351)	$ 7.6	$ 8.9
Other non-metallic mineral products (26)	$ -	$ 6.5

Low-Tech Manufactures and Basic Services

Industry (ISIC code)	WBEC Exports (Million US$)	GSSEC Exports (Million US$)
Crude oil and gas (11)	$ 12,398.2	$ 16.4
Food processing (15-16)	$ 11,759.2	$ 7,347.0
Forestry Products (02)	$ 1,506.7	$ 36.8
Wood processing (20-22)	$ 890.9	$ 305.6
Agricultural & Fishery Products (01 + 05)	$ 77.0	$ 1,949.7
Minerals and ores (13-14)	$ 39.8	$ 1,264.6
Manufacturing not elsewhere classified (36-37)	$ 8.3	$ 17.2
Leather and footwear (19)	$ 1.1	$ 3.2
Textiles and textile products (17-18)	$ -	$ 2.6

Source: BIMP-EAGA corridor-level industries based on mapping HS export data to ISIC industry classification.

That issue is closely associated with the potential for product upgrading in an industry (i.e., shifting industry activity to more sophisticated products with higher unit prices). In this context, the degree international competitiveness is measured by the extent to which the BIMP-EAGA corridors are able to develop cross-border value chains that have the capacity to move up to higher levels of sophistication in corridor value chains.

There are several ways for companies in the two corridors to move up the value chain:[51]

- *Chain upgrading* has the broadest impact because it occurs when firms switch from domestic and local activities to cross-border value chain ones, especially along well-organized corridor value chains where there are higher value-added products or services. The benefits of the switch occur from gaining access to know-how, scale economies, and broader markers, as well as lower costs for labor and capital.
- *Process upgrading* occurs when firms that switch to corridor value chains can either process tasks with greater efficiency and lower defect rates than their domestic and locally oriented rivals, or process more complex orders to wider markets.
- *Product upgrading* occurs when firms that move to corridor value chains can supply higher value-added products than their locally oriented rivals through superior technological sophistication and quality, as well as product innovations that take place at faster rates than rivals.
- *Functional upgrading* occurs when firms that switch to corridor value chains can provide competitive products associated with higher value-added to new segments of the value chain. This upgrade implies moving into downstream activities by taking on such activities as design and development, marketing and branding functions that add value to products.

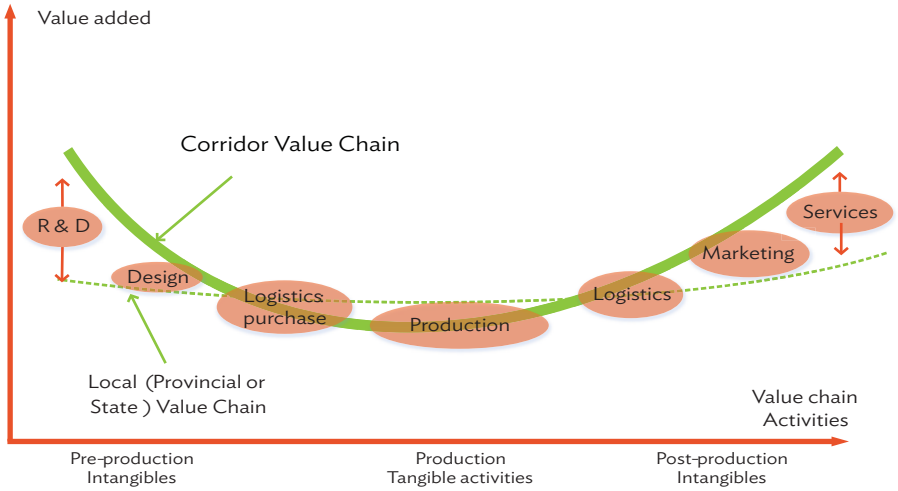
Process, product, functional and chain upgrading are all undertaken to create and capture more value from corridor value chains. These types of upgrading are particularly important for those industries at the lower rungs of the VC ladder. Processing trade for these industries along economic corridors helps to lower production costs and thereby increase the value that is added before a product is re-exported in its intermediate or final form after processing or assembling in companies with provinces or states. Similar knowledge transfers occur in the post-production phases for logistics, marketing and services, which add more value to corridor VC than does production fragmentation that is localized within national boudaries. The fabrication process itself adds less value than the pre- and post-fabriction processes, and there tends to be little, if any, difference in the value added that occurs at the corridor VC level and that which occurs when the VC takes place at the local level.

Figure 7.4 shows how production fragmentation and broader distribution systems increase the value added of industries operating across corridor borders. At the initial stages, knowledge transfer across borders provides higher value for research and development (R&D) and design than for those activities that are limited to local sources. Limited local knowledge was oftern mentioned by company representatives in the survey questionnaire carried out for this study as one of the major limiting factors for firms to move up the value chain.

Corridor value chains provide an opportunity for provinces and states to source raw materials and intermediate products as well as the higher value activities within the subregion. One of the principal motivations for the corridor-based approach to value chains is the savings that can occur from geographical proximity to transport costs, time to consumption, and flow of information across borders. Proximity to economic activity is fundamental, as it offers opportunities for

[51] Organisation for Economic Co-operation and Development (OECD, 2012) "Interconnected Economies: Benefiting from Global Value Chains." Paris. Available: http://s3platform.jrc.ec.europa.eu/documents/10157/46174/Interconnected_economies.pdf

Figure 7.4: Value-Added Profile for Corridor Value Chains



Source: Adapted from Organisation for Economic Co-operation and Development (OECD, 2013), "Interconnected Economies: Benefiting from Value Chains." Available: http://www.oecd.org/industry/ind/global-value-chains.htm

companies to achieve economies of scale by spreading the production of goods across geographic areas having different economic profiles. Larger production areas also provide the basis with which to develop intra-firm trade, implement marketing processes that take advantage of vertical and horizontal product differentiation in markets within BIMP-EAGA and outside the subregion, and attract much-needed domestic and foreign investments.

Together these changes can transform some leading sectors from a dependence on the traditional growth model based on comparative advantage and competitiveness in exports of final products to one based on the regionalization of production activities in which different stages of production are distributed across the economic corridors in the subregion in order to achieve greater cost competitiveness and a more diversified production structure into higher levels of technological sophistication.

PART IV

Company Highlights

Showcasing Companies in West Borneo Corridor

8

A. Sabah

The Malaysian state of Sabah is at the nexus of the West Borneo Economic Corridor and the Greater Sulu-Sulawesi Economic Corridor. It possesses a wide range of industries with potential for cross-border value chain applications along both corridors. Among them are palm oil products produced by the Sawit Kinabalu Group. Its main activities are cultivating, processing, procuring and trading of fresh fruit bunches (FFB), crude palm oil (CPO) and palm kernel (PK).[52] The company has over 72,000 hectares of planted area throughout Sabah in the southwest region of Tawau and west coast in Kudat and Beaufort areas; and the eastern region in Sandakan and Lahad Datu (Figure 8.1). Sawit owns and operates eight palm oil mills throughout Sabah with a total milling capacity of FFB 435 metric tons per hour, and annual capacity of over 2.5 million FFB per year.

Figure 8.1: Sawit Kinabalu Group's Palm Oil Plantations and Mills

Source: Sawit Kinabalu Group company site at http://www.sawitkinabalu.com.my/

Sawit's refinery is located in the Kunak Refinery Complex, which is a physical refinery and fractionation plant with a processing capacity of 1,500 metric tons a day of crude palm oil and 400 metric tons a day of kernel crushing. The refinery complex produces refined, bleached, and

[52] The material on the Sawit Kinabalu Group is based on company interviews and its company information available at http://www.sawitkinabalu.com.my/

Figure 8.2: Sawit Kinabalu Group's Palm Oil Plantations, Mill, and Cattle in Sabah

Source: Sawit Kinabalu Group company site at http://www.sawitkinabalu.com.my/

deodorized (RBD) palm oil; RBD palm olein; RBD palm stearin; palm kernel oil; palm fatty acid distilled (RFAD); and palm kernel expeller (Figure 8.2). These products are used to produce edible and non-edible products like shortenings, cooking oils, margarine, soap, and animal feed.

Sawit also breeds cattle for resources optimization, partial biological-weed control and beef production. The company aims to be the leading cattle and beef producer in Sabah using integrated, sustainable and environmentally friendly approaches. The nucleus breeding herd is made up of pure Brahman bulls imported from Australia.

Along the value chain, downstream investment opportunities exist in production of advanced oleochemical products, food and phytonutrients. Upstream investment opportunities exist in plantation planting, materials, farm machinery, mills, and analytical equipment. Finally, there are investment opportunities for the energy sector in bio-diesel (methyl ester), boiler fuel, biomass energy from oil palm residues and biogas from effluent ponds.

Figure 8.3: Simpor Pharma's' Plant at Bandar Seri Begawan in Brunei Darussalam

Source: Google Maps.

B. Brunei Darussalam

Simpor Pharma Sdn. Bhd. is Brunei Darussalam's leading manufacturer of pharmaceutical products and health supplements, and it is a major exporter of halal products. Its plant is located within Salambigar Industrial Site (Figure 8.3), and its manufacturing facility is GMP compliant and has a cleanroom standard classification of class 100,000.[53] Raw materials, intermediate and finished products are tested in compliance with United States Pharmacopeia (USP) requirements.

[53] The material on Simpor Pharma is based on company interviews and the material in the company site at www.simporpharma.com

Figure 8.4: Simpor Pharma's Facility is GMP Compliant, with Class 100,000 Clean Room Standard

Source: Simpor Pharma's company site at www.simporpharma.com

Simpor Pharma has established the Halal Assurance System (HAS) for its production facilities, along with a halal management team (Halal Committee). Its soft gelatin products can be easily manufactured to any size, shape, or color to match customer requirements. The company has extensive capabilities at all levels of the manufacturing process, including formulation, encapsulation, inspection and finished product testing. Gelatin melting and mixing tanks, vacuum homo mixer, drying facility, and inspection sorting machines are all parts of Simpor Pharma's encapsulation process (Figure 8.4).

Figure 8.5: Hana Soy & World Plant at BINA Complex Serambangun

Source: Google Maps.

Hana Soy and World Sendirian Berhad is another important company in Brunei Darussalam that has a strong potential to form part in a corridor value chain.[54] Hana Soy's plant is located at BINA Complex Serambangun in Tutong (Figure 8.5). It produces 'Mothersoya', a highly nutritious, healthy and easy-to-use soybeans intermediate material made entirely from natural soybeans through advanced processing technologies. The company also produces Hana Suku Soy drink, which is first locally produced soy products in Brunei Darussalam. Both products are certified with GMP, HACCP and Brunei Halal Logo.

Hana Soy is a joint venture company between Al-Hana Enterprise of Brunei and Soy and World International of Japan. Al-Hana Enterprise is the only dairy company in Brunei Darussalam and it manufactures fresh yogurt and flavored milk. Its partner company, Soy & World International,

[54] Information on Hana Soy is based on company interviews and the Hana Soy & World web site at http://www.hanasoy.com/

Figure 8.6: Hana Suku Suku Soy Drink is First Soy Products ever Produced in Brunei Darussalam

Source: Company interview and Hana Soy & World web site at http://www.hanasoy.com/

Figure 8.7: SALCRA's Batang Ai Integrated Fish Cage Project

Source: Google Maps.

is a multinational company based in Tokyo, Japan, that distributes and sell soybean intermediate products and other soybean bi-products. Hana Soy works closely with local and national communities to improve children's health and wellbeing (Figure 8.6).

C. Sarawak

Sarawak Land Consolidation and Rehabilitation Authority (SALCRA) is currently managing 19 oil palm estates and 4 palm oil mills in Sarawak. It also has separate programs to (a) support agriculture-related logistic business activities; (b) supply fertilizer for SALCRA's estates; (c) carry out R&D on tree crop improvements; (d) maintain an oil palm garden at Agriculture Integrated Center in Karabungan, Miri; (e) operate a training center in Bajo, Lundu; and (f) operate an Integrated Fish Culture Project at Batang Ai Lubok Antu.[55]

For the Integrated Fish Cage Culture Project, SALCRA has been appointed the lead agency by the State Government of Sarawak (GOS) to undertake the project under EPP4 of the National Key Economic Areas (NKEA) program (Figure 8.7). It is a large-scale, technology-focused, sustainable and integrated freshwater aquaculture project for the production of high-value and high-quality fresh tilapia fish. The project covers breading, hatching, rearing, processing, and supplying the product to both local and international markets. The United States, in particular, has a strong demand for premium fillet, and the European Union and Middle East are expanding their consumption of tilapia fish.

[55] The material on SALCRA is based company interviews and information available on its web site at http://www.salcra.gov.my/

Figure 8.8: Tilapia Cages at Batang Ai in Sarawak

Source: Company interviews and SALCRA web site at http://www.salcra.gov.my

The geographic location of the project at Batang Ai was selected because of its large 8,400 hectare surface area and its potential for the production of high quality fresh fish in a pristine environment. By 2017 the project aims to reach a production capacity of five thousand metric tons annually of red tilapia and genetically improved farm tilapia (Figure 8.8).

The project meets international production standard such as Global G.A.P and other related certifications from importing countries in the United States, Europe, and the Middle East. It uses a synergetic farming approach in which small-scale fish farmers are involved in a buy-back scheme that aims to establish community-based commercial fish farming and thereby improve local incomes and welfare in the area.

The project is being carried in an integrated manner since both vertical and horizontal linkages are involved. Those activities cover the establishment of infrastructure, hatchery, feed mills, grow-outs, processing, research and development, logistics, and marketing. These linkages create possibilities of corridor value chain activities along the West Borneo Economic Corridor.

D. West Kalimantan

PT Perkebunan Nusantara XIII (PTPN XIII) is an agribusiness company with operations in West Kalimantan as well as East Kalimantan, South Kalimantan, and Central Kalimantan. Its operational activities cover cultivation, production and trading of palm oil and rubber. To meet its raw material needs, PTPN XIII has several oil palm and rubber plantations in the Kalimantan provinces.

In the oil palm segment, PTPN XIII's plantation area extends over 120,000 hectares. Half of this area is made up of nucleus plantations and the other half consists of plasma plantations.[56]

[56] The Government of Indonesia has established a cooperative program of plantation development involving the main planation companies, called *nucleus*, and individual farmers, called *plasma farmers*. In the scheme, the nucleus assists the plasma farmers to develop and manage their plasma plantations up to a predetermined physical condition, at which time the plasma plantation is ready to be transferred to the plasma farmers. In the case of PTPN XIII, farmers are assigned to ponds, usually one pond per family, and each farmer is responsible for the cultivation of their pond. PTPN XIII provides the farmers with quality fry and feed, electricity and water, aquaculture training, support and monitoring. The farmers also follow strict guidelines on standard operating procedures from PTPN XIII regarding the closed water management and waste disinfection system, full biosecurity measures, and a step-by-step approach to the 120-day cultivation cycle.

Figure 8.9: Palm Oil Production at PT Perkebunan Nusantara XIII in West Kalimantan

Source: Company interviews and website at http://www.ptpn13.com/

Figure 8.10: Rubber Production at PT Perkebunan Nusantara XIII in West Kalimantan

Source: Company interviews and website at http://www.ptpn13.com/

This plasma management and implementation scheme has had a positive impact on production enhancement and plasma plantation productivity. PTPN XIII's nine palm oil mills have a total installed capacity of 440 tons FBB an hour for the production of export-quality palm oil and palm kernel (Figure 8.9). Production occurs on the basis of sustainable palm managing principles in which palm plantations comply with the law regulating cultivation and harvesting, and implement best practices that include environment and social guidelines. PTPN XIII also uses waste from the palm oil mills to derive value-added. Solid waste from empty bunches is used as mulch and as raw material for the biomass power plant in Parindu and Meliau, West Kalimantan. Liquid waste is used for irrigation as well as for the biogas power plant in Parindu, West Kalimantan.

PTPN XIII's rubber segment consists of an area of nearly 45,000 hectares, one-third of which is nucleus and the remaining two-thirds is plasma plantation. The company's total production of rubber is about 14,000 tons, of which 60% come from nucleus plantations and the remaining 40% come from plasma plantations. PTPN XIII also has two rubber crumb factories (CRFs) with installed capacity of 60 tons of dried rubber per day, and one ribbed smoked sheets (RSS) with installed capacity of 10 tons dried rubber a day. The production process is designed to produce rubber that meets Standard Nasional Indonesia (SNI) requirements in the form of lump rubber and latex with output sheet (Figure 8.10).

Showcasing Companies in Greater Sulu-Sulawesi Corridor

9

A. Mindanao

RD Corporation (RD) is a diversified Philippine business whose products cover agribusiness, deep sea fishing, shipbuilding and repair, manufacturing, seafood processing, financial services and realty. RD's agribusiness division is headed by RDEX Food International Phils Inc, which covers fish farming livestock and specialized fruit and vegetable farming. Fish farming is carried out in 106 hectares of prawn farm and 60 fish cages of milkfish. RD's deep sea fishing operations consists of five fishing companies, namely, RD Fishing Industries Inc.; RD Tuna Ventures Inc.; South Sea Fishing Ventures, Phils Inc.; Asia-Pacific Allied Fishing Ventures Inc.; and RD Fishing PNG Ltd. The fishing fleet operates in the seas surrounding the Philippines, Papua New Guinea and Indonesia using 102 vessels, including 20 catchers, 9 reefer carriers, 6 carriers, 48 rangers and light boats, 1 tanker, 1 tugboat and various support vessels. The fish holding capacity of the fleet's super seiners range from 450 to 1,200 metric tons.

RDEX Food International Phils Inc. processes fresh frozen fish and prawn for the domestic and export markets. Its processing plants can each process up to 10 metric tons of raw fish daily. RDEX's Tuna Shops in the Philippines offer fresh and frozen fish and high value marine products that include canned tuna, milkfish and prawns. Its products are also widely distributed through supermarkets. RD Food Processing and Export Corporation is the export marketing branch of RDEX and is located in the General Santos City Fish Port Complex (Figures 9.1 and 9.2).

Figure 9.1: RDEX Food International Phils., Inc. Processing Facility in General Santos

Source: RDEX Food International Phils., Inc.

Figure 9.2: RDEX Food International Phils., Inc. Location in General Santos

Source: Google Maps.

Figure 9.3: Can Filling and Classifying in RDEX Food International Phils., Inc.

Source: RDEX Food International Phils., Inc.

Figure 9.4: TADECO Location in Davao Del Norte

Source: Google Maps.

Figure 9.5: TADECO Plantation and Building Facility

Source: Tagum Agricultural Development Company Incorporated.

RDEX Food International Phils Inc. started as a first cold storage facility in General Santos and then established a fish processing plant for yellow fin tuna, milkfish, shrimp and other high-value marine products. The processing plant is one of the most technologically advanced in General Santos City and is in compliance with international food safety standards such as GMP, SSOP and HACCP (Figure 9.3). It has USDC and USFDA approval and EU certification. RDEX Food International Phils., Inc. also operates and manages its own aquaculture facilities, which have EU certification, and it has its own hatchery of high-quality fry for the fish farms.

Another company with strong potential for corridor value chain development is Tagum Agricultural Development Company (TADECO), located in Davao Del Norte (Figure 9.4). It is a well-established company whose land area of over 6,600 hectares has one of the highest yields in the world in the production of fresh Cavendish bananas (Figure 9.5). Most of its exports are directed to Japan; Hong Kong, China; the PRC; the Republic of Korea; Middle East; the Russian Federation; Malaysia; and Singapore under the Del Monte brand name. It is the flagship company of the ANFLOCOR Group of Companies.

TADECO uses responsibly tilling and caring for its land and has achieved an average yield of almost 5,000 boxes per hectare a year to produce 30,000,000 boxes a year. It is in compliance with local and international standards and principles needed for GLOBALGAP and Philippine Good Agricultural Practices (PhilGAP) certifications, and it adheres to a strict quality management system to ensure the welfare and protection of its workers and the environment (including Quality Policy, Environmental Policy, OSH Policy, CSR Policy, Child Labor-Free Policy).

Its farm integrated system is based on site specific crop management (SSCM), digitized or computerized information, and state-of-the-art facilities for its R&D activities. With its workers it advocates a reward system for intervention to ensure motivation, continuous learning, productivity and quality, including its productivity incentive program and quality incentive program

Figure 9.6: TADECO Packing and Laboratory

Source: Tagum Agricultural Development Company Incorporated.

(Incentive Bonus); special performance awards; quarterly operations refresher course trainings; its Bananero Challenge, Packing Station Cleanliness and Sanitation Program; and its Zero Work-Related Accident Program.

The company's vision is to be the leading banana producer in Asia and thereby act as a vehicle for the sustained improvement in the quality of life in Mindanao. To that end, it extends various services to the community. It provides non-working spouses and dependents skills-improvement channels through its TADECO Livelihood and Training Center (TLTC), which has income-generating projects like artistic native products made out of the banana by-products and other indigenous materials like abaca and pineapple fiber and coco beads. It also has a multipurpose sports complex supporting the TADECO Sports Development Program (TSDP) for employees and dependents. It has a career guidance program on agriculture-related courses for high school graduating students and summer jobs program; and for out-of-school youths it supports the Alternative Learning System (ALS) in collaboration with Technical Education Skills Development Authority (TESDA) for vocational courses to finishing the ALS.

B. North Sulawesi

PT. Dimembe Nyiur Agripro (DNA) is desiccated coconut manufacturing company located in North Minahasa approximately 1.5 km from Samratulangi Airport and 35 km from the International Bitung Harbor (Figure 9.7). It packs its desiccated coconut in multi-ply Kraft paper bags with inner sealed polyline and outer polywoven bags in packs of 10 kilos, 25 kilos, and 50 kilos bags. Its product is exported to Europe, South America, Africa, and some Asia countries. It employs approximately 200 persons from the local population in an effort to improve local incomes and the general wellbeing of the population. The company also promotes

Figure 9.7: PT Dimembe Nyiur Agripro in North Sulawesi

Source: Google Maps.

Figure 9.8: PT Dimembe Nyiur Agripro Factory in North Sulawesi

Source: Company interviews and website at http://www.dimembenyiuragripro.com/

Figure 9.9: Life Water Industries' Headquarters at Lahad Datu in Tawau Division of Sabah

Source: Google Maps.

technical training and education by providing internship program for students in the company facilities.

C. Sabah

One of the important companies in Sandakan, Sabah, is Life Water Industries Sdn Bhd. The company has branches in Lahad Datu (Figure 9.9), as well as Kota Kinabalu, and it produces several types of quality beverages (Figure 9.10).[57] Its leading product *K2 17 Stages Purified Drinking Water* is named for the 17 stages of water purification system used to produce it. The company's other products are Tritonic Less Sweet Isotonic Drink, 2More Caffeine Free Sparkling Soda, and QQ Ais Fruit Flavoured Ice Stick.

All of Life Water's products are Halal, HACCP, ISO22000 and GMP certified and they are in full compliance with government food safety regulations. The products are widely distributed throughout Sabah and Sarawak, and are also exported to Indonesia, the Philippines, Myanmar, Brunei Darussalam, and the PRC. The company has the largest share of the Sabah beverage market and it is seeking to expand its sales into international market.

[57] The material on Life Water Industries is based on company interviews and the material in the company site at http://www.lifewater.com.my/

Figure 9.10: Life Water Industries' Bottling of K2 17 Stages Purified Drinking Water in Sabah

Source: Life Water Industries' company site at http://www.lifewater.com.my/

Life Water conducts research and development in areas such as the production of innovative bottled packaging and the incorporation of local design elements in product labeling. It practices sustainable and environmentally friendly manufacturing practices. It has also launched a subsidiary called Green Borneo based in Kota Kinabalu that has been appointed as a co-packer represented Coca-Cola Beverages Company to produce drinking water under that company's 'DASANI' brand.

PART V

Investment Climate

Investment Incentives, Guarantees, and Priorities

10

Investment policy and regulatory reforms in the BIMP-EAGA member countries are increasingly promoting and facilitating investment by creating a stable, predictable and transparent investment environment. The main instruments in the investment regimes consist of investment policies and incentives, tax reforms, investment facilitation, infrastructure development, and institutional support for investors.

The 2016 Ease of Doing Business rankings of the BIMP-EAGA member countries are all favorable.[58] Brunei Darussalam has moved up by 21 ranking points, from 105 in 2015 to 84 in 2016, largely as a result of the improvements in the starting a business indicator as well as the indicators for paying taxes and getting financing. Indonesia's ranking also improved, from 120 in 2015 to 109 in 2016, because of its higher indicators for paying taxes, dealing with construction permits, getting electricity and obtaining financing. Malaysia's ranking in 2016 remained nearly unchanged at a very favorable overall rating of 18 out of 189 countries. The Philippines' ranking slipped somewhat in 2016 to 103 from 97 in the previous year, but there was an improvements in the indicator for getting electricity. Moreover, the Philippines ranks at the top regionally and globally in terms of ease of investing in tourism, construction, retail, insurance, and health care.[59]

Highlights

- EAGA member countries have recently increased efforts to promote and facilitate domestic and foreign-sourced investment and to create a stable, predictable and transparent regulatory environment.
- *Brunei Darussalam's* efforts to attract FDI into high-tech industries include investment incentives, a low tax regime with no capital gains or personal income taxes; exemptions from corporate taxes; exemption from import duties and taxes on raw materials, machineries, equipment component parts, accessories or building structures; and adjustment of capital allowances and losses.
- *Indonesia's* investment incentives provide a choice between tax holidays and a tax incentive program in high-priority sectors, special economic zone incentives, import duty exemptions, pioneer industry status, and investment guarantees.
- *Malaysia's* investment promotion program in technologically sophisticated manufacturing and service industries includes a variety of tax incentives to attract investment in various sectors and regions of the country. The country's current global competitiveness index is already among the highest in developing Asia.
- *The Philippines'* investment reforms of the past four years have bolstered the country's economic fundamentals, and its incentive programs target six broad priority sectors that are part of the country's industrialization plan.

Throughout the BIMP-EAGA economic corridors there are a variety of special economic zones (SEZs) encompassing a range of commercial activities and offering special incentives to attracted targeted industries. These commercial areas are usually self-contained administrative unit in a geographically delimited area, often with physically secured (fenced-in) single management and administration facilities, providing special benefits to companies located within the zone, and often having a separate customs or one-stop-shop areas that provide duty-free benefits and streamlined

[58] World Bank, Doing Business database. Washington, DC. Available: http://www.doingbusiness.org/
[59] World Bank, Investing across Borders database. Washington, DC. Available: http://iab.worldbank.org/

procedures. Incentives are often based on duty-free trade and the absence of exchange controls, the facilitation of licenses and other regulatory requirements, reduced corporate and value-added tax obligations, and the elimination of local fees.

Their objective is to lower production costs for goods processed and manufactured within the area and thereby offer companies the opportunity to sell those goods at more competitively prices than if they were produced elsewhere in the country. In nearly all cases, the commercial areas are structured as Public-Private Partnerships (PPPs) in which the public sector provides some level of support such as infrastructure, equity investment, and soft loans or bond issues, while the private sector contributes toward capital investments, employment, and local and provincial economic growth.

A. General Investment Promotion

1. Brunei Darussalam

Brunei Darussalam has an open economy favorable to both domestic and foreign direct investment (FDI) in support of its economic diversification efforts. Since Brunei Darussalam has targeted high-technology industries in its development plan, FDI serves as an important source of technology transfer and building human resource capacity. Investment incentives mainly originate from the Brunei Economic Development Board (BEDB) and Ministry of Industry and Primary Resources (MIPR), and they are promoted by the Ministry of Foreign Affairs and Trade (MOFAT). Incentives include a low tariff regime with no capital gains or personal income tax; exemptions from corporate taxes; exemption from import duties and taxes on raw materials, machineries, equipment component parts, accessories or building structures; and adjustment of capital allowances and losses.

The World Trade Organization's recent review of trade and investment in Brunei Darussalam underscored the progress made in attracting investment in both the traditional oil and gas industry and in manufacturing.[60] But it also noted the stiff competition for foreign investment-related knowledge transfers from neighboring countries in Malaysia and Indonesia, suggesting that cross-border value chains with neighboring provinces and states from these two countries could greatly strengthen its move up the value chain in manufacturing and service industries.

Recently, Brunei Darussalam further streamlined its investment process by amending its Miscellaneous License Act to allow business licenses to be issued immediately by a single authority under the Ministry of Home Affairs, once the business incorporation or registration certificates have been issued by the Ministry of Finance. Details of Brunei Darussalam's general investment incentives are presented in Box 10.1.

Brunei Darussalam has a range of industrial sites being developed that aim to diversify the economy. They are being established and promoted under BEDC supervision and consist of the following main clusters:

- *Life Sciences Cluster*: This cluster aims to transform Brunei Darussalam into a regional hub for export-oriented manufacturing of high value-added life sciences products, covering

[60] World Trade Organization (2015), "Trade Policy Review: Brunei Darussalam." Geneva. WT/TPR/S/309. Available: https://www.wto.org/english/tratop_e/tpr_e/tp409_e.htm

a wide range of manufacturing and service activities such as pharmaceuticals (biologics, biosimilar, and generics), nutraceuticals (functional food, health supplements), alternative medicine (herbal medicine), cosmetics as well as food (agriculture and aquaculture) and beverages. An area with high-value opportunities is halal brand and certification for foods and pharmaceuticals as well as cosmetics.

- *Research & Development (R&D) Cluster*: Through the 'Heart of Borneo' conservation initiative, an R&D hub is to produce innovative and competitive compounds for drugs development and commercialization. The Brunei Research Incentive Scheme (BRISc) provides a cost-sharing research grant for companies to support their operations in the hub.
- *Advanced Agriculture and Agri-Food Processing Clusters:* Development of advanced agriculture and agro-food processing is supported in Telisai Industrial Park ("TIP"), Salambigar Industrial Park ("SIP"), and the Bio Innovation Corridor ("BIC"). Agricultural cultivation using advanced technologies is also being promoted in order to produce high quality and larger yields, along with manufacturing and processing of premium agro-food products for the global market.
- *Information and Communication Technology Industry*: Data centers and disaster recovery centers (DRCs) are being established in the Rimba Digital Junction, which has nearby access to the Tungku Submarine Landing Station, which itself supports the major submarine cables of Asia-America Gateway (AAG) and Southeast Asia-Middle East-Western Europe Cable (SEA-ME-WE3). The country's other major submarine cable is South-East Asia-Japan Cable (SJC).
- *Aviation and Marine Services Center:* Brunei Darussalam is supporting maintenance, repair and overhaul (MRO) activities for both the aviation and marine industries. The Pulau Muara Besar ("PMB") industrial park is building a marine MRO facility to support the sizeable fleet of offshore supply vessels (OSVs) for the country's offshore oil and gas industry. Aviation support services for aircraft MRO as well as flight crew simulation and training centers are located in the vicinity of the Brunei International Airport in a large three-bay hangar facility. Brunei Darussalam already has a pool of skilled, multilingual aircraft technicians and licensed engineers to support the center.
- *Marine Fish Farming, Aquaculture and Processing Centre*: Pelong Rocks is an offshore sea area close to Brunei Bay that has been identified as target location for marine fish farming. Inland aquaculture activities are being promoted in the Telisai Industrial Park ("TIS"). The Salambigar Industrial Park ("SIP") supports downstream processing and packaging of high-value fish products.
- *Manufacturing Industry Clusters:* There are several industrial sites for manufacturing activities, including energy-intensive manufacturing at the Bukit Panggal Industrial Park and the Salambigar Industrial Park.
- *Oil and Gas Downstream Industries*: The Sungai Liang Industrial Park ("SPARK") supports activities like methanol manufacturing under a Japan-Brunei Darussalam consortium, while the Pulau Muara Besar ("PMB") industrial park is developing an integrated refinery and aromatic cracker plant that is expected to start operations in 2018. The facility will produce refined petroleum products such as gasoline, diesel, Jet A1 fuel as well as downstream petrochemicals like benzene and paraxylene.
- *Free Trade Zones (FTZs)*: The Muara Export Zone is an FTZ located at Muara Port, Brunei Darussalam's main seaport. Once completed, it will support Brunei Darussalam's establishment as a trade hub for the Southeast Asia region. Its development will be followed by other FTZs throughout the country.

Box 10.1: General Investment Incentives in BIMP-EAGA Economic Corridors, 2016

	Brunei Darussalam	Indonesia North Sulawesi & West Kalimantan	Malaysia Sabah & Sarawak	Philippines Mindanao
Priority Industries	Priority industries are ICT and high-tech industries (Rimba); technology (Anggerek Desa); ecotourism (Tasek Merimbun and Ulu-Ulu Temburong); financial center (Bandar Seri Begawan); light industries (Salambigar); mixed industries (Telisai); oil and gas (Seria and Pulau Muara Besar); petrochemicals (Sg. Liang).	Fisheries and agro-processing in North Sulawesi; palm oil, timber, steel, coal, and oil and gas in West Kalimantan.	In both Sabah and Sarawak, marine industry, palm oil, livestock, oil and gas, manufacturing and tourism; in Sabah, creative industry, ICT and education; in Sarawak, aluminum, glass industries, steel, and timber-based industry.	In Mindanao, agro-foods, ICT, tourism. Infrastructure.
Investment tax incentives	Companies producing goods and services for export can apply for a renewable 10-year tax exemption.	Companies can apply for either income tax holiday or tax incentive program, but not both.	Income tax holiday.	Income tax holiday.
	Corporate tax relief of up to 5 years is available.	Local tax deductions.	R&D expense deductions	Tax credits.
	An 11-year tax break is offered if the venture is located in a high-tech industrial park.	Accelerated depreciation and loss carryover	Goods and services tax (GST) implemented in April 2015.	Deductions from taxable income.
	Sole proprietorships and partnerships are not subject to tax.	Tax allowance and training expense deductions	Reinvestment allowance	Additional training expense deduction and exemption for national and local taxes for eco-zone developers and operators.

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Box 10.1 *continued*

	Brunei Darussalam	Indonesia North Sulawesi & West Kalimantan	Malaysia Sabah & Sarawak	Philippines Mindanao
	Double-taxation agreements with England, Indonesia, the PRC, Singapore, Viet Nam, Bahrain, Oman, Japan, and Pakistan.	Tax holiday for certain business fields		
Investment guarantees	Signatory to ASEAN Investment Agreement	Under bilateral and ASEAN agreements, protection against expropriation, nationalization, losses due to currency inconvertibility, losses due to war, losses due to excessive retribution (under regional regulation.	Available on expropriation (under bilateral agreements), nationalization and losses due to currency inconvertibility.	Available on expropriation (under bilateral agreements)
	Signatory to ASEAN investment agreements with India, the PRC, the Republic of Korea, Australia-New Zealand, Japan, US, and EU.	Transfer of profits or dividends to country of origin.		For Region 12, available on repatriation of investments, remittance of earnings, foreign loans and contracts, and requisition of investment.
	Bilateral investment treaties with the PRC, India, the Republic of Korea, and 5 other countries.	International arbitration and law guarantee.		
	Investment-related instruments with 22 multilateral protocols and agreements, such as TRIMS.	Indonesia belongs to Multilateral Investment Guarantee Agency (MIGA) of World Bank Group, which is an investment guarantee agency to insure investors and lenders against losses relating to currency transfer restrictions, expropriation, war and civil disturbance, and breach of contract.		

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Box 10.1 *continued*

	Brunei Darussalam	Indonesia North Sulawesi & West Kalimantan	Malaysia Sabah & Sarawak	Philippines Mindanao
	All companies competing for a tender in the oil and gas industry are required to have at least half of their employees Bruneians. Expatriate employment is controlled by a Labor Quota system from the Labor Department and the issuance of employment passes by the Immigration Department.			
Pioneer Status	Companies can apply to be exempted from Corporate Income Tax, Import Duties on Raw Materials and Machinery for up to 8 years			
Pioneer Industries	Available to agribusiness; machinery and equipment; chemicals; petrochemicals; plastics and composites; consumer goods environmental technologies; food processing and packaging health technologies (pharmaceuticals); ICT; industrial equipment; marine technology; metal manufacturing; aircraft and catering services; textiles and apparel.	Available to basic metal industries; oil refinery industries and basic organic chemicals originating from oil and natural gas; machinery industries; industries in the field of renewable resources; and communication devices industries.		

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Box 10.1 *continued*

	Brunei Darussalam	Indonesia North Sulawesi & West Kalimantan	Malaysia Sabah & Sarawak	Philippines Mindanao
Intellectual Property Rights	In 2013, Brunei Darussalam acceded to Hague Agreement concerning the International Registration of Industrial Designs ("Hague System") to protect IP from industrial designs, making it the second ASEAN member country (after Singapore) to accede.	Adequate intellectual property laws, but enforcement remains limited.	Member of WIPO Copyright Treaty and the WIPO Performance and Phonogram Treaty;	The Intellectual Property (IP) Code provides the legal framework for IPR protection, particularly in the key areas of patents, trademarks, and copyright.
	Brunei Darussalam has publicly committed to acceding to other World Intellectual Property Organization's (WIPO) treaties, including the Madrid Protocol for the International Registration of Marks, the WIPO Performances and Phonograms Treaty.	Amendments to Indonesia's Trademark and Patent laws are underway	Enforcement of IPR regime, including ongoing training of prosecutors for specialized IPR courts, and establishment of a Special Anti-Piracy Taskforce.	The Philippines is considered a leader in ASEAN for its IP enforcement efforts, and has made sustained efforts to improve IPR protection and civil and administrative enforcement.
Tariff exemption on imported capital and raw materials	Exemptions for materials and capital goods not produced locally.	Import Duties: 100% exemption of import duty for machinery and equipment; 100% exemption of import duty for raw material needs for 2 years; 100% exemption on imported raw materials for 4 years if using, at least, 30% local machineries.	Import duty exemption on machinery and equipment.	Tax exemptions on 100% export producers.
		Value-Added Tax: 100% exemption on VAT.	Import duty exemption on raw material and components.	

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Box 10.1 *continued*

	Brunei Darussalam	Indonesia North Sulawesi & West Kalimantan	Malaysia Sabah & Sarawak	Philippines Mindanao
One-stop agency for investment approvals	Brunei Economic Development Board (BEDB).	Investment Coordinating Board (BKPM).	Malaysia Investment Development Authority (MIDA); Sabah Economic Development and Investment Authority (SEDIA); and the Sarawak Economic Development Corporation.	Board of Investments (BOI).
Special incentives	For R&D Cluster, Brunei Research Incentive Scheme (BRISc) cost-sharing research grant supports business operations of eligible companies.	Tax incentives for investment in SEZs. Goods manufactured in these special economic zones are exempt from VAT when sold domestically, but remain subject to customs and excise fees.	Transactions for acquisitions of interests, mergers, and takeovers of local companies by domestic or foreign parties are allowed without prior approval. The services sector has also been liberalized to attract more foreign investment.	Non-fiscal incentives include employment of foreign nationals, simplified customs procedures, importation of consigned equipment, and operation of a bonded manufacturing warehouse.
Treatment of goods imported in connection with a manufacturing operation	Temporary importation of goods imported in connection with a manufacturing operation are allowed, but exclude raw materials and machinery components.	Import raw materials are free of VAT, and goods manufactured in SEZs are exempted from VAT when sold domestically.	Raw materials, products and equipment can be imported duty-free with minimum customs formalities.	Spare parts, manufactured components, and raw materials for foreign markets enjoy incentives on imports that are re-exported, including exemption from customs duties, internal revenue taxes, and local taxes.

Sources: For Brunei Darussalam, Brunei Economic Development Board; for Indonesia, Investment Coordinating Board (BKPM); for Malaysia, Malaysia Industrial Development Authority; for the Philippines, Board of Investments.

2. Indonesia

Companies can apply for either of two tax incentives, but not both. The first is a tax holiday that exempts businesses from paying corporate income taxes for up to 10 years (Ministry of Finance Decree No. 130/PMK.011/2011). To receive the tax holiday, the company must have first operated as a legal entity in Indonesia for at least a year. The alternative is a tax incentive program for projects conducted in national high-priority sectors covering 129 different fields that reduces

income taxes from 30% to 5% for six years (Government Regulation No. 144 of 2012). The program also provides for accelerated depreciation and amortization. The high-priority sectors and the number of fields (in parenthesis) are agriculture (5); forestry (9); maritime and fishery (4); energy and mineral resources (15); industry (84); public works (2); culture and tourism (1); transportation (4); communication and information (1); and health (4). In addition, exemption from any import duty is available for machines, goods and materials for production for two years, and an import duty facility is granted for four years to a company using locally produced machines at least 30% of the total value of machines for its production. Under the facility, which is regulated by the Ministry of Finance, a company operating in industrial sectors and service areas like tourism, health, and telecommunications will have their import duties paid by the government.

In 2015 the Government of Indonesia issued a new regulation that not only provides an income tax facility for investment made in certain business fields or regions, but also improves the procedure of applying for income tax exemptions. Investors can submit applications through a one-stop service (OSS) center to complete all procedures within 30 working days, thereby making the process faster, simpler, more transparent and convenient. The OSS Centre consolidates authority from 22 ministries and agencies to issue licensing and non-licensing documents for particular sectors. Indonesia's Investment Coordinating Board (BKPM) is also assisting provincial governments like those in North Sulawesi and West Kalimantan to improve their OSS centers.

Tax incentives for investment are offered in Indonesia's special economic zones, one of which is located in Bitung, North Sulawesi. Investors receive income tax discounts ranging from 20%–100% over 25 years. These generous tax holidays are designed to attract investment in the manufacturing industries. Foreign investors are allowed to own property in the SEZs. They are also able to import raw materials free of any value-added tax (VAT), and goods manufactured in these special economic zones are exempt from VAT when sold domestically, but remain subject to customs and excise fees. Tourism, restaurant and entertainment businesses operating in these zones receive a 50%–100% discount on entertainment taxes.

The Special Economic Zone in Bitung focuses on fisheries and agro-processing industries. It intends to accommodate the distribution of commodities from North Sulawesi to other regions in Sulawesi as well as areas outside the country like the Moluccas and Papua. Also, the 250-hectare industrial estate in Bitung is divided into an export zone, wet and dry factories, housing, and recreation, among other areas, with important links to the Bitung international container terminal.

3. Malaysia

The Government of Malaysia's goal is for the country to become knowledge-driven and for the economy to move further up the value chain. It seeks to achieve this goal by promoting investment in technologically sophisticated manufacturing and service industries. In 2015 it launched the 11th Malaysia Plan in an effort to become a high-income nation by 2020. The plan includes strategies to position Malaysia as a high-tech hub for manufacturing and services activities, and to attract quality investments in high value added industries as well as new growth areas. The latest WTO Trade Policy Review of Malaysia noted the government's efforts to institute incentives to encourage investment as well as the strengthening of a number of agencies to guide prospective investors.[61]

[61] World Trade Organization (2014), "Trade Policy Review: Malaysia." Geneva. WT/TPR/S/292. Available: https://www.wto.org/english/tratop_e/tpr_e/tp392_e.htm

The country's current global competitiveness index is the highest among developing Asian economies.[62] In competitiveness indicators, it ranks 4th in terms of both burden of government regulations and financial market development; it ranks 7th in terms of efficiency of goods and services markets; it has an impressive scoring of 29th in terms of business-friendly institutional framework; and its private sector is highly sophisticated (15th) and innovative (21st). All of these characteristics support an attractive business environment for both domestic and foreign investors.

Malaysian employs a variety of tax incentives to attract investment in various sectors and regions of the country. Tax holidays are available in targeted sectors like ICT, biotechnology, halal products in the food, cosmetics and pharmaceutical industries. Moreover, tax exemptions are available for exported goods with a significant portion of value added within Malaysia. Full tax exemption incentive for fifteen years are available for firms having 'Pioneer Status', that is, companies promoting products or activities in industries or parts of Malaysia to which the government places a high priority; additionally, tax exemption for 10 years are available for companies with 'Investment Tax Allowance' status, that is, companies promoting products or activities in industries or parts of Malaysia in which the government places a priority, but not as high as those with Pioneer Status.

3. Philippines

The Philippine law treats foreign investors the same as their domestic counterparts, except in sectors reserved for nationals by the Philippine Constitution and Foreign Investment Act. The country's investment climate has improved greatly during the present decade and the reform momentum is likely to continue to improve the country's prospects for attracting investment in the coming years.[63]

The Philippine reforms of the past 4 years have bolstered the country's economic fundamentals.[64] The trends across most of the 12 pillars are positive and often impressive in terms of improvements in recent years. In the institutions pillar (67th), for example, the Philippines has advanced about 50 places since the beginning of the decade. Efforts made to stem corruption have successfully moved the country from 135th in 2010 to 81st in 2015.[65] Similar improvements have occurred in government efficiency and protection of property rights. Especially important to the implementation of value chains along the BIMP-EAGA economic corridors are the improvements made in technological adoption (69th). Also, the Philippines is one of the best digitally connected ASEAN countries, close behind Malaysia. The remaining challenges are (a) infrastructure, especially airports (108th) and seaports (101st); rigidities and inefficiencies in the labor market (91st); and security (89th), particularly in terms of costs that the threat of terrorism imposes on businesses (110th).

The Philippines' 2011–2016 Development Plan identifies six broad sectors as priorities in the country's industrialization plan. In aligning its investment strategy, the Investment Priorities Plan for 2014–2016 provides investors with predictable policies for investing in new areas identified

[62] World Economic Forum (2016), "Competitiveness Ranking." Available: http://reports.weforum.org/global-competitiveness-report-2014-2015/rankings/

[63] United States Department of State (2015), "Philippines: Investment Climate Statement." Washington, DC. Available: http://www.state.gov/e/eb/rls/othr/ics/

[64] World Economic Forum (2016), "Competitiveness Ranking." Available: http://reports.weforum.org/global-competitiveness-report-2014-2015/rankings/

[65] Transparency International, (2016) Corruption by country database. Available: https://www.transparency.org/country/

by the government.[66] Preferred activities include the four broad sectors of manufacturing, agribusiness and fishery, services, and infrastructure and logistics, while preferred export activities cover the production and manufacture of export products, services exports and activities in support of high value exporters.

In 2015, the Philippines issued the 10th Foreign Investment Negative List, which revises List A on sectors where foreign ownership is limited by mandate of the constitution and specific laws. The revised listing provides clarity on the specific professional areas that are open to foreigners, subject to reciprocity.

B. Foreign Direct Investment Laws and Regulations

1. Brunei Darussalam

Brunei Darussalam's long-term development plan, known as "Wawasan Brunei 2035" or "Brunei Vision 2035," emphasizes the attraction of FDI as a key driver of the country's economic growth. In an effort to diversify the economy, the Brunei Economic Development Board and the Ministry of Industry and Primary Resources offer favorable incentives to foreign investors. The country's laws and regulations governing FDI compare favorably to other BIMP-EAGA member states (Box 10.2).

2. Indonesia

To provide clearer and more transparent investment regulations, Indonesia enacted the 2014 Presidential Regulation Number 39 on 'Lists of Business Fields that are Closed for Investment', along with 'Business Fields that are Conditionally Open for Investment'. The negative investment list decree covers three types of investment: (a) Those that are prohibited investment activities for goods and services prohibited by Indonesian law because they are dangerous, polluting, or strategic for national security or heritage; (b) those that are reserved for SMEs and cooperatives, (c) those needing domestic partnerships; (d) those business areas that require conditions like capital ownership, specific location and licensing; and (c) those that are open to foreign investment without conditions.

Foreign investors are expected to provide training and development to Indonesian nationals to ensure the transfer of skills and technology needed for locals to effectively participate in management activities. A company can generally hire foreigners only for positions that the government has deemed open to non-Indonesians. Employers must have manpower-training programs aimed at replacing foreign workers with nationals. Foreign worker must meet education, work experience, and Indonesian language requirements and commit to transfer knowledge to local counterparts.

There are no controls over foreign exchange transactions. The Indonesian rupiah is freely convertible. Under the 2007 Investment Law, the government offers assurance to investors relating to the transfer and repatriation of funds. Also, there are no restrictions or time limitations on investment remittances.

[66] Government of the Philippines (2015), "Investment Priorities Plan (IPP) 2014–2016." Manila. Available: http://industry.gov.ph/investment-priorities-plan-ipp-2014-2016/

Box 10.2: Laws and Regulations Governing FDI in BIMP-EAGA Economic Corridors, 2016

	Brunei Darussalam	Indonesia North Sulawesi & West Kalimantan	Malaysia Sabah & Sarawak	Philippines Mindanao
Barriers to Entry	No negative clause.	Negative investment list decree is separated into (a) closed investments; (b) open with condition; and (c) open to foreign investment without conditions.	No negative clause.	Activities that are not restricted (List A) and critical or hazardous (List B) are allowed 100% foreign-ownership.
Limitations on Foreign Ownership	No restriction on total foreign ownership of companies incorporated in Brunei Darussalam. Companies Act requires locally incorporated companies to have at least some directors as ordinarily residents in Brunei Darussalam.	Foreign ownership is limited on certain business fields.	100% foreign equity ownership allowed for manufacturing and selected services subsectors	Private ownership of land is reserved for Philippine citizens and corporations owned at least 60% by Filipinos. Foreigners can own buildings on leased land.
Local Content/ Performance Requirements	ICT and high-tech industries (Rimba); technology (Anggerek Desa); ecotourism (Tasek Merimbun and Ulu-Ulu Temburong); financial cernter (Bandar Seri Begawan); light industries (Salambigar); mixed industries (Telisai); oil and gas (Seria and Pulau Muara Besar); petrochemicals (Sg. Liang).	Applied only to oil and gas and industry with at least 30% local content Obligation to open an account in a local bank.	No restriction	With the exception of foreign-controlled firms that export 100% of their production, foreign firms that seek incentives from BOI must commit to divest 40% ownership within 30 years or as the period specified by BOI.

continued on next page

Box 10.2 *continued*

	Brunei Darussalam	Indonesia North Sulawesi & West Kalimantan	Malaysia Sabah & Sarawak	Philippines Mindanao
	In some sectors, foreign investors may not utilize sites under government control unless they comply with specific requirements.	Certain import of raw materials and intermediate goods are restricted. Export requirement is a condition for investing in certain sectors and for obtaining incentives and exemption to import restrictions.		
Foreign Exchange Controls	No restrictions	No restrictions	No restrictions	No remittance restrictions if a person already holds foreign currency; some restrictions on the purchase of foreign exchange through the banking system
Other Differential Treatment from Domestic Investment	No differentiation	No differentiation	No differentiation	Philippine laws and regulations guarantee the basic rights of all investors and enterprises, including freedom from expropriation without just compensation; right to remit profits, capital gains, and dividends within the guidelines of the Bangko Sentral ng Pilipinos; right to repatriate the proceeds of the liquidation of investments; and right to obtain foreign exchange to meet principal and interest payments on foreign obligations.

Sources: For Brunei Darussalam, Brunei Economic Development Board; for Indonesia, Investment Coordinating Board (BKPM); for Malaysia, Malaysia Industrial Development Authority; for the Philippines, Board of Investments.

3. Malaysia

In an effort to attract foreign investment, the government has liberalized, in certain cases, removed investment restrictions. Transactions for acquisitions of interests, mergers, and takeovers of local companies by domestic or foreign parties are allowed without prior approval.[67] The government has also liberalized the services sector to attract more foreign investment, especially in tourism and freight transportation. Complete foreign ownership is now allowed in healthcare, retail, education, along with professional, environmental, and courier services. Nonetheless, limits on foreign ownership remain in place in telecommunications, financial services, and transportation. Moreover, foreign investments in services, whether in fully liberalized or controlled sub-sectors, remain subject to review and approval by ministries and agencies with jurisdiction over the relevant sectors. The objective of the review and approval processes is to determine whether proposed investments meet the government's qualifications for the various incentives in place to promote economic development goals.

Investors in industries targeted by the Malaysian government can often negotiate favorable terms with ministries, or other agencies, regulating the conditions applicable to specific industries. The terms can include assistance in dealing with regulations and policies, some of which can be waived on a case-by-case basis. The Malaysia Investment Development Authority (MIDA) is the major agency that serves as a focal point for legal and regulatory questions about foreign investment, especially in guiding foreign investors interested in the manufacturing and service sectors. In Sabah and Sarawak, the major state-level regulatory agencies supporting to investors are the Sabah Economic Development and Investment Authority (SEDIA), and the Sarawak Economic Development Corporation.

The WTO's latest trade policy review for Malaysia underscores the favorable effects that have resulted from Malaysia's participation in the ASEAN Comprehensive Investment Agreement (ACIA).[68] The ACIA replaces the ASEAN Investment Agreement (AIA) and ASEAN Investment Guarantee Agreement (IGA). It brings together liberalization, protection, promotion, and facilitation measures under a single comprehensive agreement. Among its features are national treatment and most-favored nation (MFN) obligations, a single negative list with reservations to investment a broad definition of investors and investments, and the inclusion of portfolio investment and intellectual property; and adoption of investor-state dispute settlement mechanisms.

4. Philippines

There are about 180 fiscal incentive laws in the Philippines and, as mentioned in the previous section, the Investment Priorities Plan (IPP) promotes investment areas entitled to incentives facilitated by the Board of Investment. Among the fiscal incentives are an income tax holiday, tax credits, and deductions from taxable income, while non-fiscal incentives include employment of foreign nationals, simplified customs procedures, importation of consigned equipment, and operation of bonded manufacturing warehouses.

[67] United States Department of State (2015), "Malaysia: Investment Climate Statement." Washington, DC. Available: http://www.state.gov/e/eb/rls/othr/ics/

[68] World Trade Organization (2014), "Trade Policy Review: Malaysia." Geneva. WT/TPR/S/292. Available: https://www.wto.org/english/tratop_e/tpr_e/tp392_e.htm

The Special Economic Zone Act allows the Philippine Economic Zone Authority (PEZA) to regulate and promote investments in export-oriented manufacturing and service facilities inside special economic zones, including grants of fiscal and non-fiscal incentives. There is a more predictable business environment within the special economic zones, particularly those operated by PEZA, which is known for its regulatory transparency and its OSS services for investors. For the country as a whole, there are currently 327 special economic zones that are operating, with another 317 in progress of development, and another 126 approved but not implemented.[69] For Mindanao, Box 10.3 shows that there are 32 special economic zones that are currently operating in four types of zones (agro-processing, IT, manufacturing, and tourism) in Regions IX through XIII.

Box 10.3: Special Economic Zones in Mindanao

Region	IX	X	XI	XII	XIII	Total Mindanao
	Zamboanga	Northern Mindanao	Davao	Soccsksargen	Caraga	
Agro-industrial cluster	1	3	3	6		13
Information technology		1	7	1		9
Manufacturing		4	2	1	1	8
Tourism		1				1
Grand Total	1	9	12	8	1	31

Source: Philippine Economic Zone Authority (PEZA).

[69] Philippine Economic Zone Authority (PEZA), "List of PEZA Economic Zone (as of June 2015)." Manila. Available: http://www.peza.gov.ph/index.php/downloads

11 Realizing the Potential of Corridor-Wide Investments

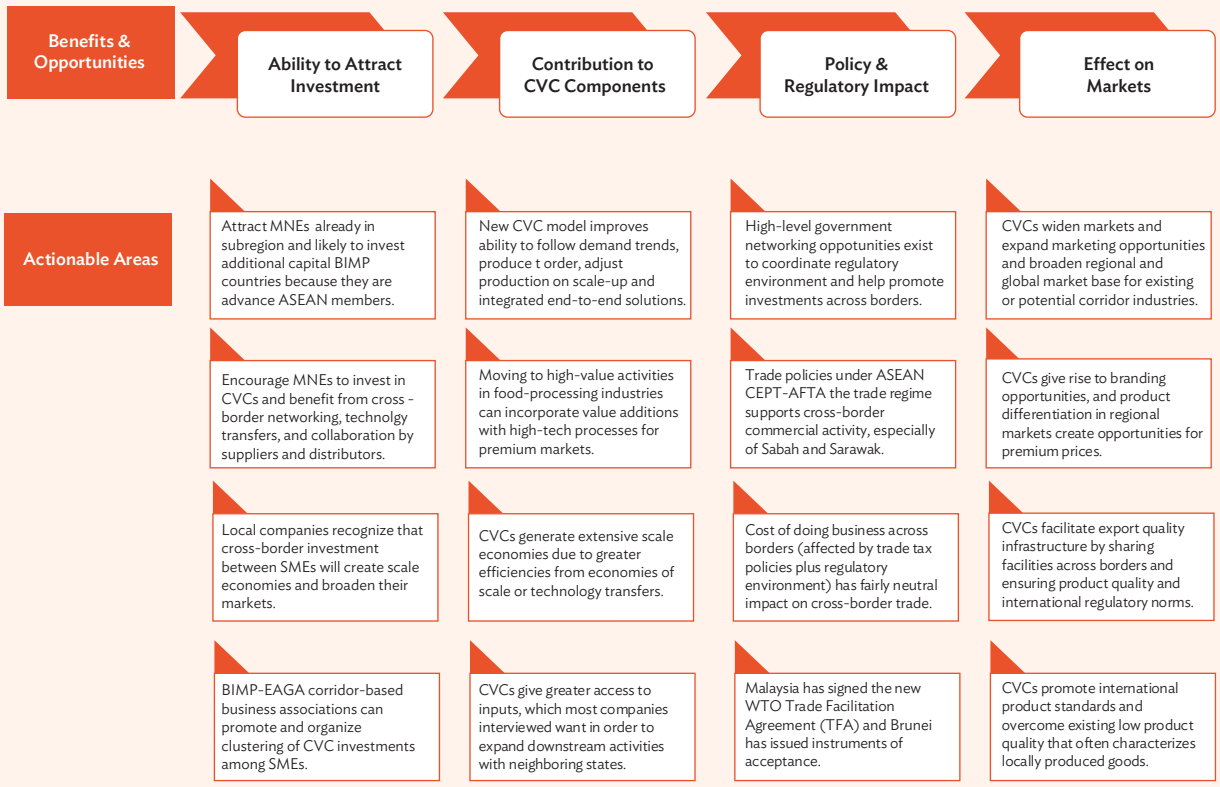
Opportunities for investment in corridor value chains abound in both BIMP-EAGA corridors. Box 11.1 summarizes the top reasons to invest in those types of value chains in the subregion. They are mainly associated with internal and external effects generated by cross-border value chains, the ability of those CVCs to attract investment from multinational enterprises (MNEs), a favorable policy and regulatory environment, and the ability substantially broaden existing markets for goods and services.

While most economic activity throughout the two corridors is currently concentrated in low-tech industries, there are ample opportunities to turn some of the enterprises into high-tech companies, incorporating value additions and producing goods for premium markets. The food-processing industry, for example, could move from its present fragmented structure, dominated by locally oriented SMEs, to corridor-wide value chains that incorporate advances in the areas of biotechnology, nanotechnology and information and communication technology in order to produce more innovative products and increase their regional and global presence. In the halal food industry, for instance, high standards for manufacturers and the need to detect non-halal materials in foods that are halal certified makes large-scale production necessary. High-tech hubs are already emerging in some of the BIMP-EAGA member countries and those types of networks could spread across the two economic corridors in order to achieve economies of scale.

Provincial and state governments have already given priority to high-tech industries in their economic development plans, providing new impetus for the spread of investments across borders. Those development plans include industries like pharmaceuticals and ICT in Brunei Darussalam; steel in West Kalimantan; manufacturing, ICT, education, and creative industries generating knowledge and information in Sabah; steel in Sarawak; and ICT in Mindanao. In service industries like tourism multi-country destination marketing plans would help further raise the profile of BIMP-EAGA as a world-class destination, with good air, land, and water connectivity, diverse tourism activities, quality services, and business-friendly policies, thereby boosting the subregion's tourism competitiveness.

The BIMP-EAGA governments are supporting new multinational entrants into the corridors by strengthening infrastructure, improving connectivity, and instituting policies that facilitate cross-border trade and investment. BIMP-EAGA's Trade and Investment Facilitation (TIF) Cluster is a ready-made mechanism for developing a strategic framework to help attract investment to corridors, and the TIF Cluster is disseminating information to potential investors on the progress being made in infrastructure, connectivity, pro-investment policies and the regulatory environment. In the area of trade policies, trade regimes are already favorable for cross-border commercial activity under the ASEAN CEPT-AFTA, especially in Brunei Darussalam and the

Box 11.1: Compelling Reasons to Invest in BIMP-EAGA Corridor Value Chains



Malaysian states of Sabah and Sarawak. In the area of trade facilitation, Malaysia has already signed the new WTO Trade Facilitation Agreement (TFA) and Brunei Darussalam has issued instruments of acceptance. The effectiveness of these policies is reflected in the positive views expressed by company managers.

In the private sector, company executives in both corridors overwhelmingly agree that there exist enormous potential for corridor value chains to succeed in their industries. Much of the interest comes from (a) potential upstream activities from neighboring states having an abundance of raw materials and a relatively large production base in processing of agricultural, fish, wood, and mineral products; (b) branding their products to better differentiate them in premium markets; and (c) expanding their marketing opportunities in regional and global market.

Many companies along the two corridors report high quality standards, appropriate technology levels, adequate employee skills, and good access to information about competitors. Corridor-wide value chains and efforts to attract multinational investments will bring knowledge transfers and scale economies, thereby strengthening the regional and global competitiveness of those companies. Scale economies in corridor value chains will also allow small-scale companies

to share Export Quality Infrastructure (EQI) costs for standardization and testing, quality management, conformity assessment, and certification and accreditation.

Finally, the corridor business model will encourage value chain participants to better address complex, interrelated strategic issues, including the ability to follow demand trends, produce to order, and adjust to production scale-up and integrated end-to-end solutions, thereby allowing them to upgrade their product design, branding, and marketing strategies.

Statistical Appendixes

Appendix Table A1a: Brunei Darussalam Value of Foreign Direct Investment Approvals by Industry, 2010-2014 (US$ '000)

2010		2011		2012		2013		2014	
Industry	US$ '000	Industry	US$ '000	Industry	US$ '000	Industry	US$ '000	Industry	US$ '000
Pharmaceutical	26,000	Refinery & Petrochemicals	4,000,000	Training Services	102,000	Petrochemicals	1,300,000	Manufacturing	157,000
Food Processing	12,000							Aquaculture	44,000
Total	**38,000**	**Total**	**4,000,000**	**Total**	**102,000**	**Total**	**1,300,000**	**Total**	**201,000**

Source: Ministry of Industry and Natural Resources.

Appendix Table A1b: North Sulawesi Value of Foreign Direct Investment Approvals by Industry, 2010-2014 (US$ '000)

2010		2011		2012		2013		2014	
Industry	US$ '000	Industry	US$ '000	Industry	US$ '000	Industry	US$ '000	Industry	US$ '000
Palm oil	147,000	Mining	337,435	Palm oil	279,528	Steel rolling	80,000	Basic chemical products	357,145
Fishery	39,935	Coal fired steam power plant	80,000	Fishery	35,850	Hotel	25,020	Coconut oil, pal oil, other vegetable and animal oil	102,054
Mining	22,288	Vegetable oil, animal and other product oil	33,443	Wholesale	17,273	Water installation	10,546	Fishery	87,310
Hotels	10,250	Palm oil and other vegetable oil	33,330	Transportation	10,000	Mining	7,700	Mining	43,000
Frozen fish	5,700	Construction	18,600	Frozen	5,000	Wholesale	6,522	Metal and steel	24,000
Construction	1,900	Hotels	5,600	Mining	4,444	Palm products	4,839	Construction	15,000
Chemical and machinery	400	Technology communication	4,909			Fish cultivation	4,240	Frozen fish	5,185
		Food products	503			Coconut products	3,500	Coconut products	4,000
		Frozen fish	400			Chemical products	2,800	Property	3,001
						Frozen fish	2,500	Hotels	3,000
								Vegetable and animal oil	2,516
								Rubber	2,000
								Technology/ Software	1,095
Total	**227,473**	**Total**	**514,221**	**Total**	**352,096**	**Total**	**147,666**	**Total**	**649,306**

Source: Ministry of Industry and Natural Resources.

Appendix Table A1c: West Kalimantan Value of Foreign Direct Investment Approvals by Industry, 2010-2014 (US$ '000)

2010		2011		2012		2013		2014	
Industry	US$ '000	Industry	US$ '000	Industry	US$ '000	Industry	US$ '000	Industry	US$ '000
Plantation	150,176	Plantation	373,492	Plantation	223,661	Plantation	506,341	Plantation	562,432
Construction	11,000	Mining	118,087	Metals	152,359	Metals	70,565	Metals	202,106
Food processing	7,808	Food processing	9,119	Forestry	13,834	Food processing	42,753	Food processing	115,352
Mining	1,200			Mining	6,533	Mining	12,998	Mining	55,381
Trade and Reparation	255			Food processing	1,138	Electrics, gas and water	8,125	Forestry	19,810
Wood processing	9			Non-metals	10	Animal husbandry	7,000	Transportations	3,098
						Rubbers	938	Construction	3,010
						Hotel	611	Housing, estate	2,923
						Chemicals	362	Other services	690
						Other services	263	Animal husbandry	588
								Hotel	293
								Electrics, gas and water	268
								Rubbers	98
								Other industries	39
								Non-metals	20
Total	**170,449**	**Total**	**500,698**	**Total**	**397,535**	**Total**	**649,955**	**Total**	**966,107**

Source: BKPM Data and Information Center.

Appendix Table A1d: Sabah Value of Foreign Direct Investment Approvals by Industry, 2010-2014 (US$ '000)

2010		2011		2012		2013		2014	
Industry	US$ '000	Industry	US$ '000	Industry	US$ '000	Industry	US$ '000	Industry	US$ '000
Transport Equipment	111,857,143	Chemical Products	214,895,845	Petroleum Products	1,470,588,235	Petroleum Products	335,121,951	Chemical Products	457,454,771
Food Manufacturing	93,413,372	Non-Metallic Mineral Products	17,350,158	Food Manufacturing	28,272,841	Food Manufacturing	269,325,570	Food Manufacturing	156,860,175
Chemical & Chemical Products	31,481,559	Wood & Wood Products	13,749,085	Chemical & Chemical Products	13,763,705	Chemical & Chemical Products	115,516,159	Basic Metal Products	28,597,429
Basic Metal Products	11,832,751	Food Manufacturing	10,212,909	Machinery & Equipment	13,532,709	Furniture & Fixtures	4,334,006	Wood & Wood Products	12,151,314
Wood & Wood Products	8,713,961	Furniture & Fixtures	7,735,016	Basic Metal Products	11,754,771	Wood & Wood Products	4,072,340	Non-Metallic Products	7,607,429
Non-Metallic Mineral Products	6,980,519	Plastic Products	5,646,475	Transport Equipment	9,599,003	Non-Metallic Mineral Products	3,873,931	Fabricated Metal Products	7,316,158
Beverages & Tobacco	5,041,883	Transport Equipment	2,610,759	Wood & Wood Products	4,973,856	Transport Equipment	3,810,976	Beverages & Tobacco	4,657,143
Fabricated Metal Products	4,383,117	Petroleum Products (Inc. Petrochemicals)	2,523,659	Textiles & Textile Products	2,810,458	Beverages & Tobacco	3,773,171	Transport Equipment	1,522,857
Paper, Printing & Publishing	1,645,921	Textiles & Textile Products	1,075,710	Furniture & Fixtures	1,960,784	Machinery & Equipment	2,018,293	Plastic Products	957,143
Miscellaneous	407,468	Machinery & Equipment	883,281	Rubber Products	770,915				
Total	**275,757,694**	**Total**	**276,682,897**	**Total**	**1,558,027,277**	**Total**	**741,846,397**	**Total**	**677,124,419**

Source: Department of Statistics Malaysia.

Appendix Table A1e: Sarawak Value of Foreign Direct Investment Approvals by Industry, 2010-2014 (US$ '000)

Industry	2010	2011	2012	2013	2014
Chemical & Chemical Products		693,099,940	870,431,373	824,988,676	1,468,138,432
Basic Metal Products	822,693,506	573,766,895	353,022,694	879,951,220	818,797,945
Petroleum Products	89,071,429	31,545,741			106,885,714
Wood & Wood Products	188,226	4,061,201	455,458	4,722,256	5,415,545
Machinery & Equipment	3,094,481		144,444		1,400,000
Electronics & Electrical Products	235,714,286			365,853,659	
Food Manufacturing	1,702,830		1,002,945	4,132,080	
Fabricated Metal Products				839,783	
Furniture & Fixtures		3,154,574		15,244	
Non-Metallic Mineral Products			730,392		
Textiles & Textile Products	55,355		608,817		
Transport Equipment	2,301,044	555,193			
Paper, Printing & Publishing		16,401			
Rubber Products		13,866			
Plastic Products	13,342				
Total	**1,154,834,498**	**1,306,213,811**	**1,226,396,123**	**2,080,502,917**	**2,400,637,637**

Source: Department of Statistics Malaysia.

Appendix Table A1f: Mindanao Value of Foreign Direct Investment Approvals by Industry, 2010-2014 (US$ '000)

2010		2011		2012		2013		2014	
Industry	US$ '000	Industry	US$ '000	Industry	US$ '000	Industry	US$ '000	Industry	US$ '000
Region 10									
Agriculture, forestry and fishing	32	Real estate activities	344	Accommodation and food service activities	38	Electricity, gas, steam	137	Agriculture, forestry and fishing	91
Information and communication	1			Real estate activities	58	Manufacturing	284	Real estate activities	98
				Transportation and storage	5	Real estate activities	71		
Region 11									
		Public administration and defense;	9	Agriculture, forestry & fishing	40	Agriculture, forestry & fishing	116	Administrative and support activities	131
		Real estate activities	455	Manufacturing	12	Electricity, gas, steam	1,475	Manufacturing	175
				Transportation and storage	34	Manufacturing	45		
						Transportation and storage	27		
Region 12									
Manufacturing	22			Manufacturing	1	Agriculture, forestry & fishing	765	Agriculture, forestry & fishing	33
								Electricity, gas, steam	222
Region 13									
		Mining and quarrying	64	Mining and quarrying	230	Financial and insurance	3	Accommodation and food service	55
				Real estate activities	68	Mining and quarrying	1,775	Electricity, gas, steam	1,593
						Transportation and storage	27		

Source: Board of Investment.

Appendix Table A2a: Brunei Darussalam Value of Foreign Direct Investment Realization by Industry, 2010-2014 (US$ '000)

2010		2011		2012		2013		2014	
Industry	US$ '000	Industry	US$ '000	Industry	US$ '000	Industry	US$ '000	Industry	US$ '000
Petrochemicals	600,000					Pharmaceutical	26,000	Training Services	102,000
						Food Processing	12,000		
Total	**600,000**	**Total**	**0**	**Total**	**0**	**Total**	**38,000**	**Total**	**102,000**

Source: Ministry of Industry and Natural Resources.

Appendix Table A2b: North Sulawesi Value of Foreign Direct Investment Realization by Industry, 2010-2014 (US$ '000)

2010		2011		2012		2013		2014	
Industry	US$ '000	Industry	US$ '000	Industry	US$ '000	Industry	US$ '000	Industry	US$ '000
Palm oil	163,788	Mining	312,051	Palm oil	288,974	Hotel	25,020	Coconut oil	102,054
Mining	22,288	Vegetable oil	37,159	Fishery	35,850	Water installation	10,546	Fishery	78,400
Fishery	18,600	Palm oil	37,034	Wholesale	17,273	Palm products	4,839	Basic chemical products	44,689
Frozen fish	5,700	Construction	18,600	Transportation	10,000	Wholesale	4,286	Mining	11,333
Chemical and machinery	400	Technology & communication	4,909	Frozen fish	5,000	Fish cultivation	4,240	Frozen fish	2,935
		Hotels	3,780	Mining	4,444	Coconut products	3,500	Vegetable and animal oil	2,516
		Food products	503			Frozen fish	2,500	Technology/ Software	1,043
		Frozen fish	400					Hotel accommodation	413
Total	**210,777**	**Total**	**414,436**	**Total**	**361,541**	**Total**	**54,930**	**Total**	**243,383**

Source: Regional Investment Coordinating Board for North Sulawesi.

Appendix Table A2c: West Kalimantan Value of Foreign Direct Investment Realization by Industry, 2010-2014 (US$ '000)

2010		2011		2012		2013		2014	
Industry	US$ '000	Industry	US$ '000	Industry	US$ '000	Industry	US$ '000	Industry	US$ '000
Estates Crops	948,536	Estates Crops	1,153,190	Estates Crops	1,575,762	Estates Crops	1,943,715	Estates Crops	2,237,838
Chemical	71,470	Chemical	73,602	Basic Metal	239,990	Basic Metal	334,447	Basic Metal	354,620
Forestry	57,191	Basic Metal	59,887	Chemical	127,616	Electricity & gas	150,000	Electricity & gas	150,000
Food Industry	12,541	Forestry	57,191	Forestry	84,626	Chemical	145,060	Chemical	145,904
Mining	9,847	Food Industry	12,541	Mining	9,847	Forestry	84,626	Forestry	84,642
Woods	5,048	Mining	9,847	Other Services	5,477	Mining	9,847	Trade	9,617
Hotel and Restaurant	5,021	Other Services	5,477	Woods	5,048	Other Services	6,186	Mining	9,847
Other Services	4,595	Woods	5,048	Hotel and Restaurant	5,021	Woods	5,048	Other Services	6,785
Transportation	3,773	Hotel and Restaurant	5,021	Transportation	3,773	Hotel and Restaurant	5,021	Hotel and Restaurant	6,117
Others Industry	2,810	Transportation	3,773	Food Industry	2,977	Transportation	3,773	Woods	5,048
Fishery	1,618	Others Industry	2,810	Others Industry	2,810	Food Industry	2,977	Transportation	3,773
Trade	300	Fishery	1,618	Trade	2,690	Others Industry	2,810	Food Industry	2,977
		Trade	300	Fishery	1,618	Trade	2,690	Others Industry	2,810
						Fishery	1,618	Fishery	1,618
Total	**1,122,749**	**Total**	**1,390,304**	**Total**	**2,067,253**	**Total**	**2,697,817**	**Total**	**3,051,595**

Source: BPM PTSP Kalimantan Barat Province (Investment Board and One Stop Service Office of Kalimantan Barat Province).

Appendix Table A2d: Sabah Value of Foreign Direct Investment Realization by Industry, 2010-2014 (US$ '000)

2010		2011		2012		2013		2014	
Industry	US$ '000	Industry	US$ '000	Industry	US$ '000	Industry	US$ '000	Industry	US$ '000
Food Manufacturing	139,842	Food Manufacturing	6,3413	Chemical & Chemical Products	69,305	Petroleum Products (Inc. Petrochemicals)	305,121	Chemical & Chemical Products	136,573
Transport Equipment	8,181	Plastic Products	4,329	Food Manufacturing	15,110	Food Manufacturing	6	Food Manufacturing	19,581
Paper, Printing & Publishing	4,9378	Chemical & Chemical Products	3,138	Machinery & Equipment	943			Fabricated Metal Products	349
Non-Metallic Mineral Products	1,673	Furniture & Fixtures	179	Furniture & Fixtures	708				
Total	**199,074**	**Total**	**71,059**	**Total**	**86,066**	**Total**	**305,127**	**Total**	**156,503**

Source: Department of Statistics Malaysia.

Appendix Table A3a: Brunei Darussalam Foreign Direct Investment Inflow by Country of Origin, 2010-2014 (US$ '000)

	2010	2011	2012	2013	2014
TOTAL	**480,725**	**691,117**	**864,817**	**775,562**	n/a
BIMP-EAGA Members	**8,200**	**3,531**	**5,189**	**3,439**	
Indonesia	271				
Malaysia	7,919	3,531	5,189	3,439	
Philippines	10				
Other Asian Countries	**116,284**	**71,055**	**170,983**	**105,788**	
Hong Kong, China	71,546	13,640	87,064	93,039	
Japan	21,965	55,370	55,568	15,820	
Singapore	23,273	2,045	26,284	-11,862	
Others	-500		2,067	8,791	
Other Countries	**356,241**	**616,531**	**688,645**	**666,335**	
Germany	2,187		-16,074	15,358	
Netherlands	22,608	737	212,642	114,378	
United Kingdom	111,451	449,763	399,057	430,723	
USA	15,189	18,402	32,106	-5,339	
Others	204,806	147,629	60,914	111,215	

Source: Ministry of Industry and Natural Resources.

Appendix Table A3b: North Sulawesi Foreign Direct Investment Inflow by Country of Origin, 2010-2014 (US$ '000)

	2010	2011	2012	2013	2014
TOTAL					
BIMP-EAGA Members					
Brunei Darussalam					
Malaysia		400			
Philippines	6,335		40,850		
Other Asian Countries					
Singapore	166,150	357,167	279,528	32,642	453,510
RRC	3,138	112,389	27,273	80,000	44,490
Taipei,China	1,900				
Republic of Korea	400			11,339	9,500
Japan		503		6,740	2,935
Thailand					2,250
Thailand/Singapore		750			
Other Countries					
Belgium					1,250
England		1,200		2,400	1,250
Finland					3,000
British Virginia					82,320
England/Singapore		33,443			
Australia		610			500
United Arab Emirate		4,909			
Italia		2,000			
Netherlands				11,746	1
USA					3,611
Saudi Arabia/England		850			
Other countries	49,550		4,444	2,800	44,689

Source: Regional Investment Coordinating Board for North Sulawesi.

Appendix Table A3c: West Kalimantan Foreign Direct Investment Inflow by Country of Origin, 2010-2014 (US$ '000)

	2010	2011	2012	2013	2014
TOTAL					
BIMP-EAGA Members					
Brunei Darussalam					
Malaysia	69,189		9,814	30,766	146,728
Philippines					
Other Asian Countries					
Singapore	42,013	42,013	115,792	217,665	255,411
Thailand	22,634	51,472			
Japan			150,793	45,475	49,938
Hong Kong, China				920	1,325
People's Republic of China		287	967	862	3,068
Republic of Korea	7,005		1,490		
India				300	74
Other Countries					
British Virgin Islands	1,069	2,120	6,443	66,095	5,262
England			13,491	3,605	2,735
Mauritius		3,257		7,000	588
Spain			1,973	1,762	
Seychelles	428				
United Arab Emirates					177

Sources: Investment Realization, BKPM Data and Information Center.

Appendix Table A3d: Sabah Foreign Direct Investment Inflow by Country of Origin, 2010-2014 (US$ '000)

	2010	2011	2012	2013	2014
TOTAL					
BIMP-EAGA Members					
Indonesia					16,754,286
Philippines		53,754		6,388	
Other Asian Countries					
People's Republic of China	65,837	32,189	15,882		1,411,286
Japan		46,782	1,137		
Republic of Korea				35,121,951	
Pakistan	8,986,738		19,624,183		
Singapore	124,462,974		2,691,813		13,551,271
Taipei,China	1,645,921	13,295			
Thailand			1,371,895		
Other Countries					
Australia	639,326	724,877			
France	1,672,895				
Netherlands			2,712,431		
New Zealand		125,426			
Sweden		2,131			
Switzerland			354,175		
United Kingdom		17,265			
USA	32,266	3,222			
Germany			17,743,994		
Russian Federation			354,175		
Cayman Islands			933,276		
Others	8,181,818	437,224	218,754		2,826,792

Source: Department of Statistics Malaysia.

Appendix Table A3e: Sarawak Foreign Direct Investment Inflow by Country of Origin, 2010-2014 (US$ '000)

	2010	2011	2012	2013	2014
Total					
BIMP-EAGA Members					
Indonesia	38,961	46,466			
Singapore	2,223,742		6,872,879	11,794,913	464,937,148
Other Asian Countries					
People's Republic of China	37,623,052	47,682,587	54,469,579	365,853,659	1,400,000
Japan	198,932,792	48,408,739	455,458	426,766,226	1,574,771,200
Republic of Korea		257,097,792		1,268,902,439	
Hong Kong, China	605,533,442	88,484,299			
Taipei,China			78,431	4,737,500	68,502,514
Other Countries					
Australia		225,121	169,935		
France		7,798,107			1,237,714
Netherlands				1,608,397	
Norway			298,039,216		
Sweden		232,936			
United Kingdom	74,571,429	1,949,180			89,485,714
USA	235,714,286				
Germany		232,936			
Saudi Arabia		684,835,962	864,705,882		
South Africa					194,608,800
Cook Islands					297,496
British Virgin Islands	67,565	1,021,894			743,739
Others	129,230	168,197,793	1,604,742	839,784	4,653,311

Source: Department of Statistics Malaysia.

Appendix Table A4a: Brunei Darussalam Top 10 Product Exports, 2014 (US$)

No.	HS Code	Description	Value
1	271111	Liquefied natural gas (kg)	6,815,616,756
2	270900	Petroleum oils, crude (kg)	5,582,534,707
3	293629	Other vitamins and their derivatives (kg)	309,915,644
4	290511	Methanol (methyl alcohol) (kg)	256,719,097
5	291512	Salts of formic acid (kg)	28,583,687
6	880330	Other parts of airplanes or helicopters (kg)	24,709,436
7	840690	Parts of steam and other vapor turbines (kg)	19,154,400
8	980210	Used personal or household effect (u)	18,377,222
9	843143	Parts of other boring or sinking machinery of subheading 8430.41 or 8430.49 (kg)	16,122,507
10	721410	Other bars and rods forged of iron or non-alloy steel, of weight 0.6% or more of carbon (kg)	10,241,790

Source: Ministry of Industry and Natural Resources.

Appendix Table A4b: North Sulawesi Top 10 Product Exports, 2014 (US$ '000)

No.	HS Code	Description	Value
1	160414	Fish preparations; tunas, skipjack and Atlantic bonito, prepared or preserved, whole or in pieces (but not minced)	108,730
2	304990	Fish meat, excluding fillets, whether or not minced; frozen, nes in item no. 0304.9	102,559
3	380210	Carbon; activated	91,055
4	304870	Fish fillets; frozen, tunas, skipjack or stripe-bellied bonito	90,648
5	301199	Fish; live, ornamental, other than freshwater	62,853
6	801110	Nuts, edible; coconuts, desiccated	51,191
7	230650	Oil-cake and other solid residues; whether or not ground or in the form of pellets, resulting from extraction of coconut or copra seed oils	41,550
8	305490	Fish; smoked, whether or not cooked before or during smoking, nes in item no. 0305.4, includes fillets	41,320
9	302350	Fish; fresh or chilled, Atlantic and Pacific Bluefin tunas, excluding fillets, livers, roes, and other fish meat of heading 0304	38,091
10	151319	Vegetable oils; coconut (copra) oil and its fractions, other than crude, whether or not refined, but not chemically modified	33,195

Source: Central Bureau of Statistics.

Appendix Table A4c: West Kalimantan Top 10 Product Exports, 2013 (US$ '000)

No.	HS Code	Description	Value
1	400000	Rubber and Articles of Rubber	678,291
2	260000	Ore, Crust and Abu Metal	645,134
3	440000	Wood, Articles of Wood	212,172
4	150600	Fats & Oils Animal/Vegetable	18,969
5	230330	Dregs/Time Industry Food	13,170
6	300000	Fish and Shrimp	8,377
7	890000	Ships and Floating Buildings	8,306
8	550000	Sari Materials and Bags	3,304
9	120000	Grains oily	3,139
10	240000	Tobacco	2,568

Sources: Regional Office of Trade Ministry of West Kalimantan, and West Kalimantan Industrial and Trade "Export of West Kalimantan by Commodity 2013."

Appendix Table A4d: Sabah Top 10 Product Exports, 2014 (US$ '000)

No.	HS Code	Description	Value
1	270900	Petroleum, Crude	4,702,996
2	151190	Palm Oil, Crude & Processed	3,738,532
3	151329	Palm Kernel Oil, Crude & Processed	544,098
4	290511	Methanol	399,826
5	440810	Plywood	246,490
6	720310	Hot Briquetted Iron	204,042
7	400110	Rubber	54,770
8	440729	Sawn Timber	99,011
9	030610	Prawns, Fresh, Frozen	91,341
10	230660	Palm Kernel Cake	82,126

Source: Department of Statistics of Malaysia.

Appendix Table A4e: Sarawak Top 10 Product Exports, 2014 (US$ '000)

No.	HS Code	Description	Value
1	271111	Liquefied Natural Gas	16,143
2	270900	Crude petroleum	5,802
3	151190	Palm oil (crude & processed)	2,026
4	441200	Plain plywood	1,009
5	440300	Saw logs	481
6	851580	Electrical machinery & apparatus	283
7	271000	Petroleum products	258
8	890790	Ships, boats & floating structures	159
9	310210	Urea	147
10	440729	Sawn timber	141

Source: Department of Statistics of Malaysia.

Appendix Table A4f: Mindanao Top 10 Product Exports, 2013 (US$ '000)

No.	HS Code	Description	Value
		Region 10	
1	151319	Coconut (copra) oil and its fractions thereof, whether or not refined, but not chemically modified	269,681
2	290517	Dodecan-1-ol (lauryl alcohol), hexadecan-1-ol (cetyl alcohol) and octadecan-1-ol (stearyl alcohol)	190,846
3	980328	Iron or agglomerates (sinters) manufactured from iron ore and concentrates on consignment basis	118,747
4	151311	Coconut (copra) oil, crude	94,820
5	340290	Other surface-active agents, n.e.s.	84,133
6	200820	Pineapples, otherwise prepared or preserved, whether or not containing added sugar	57,969
7	230650	Oil-cake and other solid residues, whether or not ground or in the form of pellet	54,375
8	440799	Other wood n.e.s., sawn or chipped lengthwise, sliced or peeled	42,060
9	080430	Pineapples, fresh or dried	41,470
10	080300	Bananas, including plantains, fresh or dried	32,880
		Region 11	
1	080300	Bananas, including plantains, fresh or dried	1,046,465
2	151311	Coconut (copra) oil, crude	317,229
3	080111	Desiccated coconuts, fresh or dried	109,268
4	080430	Pineapples, fresh or dried	107,445
5	200899	Other fruits, nuts and other edible parts of plants, otherwise prepared or preserved	82,029
6	380210	Activated carbon	57,992
7	400129	Natural rubber, n.e.s. in primary forms or in plates, sheets or strip	46,715
8	151319	Coconut (copra) oil and its fractions thereof, whether or not refined, but not chemically modified	42,291
9	150790	Other soya-bean oil and its fractions, whether or not refined, but not chemically modified	34,543
10	230650	Oil-cake and other solid residues	28,144

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Table A4f *continued*

No.	HS Code	Description	Value
		Region 12	
1	160414	Tunas, skipjack and bonito (Sarda spp.), whole or pieces, but not minced, prepared or preserved	309,422
2	200820	Pineapples, otherwise prepared or preserved	113,168
3	030342	Yellowfin tunas (Thunnus albacares), (excluding livers and roes), frozen	112,183
4	151311	Coconut (copra) oil, crude	102,399
5	030420	Fish fillets, frozen	64,943
6	200949	Pineapple juice, unfermented and not containing added spirit	57,667
7	080300	Bananas, including plantains, fresh or dried	49,067
8	200892	Mixtures of fruits, nuts and other edible parts of plants, otherwise prepared or preserved	36,340
9	441890	Other builders' joinery and carpentry of wood, n.e.s.	34,308
10	151110	Palm oil, crude	22,704
		Region 13	
1	260400	Nickel ores and concentrates	1,255,372
2	750120	Nickel oxide sinters and other intermediate products of nickel metallurgy	320,109
3	151311	Coconut (copra) oil, crude	25,892
4	283090	Other sulphides; polysulphides	22,320
5	151110	Palm oil, crude	12,835
6	220290	Other waters, including mineral waters and aerated waters, containing added sugar	6,510
7	848180	Other taps, cocks, valves and similar appliances, n.e.s.	5,364
8	151319	Coconut (copra) oil and its fractions thereof, whether or not refined, but not chemically modified	5,346
9	200980	Juice of any other single fruit or vegetable, unfermented and not containing added spirit	3,791
10	080111	Desiccated coconuts, fresh or dried	3,656

Source: Export Marketing Bureau (DTI-Head Office).

Appendix Table A5a: Brunei Darussalam Top 10 Product Imports, 2014 (US$)

No.	HS Code	Description	Value
1	890120	Tankers of gross tonnage over 50,000 (u)	265,505
2	271019	Automotive diesel fuels (kg)	164,657
3	271012	Motor spirit, of RON 97 and above, unleaded (kg)	157,834
4	870322	Motor cars of a cylinder capacity over 1000 cc to 1500 cc	109,200
5	382490	Other chemical products & preparations, nes. (kg)	92,554
6	271019	Other diesel fuels (kg)	88,392
7	490199	Other printed books and brochures, leaflets and similar printed matters	77,596
8	870323	Motor cars of a cylinder capacity over 1,800 cc to 2000 cc	64,315
9	100630	Thai Hom Mali rice (kg)	61,540
10	300490	Other medicaments for retail sale (kg)	60,967

Source: Ministry of Industry and Natural Resources.

Appendix Table A5b: North Sulawesi Top 10 Product Imports, 2014 (US$ '000)

No.	HS Code	Description	Value
1	841459	Fans; nes in item no. 8414.51	22,105
2	220710	Denatured ethyl alcohol; of an alcoholic strength by volume of 80% vol. or higher	6,723
3	250100	Salt (including table salt and denatured salt); pure sodium chloride whether or not in aqueous solution	4,520
4	251990	Magnesia, fused or dead-burned; whether or not containing small quantities of other oxides added	3,500
5	260111	Iron ores and concentrates; non-agglomerated	3,200
6	260300	Copper ores and concentrates	3,112
7	261690	Precious metal ores and concentrates; (excluding silver)	2,963
8	271210	Petroleum jelly	2,917
9	280120	Iodine	2,768
10	280130	Fluorine; bromine	1,862

Source: Central Bureau of Statistics.

Appendix Table A5c: West Kalimantan Top 10 Product Imports, 2013 (US$)

No.	HS Code	Description	Value
1	290511	Fuel Minerals	325,989
2	731411	Machines / Aircraft Mechanic	90,612
3	848510	Ships and Floating Buildings	67,316
4	392410	Salt, sulfur, lime	16,073
5	420400	Machinery / Equipment Electrical	14,329
6	230330	Dregs / Time Industry Food	9,854
7	262019	Iron and Steel	9,250
8	391690	Plastics and Articles of Plastics	7,113
9	391990	Grains oily	6,311
10	310590	Fertilizer	4,559

Sources: West Kalimantan Industrial and Trade, "Import of West Kalimantan by Commodity."

Appendix Table A5d: Sabah Top 10 Product Imports, 2014 (US$)

No.	HS Code	Description	Value
1	270500	Petroleum products	1,836,977
2	870310	Motor cars, completely built-up	376,761
3	870421	Motor buses and goods vehicles, completely built-up	283,401
4	310290	Fertilizers, manufactured	281,245
5	843110	Parts for construction and mining machineries	169,126
6	730300	Tubes, pipes and fittings of iron Or steel	214,323
7	851769	Parts & accessories for Telecommunications equipment	106,584
8	847590	Machinery & equipment specialized for particular industries and parts	117,959
9	722710	Iron and steel bars, rods, etc.	101,169
10	870390	Other passengers motor vehicles, completely built-up	109,818

Source: Department of Statistics of Malaysia.

Appendix Table A5e: Sarawak Top 10 Product Imports, 2014 (US$)

No.	HS Code	Description	Value
1	391110	Petroleum, petroleum products & related materials	1,397
2	870310	Road vehicles & other transport equipment	1,080
3	730890	Iron & steel	516
4	281129	Non-ferrous metals & manufactures of metals	495
5	851580	Electrical machinery & apparatus	432
6	100890	Cereals & cereal preparations	257
7	850239	Power generating machinery & equipment, specialised machinery	191
8	330190	Essential oils & resinoids & perfume materials; toilet polishing etc	157
9	66	Non-metallic mineral manufactures	153
10	392620	Articles of apparel & clothing accessories	127

Source: Department of Statistics of Malaysia.

Appendix Table A5f: Mindanao Top 10 Product Imports, 2013 (US$)

No.	HS Code	Description	Value
		Region 10	
1	270900	Petroleum oils and oils obtained from bituminous minerals, other than crude	6,992,116
2	310520	Mineral or chemical fertilizers, nitrogenous.	2,382,444
3	470710	Uncoated kraft paper and paperboard, in rolls or sheets, other than of heading	2,060,896
4	840219	Steam or other vapour generating boilers	1,240,950
5	380810	Insecticides	1,220,557
6	480260	Other uncoated paper and paperboard in rolls or sheets, not further worked or processed	1,208,995
7	730890	Structure and parts of structure	956,431
8	310520	Minerals or chemical fertilizers	804,077
9	690890	Glazed ceramics flags and paving	801,442
10	720711	Semi-finished products of iron or non-alloy steel	793,320
		Region 11	
1	270900	Petroleum oils and oils obtained from bituminous minerals	4,170,108
2	470710	Uncoated kraft paper and paperboard, in rolls or sheets	1,721,452
3	310520	Mineral or chemical fertilizers, nitrogenous.	1,299,093
4	480540	Other uncoated paper and paperboard, in rolls or sheets, not further worked or processed	949,416
5	380810	Insecticides	873,162
6	690710	Glazed ceramics flags and paving	527,738
7	271129	Petroleum gases and other gaseous hydrocarbons.	466,629
8	390190	Polymers of ethylene, in primary forms	455,485
9	310520	Minerals or chemical fertilizers	435,645
10	730890	Structures and parts of structure	433,597

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Table A5f *continued*

No.	HS Code	Description	Value
		Region 12	
1	030229	Frozen Tuna	23,833
2	100610	Long Grain White Rice	8,840
3	010200	Soybeans Meal	6,628
4	850211	Generating Set	5,062
5	030264	Frozen Mackerel	2,911
6	841239	Round Up and Power	2,560
7	381121	Lubricating Oil	2,238
8	310210	Prilled Urea	2,233
9	010208	Copper Welding Wire	2,053
10	010209	Tires	1,919
		Region 13	
1	843050	Other moving, grading, levelling, scraping machinery	42,788
2	902610	Instruments and apparatus for measuring or checking the of liquids or gases.	11,360
3	847981	Machines and mechanical appliances having individual functions	11,329
4	400690	Other forms (for example, rods, tubes and profile shapes) and articles of unvulcanised rubber.	5,754
5	850240	Electric generating sets and rotary converters.	5,463
6	847480	Machinery for sorting,mixing or kneading earth, stone, ores in solid form.	4,717
7	842911	Self-propelled bulldozers, angledozers, tamping machines and road rollers.	2,813
8	841410	Air or vacuum pumps, whether or not fitted with filters.	2,731
9	701910	Glass fibres (including glass wool) and articles thereof (for example, yarn, woven fabrics).	2,440
10	850110	Electric motors and generators (excluding generating sets).	2,070

Sources: MinDA Statistical Yearbook; Region 11: National Statistics Office (NSO,2013), Philippines, 2014; Region 12: National Statistics Office (NSO,2013), Philippines, 2014; Region 13: National Statistics Office (NSO 2013).

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