Final Report

BIMP-EAGA MARITIME TRANSPORT AND TRADE CONNECTIVITY STUDY

PROJECT TA-6462 REG: INSTITUTIONAL DEVELOPMENT FOR ENHANCED SUBREGIONAL COOPERATION IN THE ASEAN REGION

Joris Van der Ven

December, 2014

Table of Contents

ANNEXES

BIMP-EAGA MARITIME TRANSPORT AND TRADE CONNECTIVITY STUDY

1. INTRODUCTION

1. 1. General Objective and Background of the study

The general objective of the study is to improve knowledge and understanding of maritime transport and trade in the archipelagic area extending between Malaysia, Brunei, the Philippines and Indonesia with the aim of fostering economic development in the relatively more isolated areas within these countries.

The Brunei Darussalam-Indonesia-Malaysia-Philippines East ASEAN Growth Area (BIMP-EAGA) cooperative initiative was launched in 1994 by the four governments to foster the socioeconomic conditions of less developed, marginalized and far-flung areas; and narrow the development gap across and within the EAGA member countries. BIMP-EAGA covers the Sultanate of Brunei; the provinces of Kalimantan, Sulawesi, Maluku and West Papua of Indonesia; the states of Sabah and Sarawak and the Federal Territory of Labuan in Malaysia; and Mindanao region and the province of Palawan in the Philippines. The subregion covers a land area of 1.6 million square kilometers with an estimated population of more than 57 million.

BIMP-EAGA cooperation aims to increase trade, tourism and investments within the subregion and with other regions. Specific actions are being pursued in four strategic areas:

- Enhancing connectivity in transport (air, sea and land) in communications and in energy
- Developing agriculture in particular food production
- Developing tourism
- Ensuring that growth is environmentally sustainable

Over the years ADB has been providing considerable support to these initiatives.

In the archipelagic areas including Borneo/Kalimantan, Sulawesi, Mindanao and Palawan, maritime transport naturally plays a significant role in terms of movement of people and goods within and from/to the subregion. BIMP-EAGA has been working on improving the sea linkages among countries under their Transport Cluster through several initiatives, including the establishment of priority entry points with streamlined customs, immigration, quarantine and security (CIQS) formalities. Given that most of the shipping routes are operated by the private sector, one of the challenges is to facilitate private investment in transportation plying BIMP ports. However, lack of data/statistics on such matters as transport demand, port facilities and charges are one of the factors impeding private sector participation.

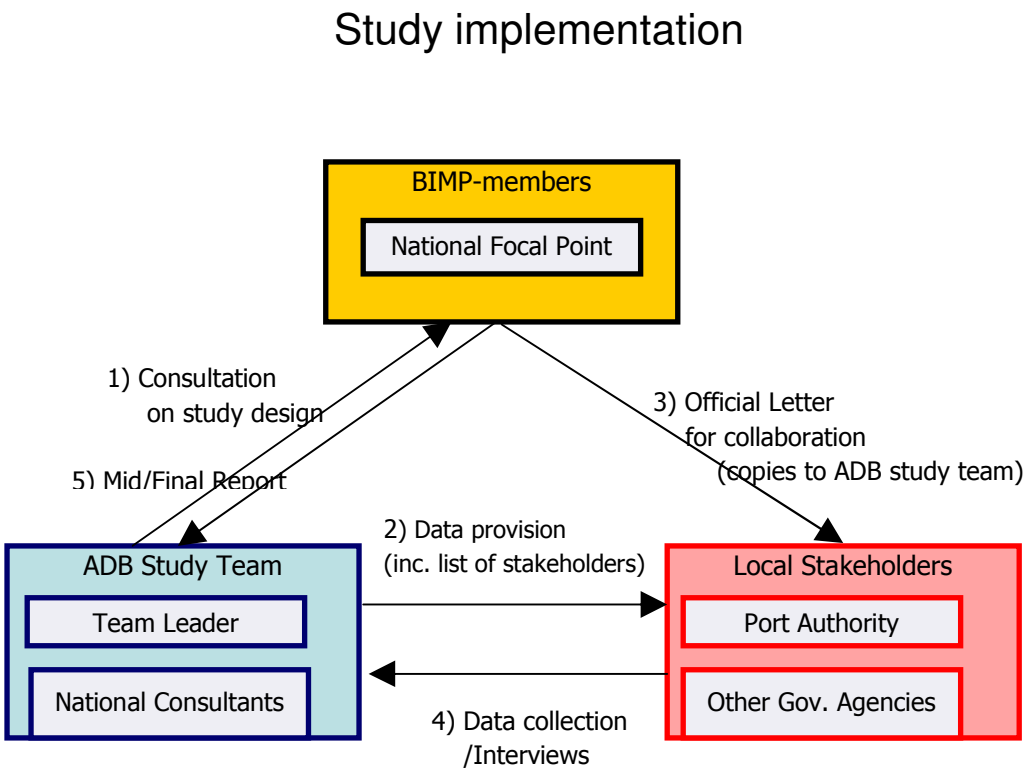
The Study was discussed between ADB and the member countries, on the following occasions:

- The BIMP-EAGA Transport Cluster Meeting in Nov. 2013 at which the preparation of the Port Booklet, a major component of the Study, was endorsed

- The BIMP-EAGA Strategic Planning Meeting in Feb. 2014 at which the scope and objectives of the Study were endorsed
- The BIMP-EAGA Transport Cluster Meeting in May 2014 at which the implementation arrangements for the Study were discussed and agreed.

1. 2. Study Organization and Implementation

The Study was implemented in close collaboration with the national member governments through a Focal Point in each member country. The stakeholders, including national/local governments, Port Authority/local ports, and other stakeholders were asked to collaborate towards the implementation of the Study primarily through provision of data. The national consultants developed country specific modalities of collaboration in consultation with the National Focal Point.



1. 3. Study Team

The Study was implemented by a team of four individual consultants recruited by ADB. At the start the team included three consultants each assigned to work on a designated country (Brunei Darussalam/Malaysia, Indonesia and Philippines) and a supervisor. Following the resignation of the consultant working on Philippines, some complementary activities, such as data collection and participation in workshops at port locations, were conducted by two resource persons. The supervisor was in charge of 1) designing of the study including preparation of templates for data collection and consolidation and for data analyses, 2) supporting team members in study implementation, 3) conducting the analyses to develop the final report, following consolidation of the reports by the national consultants.

2. STUDY SCOPE AND APPROACH

2. 1. Study Outputs

The Study has two main outputs. The nature of these outputs and the target user/audience are briefly described below.

Port Profiles - Compilation of Data Set of Study Ports

The port profiles are intended to provide the basis for improving understanding of the current conditions in the ports and on trends in traffic in the Study area. They cover: general information on the port, economic data relating to the port hinterland, port use and trade/traffic, port related infrastructure/facilities, port dues, cargo handling charges, vessels, and port performance.

The data will be used to support preparation of the Port Information Booklet on Port Facility, Productivity and Charges to be issued by BIMP-EAGA. The Booklet can assist businesses in assessing opportunities in the BIMP-EAGA area and thereby contribute to lowering the barriers to entry in the markets for shipping and imports and exports. Templates were used for the collection of data and information by all the ports and for the preparation of the Port Profiles**.** The Profiles also provided input towards the second output of the Study.

Recommendations - Based on Analysis of Data and Local Consultation

The analyses are aimed at: (i) providing a general overview of conditions and practices in the ports, of trade/traffic trends in the Study area and of the ports' performance; and (ii) identifying needs for improvement in various areas to enable the ports to meet future demands more effectively.

Based on the findings of the analyses, recommendations are made for actions and measures to address identified issues and/or improve conditions in the ports sector. Considering the number of ports included in the Study and that a major part of the Study resources were devoted to data collection, validation and processing, the analyses, evaluations and recommendations are necessarily of a broad brush nature.

2. 2. Port Coverage

In accordance with the study objectives the approach to port coverage provided that the ports to be included in the study would be proposed by the member governments and selected taking into account the following general criteria and considerations:

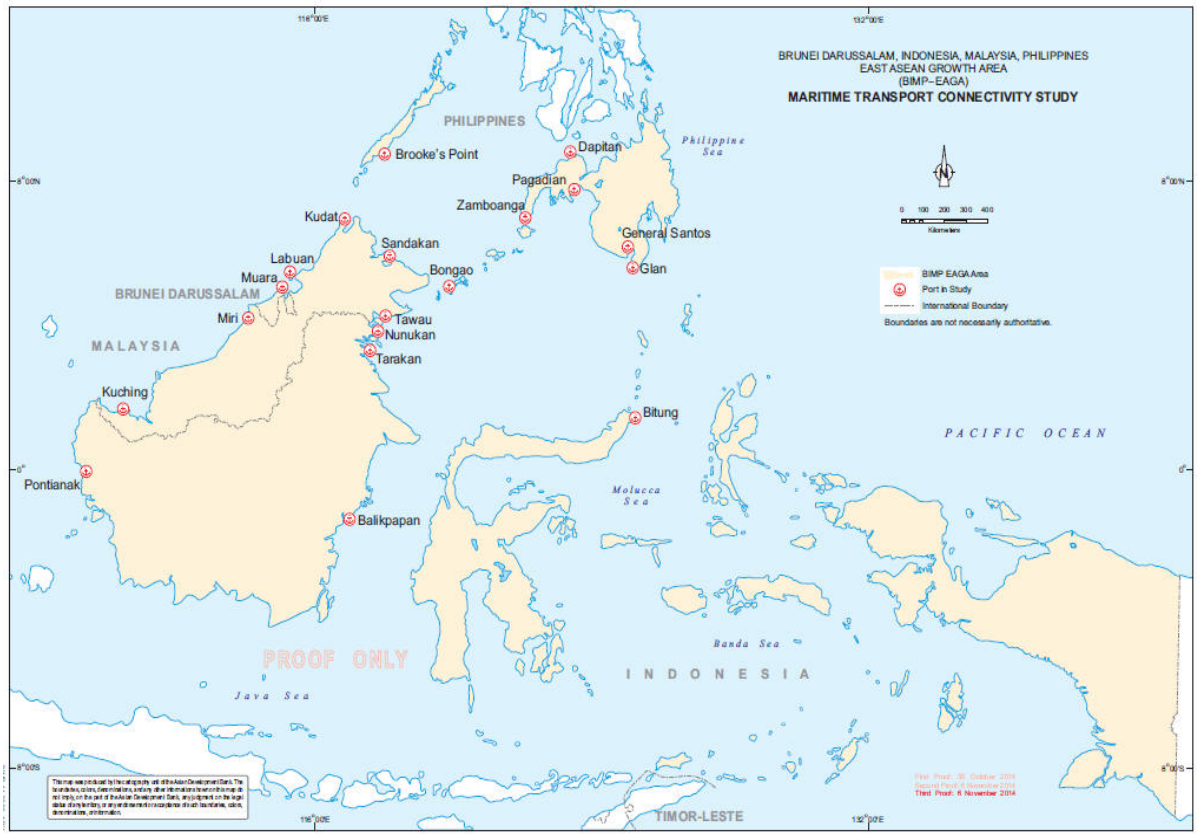
- preferably located in the BIMP-EAGA Greater Sulu Sulawesi corridor
- serving or expected to serve as BIMP-EAGA trade gateway
- being a "Point of Entry" for international trade

Based on member countries proposals, the following 19 ports were included in the Study.

Table 2.2 - Study Ports

Country	Name of ports
Brunei Darussalam	Muara
Indonesia	Balikpapan, Bitung, Nunukan, Pontianak, Tarakan
Malaysia	Kuching, Kudat, Labuan, Miri, Sandakan, Tawau
Philippines	Bongao, Brooke's Point, Dapitan, Glan, Pagadian, General Santos, Zamboanga

These ports are depicted in the map below.



The list of study ports covers a wide range of port sizes and includes a few ports that are relatively large and carry some international trade while others only deal with national trade. For example, five of the Study ports have a throughput of general cargo (break bulk and containerized) of more than 5 million tons per year while six of the ports have a total throughput of less than 500,000 tons.

2. 3. Port Categorization and Wider Relevance of Study Findings

The size and role of the study ports can be placed in perspective by comparing them with a categorization of 47 ports in the ASEAN region carried out under a recent JICA study 1 that used 5 classes of ports based on their roles and capacities in terms of container throughput (table 2.3). Out of the 47 ports in the JICA study, 16 are located within BIMP-EAGA and 8 of these are included in the Study, namely: Kuching, Muara, Balikpapan, Pontianak, Sandakan, Bitung, Zamboanga and General Santos. With the exception of Kuching, all these 16 ports are Type 4 and Type 5 ports. Even though conditions and throughput in these ports may have changed and the categorization of each of the ports may no longer be valid, some of the findings relating to the 8 Study ports may also be of interest or applicable to the other 8 BIMP-EAGA ports in the JICA Study and to other ports not covered in the JICA Study.

Table 2.3 - Port Categories in JICA Study (2009)

Category (Type)	Ports
Type-1: World class transshipment port serving as a hub of trunk line service	Port Klang, Tanjung Pelepas, Singapore
Type-2: World class port serving as a main gateway to their country	Tanjung Priok (Jakarta), Manila, Laem Chabang, Ho Chi Minh
Type-3: Large scale port serving mainly for inter regional container shipping	Tanjung Perak, Tanjung Emas (Seamarang), Penang, Johore (Pasir Gudang), **Kuching,** Bangkok, Hai Phong, Cai Lan
Type-4: Small scale port serving mainly for intra regional container shipping	**Muara**, Shihanoukville, Belawan, Palembang, Panjang, **Makassar**, **Balikpapan**, **Banjamasin**, **Pontianak**, Kuantan, **Bintulu**, **Kota Kinabalu**, Yangon, Thilawa, Batangas, Subic Bay, Cebu, Iloilo, **Cagayan de Oro**, **Davao**, **Zamboanga**, Da Nang
Type-5: Small scale port (terminal) mainly for coastal and/or subregional services	Phnom Penh, **Bitung**, **Dumai**, **Jayapura**, **Sorong**, Kemaman, **Sandakan**, Kyaukphyu, **General Santos**, Songkla

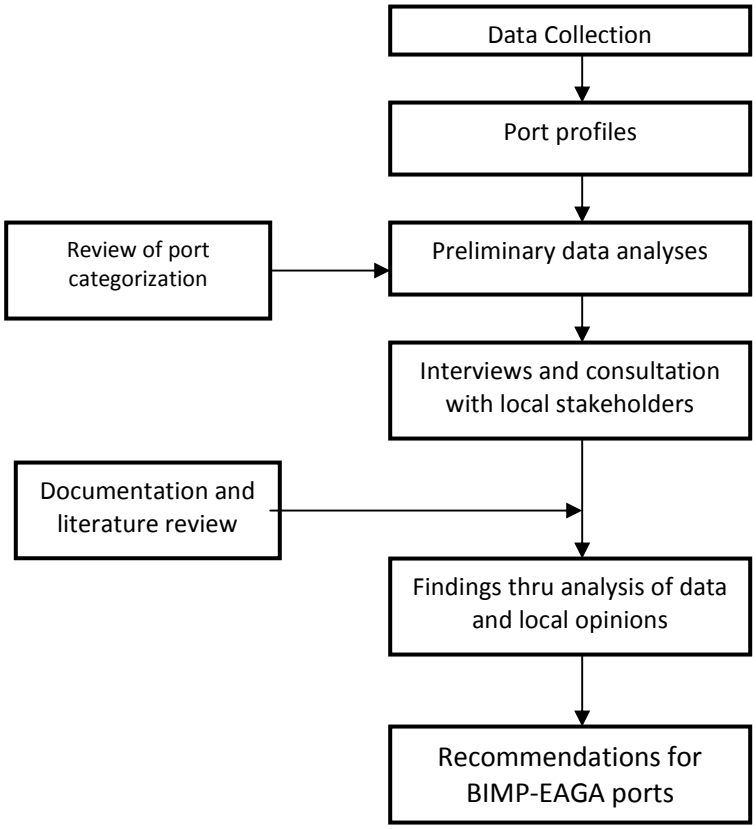
Note: Underlined ports are ports within BIMP-EAGA, but not covered in this Study. Ports in Box are ports included in this Study.
Source: JICA study on Guidelines for Assessing Port Development Priorities (JICA, 2009)

In particular, of the 11 ports covered in this Study but not included in the JICA Study, 6 do handle containers, namely Miri, Tawau, Labuan, Tarakan, Nunukan and Dapitan. These ports could fit in the Type-5 Category under the JICA Study as most (with the exception of Nunukan) handle more than 10,000 TEU/year.
By the same token, the findings in respect of the five ports that do not handle containers – Kudat, Glan, Pagadian, Brooke's Point and Bongao – may be of interest to other similar ports within BIMP-EAGA.

[1] JICA study on Guidelines for Assessing Port Development Priorities (JICA, 2009)

2. 4. Study Flowchart and Approach

The chart below summarizes the main steps in the study process. This commenced with data collection for each of the ports based on the data request through the National Focal Point and follow-up by the National consultants. The data collected was reviewed and analyzed. The preliminary findings were complemented by interviews with local stakeholders and a review of documentation collected. The study ports were also placed in the wider context of a port categorization exercise so that the relevance and applicability of the findings can be ascertained and extended to other BIMP-EAGA ports. Main findings and relevant issues were identified through analyses of data collected, local opinions and other documentation. Recommendations were developed based on identified cross-country issues that are suitable as agenda items for consideration by BIMP-EAGA.



Study Flowchart

In response to the TOR, the study was designed such that under favorable outcomes with regard to data collection extensive analyses would be carried out. This included: identifications of trends in commodity movements; international and intra-BIMP-EAGA maritime connectivity. diagnosis of performance issues and preliminary identification of possible capacity gaps. In the event, the data obtained was not as detailed and extensive as could be anticipated under an optimistic scenario and also varied significantly between ports.

2. 5. Stakeholder Consultation

The data assembled from the ports through the data request/port profile were supplemented for Indonesia, Malaysia and the Philippines with information obtained through consultations with stakeholders in the form of interviews, meetings and workshops (Annex 2.4.1). In the case of the Philippines, the workshops were held in close collaboration with relevant agencies such as the local branches of the Philippine Ports Authority, the Mindanao Development Agency and the National Economic Development Agency. The table below summarizes the stakeholder consultations.

Table 2.5 - Schedule of Interviews/Meetings

Country	Type	Interviewee/ Participants	Date
Brunei Darussalam	N/A	N/A	N/A
Indonesia	Interview	Director , Sea Traffic & Transportation, Ministry of Transport, Indonesia	11/Sep/2014
	Interview	Director , Strategic Planning Office Biro Perencanaan dan Strategis Perusahaan, PT. Pelindo IV	20/Aug/2014
Malaysia	Meetings for Sabah Port	Public sectors, for Sabah Ports	7/Aug/2014
	Interviews	Private (Former Forward Agent Association)	8/Aug/2014
Philippines	Workshops in Brooke's Point	Local stakeholders, inc Private and Public	11/Sept/2014
	Workshops in Dapitan	Local stakeholders, inc Private and Public	16/Sept/2014
	Workshops in Pagadian	Local stakeholders, inc Private and Public	18/Sept/2014
	Workshops in Glan/Gen. San	Local stakeholders, inc Private and Public	24/Sept/2014

The Study Supervisor also held email consultations with Staff at the Philippine Institute for Development Studies and with the Senior Trade Specialist at the World Bank Mission in Jakarta.

3. PORT PROFILES AND MAIN COUNTRY FINDINGS

3. 1. Port Profiles and Analyses

The study developed a port profile template (Annex 3.1.1) common for all study ports in the four countries. The profile assembles for each port in a standard format all the relevant information and facts and figures. The main items are the following:

- General port information, including
  Location, role, administration and management and contact information
- Port Hinterland, including
  Population, economic activities, development strategy and projects
- Use of the Port, including
  Ship call procedures, ship calls, cargo throughput, container throughput
- Port Facilities, Including:
  Waterway, terminals, handling equipment, landside transportation, development policies and plans
- Port Dues, Charges and Tariffs, including:
  Charges for account of the vessel, charges for account of the cargo owner
- Performance Indicators, including
  Vessel waiting time, vessel turn-around time, berth occupancy, tonnage handled per vessel hour, TEU/crane hour, cargo dwell time

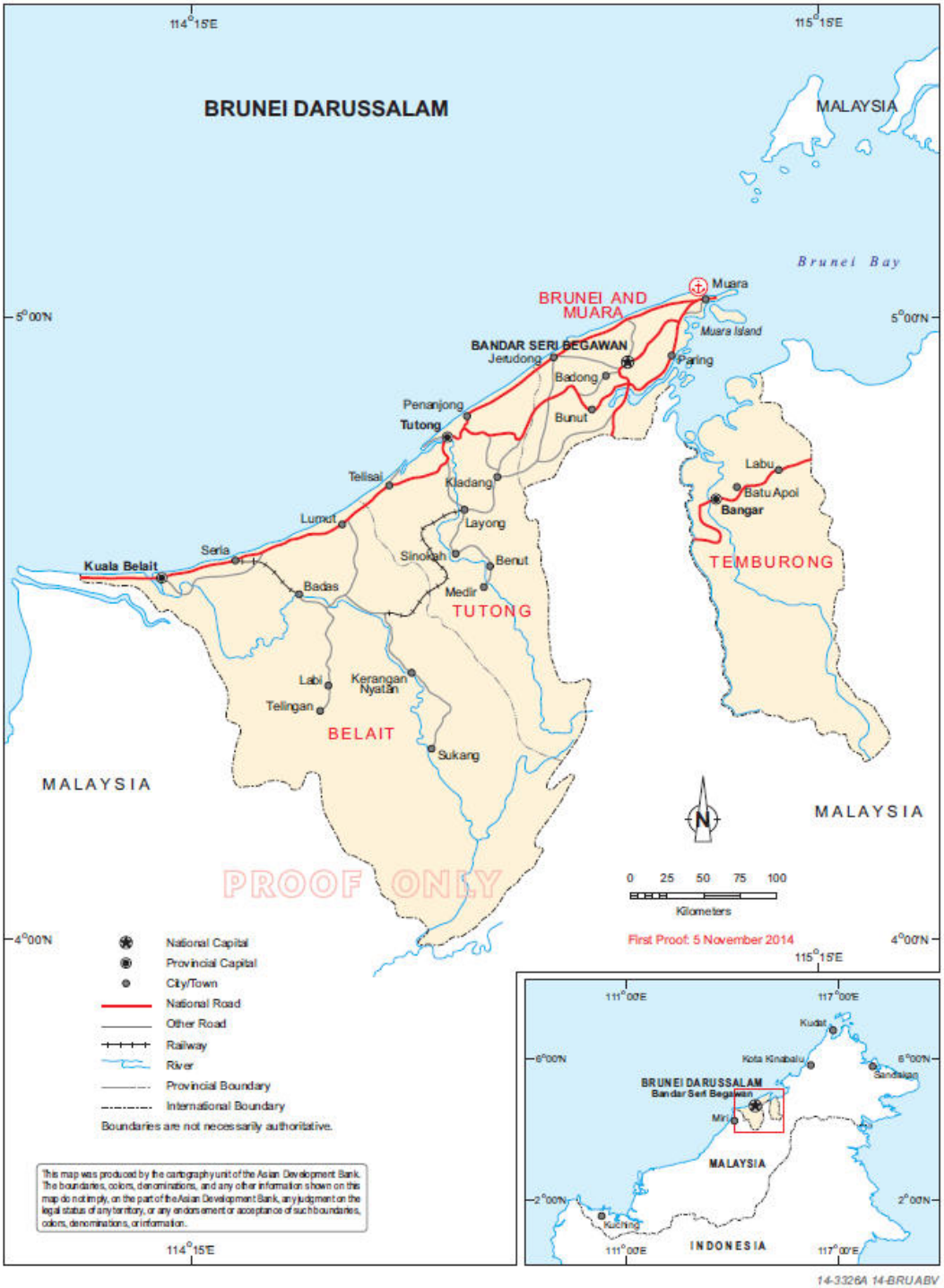
The port profiles were completed in a collaborative approach based on country specific arrangements worked out between the Country Focal Point and the respective National Consultants. The completed profiles are shown in Annex 3.1.2.

This report draws upon these port profiles, the reports prepared by the National Consultants for Brunei Darussalam, Indonesia and Malaysia and the reports prepared by the Resource Persons for the Philippines. The main findings and recommendations of these reports are shown in Annex 3.1.3.

The study also developed an analysis template (Annex 3.1.4) aimed at: reviewing traffic trends in recent years, relating traffic to the socio-economic structure of the hinterland of the study ports, and identifying whether capacity issues are likely to arise over the period 2015-2022. The template was designed for the eventuality that the full extent of the information included in the port profile template would have been available including a sufficient number of years of traffic data with a breakdown between major commodities. This optimistic outcome did not materialize. The template, however, can still serve as a diagnostic tool and for a rapid preliminary assessment of looming capacity constraints

3. 2. BRUNEI DARUSSALAM

The location of the port of Muara is shown on the map below.



3. 2. 1. Institutional Set-up for Administration and Management of the Ports

Muara Port is the only international port in Brunei Darussalam. The Port is currently managed by the Ports Department, Ministry of Communications. The Container Terminal, however, is operated by a contractor, New Muara Container Terminal Services (NMCTS).

The services provided by the private sector include all stevedoring services, shore crane services and cargo handling equipment. The Container yard handling equipment is owned by the Ports Department and operated by experienced Port personnel. The facilities available at the Multi-Purpose Berth, at present, are capable of servicing conventional, container and Ro-Ro car vessels which usually ply the trade routes in this region.

Pilotage and Tug services are provided by the Ports Department. Pilotage is compulsory for all vessels 25 meters length overall alongside (L.O.A) and above entering or leaving the port water limits. All tugboats are fully equipped with firefighting equipment. Mooring services are provided on a 3-shift basis with 6 men per shift.

3. 2. 2. Port Traffic and Facilities

Of the 1,827 ship calls at Muara port in 2013 1,781 were by foreign vessels. This illustrates the international nature of the port. The oil and gas industry dominates the economy and the overwhelming majority (some 98%) of the general cargo traffic through the port is composed of imports. The port is currently handling on the order of 1 million tons/year and about 55% is containerized. Container traffic is on the order of 115,000 TEU. The main types of goods handled are vehicles and manufactured goods.

Muara port is served by numerous shipping lines connecting it to the regional hub ports including Kota Kinabalu, Kuching, Penang, Port Kelang, Tanjung Pelepas and Singapore. The number of Cruise passengers is increasing.

The port has 2 container berths equipped with container cranes and 6 conventional cargo berths. The depth at the quays is 12.5 m. Facilities appear to be adequate for current throughput. The Ports Department is engaged on the expansion of the container terminal through extension of the existing berths by 150 to 200 meters. The primary objectives for the expansion of the port are to improve international connectivity, increase service by reducing turnaround time for ships and improve other key performance indicators. The Port will have adequate capacity to handle the growing container traffic at the Port.

A master plan for the port is in the process of being developed. The Ports Department has stated that it plans to consolidate and enhance shipping connectivity and trade within the BIMP-EAGA Region. The government has advanced plans to corporatize the Port by 2015.

The Country aims to diversify its economy away from its current over dependence on oil and gas products by leveraging on the availability of ample agricultural products in the BIMP Area. The Brunei Economic Development Board is particularly interested in the food industry and would like to attract major food and food ingredients manufacturing companies into the country.

3. 2. 3. Port Tariffs

Port Tariffs for Muara are reportedly the highest in the region. As the Ports Department is planning to corporatize port operations, a review of the tariffs will be undertaken in conjunction with the corporatization initiative.

3. 2. 4. Port Performance

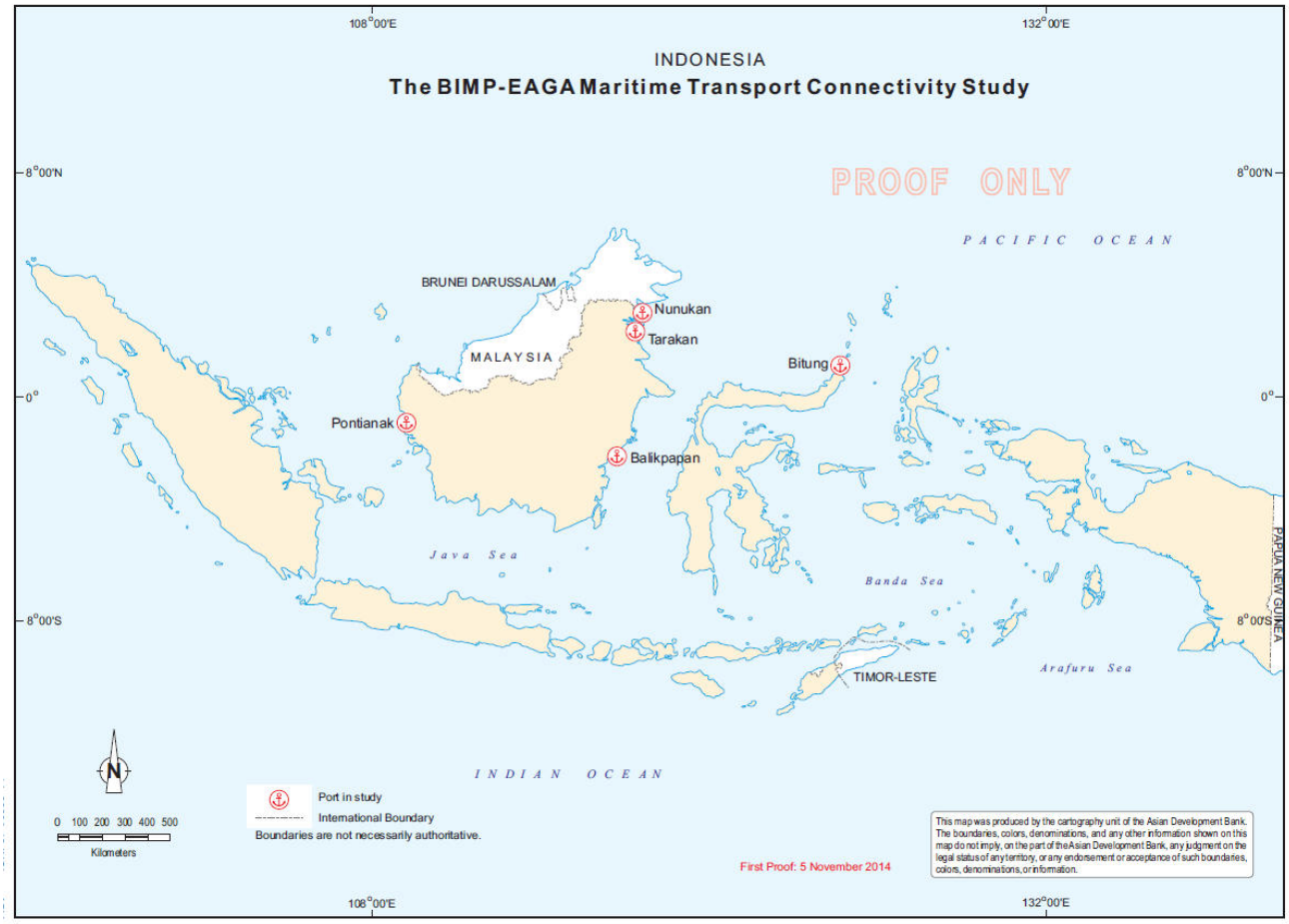
The port is keeping up with traffic demand and is engaged on expanding its capacity and developing a masterplan for future development

3. 2. 5. Conclusions

Muara port is well positioned to assist the government in its drive to diversify the economy
Given its natural deep water and location, the port is also in a strategic position to play a role in consolidation and distribution of cargo in the region. Achieving the other main conditions towards this objective - volume and efficiency – will require a major effort
A key requirement will be to continue streamlining border crossing procedures

3. 3. INDONESIA

The Indonesia Study ports are shown on the map below



3. 3. 1. Institutional Set-up for Administration and Management of the Ports

Indonesian ports come under the responsibility of the Directorate of Ports and Dredging under the Directorate General of Sea Transportation (DGST) which is part of the Ministry of Transport. For port administration and management Indonesia has traditionally differentiated between commercial ports and non commercial ports. The commercial ports, some 111 in total are managed by 4 state owned port corporations each of which has a geographical coverage. These corporations are in principle financially self-sustaining. The non-commercial ports, some 614, are administered directly by the Directorate General of Sea Transportation. In addition there are some 1,000 special purpose or dedicated private ports where large private or government owned companies (in mining, oil and gas, forestry, agribusiness) handle their own cargo

The five study ports selected by the Government - Bitung, Balikpapan, Tarakan, Nunukan and Pontianak - are commercial ports. Four are part of Port Corporation IV, namely: Balikpapan, Tarakan and Nunukan on the Eastern Side of Kalimantan (Borneo) island and

Bitung on the northern tip of Sulawesi Island. The fifth port, Pontianak, is part of Port Corporation II and is located on the western side of the island of Kalimantan.

Indonesia also divides ports into a three tier functional classification as follows:

- main ports, which handle "large" volumes of cargo and serve both the domestic and foreign trades;
- collector ports, which handle "medium" levels of trade but serve domestic trades only;
- feeder ports which handle "limited" levels of trade and also serve only domestic trades.

Three of the five study ports – Balikpapan[2], Bitung and Pontianak - are designated as main ports, while Tarakan and Nunukan are designated as collector ports.

The Shipping Law of 2008 introduced a fundamentally new policy for the management of the Indonesian ports[3]. The main feature was the introduction of a separation between the regulatory and the operating function. The law provided the basis for the establishment on the one hand of port authorities responsible for the administration and regulation of ports, and of port business entities on the other, to carry out the port operating function. As the new policy involves radical changes in the roles and responsibilities of the various parties, it is being implemented progressively.

3. 3. 2. Port Traffic and Facilities

Table 3.4 summarizes general cargo traffic.

Table 3.4 - Port Traffic at Indonesian Study Ports - 2013

Port	Ship Calls	Total Throughput	% containerized	TEU
Balikpapan	1,685	1,715,000	72*	82,650
Bitung	2,589	3,165,000	28*	60,000
Nunukan	2,013	168,046	21*	2,400
Tarakan	998	792,459	37*	19,500
Pontianak	2674	8,552,000	41	299,000

* % containerized estimated on the basis of an average payload of 15 ton/TEU

The above traffic data indicate that the Indonesian study ports vary widely in their general cargo throughput. The traffic data do not include liquid and dry bulk which are loaded/unloaded at facilities within the perimeter of the ports. Many Indonesian ports load large volumes of dry and liquid bulk which have been estimated to account for some

[2] The old port in Balikpapan is designated as a collector port.

[3] Indonesian Port Sector Reform and the 2008 Shipping Law, August 2008, David Ray, Senada – Indonesia Competitiveness Program.
Draft National Port Master Plan Decree, Technical Report – March 2012 and Academic Paper to Support National Port Master Plan Decree, Technical Report – March 2012, Indonesia Infrastructure Initiative.
Indonesia – Regulatory and Competition Issues in Ports, Rail and Shipping, September 2012 OECD

75% of throughput for all ports combined[4]. Most of this volume is handled at special terminals, owned or leased by the cargo owner. The handling of large volumes of dry and liquid bulk is also the case for 3 of the Study ports. Export cargoes, in particular oil and coal, have been prominent at Balikpapan and Tarakan and coal has begun to be shipped recently from Nunukan. Dry and/or liquid bulk throughput is 14 times larger than the general cargo at Balikpapan and Nunukan and 21 times larger at Tarakan. This underlines that the economy of the hinterland of these ports is very much based on extractive industries.

Imbalance in Inflows and Outflows. As a consequence of this economic structure based on extractive industries, in terms of general cargo there is a strong imbalance in throughput towards inflows. In 2013 at Nunukan, the volume of general cargo inflows was 5 times that of outflows, for Balikpapan it was 3.5 times, at Tarakan it was 2.6 times, at Bitung 1.2 times and at Pontianak 1.2 times. The latter two ports are relatively well balanced in terms of inflows and outflows. The imbalance in the case of the first three ports will inevitably have an impact on the shipping costs to these ports as the traffic direction that is the cause of the imbalance generally incurs the cost associated with the imbalance.

Diverse Potential for Intra-BIMP Trade. The ports of Bitung and Pontianak on the other hand are relatively well balanced in terms of inflows and outflows. They have a more diversified economy and hinterland. In the case of Pontianak, this is among other oriented to wood processing, and agri-business and associated industries; and in the case of Bitung to agriculture, agri-business and fisheries. Both ports are still very dominantly engaged on domestic traffic but have a strong potential to begin trading on a regional basis once volumes have reached a critical mass. Because of their potential as a source of supply and demand for consumer goods and inputs for industry, these two ports therefore present potential for intra BIMP-EAGA trade.

This potential is being recognized by the central government and the respective local governments and port corporations. The capacity of the two ports is being expanded to address existing capacity constraints and growth in traffic. The port of Bitung in particular has been upgraded to main port and to be open to international traffic. This is exemplified by the introduction of a bi-weekly service from Bitung to Tanjung Pelapas in early 2014. A special economic zone in the vicinity of the port is also planned as a public private partnership. This zone is intended to function not only as an industrial zone but also as a distribution hub. Pontianak and its hinterland is on account of its population base and economic activities already a significant distribution center where producers and importers and exporters are looking for new markets. It has good connectivity to other Indonesian ports and services to a few Asian ports.

Potential for Non Convention Vessels. The port of Nunukan, despite having general cargo traffic that is negligible compared to that of the other study ports, presents opportunities of an entirely different nature. It is located close to the Malaysian port city of Tawau with which it has entertained long standing trading relations with Non Convention Vessels (NCV). Most of these vessels do not call at the official port but at NCV jetties and are

[4] Academic Paper to Support National Port Master Plan Decree, Technical Report – March 2012, Indonesia Infrastructure Initiative

engaged in informal or non-documented trading activities. The trade which has been recorded on the Malaysian side but not on the Indonesian side is understood to be quite significant and to fluctuate over time depending on relative prices in the two countries. Efforts have been underway to regularize this trade and standardize and harmonize NCV safety standards. This will involve registration of vessels and of owners and operators of NCV and the introduction and enforcement of minimum safety standards. The affected stakeholders will need to be convinced that such measures are in their long term interest. Such measures will certainly prove to be beneficial for the bilateral trade. And just as has been the case in road transport operations, the regularization of operators of NCV and the upgrading of their capabilities may provide an avenue for the more enterprising among them to grow their operations from a small family business into a major operator based on knowledge of local markets,

The above points also apply to the port of Tarakan located on the island of Tarakan. Its population and economic base are rather limited following the decline of oil extraction. Traffic volumes are unlikely to become attractive for intra-BIMP trading activities with conventional vessels. But the interests of the local population can also be served with a regularized trading system based on NCV.

In regard to interisland shipping using NCV, Indonesia can share experience in two areas. It developed a standard for NCV which came into effect in 2013 and which will over time apply to the 50,000 + vessels of less than 500 GT plying the Indonesian waters. Furthermore, Indonesia has a long experience with a subsidy system for non-profitable shipping services (referred to as pioneer services) which are deemed essential to ensure minimum connectivity for small communities that are dependent on sea transport. The system has been progressively improved over time though a transition from an input to an output based payment[5].

Port Development. Following the preparation of the National Port Masterplan by the Directorate General of Seacommunications and in pursuit of the National Masterplan for Acceleration and Expansion of Indonesian Economic Development (MP3EI), Indonesia has been paying more attention to developing and expanding its network of ports in a rational way and has been providing the necessary funds and the encouragement to the private sector for necessary port investment. Logistic costs, however, remain high and trade development is critically dependent on low cost and efficient transport and trade logistics.

Growth in Ship Sizes. Port Corporation IV provided data on port calls for an extended period of time. This provides the opportunity to examine the evolution in the size ships calling at some ports. Over the past 15 years, the average GT of container vessels calling at Bitung port more than doubled from 3,544 Gt to 7,555. For general cargo vessels the increase was only 30 % at Bitung port but more than 250% at Balikpapan. These trends which are a reflection at the regional level of worldwide developments (Annex 3.3.2) should be taken into account when planning for capacity expansion. The port masterplan appears to be acknowledging these developments. For capacity expansion planning

[5] Public Service Obligation and Pioneer Service Policy in the Transport Sector. July 2010, Indonesia Infrastructure Initiative

purposes in Kalimantan Island the masterplan assumes a design ship of 2,000 TEU by 2020 and of 4,000 TEU by 2030[6].

Shipping Policy and Foreign Ship Calls. The breakdown of ship call data between foreign and national vessels from Port Corporation IV also gives some insight in the impact of the evolution in shipping policy. At Bitung port the percentage of foreign vessels engaged in international trade was around 90% in the late 1990s. This went down to 45% by 2004 as a result of a tightening of restrictions on foreign vessels, followed by relaxation of these restrictions. By 2009 the % was up to 95% and has stayed above this level since.

3. 3. 3. Port Tariffs

Annex 3.3.3, Port Charging Structures, provides further details on the charges reviewed below. The tariff structure in the Indonesian ports is somewhat simpler than that in Malaysian ports. A major difference is, however, that for charges to the vessel, different rates are applied between national and foreign vessels with the ratio between national and foreign close to 1:10

Charges for Account of the Vessel

- Port dues (referred to as anchoring tariff or mooring tariff as the case may be) are only charged in the ports of Bitung, Tarakan and Nunukan.
- Pilotage is required in all study ports and charges are structured using a base fee per move and a variable component based on GT of the vessel
- Tug services are required in all study ports and are also structured using a base fee per vessel/hour and a variable component based on GT of the vessel.
- Berth hire is not charged in any of the study ports
- Wharfage is not charged in any of the study ports.
- Stevedoring. Charges for stevedoring are not listed by the ports. It is assumed that they are set by the harbourworkers cooperative.
- Packing/unpacking is not charged by the port

Charges for Account of the Cargo Owner

[6] Academic Paper to Support National Port Master Plan Decree, Technical Report – March 2012, Indonesia Infrastructure Initiative

- Wharfage is not charged in any of the study ports

- Wharf handling is charged in all ports and is referred to as cargo handling tariff which distinguishes between packed and unpacked. The packed category includes containers, pallets and heavy equipment. Empty containers are charged about half the rate of a loaded container.

- Storage is charged according to different schedules in each port that differentiate between storage in a shed and storage outside with in addition a wide differentiation between different categories of containers.

3. 3. 4. Port Performance

Indonesian Port Corporation IV has a well designed system of performance indicators. These indicators differentiate between types of ship service, - international and domestic - and give a breakdown of waiting time and berthing time in their different components. Cargo handling rates per gang/hour are available by ship service and category of cargo. Utilization of facilities – berth occupancy rates, berth throughput - and of storage areas are provided as well as utilization of some items of equipment. In sum, this performance monitoring system provides in principle a very useful tool for management. The indicators suggest that performance in respect of international ship calls is slightly better than that for domestic ship calls. Unfortunately, values for the indicators are only provided up to the year 2011. No performance indicators were received for the port of Pontianak.

The question can be raised whether the data were not released or whether they were not available at all. The Consultant would like to believe that they were not released and that the indicators are available to management on a routine and at request basis. These indicators are indeed an essential management tool to fully understand the operational conditions in the port on a real time basis, to identify trends and issues early on, to diagnose causes of problems and to assist in designing corrective action.

3. 3. 5. Conclusions

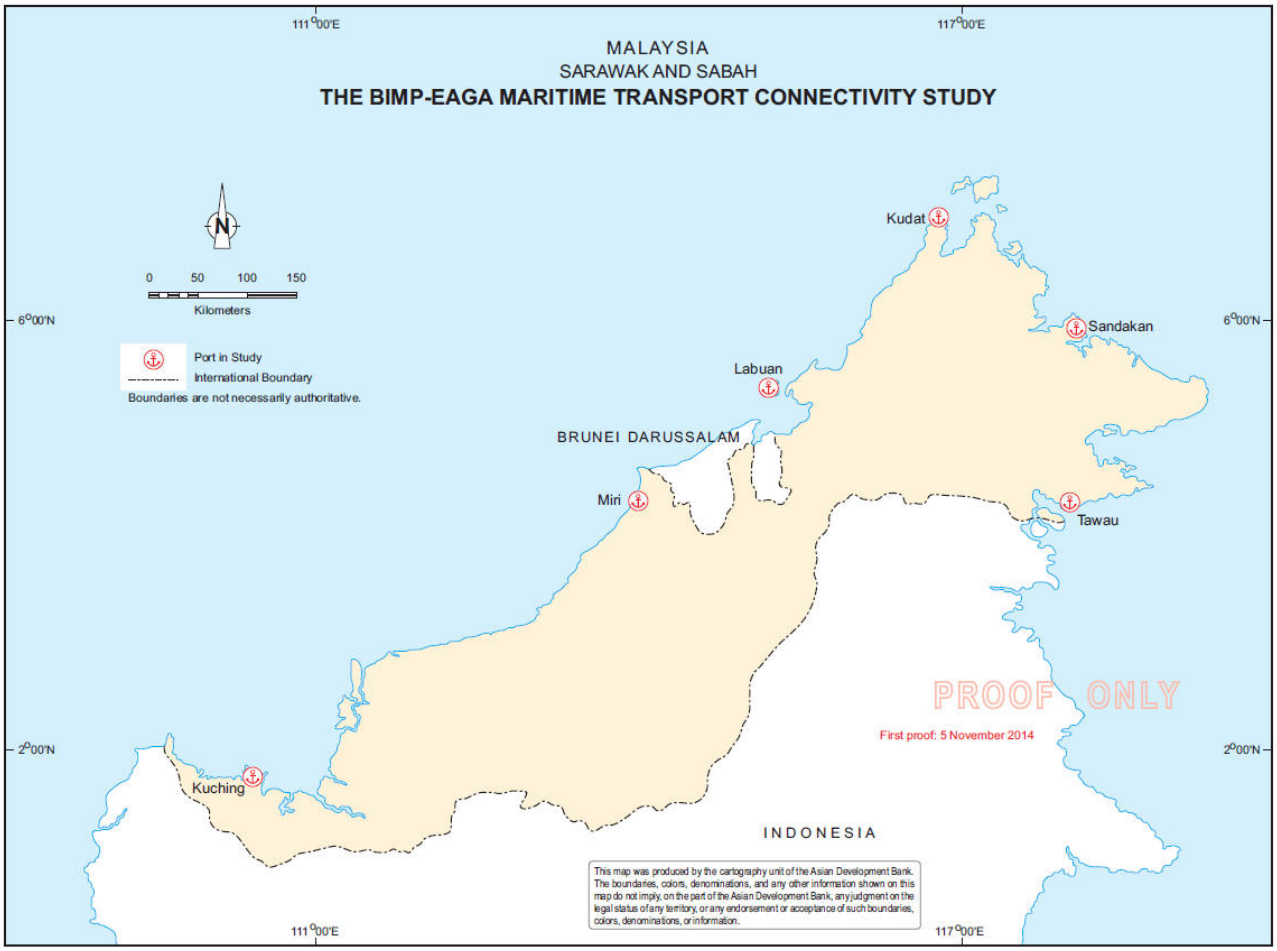
- The Indonesian government has initiated port sector reform, including major institutional restructuring by separating the regulatory and the operating functions. When completed, the reform process should lead to a more efficient port system.
- In the context of developing its National Port Masterplan, more attention is being given to long term capacity planning taking into account the growth in ship sizes.
- Indonesia has recognized the need to improve on its logistics performance in order to stay competitive and has prepared a blueprint for national logistics system development which was adopted in 2012[7]. The blueprint recognizes the importance of improvements in ports performance in the context of the trade logistics system

[7] State of Logistics Indonesia 2013. Center of Logistics and Supply Chain Studies, Institut Teknologi Bandung (ITB), Asosiasi Logistik Indonesia, Panteia/NEA, STC-Group and the World Bank.

- The wide differentiation in port charges between foreign and domestic vessels is not justified and certainly not for BIMP country shipping lines.
- Port Corporation IV has a comprehensive system of performance indicators but it is not clear whether it is being used in real time for purposes of improving operations
- The Ports of Pontianak and Bitung have the potential to engage in Intra BIMP trade but it is not clear whether sufficient cargo volume can be mustered. This will require a concerted effort by public and private stakeholders.
- There is potential for continued small scale intra-BIMP trade based on Non Convention Vessels provided this trade is fully regularized.

3. 4. MALAYSIA

The Study ports are shown on the map below.



3. 4. 1. Institutional Set-up for Administration and Management of the Ports

In Malaysia ports are classified as major or minor. The Major ports come under Federal Port Authorities and have been either corporatized or privatized. Next to the ports controlled by the Federal Port Authorities come the ports that are under the control of the four State Port Authorities and those under the jurisdiction of the Marine Department.

The Ports in Sabah are administered and regulated by the Sabah Ports Authority. The port operations for the 3 Sabah Study ports, Sandakan, Kudat and Tawau have been privatized.

Labuan Port is regulated by the Federal Marine Department Labuan. Port operations have also been privatized. The Marine Department Labuan currently does not have an adequate institutional framework to regulate the port more effectively. Regulation and management of the Port is an additional function to its wide ranging roles under the Merchant Shipping Ordinance. The Marine Department is reportedly drawing up the rules that would provide the basis for a more effective regulation of the Port. The Department will also have to

review its organizational set up to ensure that it has adequate manpower and expertise to regulate the Port.

The 2 Study ports in Sarawak, Miri and Kuching, are operated by statutory port authorities. Both ports have contracted out much of the operational aspects of port operations to private contractors.

3. 4. 2. Port Traffic and Facilities

Table 3.3 summarizes port traffic in the Malaysian study ports.

Table 3.3 - Malaysian Study Ports - 2013

Port	Ship Calls	Total Throughput	% containerized	TEU
Kuching	2,,054	7,120,928	80	249,690
Miri	1,702	2,807,820	30	33,834
Tawau	4,333	4,800,000	17*	65,688
Sandakan	4,311	7,800,000	8*	43,883
Kudat	410	219,000	0	0
Labuan		1,680,294	18*	20,637

* % containerized estimated on the basis of an average payload of 15 ton/TEU

Balanced Sarawak Ports. The 2 study ports in Sarawak, Kuching and Miri, are relatively well balanced in terms of outward and inward traffic flows, domestic and international traffic and degree of containerization. They are well connected to other Malaysian ports and to a number of main ports in the region. The hinterland of these ports includes a sizeable population of more than 500,000 and a diversified economic base. The main imports are manufactured consumer good and industrial products and vehicles. In the case of Miri, in addition to the major economic activity that is related to the oil & gas industry, there is timber processing and agribusiness. Kuching is the commercial and administrative centre of the state and in addition to the agribusiness in the hinterland, its economy is supported by the Samajaya Free Industrial Park.

Kuching port is also connected to an inland port at Tebedu, located at the border between Malaysia and Indonesia. The inland port is intended to function as a gateway to its hinterland in the province of West Kalimantan in Indonesia. This initiative, still in its early stages merits to be followed closely to draw lessons for other similar initiatives in the region.

Export Oriented Sabah Ports. The 3 study ports in Sabah - Tawau, Sandakan and Kudat - are oriented towards the export of timber and agricultural products comprised mainly of palm oil. Economic activity in the hinterland of these ports has evolved from timber extraction to agribusiness, and mainly palm oil plantations. In the process, the dominance of timber as export cargo has shifted to agricultural products such as palm oil, cocoa and coffee. The main imports are consumer goods and inputs for the agribusiness. These ports have

experienced no growth in recent years and In the case of Kudat have registered a decline in throughput. This could be explained by the shift in exports from timber to agricultural commodities or by shifts in traffic originating in the port's hinterland to other ports following the construction of new roads and/or new ports or a combination of different development. It will be instructive to analyze the traffic pattern in these ports in greater detail to identify the underlying causes.

Kudat port mainly handles general cargo and timber and can be considered a local feeder port serving northeastern Sabah. The primary economic activity in the hinterland is agriculture dominated by cash crop activities including palm oil, coconut and cocoa. The port experienced a serious decline in traffic in recent years. The distance to the port of Kota Kinabalu, which is a major port with good connectivity, is only 190 km. In the presence of a good road between these two ports short-sea feedering from Kudat to Kota Kinabalu would generally not be economically viable and diversion of traffic to Kota Kinabalu using road transport may have contributed to the decline in traffic.

Greenfield Agribusiness Clusters and Port Development. In the case of Tawau, traffic growth in recent years may have been affected by developments nearby at the first Palm Oil Industry Cluster (POIC) based at Lahad Datu which is located close to Tawau port. This palm oil industrial hub features 2,023 hectares of land earmarked to cluster and centralize all palm oil related industries, in particular downstream industries, in one single complex[8]. This complex is served by state of the art infrastructure and logistical and communication facilities including a dedicated port. Major facilities have been completed, including liquid and dry bulk terminals strategically located at the waterfront of the complex. A deep water container port is scheduled for completion in the not so distant future. These new port facilities at the POIC may have diverted some palm oil traffic that was previously using the ports of Tawau and Sandakan.

Noteworthy for the port of Sandakan is that a second Palm Oil Industry Cluster is under development at Sandakan which is also strategically located in relation to major palm oil growing areas in Eastern Sabah. It will be desirable that the insights gained into port traffic patterns following the coming on stream of the POIC in Lahad Datu be taken into account when considering the future development of Sandakan port and other Sabah ports.

Traditional Small Scale Trade with Mindanao. Sandakan port used to have ferry services to ports in the Southern Philippines such as Zamboanga, and ports in the Sulu Archipelago and Tawi-Tawi, but these services have been suspended due to developments in the security situation. Kudat has been a major destination for Non Convention Phillipine Vessels originating from the south-western Philippines islands of Palawan and Balabac importing hardwood and fresh fish while returning with a variety of household goods and foodstuffs from Kudat[9]. Because of the security situation this trade has also been largely suspended. The port is viewed by Sabah State as an important linkage in BIMP-EAGA trade. The State's policy is to support and promote the sea linkages between the Southern Philippines and Sabah including the traditional trade which is legal. Unfortunately, the recent deterioration

[8] http://www.poic.com.my/index.asp

[9] Project on Drawing up Guidelines for Non-Convention Sized Ships in the BIMP-EAGA Region, JN Mak

in the security situation in Eastern Sabah has undermined these policy goals and development plans. The State and Federal Governments are currently reviewing all policies and planned developments in the light of the adverse security situation.

Labuan Free Port. Labuan port not only serves the economy of Labuan Island but also the significant off-shore oil and gas industry of the region. The primary economic activity in the hinterland is agriculture. The Rancha Rancha Industrial estate has a steel mill, flour mill, methanol plant and fisheries plant. The island is a Federal Territory administered through the Ministry of Federal Territories. Labuan is a thriving free port, off-shore oil and gas industry base, tourist destination, and a leading international financial centre. The port's strategic proximity to major shipping routes and off-shore oil and gas fields is being promoted. The main cargoes handled at the port are dry bulk and general cargo. The port handles some 25,000 TEU of imports and exports. The sheltered deep-water harbor is also a transshipment point for Brunei Darussalam, northern Sarawak, and much of western Sabah state. The port has good connectivity with other ports in the region and there are ferry services between Labuan and mainland Sabah and between Labuan and Muara, Brunei Darussalam.

The port has adequate capacity to handle growing traffic. It has duty-free status with relaxed customs procedures. Being a small port, it can focus on specialized services and equipment for efficient handling of cargoes. There is normally no wait for berthing and cargo discharging, and the port's fees are among the lowest in Malaysia.

3. 4. 3. Port Tariffs

Annex 3.3.3, Port Charging Structures, provides further detail on the charges being reviewed below. The study ports in Malaysia exhibit three different charging models which are related to the three different institutional arrangements for the administration and management of these ports.

Charges for Account of the Vessel

- Port dues are only charged in the privatized ports of Kudat, Sandakan and Tawau. For these privatized ports, port dues are the instrument used by the Port Authority to recover the costs related to the navigation infrastructure for which it is responsible. For the other ports one must assume that this cost item is included in the wharfage charge.

- Pilotage and tug services charges. Whether these are obligatory and hence charged for is dependent on the conditions in the respective ports.

- Mooring/unmooring is only charged in the privatized ports of Kudat, Sandakan and Tawau

- Berth hire is not charged in any of the ports

- Wharfage is charged to the vessel at all the ports. It is possible that for the ports that do not charge port dues nor for berth hire, the wharfage charge in these ports embodies cost elements that are normally covered under port dues or berth hire

- Stevedoring is charged in all the ports at a somewhat similar level for general cargo with a lower tariff for palletized unit loads. It is also charged for containers when the port handles containers

- Packing/unpacking. No information

Charges for Account of the Cargo Owner

- Wharfage is charged in Miri (but this may be double counting with wharfage shown under charges to the vessels)

- Wharf handling is charged in all ports at somewhat similar levels

- Storage is charged in Kuching and Miri under the heading of "receiving, sorting/stacking and delivery" for both general cargo and for containers. Both Kuching and Miri differentiate the container charge between export and import containers.

3. 4. 4. Port Performance

Only two ports, Kuching and Miri, provided information on performance indicators. Kuching provided the indicators that were asked for, namely: average ship waiting time, average vessel turn-around time, berth occupancy rate, average tonnage handled per vessel hour, container moves per hour and cargo dwell time for containers. Miri did not provide container moves per hour nor cargo dwell time. The high numbers for the ship waiting time and ship turn-around times registered in these two ports are due in large part to the water depth of the approach channel which requires ships to wait for the high tide to enter the port.

Regarding the lack of data for the other Malaysian ports the question can be raised whether the data were not released or whether they were not available at all. The Consultant would like to believe that they were not released and that the indicators are available to management on a routine and upon request basis. These indicators are indeed an essential management tool to fully understand the operational conditions in the port on a real time basis, to identify trends and issues early on, to diagnose causes of problems and to assist in designing corrective action.

The study's summary review of available data and consultations with stakeholders did not reveal any major issues in the performance of the study ports in Malaysia. But this is a preliminary finding as hard evidence of either good or poor performance did not come to light. Based on some private sector views, it appears that port users are ambivalent about the impact privatization has had on the overall development of ports in Sabah. The lack of major developments in port infrastructure in Sabah since privatization was cited as

evidence. Furthermore, the private sector was of the opinion that privatized operations of the ports have not resulted in significant improvement in port efficiency. The lack of opportunity for other private operators to participate in port operations was also cited as an issue of some concern. Sabah Ports Authority will need to look into these perceptions by Stakeholders.

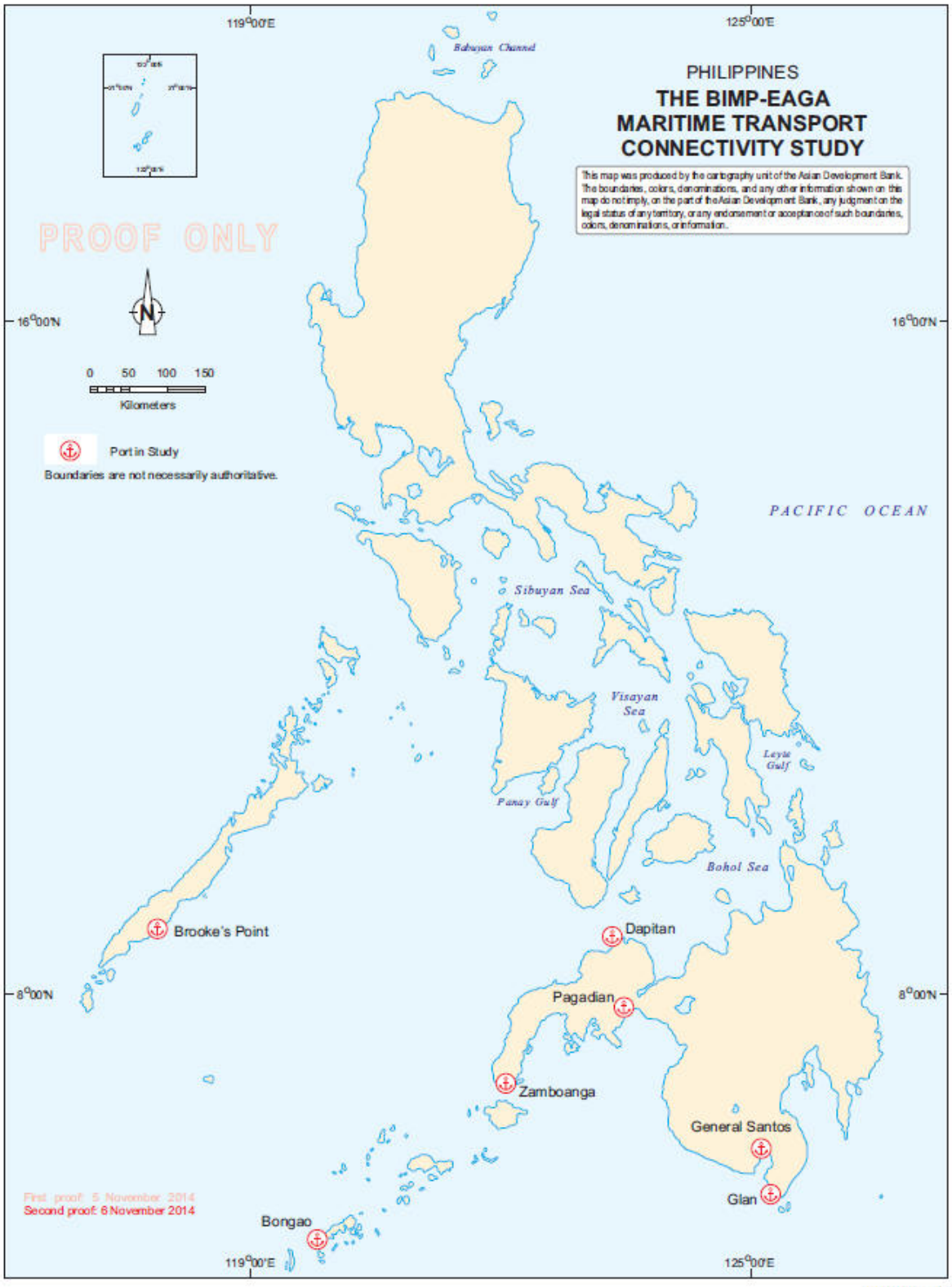
No major institutional issues have come to light either. In respect of Miri port, stakeholders have pointed out the need to improve the working hours and the productivity of the supporting services particularly customs and marine services. Operational aspects of bunkering services at the port also need to be further refined. Such issues may not necessarily be limited to Miri. Both Miri and Kuching should consider setting up a CIQS facility to further improve their operations.

3. 4. 5. Conclusions

- Ports in Sarawak appear to be keeping up with the demands of the shipping trade and are planning for development and expansion. Kuching is also well placed to tap into transshipment traffic from neighboring West Kalimantan through the Tebedu Inland Port.
- The 3 ports in Sabah - Kudat, Sandakan and Tawau - are all facing a reduction in cargo throughput. There is no significant container traffic in these ports.
- There appears to be some pessimism on the part of the private sector as to the emphasis given by the State and Federal Governments to the development of ports in Sabah in general.
- The Palm Oil Industrial Cluster initiatives at Lahad Datu and Sandakan will likely generate very substantial traffic volumes at their dedicated port facilities. Being located at the core of BIMP-EAGA, the downstream and spin-off effects of these major developments will likely be beneficial for the region as a whole. However, the generated traffic is unlikely to benefit the existing ports traditionally handling the palm oil related cargoes.
- The above developments indicate the need to review the port development strategy for the region. This can best be done through the elaboration of a Master Plan for all the ports in Sabah that is integrated and coordinated with road development plans.
- The Private Sector in Sabah is aware of BIMP EAGA but is waiting to see concrete action arising from initiatives on the ground.
- The major ports in Sarawak and Sabah and the port of Maura have the potential for becoming more engaged in intra-BIMP trade but at the present time it is not clear that sufficient volume can be mustered. This will require concerted action by stakeholders at both the public and private sectors.

3. 5. PHILIPPINES

The Study ports are shown on the map below.



3. 5. 1. Institutional Set-up for Administration and Management of the Ports

The Philippine port system consists of:

- the Philippine Ports Authority (PPA) system of public and private ports
- ports under independent port authorities (e.g. Cebu Ports Authority (CPA), Subic Bay Metropolitan Authority (SBMA))
- municipal ports devolved to local government units (LGUs)
- ports under Regional Port Management Authorities (RPMA)
- the Road Ro-Ro Terminal System (RRTS) of private and LGU terminals.

The PPA system is the most extensive, consisting of 115 PPA-owned, and 400 private ports under PPA supervision. There are 24 baseports and 65 terminal ports grouped under port districts.

Six of the seven study ports form part of the PPA while the seventh, Bongao, is owned and operated by the Regional Port Management Authority under the Autonomous Region of Muslim Mindanao (ARMM).

3. 5. 2. Port Traffic and Facilities

Table 3.4 summarizes port traffic in the Philippines study ports.

Table 3.4 - Philippine Study Ports – 2013

Port	Ship Calls	Total Throughput (tons)	% containerized	TEU
Brook's Point	29	93,600	0	0
Dapitan	2405	344,166	53	11,491
General Santos	840	2,527,162	83	165,328
Glan	52	54	0	0
Pagadian	267	22,252	0	0
Zamboanga	6,725	1,663,476	58	63,079
Bongao*	206	41,931		

* data for Bongao are for the year 2010 and for RoRo traffic

These seven study ports are very diverse in size and in the role they play in the regional economy and the transport system of the region. Three of the ports, Dapitan, General Santos and Zamboanga, are base ports. The latter two have sizeable volumes of container traffic and are involved in international trade. The remaining four are small terminal ports.

Imbalances in Outflows and Inflows. The outbound traffic from these ports reflects the diverse agricultural, fishing and mining activity of their hinterlands. The inbound traffic consists mainly of consumer goods, machinery, equipment and construction materials. In general inbound traffic is higher than outbound traffic. This imbalance is very pronounced at the smaller ports and much less so at the larger ports. For example at General Santos port in 2013 total inbound traffic was 120% of outbound traffic while at Dapitan and Glan is

was 244 % and 430 % respectively. However, when total inbound and outbound traffic at General Santos is decomposed into foreign and domestic, a different picture arises. In foreign trade, exports were 70% higher than imports while in domestic trade inflows were more important than outflows. Thus, there remain marked opposite imbalances between outbound and inbound domestic and foreign trade through the port. These imbalances are not cancelled out since domestic and foreign cargo are not carried by the same shipping lines/ships. The negative impact on the cost of shipping remains.

Growth in Ship Sizes. While total throughput at the largest ports is generally showing a steady increase, ship calls are not increasing at the same rate or even declining. A case in point is General Santos, where the number of ship calls decreased from 1027 in 2009 to 840 in 2013. This indicates that the average volume loaded/discharged is increasing and that ship sizes are most probably also increasing. This was the case for foreign ship calls at General Santos where the average size of foreign ships increased from 6,333 gross ton in 2006 to 12,341 gross tons in 2012. A similar trend is observed in Dapitan port where the average ship size increased from 864 gross ton in 2009 to 1054 gross ton 2013. This increase in the volumes loaded/discharged and in ship size is a factor that should contribute to lowering shipping costs and should also be taken into consideration when planning future investments.

Improved Connectivity through RoRo. Dapitan port is the last port of the Western Nautical Highway running from Batangas City in Luzon Island across the Visayas to Mindanao. The number of inbound and outbound vehicles by RoRo at Dapitan port increased from 22,214 in 2009 to 36,909 in 2013 an increase of 66 %, while the cargo throughput by conventional ship increased by 41 %. While this is only a very partial and incomplete picture of the performance of the nautical highway, it suggests that the RoRo mode of interisland transport is playing a very positive role in improving connectivity and trade between the islands[10].

Zomboanga port provides an illustration of another noteworthy development in connection with RoRo services. The port not only has good connectivity with other Philippine ports and some trade with foreign ports but it also is the base port for an extension of the nautical highway with RoRo services into the Sulu Archipelago connecting Zamboanga with Basilan, Jolo and Tawi-Tawi islands with calls at the ports of Isabela, Lamitan, Jolo and Bongao. The total of inbound and outbound RoRo vehicles at Zomboanga port increased from 8300 in 2006 to 33,268 in 2012, an increase of 300 %. The increase in vehicle type 4, the large truck, was even more dramatic from 670 to 8599[11].

The port of Bongao has a RoRo ramp that was completed in 2006. The port was initially not classified as part of the RoRo system even though the vessels calling at the port were RoRo vessels, because the cargo was not loaded onto road vehicles but stowed in the hold. The service with RoRo vessels has provided the island with an essential lifeline to the mainland.

[10] Bridges Across Oceans – Initial Impact Assessment of the Philippines Nautical Highway System and Lessons for Southeast Asia, April 2010 - ADB

[11] Strategic Port Improvements and Maximization of the Benefits of RoRo Shipping Services in Southwestern Mindanao. Riches BACERO, Carlos TAN 2013

Impact of Road Improvements on Small Ports. Traffic developments at Pagadian port illustrate a different significant development. Ship calls at the port have been steadily declining in recent years and currently most of the activity in the port is related to fishing vessels. Inbound cargo declined from 12,491 tons in 2009 to a mere 1,428 tons in 2013 while outbound cargo increased from 8,743 ton to 20,824 ton over the same period. These outbound flows are related to the fishing industry, and to locally produced inputs such as cassava and copra for the agri-business industry. The decline in inbound traffic is the result of road improvements which make it more economical to supply the port's hinterland by road through an intermediate port such as Zamboanga or Catabato than via short-sea shipping. The distance from Pagadian to Zamboanga is 270 km and takes about 5.5 hours, whereas the distance to Dapitan is 140 km and takes about 2 hours. Given these distances and the relatively small market for consumer goods and for various inputs to agricultural and artisanal activities in the hinterland of the port, this market can be supplied at lower cost via land transport than by sea transport. An added advantage of road transport is that goods can be supplied much better on a just-in-time basis compared to sea transport as such smaller unit loads by road remain competitive with larger loads by sea transport.

Connectivity for Small Island Ports. Brook's Point, Pagadian, Glan and Bongao are ports that serve a limited hinterland either because of geography (small island ports such as Brook's point and Bongao) or because improved road networks have diverted traffic from their hinterland to larger ports with better connectivity and facilities (the case of Pagadian and Glan). For small island ports a key question is whether RoRo services or alternative technologies such as Non-Convention Vessels (NCV) can provide a more effective solution for the essential trade and connectivity needs of these island populations. The lessons of experience in the Sulu archipelago with RoRo should provide insights in this question in particular through an analysis of traffic developments in ports where both traditional shipping and RoRo services have continued to operate in parallel.

For small island situations where there is not enough critical mass to attract private sector operators to provide shipping services, the experience of Indonesia with "pioneer services" is worth considering. These services are supported by government assistance that is output based and contracted on the basis of competitive bidding where the provider of the service is selected using the criterion of lowest required subsidy[12].

Ports and Regional Transport Infrastructure Development. The case of ports that are losing traffic as a result of road improvements that are providing the affected local economies with better connectivity to larger ports raises a broader policy question. Namely, how can national and local government ensure that port and road developments are coordinated so as to produce a regional transport infrastructure serving the transport and connectivity needs of the regional economy in the most efficient possible way. The key factors playing a role in the formulation of an appropriate development strategy include: conditions regarding sea access of different port locations, in particular access channel depth and the cost of port expansion, existing facilities and capabilities at the different ports in the

[12] Public Service Obligation and Pioneer Service Policy in the Transport Sector July 2010, Indonesia Infrastructure Initiative

broader region, the existing road infrastructure, the cost of different road expansion scenarios, the comparative costs of road transport versus short-sea shipping for different types of cargoes and volumes, and the location and growth potential of the different areas in the greater hinterland of the different ports. Clearly, this indicates that whenever major expansion investments are considered a regional transport infrastructure development strategy that integrates these key factors will be required.

Facilities. The facilities and capabilities at the study ports reflect their diverse role and the volume of traffic. While facilities appear to be generally adequate to handle current throughput without undue congestion, opinions of stakeholders and media reports suggest that there is room for improvement. This is exemplified by the situation at the port of General Santos. Notwithstanding an annual container throughput of more than 150,000 TEU, the port has been operating until now without ship-to-shore gantry cranes, and been relying on ship gear to load and unload containers. Current plans are to rehabilitate and reinforce the quay so that it can support a quay crane rail which in turn can accommodate ship to shore gantry cranes.

There may be perfectly good reasons for the choice of container handling systems adopted so far at General Santos and the main ports of the Southern Mindanao Port District. The choice of system depends indeed on many factors, including the type and size of vessel used by the main shipping lines for ship calls at the Mindanao ports, and the operations system strategies adopted by the private terminal operating companies. The result of the current operations system is, however, that the turn-around time of a geared container ship will be longer as is apparent from the limited information available on average berth service time. Given that a container vessel only produces income when it is sailing, from the shipping line point of view berthing time should be as short as possible. Ports that are not able to turn ships around quickly contribute to higher shipping costs. If it is possible to turn ships around faster at a same or lower cost than under the current operating system then obviously the more efficient system should be adopted.

Potential for Intra-BIMP Trade. Zamboanga and General Santos ports are ideally suited for intra-BIMP trade given their location and their capabilities in general as is illustrated by recent new service initiatives. The assets of these ports include a diversified economy in their hinterland as well as good connectivity to larger and smaller ports. They have the potential of becoming hubs for BIMP trade. It will be important to learn lessons from the new service on the route Davao – General Santos – Tahuna – Bitung that was to be launched in the last quarter of 2014. The experience from a previous initiative indicates that such a service needs to be sustained for a prolonged period of time, even while incurring losses, in order to build up a base cargo load that will eventually make the service profitable. This indicates that the chances of success are increased when it is an initiative that is pursued by a wide range of parties, including: the national and local governments involved; the shipping line that is a main promoter; and other business parties who have knowledge of the respective markets. These business parties should be in a position to either distribute themselves the commodities that will be traded or should have made arrangement with other business interests to distribute/ sell the goods that are being traded.

For the smaller ports such as Brook's Point or Glan, to become involved in BIMP trade in a significant manner, it will be important to regularize the informal trade and recognize that it will probably be based on NCV for some time.

3. 5. 3. Port Tariffs

Annex 3.3.3, Port Charging Structures, provides further information on port charging structures.

Charges for Account of the Vessel

- Port dues are charged at different rates for vessels engaged in foreign trade and vessels engaged in domestic trade. Vessels carrying the flag of a BIMP country are charged half the rate of foreign vessels
- Pilotage is compulsory in most Philippine ports and are provided and charged for by the Harbor Pilots Association of the respective ports
- Tug services are also compulsory in most ports and provided and charged for by the Harbor Pilots Association of the respective ports.
- Berth hire, referred to as dockage fee, is charged per GRT per calendar day at different rates for vessels engaged in foreign and domestic trade
- Stevedoring. Is charged for cargo handling between the ship and the quay and carried out by cargo handling company or terminal operating company.
- Packing/unpacking is not charged for separately

Charges for Account of the Cargo Owner

- Wharfage is charged per revenue ton. Imported cargo is charged a wharfage fee per that is double that for exported cargoes. Domestic cargoes are charged a lower fee.
- Wharf handling referred to as Arrastre is charged for cargo handling work done on the quay by a cargo handling company or terminal operator.
- Storage is charged per ton/day after a free storage period which varies according to the type of cargo (5 days for import cargo to 2 days for domestic cargoes). For import containers the storage charge is on the order of 4 times higher than for export containers.

3. 5. 4. Performance

The study ports have not provided much information on key performance indicators. This raises the concern that monitoring of performance by port management is not high on the

agenda. The question can be raised whether the contracts between the Port Authority and the cargo handling companies are properly structured and provide incentives for improving operational efficiency.

Agribusiness supply chain studies have identified many impediments to agricultural exports from Mindanao including high port charges and poor performance of the ports[13].
Also, the Philippines does not score well either in the World Bank's Logistics Performance Index.

3. 5. 5. Conclusions

- Port charges are considered high and the arrangement whereby the port authority receives a percentage of the cargo handling fees collected by cargo handling companies provides a perverse incentive to keep charges high.
- There is also evidence in the study ports that ship sizes are increasing.
- Limited information is provided on various performance indicators which makes it difficult to assess the adequacy of facilities. The contracts with the cargo handling companies may not provide sufficient incentives to improve operating performance.
- The introduction of RoRo has provided new and flexible capacity for low volume routes
- For the long term it will be necessary to take appropriate measures to introduce a level playing field between LoLo and RoRo services.
- The impact of road improvements on port choices by cargo owners point to the need for carrying out a regional transport development strategy study whenever major capacity expansion investments are being contemplated.
- There is potential for trade development at 2 levels. Through the main ports that already have good connectivity and volume; and through feeder ports based on NCV.

[13] Study on Agribusiness, Infrastructure, and Logistics for Growth in Mindanao. Policy Note, August 2010. The World Bank

4. CROSS–COUNTRY ISSUES AND RECOMMENDATIONS

4. 1. The Broader Context of Trade Development

To design effective measures to improve the performance of ports and shipping it is important to examine the issues within the broader context of the key role played by the costs of trade in trade development.

4. 1. 1. Trade Development and the Costs of Trade

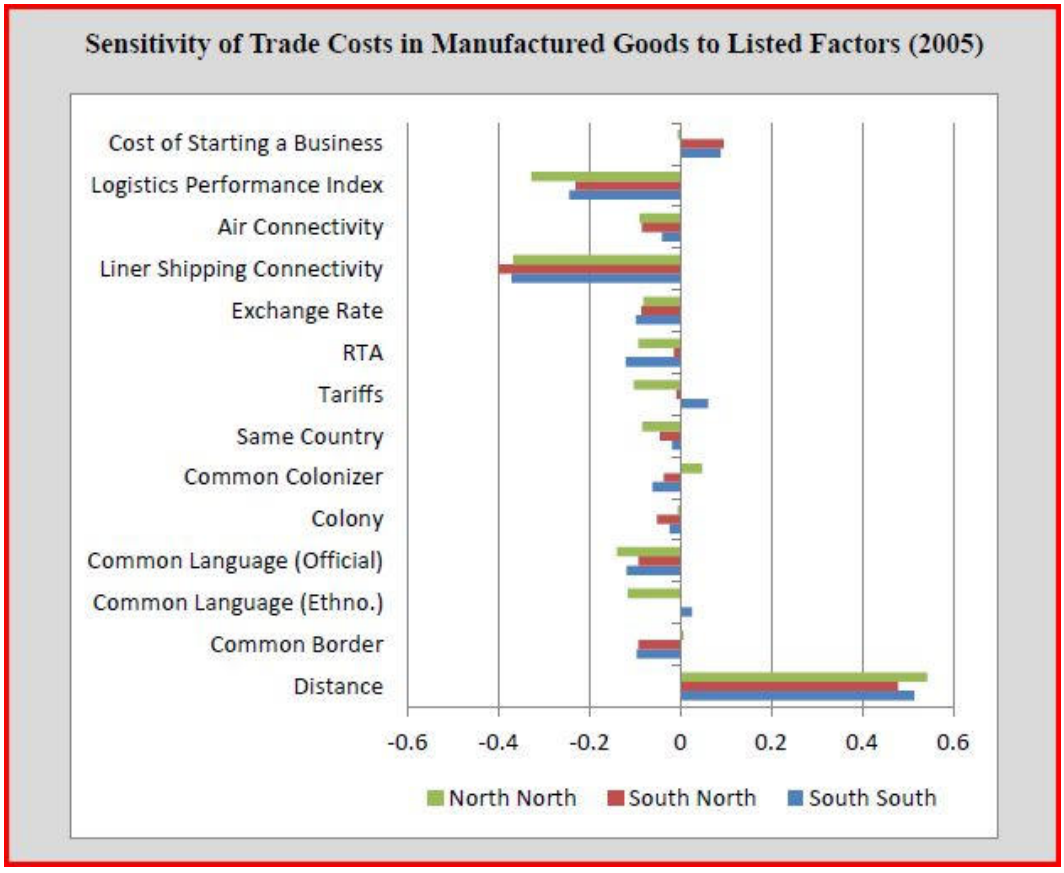
Expressed in its simplest form, developing a new trade involves linking producers of a good with consumers in another region/country through a trade logistics chain. This does not come about easily as is exemplified by the difficulties experienced by many countries and regions in developing trade. It not only requires the availability of suitable goods to trade and entrepreneurship but also a favorable policy and regulatory environment that facilitates trade and lowers the cost of trade. Creating this environment usually involves a comprehensive approach covering a broad range of policies and practices and the participation of many actors in both the public and private sectors.

The cost of bilateral trade is defined as the difference between the price of a good at the factory or farm gate in the exporting country and the price paid by the consumer in the importing country. Thus international trade costs indicate how much more it costs to sell goods internationally than domestically. The lower the costs of trade, the higher will be the ability of a country or region to take part in regional and global production networks. Recent research by the World Bank has provided new insights into the various factors contributing to the costs of trade[14]. The research found that the combined effect of maritime transport connectivity and logistics performance plays a greater role than geographical distance in determining trade costs[15]. The other relevant sources of high/low trade costs identified in the research include: geographic distance which as a single factor has the highest impact, the cost of starting a business, air connectivity, exchange rate, the existence of a regional trade agreement, tariffs, having been part of the same country or a colony, common language and common border (Box 4.1.1).
The policy implication for BIMP-EAGA of the above finding is that its trade costs – whether real payments for services performed by service providers in the logistics chain or costs incurred by the cargo owner because of time in transit of the goods, loss and damage, inventory costs on account of poor reliability of service and the like - can be reduced significantly through measures that improve logistics performance and contribute to the provision of regular liner shipping. Such lowering of trade costs will improve the ability of BIMP-EAGA to engage in new trade.

[14] Arvis J-F, Shepherd B, Reis JG, Duval Y and Utoktham C, 2013. Trade costs and development: a new data set. World Bank - Economic Premise.
[15] Maritime transport connectivity was measured by UNCTAD's Liner Shipping Connectivity Index which measures the capacity of a country to carry its containerized foreign trade using liner shipping
Logistics performance was measured by the World Bank's Logistics Performance Index.

Taking into account the findings related to the study ports, the key question is: how can BIMP-EAGA ports and shipping better contribute to trade development in the subregion and in so doing foster its economic progress. In the following the focus will, therefore, be on issues related to the above mentioned three most important factors determining the costs of trade - geographical distance, logistics performance of ports, and shipping connectivity - that have been identified under the Study. Addressing these issues may eventually contribute not only to growth in existing trade but also to development of new trade. First, we look at the transport distance challenges traditionally faced by BIMP-EAGA and at developments in recent years that provide new opportunities for the subregion.

Box 4.1.1 – Sources of Trade Costs



Source: Arvis et. al. Trade Costs and Development: a new data set. World Bank - Economic Premise.

4. 1. 2. Transport Distance and Other Trade Challenges Traditionally Faced by BIMP-EAGA

With the exception of Brunei Darussalam, the component parts of BIMP-EAGA are located at the periphery of their national economic centers of gravity and transportation hubs. This means higher transport costs on account of longer distances to the main markets and centers of economic activity where locally produced goods can be sold and where

consumer goods and inputs for extractive, agricultural, industrial and commercial activities can be sourced.

This handicap on account of distance is compounded by other factors that contribute to higher costs. This includes: relatively low trade/transport volumes which denies the region the benefits of economies of scale; generally a pronounced imbalance between inbound and outbound traffic flows which also contributes to higher costs; a less diversified economy than that of the main national centers of economic activity and therefore more vulnerable to the fortunes of extractive activities and agriculture, the latter also being subject to seasonal production patterns.

And finally, as far as opportunities for intra BIMP-EAGA trade are concerned, the economic structure of BIMP-EAGA is not only less diversified than that of the other regions of their respective countries but is also similar, being engaged mainly in agriculture, agro-industries and extractive industries.

4. 1. 3. Opportunities in BIMP-EAGA to Overcoming these Challenges

In the changing context of the world economy, characterized by a general decline in transport costs, the globalization of trade, and the integration initiatives at the ASEAN level, BIMP-EAGA is no longer located at the periphery of the economically dominant centers of activity. It is close to the major shipping routes and hence to regional and even to global markets. Its location is no longer necessarily a disadvantage for BIMP-EAGA and can present opportunities.

This point is illustrated by the world market for wine. In a globalizing economy, the market for many products such as wine has become more transparent and producers in different continents compete for consumers on a global basis. In many markets, French wine producers now have to compete not only with wine producers from other European countries but with wine producers in California, Chili, Australia and South Africa. It goes without saying that in order to compete with a product in a regional or global market it is essential that the producing region needs to: (i) have a comparative advantage in producing the good and; (ii) have access to efficient logistic supply chains so that door to door transport costs are not unduly high compared to the cost of the product itself. In the case of wine, each of these regions competing with French wine did have access to efficient transport and logistic systems

BIMP-EAGA clearly has some assets regarding the requirement of a comparative advantage for some products; for example in the case of the Philippines, premium Cavendish bananas. However, as far as the second factor, logistics performance, is concerned the Philippines and Indonesia are not up to par certainly if one assumes that their logistics performance in BIMP-EAGA is not better than their respective national averages. These have been documented in recent years in the World Bank Logistics Performance Index. In the latest issue of the Index, Indonesia came ranked 53 while the Philippines was ranked 57 and Malaysia 25[16]. The Index is based on assessments of the performance of customs,

[16] Connecting to Compete 2014 - Trade Logistics in the Global Economy

infrastructure, international shipments, logistics quality and competence, tracking and tracing and timeliness. Several of the components of the index are affected by the quality and the efficiency of ports and shipping. Clearly, given that BIMP-EAGA is not unduly handicapped by distance to markets, the focus should be on overcoming deficiencies in logistics performance and connectivity.

4. 1. 4. Ports as Centers of Economic Growth and Employment Creation

In the last 50 years, the activities carried out in and around ports have evolved significantly. Traditionally, activities in most ports were limited to cargo handling and storage. Then ports became to be seen as a suitable location for industrial and commercial activities. The port of Rotterdam was an early example of this development. And more recently, with globalization of trade, successful ports have become logistics centers involved in the distribution of goods and value added activities. These ports are also referred to as third generation ports[17]. While transitioning from first generation to third generation port, mechanization and automation reduced employment opportunities in cargo handling and industry. However, the new functions being developed in and around ports in commerce, distribution, logistics and related value added activities provide new sources of employment.

The ports that have been most successful in making the transition over time from first generation port to third generation port are the so-called landlord ports. These successful ports are also subjected to fierce competition from other ports and have traditionally used public-private partnership modalities to carry out the wide range of port functions. The institutional set-up typically comprises a local (city) government entity that is owner of the land and the basic infrastructure of docks and quays while private sector parties invest in the superstructure such as cranes and storage areas and are involved in cargo handling and a range of other service activities. Having partially overlapping hinterlands and thus being exposed to competition, these ports market the quality of their own services and the services of the many other service providers in and around the port in a collaborative approach with these other service providers. Examples of successful ports are Rotterdam, Antwerp and Hamburg in Europe and Singapore in Asia. Annex 4.1.4 shows examples of ports' websites that market the services of the community of service providers at the port.

Ports do not have to be major gateway ports in order to become an engine of local/ regional economic growth. Medium sized ports such as Barcelona in Spain are successfully applying the concept at the regional level. And within BIMP-EAGA the Inland Port at Tebedu at the border of Sarawak and West Kalimantan developed as a joint initiative between the central and state governments and the port authority of Kuching provides an illustration of one aspect of the port as a service provider in the trade logistics and distribution chain. Another illustration is the Palm Oil Industry Cluster developed at a Greenfield port site in Lahad Datu in Sabah as an initiative of the central government, the

---

The Logistics Performance Index and Its Indicators. The World Bank

[17] Port marketing and the challenge of the third generation port, UNCTAD , TD/B/C.4/AC.7/14
Pettit, S. J. and Beresford, A. K. C.(2009) 'Port development: from gateways to logistics hubs', Maritime Policy & Management, 36: 3, 253 — 267

state government and a state development body. This is an example of agri-industry development based on the cluster concept combined with logistics, distribution center and communications features of the third generation port. The development plans for Bitung port in Indonesia which provide for the establishment a free economic zone are also inspired by the concept of the third generation port.

For BIMP-EAGA the question is: what can be learned from these international and regional experiences and what features of the successful third generation port can be adopted locally with the view of generating economic activity and employment in and around the port. In this regard, an important characteristic of these examples of successful transition of ports towards distribution centers and clustering with value added activities is that they are facilitated by the institutional model of the landlord port. The key features of this model are a public sector port authority that has a large degree of initiative and decision making powers on the one hand and a range of private sector service providers on the other. In BIMP-EAGA this institutional arrangement is only found in the ports in Sarawak, whereas the ports in Indonesia and Philippines are part of a national or regional port corporation or entity[18]. As regards the Sabah ports, even though they come under a port authority that has contracted with a private sector party for the port operating function, the arrangement is also less well suited for transitioning on a port by port basis to a third generation port through collaborative approaches with local stakeholders and inter-port competition.

The above described less favorable institutional set-up of most BIMP-EAGA ports for transitioning to a third generation port model should not deter these ports from pursuing some of the attractive growth generating features of the third generation port. The essential element of the successful model is the collaborative and cooperative approach between the port, the local government and other local/regional stakeholders who use the port or whose fortunes depend on the performance of the port in the logistics chain. The question is: how to emulate this approach given the existing port institutional set-up in BIMP-EAGA. This is discussed further below (section 4.2.2).

4. 2. Issues and Recommendations

In the above it was outlined that the negative impact of distance can be alleviated or compensated for by high quality logistics performance and liner shipping connectivity. For BIMP-EAGA in particular, given its geographical location, distance is not even a handicap if logistics performance and connectivity are improved. Based on the issues that were found to be common in BIMP-EAGA, the following will therefore review opportunities for improvement in certain aspects of ports and shipping related to logistics performance and connectivity. Recommendations for actions that can be taken up by BIMP-EAGA are highlighted.

[18] While Indonesia has under a recent law introduced the concept of port authority to carry out the regulatory and administrative functions it is not clear that the port authority will have the necessary autonomy and be sufficiently locally anchored in the initial phase of national port sector reform

4. 2. 1. Lowering Trade Costs through Improvements in Logistics Performance

The World Bank has monitored logistics performance on a global basis since 2007 and issued 4 reports on trade logistics in the global economy covering 160 countries. These reports document the status of the on-the ground efficiency of trade supply chains, through a logistics performance index (LPI). This Index is based on the following six components[19]:

- The efficiency of customs and border clearance ("Customs")
- The quality of trade and transport infrastructure ("Infrastructure").
- The ease of arranging competitively priced shipments ("Ease of arranging shipments").
- The competence and quality of logistics services—trucking, forwarding, and customs brokerage ("Quality of logistics services").
- The ability to track and trace consignments ("Tracking and tracing").
- The frequency with which shipments reach consignees within scheduled or expected delivery times ("Timeliness")

Many of the individual items under these components are the result of policies, regulations, traditions and conditions at the national level. But a not insignificant number of items can also be influenced and improved at the local level. For example, coordination of the operating hours of the various government and private sector services at a port, such as customs, immigration, banking, can be achieved at the local level. Branch ports can inject more competition in the contracting for cargo handling services at the port. Regarding infrastructure, the local government in the case of municipal roads and local branches of higher level road agencies in the case of national or provincial roads, can take many initiatives to ameliorate the regional and local road infrastructure. The same goes for power and water.

Individual items under the other components are in one way or another related to the competencies and performance of the logistics service providers which is largely an issue determined by conditions at the national level. But there are often marked differences in the quality of services provided by different firms. Thus, local stakeholders can invite/encourage the better performing firms to offer their services at the local port if they are not operating there yet. Or, invite additional firms to operate locally, so as to provide choice for local importers and exporters and hence create a more competitive environment. And, importantly, given that governments in all BIMP countries are engaged on national initiatives and programs to improve logistics performance, the community of stakeholders at the local port level can actively participate in these programs and volunteer to become involved in pilot projects. The community of local port stakeholders can, for example, participate in pilot projects to develop a logistics performance audit and index at the local port level.

Recommendation:

- Identify a port suitable for a pilot project to develop a logistics performance audit and performance index at the local port level

[19] Connecting to Compete 2014 - Trade Logistics in the Global Economy The Logistics Performance Index and Its Indicators. The World Bank

- Develop such audit and index on a pilot basis, identifying (i) the items of logistics performance and related actions that can be addressed at the local level; and (ii) how measures that are to be taken at the national level can be influenced by local stakeholders

4. 2. 2. Emulating the Collaborative Approach of the Third Generation Port

The third generation port is typically integrated in well performing trade logistics chains and has a high level of liner shipping connectivity. As pointed out above the key characteristic of the third generation port are the collaborative arrangements between the different levels of government, the port and the various private sector local stakeholders. For BIMP-EAGA ports, to emulate this feature it will be necessary to identify and develop appropriate arrangements suited to the existing institutional conditions that will achieve the collaborative and cooperative approach while also ensuring that port users have access to low cost and efficient services. Key questions to answer include: how to institutionalize such collaborative approach ? what form should it take, a ports council, an advisory board ? who should take the lead, the branch/base port, the local government, the local chamber of commerce ? how should the interests of port users be ensured ?

The answers to these questions will depend in large part on local conditions and already existing cooperation activities between service providers and stakeholders. The design of the institutional arrangement should be driven by the outcomes that are to be achieved. These should include:

- monitoring of the efficiency in port operations and identification and implementation of measures to improve efficiency
- a mechanism to Improve coordination between the various agencies and service providers operating in the port with a focus on streamlined customs, immigration, quarantine and security (CIQS) formalities
- increased transparency in port charges and shipping rates for port users
- a platform for exchange of information on the port's services and those provided by private sector service providers
- matching of potential exporters and importers with suitable service providers
- marketing of the port and its hinterland to potential manufacturers, logistics service providers and importers/distributors in consumer markets
- assistance to local/regional producers and producers organizations in organizing trade fairs and other events to show-case and market their products
- development and maintenance of a website where port users can easily find all necessary and up-to-date information on the community of public and private service providers
- a mechanism through which port users and the local community can provide feedback and bring issues to the attention of the port and service providers and more generally express their voice. This will be essential as long as the port and its service providers are not exposed to competition
- a funding mechanism based on contributions from the community of stakeholders to enable the institutional arrangement to carry out the functions that will produce the above outlined outcomes

Recommendation:

- Learning from the experiences of successful third generation ports, implement a pilot project at a BIM-EAGA port to develop a port community of interests collaborative arrangement adapted to BIMP-EAGA conditions and with adequate representation and voice from port users

4. 2. 3. Improving Port Performance – Yardstick Competition

None of the study ports did show evidence of a well established performance monitoring system based on key performance indicators that are of interest to port users and that allow the port management to diagnose operating performance issues in real time, predict potential capacity constraints early on and design remedial measures. The four Indonesian ports that are part of Port Corporation IV, did provide a comprehensive set of performance indicators but the last year for which data appear to be available was 2011. Data that are 3 years old are of little use neither to port users nor to management.

Ports or terminal operators that are subject to competition from other ports do monitor their performance very carefully, both for marketing purposes and for improving operating efficiency and reduce costs. Given the institutional set-up for administration and management and the size of the BIMP-EAGA ports, inter port and intra-port competition will not be an option for the foreseeable future. However, in order to increase transparency in port performance and to introduce an incentive for the ports to improve their performance, a proxy form of competition "yardstick competition" can be adopted. Under this approach a common set of indicators that are comparable across ports is adopted and implemented and some of the results are shared among the ports and with port users. This approach has been used successfully in other sectors where it is not feasible to have competing operators, such as in utilities.

Recommendation:

- identification and development of a simple system of port performance indicators to be the basis for yard-stick competition between BIMP-EAGA ports
- Development of improved accounting systems linked to the above operating indicators that will provide ports with cost information to guide their decisions on operational and efficiency improvements and in due course provide the basis for charges that are better related to costs[20] (Section 4.2.4)
- Examination of the minimum required traffic volumes in container liner shipping to justify ship-to-shore cranes given existing BIMP-EAGA cargo mixes and terminal operations systems. Insights in this question would help in maximizing the return of the limited funds available for investment in superstructure by avoiding unnecessary underutilized capacity.

[20] **Strategic port pricing,** Report by the UNCTAD secretariat UNCTAD/SDD/PORT/2

4. 2. 4. Improving Transparency in Port Charges

The review of the port charges in the study ports indicates that:

- different charging approaches are followed in the four countries
- the schedule of charges in the Philippines and Malaysia is rather complex, including significant differentiation in tariffs between goods requiring the same services
- the structure of charges in Indonesia is simpler but the information provided may not be all inclusive in particular as regards cargo handling charges
- in Indonesia, charges levied on foreign vessels are much higher than those on domestic vessels
- in all countries, charges appear not to be related to costs and to be adjusted periodically on an across-the-board basis
- some ports use pricing as an incentive tool to accelerate ship turn-around and cargo removal from port
- because the Philippine Ports Authority receives a percentage of the cargo handling charges collected by cargo handling companies there is little incentive to lower charges
- some cargo handling charges in Philippine ports are based on manning requirements that may no longer be justified with some of the modern equipment utilized. These are issues that ports worldwide have had to address and resolve in a satisfactory manner
- RoRo traffic is not being charged port dues or harbor charges in Philippine ports

Given the institutional set-up for administration and management of the port sector in BIMP-EAGA, many of these issues will have to be dealt with in the context of national port sector reform which is in part a political process. As an immediate initiative, however, BIMP-EAGA ports can improve transparency on port charges and thereby assist existing and potential port users who are considering new trade ventures. Transparency will also expose anomalies in the structure and/or unjustified charge items and heighten the pressure for reform. BIMP-EAGA ports should also take steps to introduce more competition in the award process of cargo handling contracts with the view of achieving lower cargo handling rates and improved efficiency. Most ports have sufficient decision making power at the local level in this regard and should prepare themselves to have an improved process and contract conditions when cargo handling contracts come to expiration. As a minimum, automatic renewal should be discontinued wherever this practice has been common.

Recommendation:

- BIMP-EAGA ports to publish on their websites the all-inclusive charges for account of the shipping line for typical ship calls at the port and the all-inclusive charges for account of the cargo owner for typical consignments handled through the port
- Conduct a comparative review of contracting for cargo handling services in BIMP countries, compare the practices relating to the award process and the contract conditions with best international practice, and recommend reform adapted to the institutional set-up in each country
- In view of the greater role that RoRo is likely to play in BIMP-EAGA in the future, costs of RoRo infrastructure facilities should also be properly assessed as a basis for establishing a port pricing regime that establishes a level playing field between LoLo and RoRo

4. 2. 5. Enhancing International Connectivity – Cargo Consolidation

A few BIMP-EAGA ports in each of the member countries and Muara in Brunei Darussalam already have international connectivity. But the services are provided mainly by self-geared vessels. As has been highlighted above, access of a country/region to reliable and high frequency liner services that link into the international supply chains was found to be a major factor affecting trade costs. In addition, there is a worldwide trend to deploying larger ships (Annex 3.3.2) which provide much lower unit costs. This trend is also evident in the data on the average size of ships calling at study ports. Clearly, international connectivity is strongly associated with port traffic volume. Given these factors, the objective of enhancing international connectivity may become elusive if ports are not selected carefully when planning for capacity expansion of the port systems in the respective countries. Capacity expansion investments should be concentrated on those ports that have the greatest potential for becoming important load centers through cargo consolidation. This should be combined with encouragement of an appropriate short-sea feedering network as well as improvement of land transport connections to these load centers (Section 4.2.8 on multimodal transport planning).

The study found that cargo consolidation is already taking place naturally as throughput is declining or disappearing altogether in smaller study ports. These findings and insights also indicate that port expansion investments need to be approached within the broader context of a regional transport development strategy designed to serve the needs of the productive sectors in the broader hinterland. In view of the similarity of the issues involved, there is merit in examining the question of the impediments to cargo consolidation in the BIMP countries as well as the causes and possible solutions to the pronounced imbalances between inward and outward flows at the main ports (ref. discussion of cabotage).

Recommendation:

- Conduct a comparative study of the status of cargo consolidation in the BIMP countries, including impediments originating in laws, regulations, traditions, market sharing arrangements and practices relating to freight forwarders, trucking companies, logistics service providers, distributors/warehousing companies that stand in the way of an effective logistics industry that is capable of consolidating cargoes from different shippers and connecting them with consignees. This review to include aspects such as: regulations at the national and local level, number of firms, size distribution of firms, skills and competencies, fragmentation or concentration of the industry, ownership patterns.

4. 2. 6. Improving Shipping Performance – Relaxing BIMP-EAGA Cabotage Regulations

While the study did not focus specifically on the performance of shipping, the literature review revealed that there is still an active debate about shipping policy reform in the study countries. This debate is driven by dissatisfaction with the performance of the domestic

shipping industry in terms of the level of freight rates compared to shipping rates to international destinations and the quality of service. These sentiments are expressed in particular in the Philippines and Indonesia and to a lesser extent in Malaysia and Brunei Darussalam.

The performance issues affecting the individual countries in general can be expected to be at least as serious in their respective BIMP-EAGA regions. There are no ready-made and easy solutions to improving domestic shipping performance when a country pursues a policy of reserving domestic shipping to national flag carriers and when there is a marked imbalance between inflows and outflows at most ports. Given the geography of Indonesia, Philippines and Malaysia it is no surprise that these countries consider themselves maritime nations and that they have pursued the policy goal that domestic shipping including related industries should remain an important sector of their economy. However, the policies they have followed and the various financial assistance programs and tax incentives they have adopted have yielded meager or no results.

The challenge is how best to reconcile the goal of a viable domestic shipping industry with the goal of lowest possible freight rates and best possible quality of service on a par with international standards. Worldwide experience indicates that the essential components of an effective policy include: competition between service providers; a level playing field; and if assistance is deemed necessary it should be streamlined and simple to access. The latter point derives from the complaints by the shipping industry that they face great difficulties in accessing the financing and other assistance programs of government.

The need for increased competition to spur efficiency is supported by international and several regional experiences. For example, the experience of the Philippine RoRo Nautical Highway has demonstrated that it has had a marked impact on performance of traditional LoLo services in both rates and quality of service in particular on those routes on which there is direct competition from RoRo. The Indonesian experience with deregulation in the domestic aviation sector, which presents many features that are similar to those in the domestic shipping industry, has also demonstrated that fares can be lowered and that performance can be improved. The experience is also demonstrating that given the political will, adequate safety standards can be introduced. Finally, establishing a level playing field between competing shipping lines will also be essential to overcome strong opposition from existing national operators.

In the policy debate on shipping reform, the issue of cabotage is high on the agenda (Annex 4.2.6) as relaxing restrictions on cabotage provides an opening for introducing greater competition in domestic shipping. The proponents of reform advocate for relaxation and eventually elimination of cabotage restrictions. BIMP-EAGA provides an ideal context for moving forward on policy reform in a gradual manner by injecting more competition in the domestic shipping markets through the elimination of cabotage restrictions for BIMP country shipping lines. This may also contribute to easing some of the imbalances between traffic inflows and outflows and thereby providing an additional impetus to lower freight rates.

Recommendation

- develop modalities for relaxation of cabotage restrictions on BIMP country shipping lines.
- learning from best international practice, rationalize and streamline the various assistance programs to the shipping industry at the national level
- standardize/harmonize assistance, taxation and incentives to the shipping industry between BIMP countries so that competition can be on a level playing field.

4. 2. 7. Enhancing and Developing Intra BIMP-EAGA Connectivity

Just as for international trade, the scope for developing regional trade depends critically upon the frequency and reliability of regular liner services. This is exemplified among other by the findings under the Philippine Nautical Highway which show that major distributors have switched from LoLo services to RoRo services to supply some of their customers. Also, experience with a number of intra BIMP shipping services that have operated in the past has shown that it can be a challenge to maintain regular services in the face of low initial demand and/or a changing economic environment. Preliminary findings under this study indicate two key elements for success. A careful choice of the ports to be connected, taking into account prospective traffic volumes; and, a careful choice of the vessel technology in relation to the prospective traffic.

There is now a body of experience available from two kinds of operations: (i) ongoing services between islands at the national level; and (ii) from past and new initiatives undertaken to develop intra BIMP-EAGA connectivity. These experiences provide the basis for developing lessons learned. These include:

- the Indonesian experience with non conventional vessels
- the Philippine experience with trunk RoRo as part of the National Nautical Highway
- the Philippine experience with feeder RoRo services, for example from Zamboanga to the islands of Basilan, Jolo and Tawi-Tawi
- the experience with services between the ports of Kudat and Sandakan in Sabah and various ports in the Southern Philippines
- the experience with ferry services connecting Labuan port and Muara in Brunei Darussalam to ports in Sabah
- the experience of services between Nunukan and Tawau
- the short-lived services operated between Bitung and General Santos several years ago
- the Indonesian experience with pioneer services for unprofitable routes awarded on the basis of lowest subsidy required to provide a defined service

A review of these experiences would aim at: providing insights in success factors and indications or criteria for choice of routes and choice of technology. If non conventional vessels are found to be a promising option for several such routes common standards for these vessels could be developed. It would not be desirable to prescribe particular technologies for particular routes. Rather it would be preferable to let private sector operators select the technology that they want to use. However, they should be given access to all relevant information and analyses gained under such review so that they can make choices while being informed in the fullest possible way.

Recommendation:

- Review experience with interisland shipping at both the national level and intra BIMP level to develop lessons of experience on criteria for choice of routes and choice of technology. This to include the experience with competing services provided by LoLo and RoRo.

4. 2. 8. Multi-Modal Transportation Planning for Effective Connectivity

The study found that improvements in land transport can have a marked impact on port selection by shippers or their agents. When road connections to a larger port are improved, outward and inward cargoes that were traditionally shipped through a smaller port may be shifted to the larger more distant port not only because the all inclusive cost by road transport is equal to or lower than the cost via the nearer port but also because the more distant port has better connectivity with other destinations or origins. Road transport also permits smaller loads and has a shorter transit time, thereby reducing inventory costs.

Road transport is known to be lower cost than short-sea shipping up to several hundred kilometers. The actual break even distance for a specific case will depend on many factors, including: the kind of cargo (high value or low value); the volumes under consideration; the number of transshipments involved by each mode (no transshipment, one or two transshipments); the condition of the road; the road vehicle technology (in large part determined by road standards and volumes)[21].

The implication is that major port and road capacity expansion projects in a region need to be appraised in a coordinated manner. Ports and international and regional maritime connectivity should be integral part of regional land transport studies. And roads in turn should be an integral part of major ports development planning studies. More generally, whenever a major investment in the port/maritime sector or in land transport is being contemplated the question should be addressed whether a multimodal regional transport strategy study is indicated.

The key factors playing a role in the formulation of an appropriate development strategy include: sea access conditions of different port locations, in particular access channel depth and the cost of port expansion, the ongoing trend in the growth of ship sizes, existing facilities and capabilities at the different ports in the broader region, the existing road infrastructure, the cost of different road expansion scenarios, the comparative costs of road transport versus short-sea shipping for different types of cargoes and volumes, and the location and growth potential of the different areas in the greater hinterland of the different ports.

Recommendation:

[21] Multimodal Transport Strategy: Java Corridor. Final Report of Scoping Study. November 2012. Indonesia Infrastructure Initiative

- To improve insight in the comparative costs of road versus short-sea shipping (LoLo and RoRo) conduct a review of studies and of experience relating to break-even distances between short-sea shipping and land transport for different commodities
- As a model of good practice suitable for replication in other regions, conduct a regional multimodal transport planning study that integrates land and maritime transport connectivity and that is tailored to the archipelagic conditions of BIMP-EAGA