May 2004
This publication was produced for review by the United States Agency for International Development as part of the Trade Enhancement for the Services Sector (TESS) Project. It was prepared by CARANA Corporation.
IMPACT OF TRANSPORT AND LOGISTICS ON INDONESIA’S TRADE COMPETITIVENESS

May 2004

Prepared by
CARANA Corporation
Delivering Global Development Solutions

Contract No. PCE-I-07-97-00014
# Table of Contents

**EXECUTIVE SUMMARY** ........................................................................................................... 1  
OVERVIEW .................................................................................................................................. 1  
INDONESIA’S TRADE LOGISTICS AND TRANSPORT COSTS ....................................................... 2  
BENCHMARKING COST STUDY ~ KEY FINDINGS .......................................................................... 3  
RECOMMENDED POLICY OBJECTIVES (HIGH PRIORITY) .......................................................... 6  

**SECTION 1: THE ROLE OF TRANSPORTATION AND LOGISTICS IN INTERNATIONAL TRADE AND COUNTRY COMPETITIVENESS** ........................................................................ 8  
THE ROLE OF TRANSPORT AND LOGISTICS IN INDONESIA ...................................................... 10  
TRADE TRENDS ............................................................................................................................ 11  
TRADE DIRECTION ....................................................................................................................... 11  
PHYSICAL MOVEMENT OF GOODS ............................................................................................ 13  

**SECTION 2: INDONESIA’S TRANSPORTATION AND LOGISTICS MAP** ....................................... 16  
participants in international trade ................................................................................................. 16  
TRUCKING SERVICES ................................................................................................................... 18  
MARITIME CARRIERS .................................................................................................................. 18  
AIR CARGO CARRIERS ................................................................................................................ 19  
RAILWAYS ................................................................................................................................... 19  
INTRA-ISLAND SHIPPING ........................................................................................................... 20  
PORT AUTHORITY AND OPERATORS ......................................................................................... 21  
LOGISTICS COMPANIES ............................................................................................................. 21  
CUSTOMS ..................................................................................................................................... 23  
INSURANCE PROVIDERS ............................................................................................................... 24  
OPERATING ENVIRONMENT ........................................................................................................ 25  
REGULATORY ENVIRONMENT ..................................................................................................... 26  
VAT/SALES TAX RATE .................................................................................................................. 27  
INFORMAL FEES AND SECURITY ............................................................................................... 28  
DEVELOPMENT STRATEGY .......................................................................................................... 29  
LABOR ......................................................................................................................................... 31  
INFORMATION TECHNOLOGY .................................................................................................... 32  
SUPPLY CHAIN COORDINATION ............................................................................................... 33  
LOGISTICS INEFFICIENCY .......................................................................................................... 34  

**SECTION 3: TRADE LOGISTICS AND TRANSPORTATION COSTS** .............................................. 35  
METHODOLOGY ........................................................................................................................ 35  
TESS TEAM STUDY FINDINGS .................................................................................................... 35  
TOTAL COSTS .............................................................................................................................. 35  
PERCENT OF MARKET VALUE ...................................................................................................... 36  
PRE-SHIPMENT, INLAND AND INTERNATIONAL COSTS ............................................................... 37  
CONTRIBUTORS TO INTERNATIONAL LOGISTICS COSTS .......................................................... 40  

**SECTION 4: ISSUES & POLICY OBJECTIVES** ........................................................................... 43  
ACTIONABLE ISSUES .................................................................................................................... 43  
LIMITED ATTENTION TO LOGISTICS MANAGEMENT ................................................................. 43  
PRODUCER MIND-SET .................................................................................................................. 44  
INEFFICIENT FEEDER SERVICES .............................................................................................. 45  
CARGO SECURITY CONCERNS .................................................................................................... 46
Impact Of Transport & Logistics On Indonesia’s Trade Competitiveness

ROAD NETWORK ...................................................................................................................................................................47
CUSTOMS ENCUMBRANCES ........................................................................................................................................47
LOW PROCESS TRANSPARENCY & AUTOMATION .................................................................................................48
TRADE SUPPORT SERVICES & POLICY OBJECTIVES ...........................................................................................49
MARITIME TRANSPORT ...........................................................................................................................................49
AIR CARGO ........................................................................................................................................................................50
ROAD TRANSPORT ....................................................................................................................................................50
LOGISTICS SERVICES .................................................................................................................................................51
CARGO HANDLING & STORAGE SERVICES ........................................................................................................52
BANKING & FINANCE PRACTICES ............................................................................................................................52

ANNEX 1: DETAILED METHODOLOGY ..................................................................................................................55
ANNEX 2: DETAILED COSTS FOR SELECTED COMMODITIES ........................................................................61
ANNEX 3: SAMPLE QUESTIONNAIRES .....................................................................................................................63
PREFACE

This preliminary report is part of a research effort conducted under the Trade Enhancement Service Sector (TESS) project, under contract for the United States Agency for International Development (USAID) in Washington, DC. (Contract No. PCE-I-07-97-00014).

The TESS Project is intended to encourage and support enhancement of the trade and service sectors to promote economic development and country competitiveness. Specifically, the project provides technical support in advancing the understanding of constraints and competition in services sectors, such as transportation, and in developing and disseminating best practices for liberalization and enhancing systematic efficiency. More information can be found at www.tessproject.com.

The Indonesia case study is the second of four case studies to be conducted under this project. The first study was conducted in Nicaragua in late 2003. The Indonesia study was completed by Joyjit Deb Roy, Team Leader; and Nimish Jhaveri, International Logistics Management Consultant. PT Moores Rowland Indonesia provided local support to the project team. The Moores Rowland team was composed of Baudouin Coomans, Rully Aprianto, local team leader, M.H.R.S. Ario Putro and Niken Laras Ardhianti, local research economists.

The authors of this report would like to thank Art Warman, Senior Trade and Investment Advisor and Firman B. Aji, Program Manager at USAID and the GIAT team for their assistance, direction and support during this study.
EXECUTIVE SUMMARY

OVERVIEW

The dramatic integration of the international economy provides tremendous opportunities for developing countries to achieve economic development through international trade and investment. International efforts to reduce and remove rule-based tariff and non-tariff barriers to trade have increased developing countries’ access to key industrial country markets by increasing the relative competitiveness of their goods. While reductions in rules-based barriers to trade have contributed to dynamic export expansion in many countries, recent changes in the international trade regime only level the playing field, and increase the importance of non-rules-based drivers of trade competitiveness in developing countries like transportation and logistics efficiencies.

Due to the complexity and fragmented nature of international transport and logistics networks, new market demands and security concerns, the analysis of trade support services sectors can be difficult. Nevertheless, through investigating the right issues and asking the right questions, it is possible to obtain the data necessary for a comprehensive analysis and information necessary to develop a clear picture of the issues affecting timely and cost effective movement of trade.

This paper provides a roadmap for country specific analysis by developing a framework that identifies sources of bottlenecks and higher transaction costs in developing countries. Specifically, this involves the application of “issue identifiers,” quantitative or qualitative questions that target particular issues discussed in the paper and determine factors that impact both time and costs throughout trade transactions. These “identifiers” address focus on particular modes of transport, the intermodal integration of different modes of transport and non-modal issues that impact the movement of goods. The results of this analysis could facilitate development of comprehensive competitiveness initiatives tailored to facilitate the development of more cost effective and efficient services to enhance trade competitiveness.

Indonesia was chosen as part of a four-country study to benchmark constraints covering various modes of transport, intermodal networks, infrastructure, customs practices and procedures, trade related banking and financial practices, transport intermediaries and the overall development of a country’s transport and logistics system.

The combination of a reasonably favorable business environment instituted from the mid 1980s; competitive labor costs and competent labor; a vast domestic market, existence of natural industry clusters; participation in the ASEAN1 Free Trade Agreement (AFTA); and nearness to a large regional market (ASEAN, China and Japan), provides Indonesia an excellent opportunity to profit from increased trade. In spite of these opportunities, significant deficiencies in the country’s transportation and logistics practices and infrastructure may result in an inability to take advantage of these prospects.

1 ASEAN (Association of Southeast Asian Nations) was established in 1967 and includes the following member countries: Indonesia, Malaysia, Philippines, Singapore, Thailand, Brunei, Vietnam, Laos, Myanmar and Cambodia. The ASEAN region has a population of about 500 million, a total area of 4.5 million square kilometers, a combined gross domestic product of US$737 billion, and a total trade of US$ 720 billion. (http://www.aseansec.org/64.htm)
INDONESIA’S TRADE LOGISTICS AND TRANSPORT COSTS

Indonesia is highly dependent on maritime transport. As an archipelago of 17,000 islands, Indonesia’s seaways perform a vital function connecting communities and traders, domestic and international. Indonesia’s maritime networks are significantly more developed than air, offering few alternatives for international trade. In addition, a number of world-class ports in the region attract services that are highly price competitive and advantageous.

A number of factors reduce the efficiency of maritime transport in Indonesia:

- **Numerous multi-purpose ports**: The port infrastructure has evolved to support a wide variety of needs, but few have specialized in the efficient handling of international container cargo. Most port handle traffic ranging from container traffic to bulk goods, passengers, cattle and frozen commodities both domestic and international.
- **Decentralized administration**: Authorities administering the ports are largely decentralized; investment and fiscal priorities are based on regional requirements.
- **Low maritime productivity**: Smaller vessels and ports suffer from a number of issues ranging from poor infrastructure, internal processes, labor management practices, antiquated equipment and poor service capabilities.

These factors directly affect Indonesia’s trade competitiveness because issues of additional cost, time, and shipment reliability burden nearly all trade traffic.

In addition, Indonesian exports are increasing in value. Buyers for these higher value exports (such as furniture, electronics, ready made clothes) require more sophisticated logistics standards, from inbound supply to outbound delivery. Indonesia’s logistics industry is characterized by the co-existence of traditional and modern logistics sectors. The new logistics sector competes on integrated supply chain management, just-in-time delivery, quality, reliability and transaction transparency. These requirements are placing tremendous new demands on service providers and government participants in the international trade process.

Data was gathered during face-to-face interviews with more than thirty entities in Indonesia. The following agencies and entities formed part of the interview mix:

<table>
<thead>
<tr>
<th>Private Sector</th>
<th>Public Sector</th>
<th>Industry Experts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturers &amp; Producers</td>
<td>Ministry of SOE (BUMN)</td>
<td>Growth Through Investment &amp; Trade Project</td>
</tr>
<tr>
<td>Ocean Shipping Lines</td>
<td>Customs</td>
<td>Indonesia Cold Chain Project</td>
</tr>
<tr>
<td>Logistics Service Providers</td>
<td>PELINDO Management</td>
<td>CastleAsia</td>
</tr>
<tr>
<td>Port Operators</td>
<td>Air Cargo Operator</td>
<td>Moores Rowland</td>
</tr>
<tr>
<td>Trucking companies</td>
<td>Cargo Inspection Service</td>
<td>USAID</td>
</tr>
<tr>
<td>Insurance Provider</td>
<td>Warehousing companies</td>
<td></td>
</tr>
<tr>
<td>Consolidator</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freight Forwarders</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air Courier Service Provider</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Additionally, field visits were conducted in the following areas to gather data from producers and visit port facilities:
- Greater Jakarta, Merak
- West Indonesia: Medan, Jepara, Semarang
- East Indonesia: Surabaya, Makassar

**BENCHMARKING COST STUDY ~ KEY FINDINGS**

The findings of this study are aimed at a number of “champions” who are expected to carry forward the team’s recommendations into actionable strategies and new project design. Wherever possible, the TESS Team’s recommendations are tied to specific stakeholders (e.g. PELINDO’s) who will need to decide on the best approach to clear the bottlenecks identified. In some cases, the donor community (e.g. USAID, the World Bank, ADB, etc.) will have to play a catalytic role in working with their govenrment or private sector counterparts to effect positive change.

A transportation and logistics seminar organized at the government level (e.g. by the Coordinating Ministry for Economic Affairs) can often act as a first step to present the findings of the study to all relevant stakeholders (public and private) and, design and prioritize interventions to improve the supply chain. This will also help in identifying specific clients who can implement the various policy objectives identified in this report to help alleviate problems in Indonesia’s transportation and logistics chain.

This paper presents the findings from a benchmarking cost study that analyzes the relative competitiveness of Indonesian transportation and logistics services for select export products (Rubber, Coffee, Cocoa, Shrimp, Ready Made Garments, Plywood and Furniture). The overall costs of transportation and logistics for the basket of commodities varied widely. The differences are apparent in the commodity being exported, the destination, modes of transportation used, size of shipment, and route.

Although a detailed transportation cost analysis for each of the selected export products is contained in this paper, the following key findings suggest areas in which to focus efforts to improve Indonesian transportation and logistics services and infrastructure:

Up to 50 percent of the total cost of logistics and transport cost to exporters occurs within Indonesia prior to international shipment. Addressing these domestic costs are a significant opportunity for the country in improving the competitiveness of exported products. This is particularly true for traditional commodity exports such as plywood, coffee and rubber, which rely on low cost, efficient processes to be competitive in international markets. The good news is, many cost drivers are immediately addressable by self-directed programs for improvement and cost reduction.

1. **Limited Attention to Logistics Management.**

   Advanced logistics strategies are well established in certain industries, such as ready-made clothing and electronics. However, commodity exporters in Indonesia make limited use of
advanced logistics services to reduce cost. Providers of logistics services often give away services to attract or retain a producer or exporter’s business, but few logistics companies have been successful without making their profits in other lines of business.

Another broad area for improvement is packaging and container stuffing. For commodities such as rubber and cocoa, packaging constitutes up to 65 percent of the non-transportation cost. In industries such as furniture, buyers frequently reject shipments where damage occurs in transit. In a broader sense, the general lack of focus on logistics management results in Indonesian commodity exporters sharing profit margins with intermediaries who are more sophisticated in their understanding of the buyer’s service requirements or logistics cost management. Indeed, buyers in Singapore and Rotterdam perform this role for many Indonesian products today. These buyers purchase goods from Indonesia and transship them to their final destinations, retaining profits that could otherwise belong to Indonesian exporters.

2. Producer Mind-set
In their search for global competitiveness, buyers are seeking relationships with producers who can contribute additional competitive advantage to their supply chains. Increasingly, product cost and quality are becoming the minimum pre-requisite qualifications to getting the buyer’s order. At present, Indonesian producers have low visibility of the final destination of their products. Visibility to demand can provide important avenues to improve competitiveness and profits—through improved differentiation, responsiveness, or better meeting the customer’s need. Producers who are unable to fulfill these requirements will face reduced margins as knowledgeable intermediaries step in.

3. Inefficient Feeder Services
Seventy-five percent of Indonesia’s export shipments go through regional hubs in Singapore or Malaysia, where the high volumes of cargo handled attract world-class maritime service. The competition between these ports has produced benefits to shippers that include highly efficient transshipment processes, relatively low freight costs, and excellent service to major export markets worldwide. However, the cost that Indonesian exporters pay to access these services is inordinately high.

Exporters pay approximately $800 per container to access Singaporean or Malaysian ports from Indonesian ports. Indonesia can actively move to control these costs by improving the port gateways, processes and feeder network to the regional hubs. Feeder costs can be reduced by implementing improvements along the above dimensions in the context of a longer term port development strategy that aggregates cargo into a small number of highly efficient international gateway ports.

4. Cargo Security Concerns
Indonesian shippers pay 30-40 percent more for cargo insurance than shipments originating in Singapore. This extra premium is a result of repeated problems with

- Organized crime
- Strikes and work stoppages
- Theft and pilferage
- Piracy
Indonesian authorities can take a systematic view to reducing these costs by vigorously investigating and prosecuting each reported case of controllable risk. Thereby, the Shippers will enjoy reduced insurance premiums, but more importantly, Indonesian trade will benefit from a renewed status and reputation of increased safety and reliability.

5. **Road Network**
The state of the road network in Indonesia adds cost, time, and uncertainty to transportation. The size and capacity of the network is limited, at best of times, and degrades substantially in wet weather. All trade is affected by the road network, whether its destination is a regional city or ultimately international. Narrow roads do not allow the usage of trucks that can haul 40-feet containers and this results in multiple handling at different points, over capacity and frequent breakdowns in the supply chain. Network expansion priorities should focus on the high volume corridors for import and export trade. Investments for network expansion need to support the broader strategy for transportation of international trade. If trade corridors are to regional ports, policy makers need to work cooperatively to adopt regional strategies for efficiency and improvement.

6. **Customs Encumbrances**
Indonesia’s Customs Agency has a difficult job given the country’s long and porous border with numerous entry points. However, Customs processes are repeatedly cited by shippers a hindrance to trade.

- **Automation and access:** Customs has adopted widespread automation in recent years. However, what seems to have emerged are numerous separate islands of automation. Currently, shippers still need the full set of documents and paperwork to process a Customs entry. In addition, the Customs system is not linked to the Port Authority, so numerous copies of documents are still required.

There is an opportunity to improve the Customs process by linking these disparate islands of information so that (i) the end-to-end process is automated and (ii) shippers and their agents can have remote access. Remote access will give shippers early knowledge of problem shipments or documentation errors so that they can be solved before they become critical, saving them time and the requirement to be physically present for every shipment.

Additional customs issues include

- **Arbitrary, independent rulings:** Where Customs has several offices in a single jurisdiction, they do not coordinate amongst themselves. Tanjung Priok has three offices, each of which is seen to be run independently. Also, rulings are often arbitrary. When shippers do not agree with the ruling, they are often able to change it by trying again or involving others in the Customs hierarchy.

- **Informal Fees:** Customs is viewed as a frequent recipient of informal fees. This type of breakdown in management control could be addressed by reforming the process for levying, collecting and redeeming improperly levied fines. Customs also needs internal reform to address some of the fiscal challenges being faced by the department.
Impact Of Transport & Logistics On Indonesia’s Trade Competitiveness

7. Low process transparency & automation
Although Customs has instituted EDI, it is expensive and represents only a small segment of the overall process of the chain that producers must manage. Typically, they have very low visibility into what is happening with their shipment, and must manually manage the transaction every step of the way.

Numerous suppliers worldwide are gaining greater control over their supply chain transactions by using Internet enabled technologies that manage activities across the entire supply chain. This allows all the participants in a transaction from the supplier to a buyer coordinate their activities. Through better visibility of each shipment, they are able to identify ways to improve the process and reduce costs. This type of connectivity and transparency would give Indonesian participants more control over the international trade process and increase their confidence and trust with logistics providers in the supply chain.

Automation eliminates common documentation errors, and repeated transaction failures can be quickly pinpointed and rectified. Also, since each step of the transaction is recorded, auditable and available for other participants to see, it may deter arbitrary or improper behavior on the part of officials involved.

RECOMMENDED POLICY OBJECTIVES (HIGH PRIORITY)

<table>
<thead>
<tr>
<th>Highest Priority Issues</th>
<th>Recommended Policy Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Too many Ports. Large number of ports inhibit cargo aggregation, increasing transportation and port handling costs</td>
<td>Rationalize port network Coordinate across PELINDO’s to develop international gateways for efficient cargo aggregation and transshipment</td>
</tr>
<tr>
<td>2. Insufficient Port Infrastructure. Local ports need supporting infrastructure and services to be cost effective. Consolidation among many local ports and specialization between cargo and passenger traffic.</td>
<td>Port development priorities for East and West Indonesia. Off-port infrastructure such as access (better roads) and warehousing, and on-port infrastructure to reduce vessel dwell time and handling costs. For example, automated discharge equipment and specialized storage near the ports would circumvent the need to use a fleet of rotating trucks to deliver cargo directly to the customer’s storage facilities from the ship, reducing vessel dwell time and handling costs.</td>
</tr>
<tr>
<td>3. Access to Regional Hubs. Costly access to the regional hubs.</td>
<td>Promote higher competition in Indonesian waters. Reassess the impact of Presidential Impres on domestic shipping. Promote investment in larger, faster vessels to carry cargo between Indonesian Gateways and Regional hub ports</td>
</tr>
<tr>
<td>Impact Of Transport &amp; Logistics On Indonesia’s Trade Competitiveness</td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td></td>
</tr>
</tbody>
</table>

4. **Lack of a National Strategy for Road Development.** Disparate regional and local road development priorities

   Establish a single agency for inter-state highway development and management. Develop a centralized managed plan for roadway development that addresses local and regional priorities.

5. **Infrastructure Imbalance.** Inordinate Inland costs in Eastern Indonesia

   Review the particular movements of goods in the Eastern part of the country to determine how logistics efficiencies can be improved without incurring large investments in new roadway.

6. **Logistics Inefficiencies.** Few consolidators. Goods either travel less than truckload or by full container load from origin to destination.

   Intra-Asia trade can benefit significantly from consolidation services. Assist logistics service providers educate and market to exporters. Provide training and education for small producers who interact directly with buyers. Assist large buyers establish consolidated services inbound from multiple suppliers.

7. **Policy Uniformity.** Logistics service providers are at a costing disadvantage to asset based providers of services

   Clarify and repeal the VAT laws to level the playing field for all competitors.
SECTION 1: THE ROLE OF TRANSPORTATION AND LOGISTICS IN INTERNATIONAL TRADE AND COUNTRY COMPETITIVENESS

Why Transport and Logistics?

The dramatic integration of the international economy provides tremendous opportunities for developing countries to achieve economic development through international trade and investment. Not only can countries benefit from the trade of traditional exports but the increasingly global nature of manufacturing, agricultural and service networks allows poorer countries to become integral components of international supply chains. In addition, international efforts to reduce and remove rule-based tariff and non-tariff barriers to trade have increased developing countries’ access to key industrial country markets by increasing the relative competitiveness of their goods.

While reductions in rules-based barriers to trade have contributed to dynamic export expansion in many countries, recent changes in the international trade regime only level the playing field, and increase the importance of non-rules-based drivers of trade competitiveness in developing countries. One such key determinant of trade competitiveness is the extent to which goods can be shipped from a factory, warehouse or port in the country of origin to destination markets throughout the world in a timely and cost-effective manner. Unfortunately, many developing countries have weak and inefficient transport and logistics that lead to longer transit times, problems with predictability and reliability and higher trade transaction costs that in turn undermine competitiveness. Without serious efforts to enhance these transport and logistic systems, and the provision of trade support services tied to these systems, these developing countries will be unable to take advantage of opportunities provided by global manufacturing networks and lower rules-based barriers to trade.

Due to the complexity and fragmented nature of international transport and logistics networks, new market demands and security concerns, the analysis of trade support services sectors can be difficult. Nevertheless, through investigating the right issues and asking the right questions, it is possible to obtain the data necessary for a comprehensive analysis and information necessary to develop a clear picture of the issues affecting timely and cost effective movement of trade. This paper provides a roadmap for country specific analysis by developing a framework that identifies sources of bottlenecks and higher transaction costs in developing countries. Specifically, this involves the application of “issue identifiers,” quantitative or qualitative questions that target particular issues discussed in the paper and determine factors that impact both time and costs throughout trade transactions. These “identifiers” address focus on particular modes of transport, the intermodal integration of different modes of transport and non-modal issues that impact the movement of goods. The results of this analysis could facilitate development of comprehensive competitiveness initiatives tailored to facilitate the development of more cost effective and efficient services to enhance trade competitiveness.

Why Indonesia?

Since the particular significance of certain weaknesses in the trade support service industry—in addition to their resulting economic costs—vary from country to country it is important to
evaluate the particular conditions and market environment in which service providers operate prior to developing national initiatives. This should include a constraints analysis covering various modes of transport, intermodal networks, infrastructure, customs practices and procedures, trade related banking and financial practices, transport intermediaries and the overall development of a country’s transport and logistics system.

Indonesia was chosen as part of a four-country study to benchmark these constraints. The first study was conducted in Nicaragua, a country with no major export port but within proximity to the most important export market in the world—the United States market. Indonesia was chosen because of the depth of perceived problems in the transportation and logistics chain. A country with substantial exports, comprised of more than 17,000 islands almost spanning the width of the U.S., presence of numerous ports, lack of substantial rail links and limited roads presented a great opportunity for a case study.

In Indonesia, the movement of a typical good involves a variety of players who each fulfill a necessary role in the transportation and logistics chain. The figure below traces the movement of a typical good and identifies the different players at each individual step.

The combination of a reasonably favorable business environment instituted from the mid 1980s; competitive labor costs and competent labor; a vast domestic market, existence of natural industry clusters; participation in the ASEAN Free Trade Agreement (AFTA); and nearness to a large regional market (ASEAN, China and Japan), provides Indonesia an excellent opportunity to profit from increased trade. In spite of these opportunities, significant deficiencies in the country’s transportation and logistics practices and infrastructure may result in an inability to take advantage of these prospects. As the picture below illustrates, for most developing countries the cost of transportation and logistics services can account for as much, or more than, three times the cost of tariff rates. This is certainly the case for Indonesia.

**LOWER TARIFFS, HIGHER TRANSACTION COSTS FACING DEVELOPING COUNTRIES**

![Graph showing freight costs as % of import value](UNCTAD Review of Maritime Transport, 2002)

**THE ROLE OF TRANSPORT AND LOGISTICS IN INDONESIA**

The Indonesian economy, like most developing countries, is deeply dependent on international trade. The value of total exports and imports represent about 51 percent of the country’s GDP. As shown in the table below, Indonesia experienced a significant drop in the volume of trade as a percentage of GDP in 2002 in spite of an increase in container traffic in its ports. Indonesian imports tend to be characterized by a preponderance of manufactured goods and refined petroleum products, while exports are predominantly industrial products (apparel, electrical appliances, audio-visual equipment etc.), mining products and agricultural products (shrimp, cocoa, coffee etc.).

---

Impact Of Transport & Logistics On Indonesia’s Trade Competitiveness

**Volume of Trade-Indonesia**

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade in goods (% of GDP)</td>
<td>63.68</td>
<td>61.92</td>
<td>51.14</td>
</tr>
<tr>
<td>Container port traffic (TEU: 20 foot equivalent units)*</td>
<td>3,797,948</td>
<td>3,901,761</td>
<td>4,539,884</td>
</tr>
</tbody>
</table>

* Port container traffic measures flow of containers from land to sea transport modes and vice versa, in TEUs. Data refer to coastal shipping as well as international journeys.

Source: World Development Indicators Database, 2004

**Trade Trends**

Indonesia enjoys a favorable balance of trade as shown in the graph below. The trade gap has increased significantly in the last few years with non-oil exports exceeding imports since 1996.

The annual growth rate graph shows that Indonesian exports and imports have followed each other closely though imports have been more volatile than exports. Trade declined sharply in the late 1990s as a result of the Asian financial crisis. Exports staged a significant recovery in 2000 though imports also grew at a similar pace. The growth in both imports and exports have slowed since then as a result of decreased international trade, though 2003 shows an upward trend.

**Trade Direction**

Indonesia’s major trading partners are identified in the table below. Japan is Indonesia’s largest trading partner with U.S.A. in second place. In 2000, nearly two-thirds of Indonesian exports went to other Asian countries and nearly 63 percent of imports also came from Asia. In 2001, there was a slight decrease in trade with Asia and an increase with trade in Australia. The graphs show a distribution of Indonesian trade partners by region in 2001.
**Direction of Trade-Indonesia (US $ Millions)**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ASIA</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Japan</td>
<td>14,415</td>
<td>5,397</td>
<td>13,010</td>
<td>4,689</td>
<td>-10.80</td>
<td>-15.10</td>
</tr>
<tr>
<td>2. Singapore</td>
<td>6,562</td>
<td>3,789</td>
<td>5,364</td>
<td>3,147</td>
<td>-22.35</td>
<td>-20.39</td>
</tr>
<tr>
<td>3. Republic of Korea</td>
<td>4,318</td>
<td>2,083</td>
<td>3,772</td>
<td>2,209</td>
<td>-14.46</td>
<td>5.74</td>
</tr>
<tr>
<td>4. Taiwan</td>
<td>2,378</td>
<td>1,270</td>
<td>2,188</td>
<td>1,071</td>
<td>-8.70</td>
<td>-18.54</td>
</tr>
<tr>
<td>5. China</td>
<td>2,768</td>
<td>2,022</td>
<td>2,201</td>
<td>1,843</td>
<td>-25.77</td>
<td>-9.74</td>
</tr>
<tr>
<td>6. Hong Kong</td>
<td>1,554</td>
<td>342</td>
<td>1,290</td>
<td>257</td>
<td>-20.44</td>
<td>-33.02</td>
</tr>
<tr>
<td><strong>EUROPE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Germany</td>
<td>1,443.1</td>
<td>1,245</td>
<td>1,297</td>
<td>1,301</td>
<td>-11.27</td>
<td>4.29</td>
</tr>
<tr>
<td>2. Netherlands</td>
<td>1,837.4</td>
<td>434</td>
<td>1,498</td>
<td>344</td>
<td>-22.64</td>
<td>-26.32</td>
</tr>
<tr>
<td>3. United Kingdom</td>
<td>1,507.9</td>
<td>557</td>
<td>1,383</td>
<td>643</td>
<td>-9.02</td>
<td>13.33</td>
</tr>
<tr>
<td>4. France</td>
<td>718.3</td>
<td>400</td>
<td>663</td>
<td>397</td>
<td>-8.41</td>
<td>-0.78</td>
</tr>
<tr>
<td>5. Italy</td>
<td>757.8</td>
<td>345</td>
<td>622</td>
<td>408</td>
<td>-21.85</td>
<td>15.31</td>
</tr>
<tr>
<td><strong>AMERICA</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. USA</td>
<td>8,475.4</td>
<td>3,390</td>
<td>7,749</td>
<td>3,208</td>
<td>-9.38</td>
<td>-5.70</td>
</tr>
<tr>
<td>2. Canada</td>
<td>403.9</td>
<td>638</td>
<td>390</td>
<td>357</td>
<td>-3.51</td>
<td>-79.00</td>
</tr>
<tr>
<td><strong>AUSTRALIA &amp; OCEANIA</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Australia</td>
<td>1,519.4</td>
<td>1,694</td>
<td>1,845</td>
<td>1,814</td>
<td>17.64</td>
<td>6.64</td>
</tr>
<tr>
<td>2. New Zealand</td>
<td>106.9</td>
<td>228</td>
<td>145</td>
<td>211</td>
<td>26.17</td>
<td>-8.25</td>
</tr>
</tbody>
</table>

Note: Export in FOB, Import in CIF.
Source: BPS Statistics, Indonesia

As seen in the next diagram about Indonesia’s export trading partners, ASEAN countries account for 40 percent of the tonnage of exports but only 17 percent of the value. This represents exports of primarily bulk raw materials which are either consumed in the ASEAN countries or further processed and re-exported. Exports to North America and Europe are mostly higher value finished goods that weigh less but cost more (e.g. ready made garments, electronics etc.).
Impact Of Transport & Logistics On Indonesia’s Trade Competitiveness

**INDONESIA’S EXPORT TRADING PARTNERS**

<table>
<thead>
<tr>
<th>Region</th>
<th>Tonnage</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASEAN</td>
<td>40%</td>
<td>17%</td>
</tr>
<tr>
<td>Non-ASEAN</td>
<td>43%</td>
<td>46%</td>
</tr>
<tr>
<td>Asia</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Africa</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Europe</td>
<td>6%</td>
<td>15%</td>
</tr>
<tr>
<td>S. America</td>
<td>1%</td>
<td>2%</td>
</tr>
<tr>
<td>N. America</td>
<td>2%</td>
<td>14%</td>
</tr>
<tr>
<td>Australia</td>
<td>6%</td>
<td>3%</td>
</tr>
</tbody>
</table>

Source: Adapted from Trade Statistics 2001 from BPS Statistics, Indonesia

**PHYSICAL MOVEMENT OF GOODS**

The size and direction of trade are important for understanding the context for the physical movement of goods that occur in and out of Indonesia. The following are important characteristics of this trade:

**Shipping Routes.** Shipping in the Asia-Pacific region is characterized by dense traffic movement through straits and along coastlines accompanied by long-distance, open-ocean transit. The figure shows major maritime trade routes and straits linking the trading economies of the region to the rest of the world. Since many countries of Southeast Asia are either peninsular or insular, most trade moves by sea and land transport infrastructure is not highly developed. The major sea lines of communication (SLOCs) are constricted at several key straits, the most important of which are located in Southeast Asia: the Malacca, Sunda, Lombok, and Makassar straits.
These SLOCs cross the waters of Malaysia, Indonesia, and Singapore, with Singapore’s port facilities serving as a major link for refueling and transshipment. More than half of the world's annual merchant fleet tonnage passes through the Straits of Malacca, Sunda, and Lombok, with the majority continuing on into the South China Sea. Over 15 percent of the value of the world’s cross-border trade pass through Southeast Asia every year. Two-way trade transiting these SLOCs is important not only for the economies of Southeast Asia but also for businesses in Northeast Asia, Europe, and the United States.

**Production.** Indonesia’s agricultural exports are mainly grown in Eastern Indonesia (Sulawesi, Papua and other islands) and to a lesser extent in Sumatera (Northern and Central). Manufacturing is mainly concentrated on the Java island near Greater Jakarta (including Bandung), Semarang in Central Java and Surabaya in Eastern Java.

**Transport Modes.** International trade is carried out primarily by sea and to a limited extent by air, depending on the type of trade and the destination. There is no direct road or rail transportation export route because of lack of a land bridge to other parts of Asia. Indonesian ports handled about 190 million tons of cargo (both import and export) in 2001. Inter-island trade accounted for about 302 million tons of cargo. The primary air gateway out of Indonesia is the Soekarno Hatta Airport in Jakarta which handles a majority of all air cargo. A limited amount of air cargo goes out of other airports including Polonia, Juanda, Ngurahrai and Hasanudin. Total air cargo exports out of Indonesia totaled 170,568 tons in 2000.

**Infrastructure.** Indonesia has four major gateway ports—Tanjung Priok (Tanjungperiuk) Sub district in North Jakarta (Jakarta Utara), Surabaya in Jawa Timur Province, Belawan near Medan in Sumatera Utara Province, and Ujungpandang, Makassar in Sulawesi Selatan Province. Trade volumes at Tanjung Emas, Semarang in Central Java are also on the rise. There are 43 collector ports and trunk ports that feed the gateway ports in a routing hierarchy. Belawan and Ujungpandang are best suited for bulk and break bulk trade while most of the container traffic is transported through Tanjung Priok and Tanjung Perak in Surabaya. The port of Jakarta, at Tanjung Priok, is by far the largest; its current commercial capacity is about 2.5 million TEU’s. The container terminal at Tanjung Perak (Terminal Petikemas Surabaya) in East Java, can accommodate about 2 million TEU's per annum. In addition, more than 125 industrial ports have been opened to the loading of various commodities, including cement, coal and oil. The four major gateway ports act as feeder ports for the regional hub ports that are located in Singapore and Malaysia. Additional detail on Indonesia’s infrastructure can be found in Section 3 of the report.

---

3 Source: BPS Statistics, Indonesia
**Internal Transportation.** Indonesia’s internal transportation network is best developed in Java, the northern and southern parts of Sumatra, Madura and Bali, where most cities are connected by highways or secondary roads. Indonesia’s road network spans a total of about 361,782 kms. The island of Kalimantan has about 2,900 kilometers of trans-island highway; Sulawesi has about 3,900 kilometers; and Irian Java has about 1,600 kms of paved roads. Though the toll roads and major highways are in decent conditions, the arterial and feeder roads are in bad condition, which delays the transportation of most agricultural goods, and add significant local cost. Indonesia’s rail system is spread over a mere 6,362 kilometers, of which 4,684 (73.6 percent) are in Java, with the remainder chiefly in Sumatra. The system is used for both passenger and freight transport. River traffic is also a preferred mode of transportation specially in the inner islands. Barge transportation is used for moving bulk and break bulk cargo like plywood to processing centers and onward to ports for further movement by ship.

**Integration of Indonesia with Regional and International Transport Network.** Ports can generally be described as either international port-hubs or as domestic feeder ports. This graph indicates that ports in Singapore and Malaysia handle more cargo than Indonesia. Indonesian cargo is trans-shipped through international hub ports in Singapore and Malaysia (Port Klang, Tanjung Pelapas etc.) for further transportation to other regions of Asia, Europe and North America. Most of the major shipping lines operating in Indonesia (e.g. Maersk, P&O Nedllyod, Hanjin etc.) maintain regular feeder service from 5 or 6 ports in Indonesia into the hub ports of Malaysia or Singapore. Some Indonesian cargo (e.g. marine fisheries, minerals etc.) is exported directly to Japan from the eastern islands.

![Container Port Traffic-2002](source: World Development Indicators, 2004)

The table provides a listing of world port rankings for 2002. As is evident from this table, two major international hub ports that rank amongst the top 11 ports in the world are in close proximity of Indonesia. Creating a third major international hub port in the region will require more cargo volume than is presently available. Though Indonesia is trying hard to get shipping lines to introduce direct service from Tanjung Priok to Europe and North American markets, the likelihood of this happening is remote. Furthermore, Indonesian ports are handicapped by their lack of infrastructure to handle mother vessels (over 5,000 tons) and cargo volumes and aggregation do not justify direct service yet.

<table>
<thead>
<tr>
<th>WORLD PORT RANKINGS (VOLUME IN MILLIONS OF TEUs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Hong Kong</td>
</tr>
<tr>
<td>2 Singapore</td>
</tr>
<tr>
<td>3 Busan</td>
</tr>
<tr>
<td>4 Shanghai</td>
</tr>
<tr>
<td>5 Kaoshiung</td>
</tr>
<tr>
<td>6 Shenzhen</td>
</tr>
<tr>
<td>7 Rotterdam</td>
</tr>
<tr>
<td>8 Los Angeles</td>
</tr>
<tr>
<td>9 Hamburg</td>
</tr>
<tr>
<td>10 Antwerp</td>
</tr>
<tr>
<td>11 Port Klang</td>
</tr>
</tbody>
</table>

Source: http://www.westportmalaysia.com.my
SECTION 2: INDONESIA’S TRANSPORTATION AND LOGISTICS MAP

The effectiveness of trade services is affected by the logistics infrastructure and various participants who get involved with the trade management process. These two aspects are discussed below.

PARTICIPANTS IN INTERNATIONAL TRADE

In a well developed trading market, a large number of participants get involved in the transaction between the buyer and seller. As depicted below, these include providers of transportation services, specialized logistics services, governmental bodies, operators of the logistics infrastructure (such as railroads) and financial service providers. These participants are seamlessly linked to facilitate trade. As the transaction proceeds from inception to close, disconnects in the process have far-reaching impact on the cost, reliability, efficiency and the effectiveness of downstream participants.

Indonesia has a well-developed trade sector and a wide variety of participants that get involved in the international trade process. These players are depicted in the table below.
## PARTICIPANTS IN INDONESIA’S TRADE PROCESS

<table>
<thead>
<tr>
<th>Participant</th>
<th>Function</th>
<th>Example of Participant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation Carriers</td>
<td>Move cargo</td>
<td>• Trucking Companies&lt;br&gt;• Maritime Shipping Lines&lt;br&gt;• Airlines&lt;br&gt;• Rail Operators&lt;br&gt;• Intra-island shipping services&lt;br&gt;• Intermodal service providers</td>
</tr>
<tr>
<td>Infrastructure Operators</td>
<td>Provide the services to support the movement of cargo</td>
<td>• Port Operators&lt;br&gt;• Airport operators&lt;br&gt;• Wharf company&lt;br&gt;• Stevedores&lt;br&gt;• Container Leasing Company&lt;br&gt;• Equipment Repair Company</td>
</tr>
<tr>
<td>Logistics services providers</td>
<td>Provides value-added services to get the right goods to the right place in the right condition at the right time</td>
<td>• Agents&lt;br&gt;• Freight forwarders&lt;br&gt;• Customs agents&lt;br&gt;• Integrated Logistics providers&lt;br&gt;• Quality &amp; Inspection Agents&lt;br&gt;• Warehousing&lt;br&gt;• Consolidators &amp; deconsolidators&lt;br&gt;• Packing services&lt;br&gt;• Ship brokers&lt;br&gt;• Bonded warehousing</td>
</tr>
<tr>
<td>Financial Service Providers</td>
<td>Provide financial and insurance services to support the movement of cargo</td>
<td>• Insurance&lt;br&gt;• Buyers Bank, Sellers Bank&lt;br&gt;• General Insurer&lt;br&gt;• Marine Insurer</td>
</tr>
<tr>
<td>Governmental and Regulatory Agencies</td>
<td>Provide policy level support, taxation and oversee implementation of standards/practices to ensure safe, hygienic, and internationally accepted principles of movement of cargo</td>
<td>• Port Authorities&lt;br&gt;• Customs&lt;br&gt;• Regional and Local Authorities&lt;br&gt;• Ministry of Health, Environment, Agriculture, etc.&lt;br&gt;• Trade Board&lt;br&gt;• Labor Board&lt;br&gt;• Customs &amp; Excise&lt;br&gt;• Bureau of Standards</td>
</tr>
</tbody>
</table>

Each of these participants is described in greater detail below.
TRUCKING SERVICES

• Indonesia has a large number of independent trucking companies. There is a low barrier to entry and providers are plentiful.

• The TESS Team observed most goods moving by van and small truck. International cargo moves in containers, and the Team observed mainly 20 foot dry containers in use throughout the country.

• Pricing is highly competitive. Current market rates are reportedly 30 percent below the tariffs recommended by ORGANDA, Indonesia’s association that governs freight trucking tariff.

• Overcapacity from the economic crisis of the late 90’s continues to affect the industry, but may be resolved as the economy picks up. Indonesia had 1.8 million licensed trucks on the road in 2001, and the fleet size is growing at approximately 5 percent annually.

• The trucking fleet is generally aged and in poor maintenance. Used truck fleets are often imported wholesale into the country, and these vehicles need more maintenance because of their age and poor road conditions. For example, a common practice is to retread instead of replacing worn tires. The Team observed numerous tire repair facilities along most highways, indicating the need for these services is frequent. The implication is that transportation services can suffer from delays caused by frequent breakdowns and failures.

MARITIME CARRIERS

• As an archipelago of 17,000 islands, maritime service plays a central role in Indonesia’s international trade competitiveness.

• The country is served by world-class international shipping lines and has a large number of domestic services and feeder services. International providers include P&O Nedlloyd, Hanjin, Maersk-Sealand, Hanjin, and COSCO. Intra-island services are provided by Djakarta Lloyd, Samudra Indonesia, PELNI, and numerous other providers.

• Indonesia has over 3,000 flagged merchant vessels, compared to over 5,000 in Malaysia and 21,000 in Singapore. Indonesia’s ships are 10-15 years older than these neighboring countries. Also, Indonesian vessels are on average less than 2,500 Gross Registered Ton (GRT) whereas Malaysia and Singapore’s vessels are 6,000 and 12,000 GRT respectively.
Foreign flagged carriers who want to do business in Indonesia must register at least one ship under the Indonesian flag. This restriction forces many flagged shipping lines to establish Indonesian freight forwarding companies in the country, who in turn book capacity on their foreign flagged vessels. In some cases, the freight forwarding companies act independently and book cargo with other shipping lines, thereby giving up volume discounting with their parent shipping lines.

**AIR CARGO CARRIERS**

- Indonesia’s air cargo operations are in their infancy, and represent about 5 percent of the country’s total freight volume today. International freight excluding parcel shipments total approximately 250,000 tons, inbound and outbound.
- The state airline, Garuda, was dismantled as a monopoly in 2001 and is rapidly becoming competitive with other international airlines serving the country, including Singapore Airlines, Lufthansa, Korean Air and Thai.
- Most freight moves on passenger aircraft today, on 737’s and 747’s. Because the entryway of these aircrafts is not designed for freight, cargo must be moved in cartons and pallets. The typical ULD (Unit Load Device) container used for freighters is too wide to fit through the doors on the passenger aircraft. This results in extra handling costs, cargo loss and damage.
- Though they have wide network coverage, passenger aircraft have the disadvantage of lower reliability. This is because airlines earn more carrying passengers than cargo – whenever a choice has to be made, the cargo gets left behind.
- The air cargo environment in Indonesia is highly price competitive. Participants are constantly reviewing their prices in relation to competitors, and the pricing differentials are small across the various airlines. Almost all airlines offer different incentives and discounts on top of their published tariffs to attract customers.
- International air services are dependent on the network reach of each airline. As a result, Garuda has signed a space and rate share agreement with Korean Air, which also has alliances with Malaysian Airways and Vietnam Air.
- Couriers such as FedEx, DHL and others are also making inroads into Indonesia. DHL has enough volume to fly a 747 freighter aircraft daily from Jakarta to Singapore, and maintains 5 regional hubs in the country.

**RAILWAYS**

- Indonesia’s rail transport system operates in Sumatra and Java. The two segments primarily move local passengers, and the two islands are not linked by rail service. A single track only allows cargo to move in one direction at a time.
- Goods traveling on the network are primarily bulk commodities produced by state owned enterprises, such as ore and grain, and represented 19 million tons of freight in 2001.
• Average distance traveled by rail shipments is 215 kilometers in Java and 275 kilometers in Sumatra. These relatively low distances are illustrative of the limited impact of the network, since rail shipments must be supplemented by other forms of transportation, such as feeders to and from the rail head, adding additional transportation cost, handling cost and delivery time.

**INTRA-ISLAND SHIPPING**

• The bulk of Indonesia’s maritime traffic is domestic. Feeder services play an important role in moving goods from the major international gateways to and from the outlying islands. A section of services offered in East Indonesia is provided below.

<table>
<thead>
<tr>
<th>Name of Shipping Company</th>
<th>Destination Ports</th>
<th>Total Voyage</th>
</tr>
</thead>
<tbody>
<tr>
<td>PT. Meratus</td>
<td>Surabaya - Benoa</td>
<td>1/week</td>
</tr>
<tr>
<td></td>
<td>Surabaya – Dili</td>
<td>1/week</td>
</tr>
<tr>
<td></td>
<td>Surabaya – Banjarmasin</td>
<td>3/week</td>
</tr>
<tr>
<td></td>
<td>Surabaya – Ujung Pandang</td>
<td>2/week</td>
</tr>
<tr>
<td></td>
<td>Jakarta – Ujung Pandang</td>
<td>1/week</td>
</tr>
<tr>
<td>PT. Tanto Intim Line</td>
<td>Surabaya – Samarinda</td>
<td>1/week</td>
</tr>
<tr>
<td></td>
<td>Surabaya – Bitung</td>
<td>1/week</td>
</tr>
<tr>
<td></td>
<td>Surabaya – Ujung Pandang</td>
<td>2/week</td>
</tr>
<tr>
<td>PT. Panurjwan</td>
<td>Jakarta – Pontianak</td>
<td>2/week</td>
</tr>
<tr>
<td></td>
<td>Jakarta – Banjarmasin</td>
<td>2/week</td>
</tr>
<tr>
<td></td>
<td>Jakarta – Ujung Pandang</td>
<td>2/week</td>
</tr>
<tr>
<td>PT. Tempuran Mas</td>
<td>Jakarta – Ujung Pandang</td>
<td>2-3/week</td>
</tr>
<tr>
<td></td>
<td>Jakarta – Bitung</td>
<td>1/week</td>
</tr>
<tr>
<td>PT. Pelni</td>
<td>Jakarta- Jayapura</td>
<td>1/two weeks</td>
</tr>
<tr>
<td></td>
<td>Jakarta – Bitung</td>
<td>1/week</td>
</tr>
<tr>
<td></td>
<td>Jakarta – Ujung Pandang</td>
<td>2/week</td>
</tr>
</tbody>
</table>

Source: Cold Chain Transportation Survey For Eastern Indonesia, May 2000

• Inbound goods must enter at the major international gateways because of the lack of Customs infrastructure at the smaller ports. Outlying producers must use intra-island services to get their goods to international gateways that have access to international routes. These additional steps in the transportation process add cost and time.
PORT AUTHORITY AND OPERATORS

- Four PELINDO’s control most of Indonesia’s ports. PELINDO’s are state owned enterprises accountable to Kementerian BUMN.
  - PELINDO I: 20 ports, including Belawan
  - PELINDO II: 19 ports, including Tanjung Priok
  - PELINDO III: 26 ports, including Tanjung Perak & Tanjung Emas
  - PELINDO IV: 17 ports, including Ujungpandang, Makassar

- The PELINDO’s exert high influence on port development and infrastructure improvement priorities for maritime transport. In recent years, local government authorities have stepped up their demands to gain greater control over port services and development in their areas. In many cases, services in the port’s vicinity (such as warehousing) have been relinquished to local government authorities.

- Another factor driving the need for local government is the fact that the fiscally constrained PELINDO’s are beginning to close money losing, low volume ports. These ports currently provide local communities vital access and employment, and local authorities are determined to manage these ports independently.

- Several PELINDO’s have given management contracts to private port operators for particular terminals. These include two of the largest international ports: JICT (Jakarta International Container Terminal) with Hutchison Port Holdings and TPS (Terminal Petikemas Surabaya) with P&O Ports.

- Port operators are highly regulated. They are required to employ government employees at government mandated pay scales, and must comply with labor union agreements made outside their purview. They are also required to set prices for their services as directed by the port authority. These operators are concerned that they cannot sustain the long-term investments that are required to retain competitiveness. Improving operational efficiency is the only way to reduce costs and increase profitability for these privatized operations.

- The TESS Team heard several issues concerning the labor at the ports.
  - Organized syndicate-style operating practices
  - Rivalry between work gangs that were organized culturally/ethnically
  - Pilferage and vandalism

LOGISTICS COMPANIES

Integrated Logistics Services
- Indonesia’s shippers tend to shop logistics services by price. Consequently, shippers will buy individual services from different providers. Currently, there is a little market premium for one-stop logistics service providers that offer increased reliability through integrated operations, superior information technology, and better shipment control.
The impact of this on logistics providers is that value-added services, if provided, are “thrown in” with little or no profit for the provider, primarily to get the business. For instance, one logistics company the TESS Team spoke with described how they were working with one of their customers to improve packaging methods to reduce shipment damage. The service was being provided free.

Shipper preferences for shopping individual services are being fueled by a number of different factors:

- With perishable commodities, shippers prefer to retain control of their goods at all times, and are not accustomed to trusting a third party handling the end-to-end logistics transaction.
- Shippers are more focused on reducing transportation cost, whereas the reliability and quality of shipments come second. Logistics is not viewed as a source of competitive advantage.

Integrated logistics companies are mostly providing basic services that meet the needs of a gradually evolving market today. They:

- offer lower prices to customers by aggregating volume and negotiating lower rates with transportation carriers,
- provide know-how and facilities at international destinations, and
- manage domestic transactions that require experience and knowledge to facilitate, such as cargo consolidation, dealing with regulatory agencies, and locating needed equipment for haulage.

The TESS Team heard that logistics companies prefer not to do business in certain commodities, such as rice, CPO, flour and sugar, most of which originate at state owned enterprises. The transport of these commodities is viewed as controlled by syndicate-style organizations.

Specialized Logistics Requirements for Agricultural Products

- The transport and logistics of several key agricultural products (such as rice, CPO, etc.) is currently being managed by a distinct segment of logistics service provider. These companies have specialized in the movement of agricultural commodities over decades, and have effectively entrenched their position in this niche against other providers who move general containerized cargo. The TESS Team was told that the limited number of these companies, along with their close government connections and control over logistics facilities, allows them to effectively dominate this segment of the market.

- Agricultural products are particularly vulnerable to the lack of facilities for storage and handling. The cost and lack of facilities required is particularly apparent in Indonesia’s cold chain. The TESS Team found out that it was easier to export milk to Singapore from Surabaya than transport it in Jakarta in refrigerated trucks. In industries such as fish and shrimp, the lack of readily available, cost competitive facilities has an impact on product quality, exportability, and ultimately, price received. For example, damaged shrimp shipments that do not meet export quality standards on arrival in Jakarta are sold
domestically at lower prices, or sold to processing plants for even less for conversion into fishmeal etc.

- The TESS Team also heard that in some industries Indonesian exports suffered from an inability to convincingly confirm conformance to international standards related to the movement of foodstuffs, which resulted in problems at the overseas port of entry. The U.S. Food and Drug Administration has placed seafood imports from Indonesia under an “automatic detention” status. Individual companies can get around this detention by maintaining a clean record for a duration of time and getting a “green ticket” but all new exports from Indonesia are automatically put under detention and scrutiny.

**Warehousing & Container Yard Services**

- A large number of warehouse operators exist in Indonesia, providing services. The TESS Team observed warehousing operations in Surabaya, Merak and Jakarta.

- Most warehousing operators are private, and there are a number of state owned enterprises that are also offering warehousing at the ports. At Tanjung Priok, for example, a state owned enterprise is offering warehousing services through partnership with a private venture, in competition to various companies to whom it also leases warehouse space. The venture manages two covered storage areas of 15,000 sq. meters and a container yard of 25,000 sq. meters in addition to a container railway station of 14,000 sq. meters.

- Large shippers may invest in their own infrastructure. At Merak, the TESS Team visited a private terminal and observed a vessel from a Chinese shipping line being loaded with 20-foot containers for travel to Surabaya. The adjoining new warehousing facility of 10,000 sq. meters was completely empty, and the container yard was only approximately 30 percent utilized. The unutilized space was not being marketed to other potential users.

- The TESS Team heard from several shippers about the impact of lack of 24-hour service at the JICT container yards at Tanjung Priok. The limited hours of operation mean trucks must either time their movement to coincide with the terminal’s open hours, queue in long lines ahead of time, or deposit the container at off-port container yards to be moved again prior to vessel sail.

**CUSTOMS**

- Given the size and porosity of its borders, Indonesia’s customs agency has a difficult job. The customs office falls under the jurisdiction of the Ministry of Finance, is administered centrally, with field offices in outlying areas.

- The TESS Team found a consistent and repeated reference to Customs as a hindrance to trade. Key concerns raised by the shipper community include:
  - Multiple offices that do not coordinate. Tanjung Priok has three offices that are run independently.
o Arbitrary rulings: Customs processes are interpreted differently by different offices, and up and down the hierarchy. If an unfavorable ruling is given, shippers try again, either elsewhere or by involving others in the hierarchy.

o Improper penalties: Penalties are imposed without adequate cause and fines are extracted, which one must pay to have repealed. In one case, a shipper importing electrical components for re-export was charged additional fees for importing agricultural pumps, and was involved in a lengthy procedure to recover the unnecessary duties that had been paid.

o Unilateral increases in fees. Customs department raises fees unilaterally to cover administrative costs without adequately finding other avenues to reduce expense or any public debate. On March 1, 2004 Customs announced new fees that would be incorporated into the state budget as non-tax revenue, of which it would receive 80 percent. The new fees would range from US$3.50 to $52.50 per service performed by Customs.

• The TESS Team heard from several importers about the inefficiency of the inbound clearance process.
  o Container scanning equipment previously used for security has now been redeployed on the inbound side to look for contraband. Importers are paying approximately $28 per scanned container.
  o Automobiles for example take on average 10 days to clear customs, and the inventory cost is ultimately passed on to the consumer.

• Customs processes have been partially automated, but full paper documentation is still deemed necessary, which shippers indicate provide officers an avenue to collect informal fees.

### INSURANCE PROVIDERS

- Indonesian companies pay between 0.07 percent (total loss cargo) to 0.4 percent (comprehensive, all risks) of the value of goods for international cargo insurance. Insurance premiums are affected by strikes, threats of terrorism, nature and packaging of goods, methods of delivery, age of ships, sabotage, etc.
- Indonesian shippers pay 30-40 percent more for insurance than shipments originating from Singapore. This equates to an added cost of approximately $50-$100 on a $125,000 container of ready-made clothes.
- Insurance providers consider the journey from the seller’s warehouse to the port the segment of highest risk. They must pay for delays if the goods are held up due to labor
problems, strikes or disputes. There are also concerns of theft and pilferage at the ports, and of piracy in Indonesian waters and in the straits of Malacca.

- Indonesia waters are the most piracy prone in the world, accounting for one third of the 445 attacks globally. A major security concern for Indonesian shipping is the increase in piracy in the Malacca straits off the coast of the province of Aceh in Sumatera. This region is considered a vital choke point that can affect international trade in case of any maritime terrorist attack. Since the lower half of the straits is territorial waters of Indonesia and Malaysia, other nations cannot use police power to tackle the piracy problem and this tends to be the weakest link in the security chain.

![FREQUENCY OF PIRACY](image)

Source: IBD

**OPERATING ENVIRONMENT**

Macroeconomic conditions including fiscal, monetary, trade, and other broad and overarching policies are a necessary but not sufficient cause for economic growth. Microeconomic conditions such as government administration, infrastructure, regulation, tax laws, and many other factors influenced by both the private and public sectors affect the day-to-day ability of businesses to compete. Favorable macro- and micro-economic conditions allow business leaders to make choices about where and how to compete, which industries to be in, and how to position their companies. It affects their effectiveness in implementing their plans, their efficiency in managing their operations and their ability to achieve value-added benefits. In Indonesia, the TESS team looked at how the following microeconomic elements affected the competitiveness of its trade sector:

- Regulatory Environment
- Informal fees and security
- Development Strategy
- Labor
- Information Technology
- Supply Chain Coordination
- Logistics Inefficiency
REGULATORY ENVIRONMENT

As stated earlier, business friendly microeconomic conditions allow for smooth business transactions. Indonesia’s regulatory environment has a number of impediments that affect the growth and development of transportation and logistics companies.

ASEAN Free Trade Area (AFTA) Agreement Opportunities. The adoption of AFTA offers Indonesia a great potential to expand its shipping business. But various problems are hindering it from gaining greater benefits from it. Before the full implementation of the agreement, the ASEAN member countries, under their Common Effective Preferential Tariff (CEPT) scheme, were able to increase trade among their countries by an annual average of 11.6 percent, or from US$44.2 billion in 1993 to $95.2 billion in 2000, according to the ASEAN Secretariat in Jakarta. Further trade liberalization since then has boosted trade among its members because of lowered duties on most products. Under the agreement, the association is committed to eliminating all import duties by 2010 for its six original members (Brunei, Indonesia, Malaysia, the Philippines, Singapore and Thailand) and by 2015 for its new members (Cambodia, Laos, Myanmar and Vietnam). As intra-ASEAN trade increases, AFTA will make ASEAN an attractive investment location for regional and international investors, given the expected lower costs of doing business in the region.

Increased intra-regional trade in goods and services will also have a trickle-down effect on the service sector, including shipping services. An increased role of the service sector will become even more important, particularly when ASEAN becomes successful in attracting other economies -- including Japan, South Korea, China, Australia and New Zealand -- to cooperate more closely. However, as the volume of intra-regional trade is expected to increase, Indonesia will find it difficult to take advantage of the opportunity to improve its role in shipping goods traded with its partners. Container production at Indonesian seaports, according to data released by the Economic and Social Commission for Asia Pacific (ESCAP), is projected to steadily increase from 2.78 million twenty-foot equivalent units (TEU) in 1999 to 6.14 million TEUs in 2011. Indonesia's capability to expand its fleet for the transportation of goods into and out of the country is too low due to the fleet's low competitive edge against other countries and lack of capital investment. Merchant ships operated by Indonesian companies are mostly too old and too small with low capacity and poor performance.

New Draft Inpres (Presidential Decree) about domestic shipping line creates opportunities without increasing competitiveness. In an attempt to “empower” the domestic shipping industry, the Indonesian government is moving away from market competition. The new draft decree stipulates that only national shipping lines with Indonesian flag vessels will be allowed to move domestic cargo. Additionally, all international cargo belonging to the Government or State-Owned Enterprises will be required to use national shipping lines. Additionally, foreign shipping lines have to nominate a national shipping line for any foreign agency activity.

Cargo reservation schemes of this nature add cost and reduce efficiency of shipping. It increases the number of handling points within the country and transshipment at a domestic hub port like Tanjung Priok or Tanjung Perak. A lack of competition with foreign shipping lines keep internal pricing artificially high and level of service low.
VAT of 10 percent. Logistics companies in Indonesia are subject to a value-added tax of 10 percent. Asset-based logistics providers are exempt from this tax thus affecting non-asset based logistics companies unfairly and leading to higher tariffs. Logistics and freight forwarding companies in Indonesia are unclear about the exact intent of the law and what their individual tax liabilities are. Some companies pay tax on the entire tariff while others pay the 10 percent tax only on the value-added segment of their tariff (which is lower than the entire tariff).

Indonesia’s 10 percent tax rate is at par or lower than most countries regionally, as shown in the corresponding table. As mentioned earlier, though the enforcement of the law is arbitrary, the penalty is clear. Indonesia’s tax collection system requires businesses to pay first and argue later! In a majority of cases, even after establishing that the penalties were unfairly imposed, logistics companies have to pay a substantial informal fee to recover the penalties already paid.

International Shipping lines forced to register as local “PT” (Private) companies due to regulation about vessel size. Under present Indonesian law, in order to carry on agency activities, foreign shipping lines are required to register a 5,000-ton vessel under an Indonesian flag. Major international shipping lines get around this requirement by incorporating private (PT) companies in Indonesia, which operate only as freight forwarders (e.g. Maersk Logistics, P&O NedLloyd). In an effort to manage business and government regulation risks, the local affiliate companies maintain a separate identity from the international parent companies, which restricts their ability to integrate systems and operate seamlessly in global commerce. This disconnect results in higher tariffs for Indonesia and reduced levels of service since the parent companies often treat the local PT affiliates as independent companies.

Ad-Hoc Local “Levies”. During the past few years, local government’s have increasingly initiated new “levies” and taxes that are imposed without any public discussion or debate. This is mainly due to the fact that under decentralization, local operations are under funded by the Central government and local administrations are responsible for their own revenue collection. At the Central government level, though a lot of activities have been transferred to the local level (e.g. education) central ministries are reluctant to give up their budgetary allocations. This results in un-utilized budgets at the central government level and scarcity of resources at the local level.

The establishment of ad-hoc fees at the local level is often arbitrary and imposed by the local governors or mayors. The nature of these fees leads to a lot of corruption because of the lack of accountability and differentiation between what is “official” versus non-official collections.

FDA documentation a high barrier for shrimp and horticultural exporters. Institutional and retail customers in developed nations are increasingly demanding that their products meet internationally accepted codes of conduct pertaining to technical, environmental, and social standards in the areas of human rights, fair labor practices, environmental management, and food
safety/hygiene. The U.S. Food and Drug Administration (FDA) and E.U. regulators monitor food imports tightly and impose strict documentation requirements to protect against the use of banned antibiotics, salmonella and other diseases.

Many Indonesian exporters of fresh or frozen products lack a comprehension about the exact documentation requirements of the destination country and some unscrupulous exporters often sidestep expensive laboratory testing to increase their profit margins. This puts an entire industry at risk and often many pay for the mistakes of a few by getting blacklisted from certain markets. Additionally, many Indonesian seafood exports are on FDA’s “automatic detention” list and the Department of Fisheries in Indonesia needs to be more proactive about working with FDA to meet hygiene requirements and get off this undesirable status.

Security Considerations. Indonesian exporters, just like the rest of the developing world, are facing a greatly complicated process of international trade as a result of security considerations that have been put in place in the post-September 11th world. In order to reduce the possibility of terrorists using the international transport system to smuggle weapons of mass destruction into their borders, many governments— particularly the U.S.— have imposed heightened security regulations that will challenge global trade and distribution networks. Important developments include:

- **24-Hour Advance Manifest Rule** - The new “24-hour advance manifest rule” is at the heart of this new effort to screen all cargo before it is loaded at the initial port of departure. Carriers and non-vessel operating common carriers (NVOCCs) are required to provide complete details of the shipment, including name of shipper and consignee, complete commercial descriptions of the merchandise, accurate weight and piece counts, and container seal numbers posted on the loaded container. These cargo declarations must be transmitted to the Customs and Border Patrol offices at the port of unloading 24 hours before cargo is loaded aboard the vessel at a foreign port of origin. This new rule has potentially significant effects for ports that are congested and have limited storage space like many of Indonesia’s ports or shippers that transport perishable commodities and do not use a proper cold chain.

- **C-TPAT Program** - In an effort to strengthen overall supply chain and border security, US Customs has also initiated a joint business-government program to enhance cooperation between border officials and international shippers. The “Customs Trade Partnership Against Terrorism” (C-TPAT) program recognizes that efficient and effective border cooperation relies on the ultimate owners of the supply chain, importers, carriers, brokers, warehouse operators and suppliers. Certification under the C-TPAT program will result in expedited cargo movements and a reduced number of inspections in the targeting process.

**INFORMAL FEES AND SECURITY**

**Informal Fees.** Everyone of the TESS team’s interviewees responded that they pay informal fees within Indonesia to ensure that their goods arrive at their destinations. These fees are paid to a variety of operators in the transportation and logistics chain starting from the traffic police
all the way to crane operator who loads the container on the ship. Though informal fees are paid at every stage, the fees themselves are relatively small compared to the market value of the containers but add unnecessary stops, time and burden to businesses. Usually, the lowest mover of a good is tasked with making the payments and the informal payments are included in their tariff (e.g. truckers, expeditors, customs agents etc.).

The flowchart below represents the different pay points for a typical shipment:

Security. Both inland transportation security and port security is a major problem in the movement of goods within Indonesia. Security concerns range from labor violence to hijacking and organized crime. Regulations and traffic patterns often force trucks to travel at night and stop at unsecured locations. Truck drivers often pick up a police escort at an additional (informal) fee to get around unscheduled stoppages by police and other harassment. Bad roads and poor fleet maintenance also lead to frequent truck breakdowns that add cost and time to the inland transportation process. As a result of these problems, the increased security risk translates to between 30-40 percent higher cargo insurance rates in Indonesia compared to Singapore.

Port security is another major problem that sometimes necessitates the hiring of external security at an additional cost. Alternatively, informal payments have to be made to the office of Port Security and Crime Prevention to ensure safety of goods at the port warehouse. High value goods are most susceptible to pilferage at the port warehouses. Some shippers have complained about elaborate and organized removal of goods from the port leaving container seals intact.

**DEVELOPMENT STRATEGY**

Port Development Strategy. Indonesian lacks a deepwater port capable of accommodating mother vessels with capacities of at least 4,000 TEUs of containers. As part of its port development strategy, Kementerian BUMN (Ministry of State owned Enterprises) plans to build two national transshipment ports in Bojonegara in the Banten province of Java (West Indonesia) and Bitung in North Sulawesi or Kalilamong in Surabaya (East Indonesia). Bojonegara, along with Kalilamong or Bitung, is expected to accommodate such vessels so that Indonesian exporters could save time and money as the facilities would allow the ships to go directly from the ports to their overseas destinations. Currently, about 75 percent of Indonesia's shipment must
pass through Singaporean or Malaysian ports to be loaded onto larger ships for transcontinental routes.

The development of Bojonegara seaport near Jakarta, which has a water depth of 16 meters, is based on the fact that the existing port in Tanjung Priok is considered too small and can no longer be expanded to accommodate future cargo load volumes. Government estimates of developing this one port alone are about $350 million. Neither Bojonegara nor Kalilamong or Bitung are presently connected by proper feeder infrastructure (roads, rail or small vessel feeder service) that would allow for a smooth transportation of goods moving from inland locations to these gateways. Additionally, the development of Bojonegara will require container terminals to service the mainly agro-industrial exports and imports of West Indonesia while Bitung or Kalilamong will mainly service bulk shipments of natural resource cargo from East Indonesia.

Port infrastructure investments are sometimes made without an adequate examination of available supply and demand. For instance, demand for transportation service by coffee producers in the province of Bengkulu is not sufficient to attract the frequency of maritime service desired. To provision the desired service, maritime vessel operators require greater volumes of cargo than is available. So, despite having a functional port, coffee producers in the region must ship via the neighboring ports of Palembang or Lampung at a much higher cost.

**Decentralization.** The adoption of the new decentralization initiative complicates Indonesia’s infrastructure development strategy. National infrastructure building (roads, rail, port development etc.) without effective local governments coordination is ineffective. Under the present system, there is no inter-state highway agency to coordinate the building of national highways. The Central government manages central roads, provincial roads are managed by regional governments and local roads by municipal or local government. Lack of central planning and proper coordination between these entities results in unplanned infrastructure development that does not support trade gateways. PT Jasa Marga is a state owned enterprise that has been tasked with the development of toll roads throughout Indonesia.

One of the positive effects of decentralization is the movement of businesses away from a Jakarta-centric location. Some local governments and provinces are passing more business friendly regulations to draw increased investments into their own areas and increase their revenue bases. An example of this is the movement of the textile-manufacturing cluster from the greater Jakarta area to the Semarang area in Central Java. Access to a good port (Tanjung Emas), good infrastructure (wide roads and availability of rail link), business friendly regulatory environment (including a less corrupt tax office) and cheaper and less unionized labor has spurred this movement away from the Jakarta/Bandung area. Eastern Java (Surabaya) is another area of growth which handles a lot of local commerce as well as commerce coming from Bali and other eastern islands. The development of these alternate manufacturing clusters requires concurrent investment in improved infrastructure to support this growth in a sustainable manner.

**Electricity.** Current peak load of electricity in Indonesia has already reached about 12,995 MW, according to PLN (State Electricity Company) statistics, while installed capacity at peak hours is only 13,900 MW. A power crisis is imminent as electricity consumption is increasing by 8 percent each year, while fresh investment in the power sector has been practically non-existent.
since the monetary crisis hit the country in mid-1997. The electricity crisis is more acute in the provinces than in Jakarta. As the economy is poised for an upturn and more industries are expected to come online, this is expected to result in a complete meltdown of the electricity system in Indonesia. The chart shows that at present, Indonesia enjoys competitive utility costs and is only marginally more expensive than Thailand.

**LABOR**

Labor in the Indonesian various ports are deeply divided among ethnic lines. Strong ethnic loyalties are required to get and maintain jobs. Labor unions are more active and strikes frequently cripple both the port and manufacturing sectors. Organized labor brings with it additional costs and these rising costs are pushing some manufacturers to move to more labor friendly areas (e.g. Ready Made Clothes moving to the Semarang area). Furthermore, the Indonesian government’s new pending regulation establishing a social security system is predicted to increase labor costs by about 20 percent.

The charts below present comparative labor costs of unskilled, skilled, technical and managerial labor in the region. Indonesia’s labor costs are quite competitive and only more expensive than Vietnam except in the unskilled area.
INFORMATION TECHNOLOGY

The application of Information Technology still offers significant opportunities for coordination across logistics participants in Indonesia. The increasing use of the web, emails, FTP servers etc. provides opportunities for wider use of Electronic Data Interchange (EDI) standards to cover many type of transaction, e.g., banking / fund transfer / credit / debit transaction, custom, legal action, airline / ticketing, shipping / cargo, tender / contract, purchase order, invoice, job order, medical service, tax, reinsurance etc.

The use of the Internet as a means to do EDI transactions is illustrated by this simple drawing that shows how a virtual Network can be created over the existing public Internet network in Indonesia to be used for EDI transactions. Agreement in various technical as well as regulatory aspects should be made prior to the operation of such system.

The EDI program initiated by Indonesian Customs becomes compulsory from 1 April 2004. Though a good portion of the system has been automated, manual gaps remain, as mentioned earlier in the paper. Some logistics providers attempt to cut down on the payment of informal fees by trying innovative solutions. (e.g. Maersk uses Citibank to pay customs fees and removes human contact except in disputed cases).

Logistics operators in Indonesia use manual procedures or stand-alone systems for many informational flows that involve multiple parties. A large part of this manual process can be automated to improve processing time and reduce human errors and the payment of informal fees. The figure below traces the manual export documentation process that the manufacturer has to go through to enable shipment of goods. A good portion of this documentation process (e.g. the Export Consolidation Document in step 4, the preparation of the Certificate of Origin in step 8, preparation of the House and Master Bill of Lading etc.) can be automated for efficient processing.
**Impact Of Transport & Logistics On Indonesia’s Trade Competitiveness**

**DOCUMENTATION PROCESS**

1. Shipping Instructions from Producer/Shipper to Freight Forwarder (FF)
2. Producer sends Goods to FF’s Warehouse
3. FF checks Goods and measures shipment (Cubication)
4. FF prepares Export Consolidation Document (ECD) for approval by Customs
5. After ECD approval, FF prepares stuffing plan
6. FF brings ECD to Terminal Container Unit (UTPK) and Shipping Line prepares loading agreement (Yellow Card) for FF
7. FF prepares House Bill of Lading (B/L) for Shipper
8. The Regional Office of Trade issues a Certificate of Origin (COO) to the FF
9. If Producer/Shipper pays Shipping Line directly, then Shipping Line issues Master B/L (3 originals and 7 copies) to Producer/Shipper who sends one original to Buyer for shipment delivery at destination port. If payment to Shipping Line is made by FF, then Shipping Line issues Master B/L to FF who releases it to Producer/Shipper on payment.
10. Shipping Line transports the goods to destination port

**SUPPLY CHAIN COORDINATION**

Effective supply chain coordination for manufacturing and distribution systems require not only the rapid and efficient export of final goods or raw materials, but also the rapid and efficient movement of a range of intermediate goods that are likely to be inputs for final goods that will themselves be exported.

**Delayed Shipments.** Indonesian logistics companies reported that nearly 90 percent of air shipments are delayed shipments. Manufacturing delays often occur due to lack of input supplies (e.g. in Ready Made Clothes where only 2 percent of the content is added locally, up to 10 percent of shipments are delayed because of lack of on-time delivery of imported inputs). There are numerous import delays at port of entry. Product movement delays at the port due to customs inspections average about 5-6 days for electronics and up to 10 days for automobile imports.

**Contract Failures.** Another failure of the supply chain occurs during contract disputes leading to inventory build up for the buyer. (e.g. up to 20 percent in the furniture cluster in Jepara). Design conflicts or “bait and switch” tactics by some lower level manufacturers often lead to
these conflicts. This also affects perishable products like shrimp and disputes surface about how gets to pay to return the container to the country of origin. Contract failures are often the result of badly written contracts, verbal agreements and a lack of understanding of contract terms adding unnecessary costs to buyer and supplier.

**Lack of Trust.** Another phenomena observed in Indonesia is that sellers/suppliers retain excessive control over the supply chain which often leads to product spoilage. Sellers often prefer to do their own trucking and packaging to reduce costs and maintain control. In many instances products (e.g. fruits/vegetables), which require a cold-chain transport, are moved in unrefrigerated trucks reducing their shelf life and quality. A recent manufacturer of pasteurized milk from Surabaya found it easier to export their product to Singapore than to service the lucrative niche market of Jakarta.

**LOGISTICS INEFFICIENCY**

**Inefficient Product Flows.** Indonesia’s width and concentration of economic activity in Java creates much logistical inefficiency. The lack of proper feeder infrastructure and reliable and organized movement of goods create many inefficient product flows. Natural resources produced in Eastern Indonesia are first transported west to Makassar or Surabaya ports and then exported back east to Japan, China or the U.S. markets. Similarly, manufactured goods from Sumatera move west to Tanjung Priok in Jakarta before being transshipped to Singapore for further movement east to Europe.

Another form of logistical inefficiency was observed in the furniture industry. Due to a severe shortage of quality Indonesian teak logs, (SOE for forestry has choked supply for about a year due to an internal accounting restatement). In order to meet buyer demands, many furniture manufacturers in Indonesia are resorting to importing logs from Singapore. These logs were smuggled out of Indonesia in the first place and are being resold in Indonesia as an import!

**Packaging and Handling.** Unsophisticated packaging and poor post harvest handling often leads to product spoilage or damage. In the furniture industry about 10 percent of all exports are damaged due to overstuffing and poor packaging. A typical container is worth $35,000 and this $3,500 loss can be recovered with minimum effort. As discussed earlier, poor packaging and transportation methods lead to similar spoilage in perishables that can be recovered with proper training and adequate equipment.
SECTION 3: TRADE LOGISTICS AND TRANSPORTATION COSTS

Through the collection of data for the relative cost of trade services, it is possible to pinpoint specific problem areas, and prioritize opportunities for action. The following section explains the methodology and findings of a benchmarking cost study performed to analyze the relative competitiveness of Indonesian transportation and logistics services for key export products.

METHODOLOGY

The following steps were performed:

i. The scope of analysis was defined: International trade transactions that represented the commodities, routes, and transactions were defined;
ii. Sources of data and potential interviewees were identified;
iii. Actual costs and transaction details were captured through interviews, document research, site-visits and follow-up; and
iv. Data analysis and findings recorded.

Further details on the team’s methodology are presented in Annex 1: Detailed Methodology at the end of this report.

TESS TEAM STUDY FINDINGS

TOTAL COSTS

Total logistics and transportation costs are affected by a large number of factors:

- Distance from origin to destination, the size of container, the need for specialized equipment such as refrigerated containers, generators, etc.
- Bulk versus containerized cargo
- The number of different modes of transport used to get the goods from the producer to the buyer: van, truck, barge, ship, etc. Generally, more hand-offs increase costs.
- The direction of the move, since specialized equipment and available capacity needs to be repositioned for reuse
- Special services such as fumigation
- Licenses and Fees

The total costs to export the commodities the TESS Team surveyed ranged from approximately $1,500 to $6,000 per container. These represented a large number of different destinations and logistics requirements, starting from the producer all the way to the buyer, who in some cases was an intermediary. The graph below shows a sampling of these costs.
Examining transportation costs as a percentage of the market value of the commodities being transported, shows them to range between 1 percent and 15 percent, on either side of the 9 percent average for Asian economies.

As expected, higher value goods (shrimp, ready made goods) perform the best, moving long distances with relatively low transportation overhead. Lower value commodities such as cocoa, coffee and plywood pay a significant transportation burden in getting to market. These
industries need to find greater efficiencies in their transportation and logistics processes to remain competitive in distant international markets.

It should be noted that there are some hidden costs that do not appear in these charts that relate to damage and spoilage of goods prior to its outbound journey to an overseas buyer. For instance, the TESS Team learned that up to 70 percent of shrimp in some remote areas are unfit for export because of spoilage that occurs between the local fishermen and the final quality inspection at the port consolidator. If these costs were included, the logistics costs would be significantly higher per ton of exported shrimp.

**Pre-shipment, Inland and International Costs**

The TESS Team separated total costs into pre-shipment, inland, and international freight costs for the commodities.

The pre-shipment cost category included all costs prior to the shipment starting its journey to an international buyer. These included bringing the goods from the producer to a warehouse, preparing the goods for shipment, packaging, labeling, preparing documentation, obtaining necessary certifications and licenses, etc. Inland costs included transportation costs to the port of origin, and finally for international freight, all costs from the port of origin to the port of destination were included.

For the commodities analyzed by the TESS Team, most pre-shipment costs were 20 percent or less of the total cost. In most cases, inland costs were 10 percent or less, and the remaining 60 percent to 80 percent was international freight.
Pre-shipment costs greater than 20 percent of total cost occur for rubber, Sulawesi coffee, cocoa and furniture. The breakdown of these costs is shown below:

<table>
<thead>
<tr>
<th>COMMODITY</th>
<th>RUBBER</th>
<th>SULAWESI COFFEE</th>
<th>COCOA</th>
<th>PLYWOOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual Cost</td>
<td>$388</td>
<td>$2,267</td>
<td>$496</td>
<td>$762</td>
</tr>
<tr>
<td>Primary Cost Drivers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Packaging (64%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Warehousing (26%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transportation from producers (49%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Double handling (35%) at consolidation warehouse then at second warehouse for containerization and re-shipping.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Packaging (14%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barge Inspections and Informal Fees (65%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Packaging (22%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Industry participants said that inland shipping plays an important role, but does not impact overall costs greatly. These comments are borne out by our findings, which indicate Inland costs are typically 10 percent or less of the total market value of these commodities.

Inland costs are contained because of several factors. These include the relatively low distances traveled, high price competition in the trucking sector, the comparatively lower costs of fuel, and cheap labor. As shown in the chart “Inland Transportation Comparison”, inland costs can be relatively high per kilometer. In these cases, the relatively low transportation component of the costs is overshadowed by other factors, such as container loading and unloading efficiency, and additional services required to overcome poor road conditions and unavailability of warehousing.

For instance, the TESS Team heard of several cases where rural roads were not adequate to support a fully loaded container. In these cases, the transportation company used two vehicles to move the goods. A small van was used on the rural roads between the producer and the point where roads supported loaded containers, where an empty container was parked for stuffing. Stuffing could take up to two days as the van shuttled back and forth between the producer and the container. Once stuffed, a tractor-trailer was used to tow the container to the port of departure. This practical approach to overcoming inadequacies in road infrastructure adds additional costs for transportation, fuel, labor and handling.
Costs to move goods from Indonesia to the overseas trading partner were by far the largest component of cost for most commodities studied by the TESS Team. Some of the costs that contributed to this category are shown in the table below.

**EXAMPLES OF INTERNATIONAL LOGISTICS COST**

<table>
<thead>
<tr>
<th>Origin - Destination</th>
<th>Port Dues charges</th>
<th>Insurance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jakarta - Bandung</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jakarta - Cirebon</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jakarta - Greater Jakarta</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medan - Kisaran</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bilbao - Valencia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Warsaw - Hamburg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Milan - La Spezia</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Load Cargo on Ship at Origin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transport Cargo to Destination</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Freight Charge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bunker Surcharge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refrigeration at Port</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theft Surcharge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Security Charge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discharge Handling Charge</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Container cleaning</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The TESS Team focused attention on maritime transport since air cargo represents only 5 percent of the total trade volume, and primarily expedited shipments.
Impact Of Transport & Logistics On Indonesia’s Trade Competitiveness

CONTRIBUTORS TO INTERNATIONAL LOGISTICS COSTS

Intra-Asia shipments make up 83 percent of Indonesia’s total outbound shipments, so improvements in this area could provide wide-spread benefits. Most shipments to destinations within Asia can be completed under $1,500 from Indonesia, and this is impacted by a number of factors, discussed below.

Efficient Trans-shipment Hubs:
Shipments to Europe or North America are being transshipped from larger regional ports, and need to be extremely efficient to ensure that minimal overhead is added. Until the mid-1990’s Singapore was the only transshipment hub in the regional port system. Now, there are 6 ports handling over 2 million TEU, which has increased competition and efficiencies in the region.

REGIONAL TRANSSSHIPMENT PORTS

- Singapore: 15.6 million TEU, 2001
- Port Klang: 3.2 million TEU, 2000
- Tanjung Priok: 2.5 million TEU, 2000
- Laem Chabang: 2.4 million TEU, 2001
- Manila: 2.3 million TEU, 2001
- Tanjung Pelapas: 2.1 million TEU, 2001

The main trade lanes and shipping routes in Asia are indicated in the map below.
Cost and availability of feeder service:
As seen in the graph below, the TESS Team’s analysis shows that feeders operating to Tanjung Pelapas and Singapore can be over twice as costly when they originate from Jakarta or Medan compared to Makassar, Surabaya and Semarang.
**Container Imbalance:**
The costs of repositioning containers for maritime transport providers results in a differential in rates between inbound and outbound transportation. These costs can affect the cost of international transport. Our analysis determined that exporters are net beneficiaries because of container imbalances. In addition, the cost differences across Indonesian ports noted above remained.
SECTION 4: ISSUES & POLICY OBJECTIVES

The findings of this study are aimed at a number of “champions” who are expected to carry forward the team’s recommendations into actionable strategies and new project design. Wherever possible, the TESS Team’s recommendations below are tied to specific stakeholders (e.g. PELINDO’s, Customs etc.) who will need to decide on the best approach to clear the bottlenecks identified. Some of the issues identified will have to be solved at a much higher level of government which will require the direct attention and coordination of ministries in charge of economic planning, finance, infrastructure development, trade and investment, manufacturing, agribusiness, fisheries etc.

In some cases, the donor community (e.g. USAID, the World Bank, ADB, etc.) will have to play a catalytic role in working with their government or private sector counterparts to effect positive change. There are several donor funded projects (e.g. the USAID funded Growth Through Investment and Trade Project, World Bank funded Eastern Indonesia Region Transport Project, ADB funded Road Rehabilitation Project etc.) active in Indonesia which could help their counterparts design interventions to pursue opportunities identified in this report.

A transportation and logistics seminar organized at the government level (e.g. by the Coordinating Ministry for Economic Affairs) can often act as a first step to present the findings of the study to all relevant stakeholders (public, private and donors) and, design and prioritize interventions to improve the supply chain.

ACTIONABLE ISSUES

Indonesia has a number of intractable issues that have a direct impact on the country’s transportation and logistics capability. Despite this, there are also several areas of genuine opportunity for policy makers, public administrators and commercial enterprises.

Up to 50 percent of the total cost of logistics and transport cost to exporters occurs within Indonesia prior to international shipment. Addressing these domestic costs are a significant opportunity for the country in improving the competitiveness of exported products. This is particularly true for traditional commodity exports such as plywood, coffee and rubber, which rely on low cost, efficient processes to be competitive in international markets. The good news is, many cost drivers are immediately addressable by self-directed programs for improvement and cost reduction.

LIMITED ATTENTION TO LOGISTICS MANAGEMENT

Advanced logistics strategies are well established in certain industries, such as ready made clothing and electronics. However, commodity exporters make limited use of advanced logistics services to reduce cost. Logistics services are not viewed as vehicles to reduce cost or improve service to the buyer. Providers of logistics services often give away services to attract or retain a producer or exporter’s business, but few logistics companies have been successful without making their profits in other lines of business.
The use of logistics strategies can greatly increase efficiencies and reduce costs for commodity exports. For instance, Indonesian producers can reduce transportation costs by sharing logistics assets with other producers. Consolidation of multiple smaller loads into one container or cold storage facility increases efficiency and reduces costs for all participants. However, this type of approach is not seen in Indonesia because producers prefer to retain 100 percent control over their goods – they would rather sell to an aggregator before using a consolidator. As a result, the use of consolidation strategies can provide a two-fold benefit: reduce costs through better utilization of logistics assets, as well as eliminate costs of non-value-added intermediaries in the supply chain.

Another broad area for improvement is packaging and container stuffing. For commodities such as rubber and cocoa, packaging constitutes up to 65 percent of the non-transportation cost. In industries such as furniture, buyers frequently reject shipments where damage occurs in transit. Here, there are significant opportunities to reduce costs by improving packaging and container stuffing techniques. However, packaging and load planning is not viewed as an opportunity for cost reduction by many of these exporters.

In a broader sense, the general lack of focus on logistics management results in Indonesian commodity exporters sharing profit margins with intermediaries who are more sophisticated in their understanding of the buyer’s service requirements or logistics cost management. Indeed, buyers in Singapore and Rotterdam perform this role for many Indonesian products today. These buyers purchase goods from Indonesia and transship them to their final destinations, retaining profits that could otherwise belong to Indonesian exporters.

**PRODUCER MIND-SET**

In their search for global competitiveness, buyers are seeking relationships with producers who can contribute additional competitive advantage to their supply chains. Increasingly, product cost and quality are becoming the minimum pre-requisite qualifications to getting the buyer’s order. Whereas producers once just concerned themselves with quantity and quality delivered, they must now also understand demand—where preferences for packaging, mix, variation, delivery options and timing are the most important factors driving buyers.

At present, Indonesian producers have low visibility of the final destination of their products. Visibility to demand can provide important avenues to improve competitiveness and profits—through improved differentiation, responsiveness, or better meeting the customer’s need. Producers who are unable to fulfill these requirements will face reduced margins as knowledgeable intermediaries step in. For instance, rubber exports from Indonesia are sold to wholesalers in Singapore who repackage it and export it at a profit.

Policy makers have an opportunity to improve the competitiveness of key industries by identifying and educating producers of potential strategies to meet the challenge. Producers may be able to offer viable, cost effective solutions for buyer needs, if they knew how. For instance, a furniture producer selling to a buyer in Italy may be able to offer cheaper, faster service if it were determined that the buyer ultimately moves the furniture to markets in Germany, which may be served by Hamburg port better than Valencia port.
Also related is the issue of understanding regulatory requirements of destination countries. The changes in many country’s security laws post September 11 are not well known and understood by the export community. Recently, several exporters were facing difficulties because they had a poor understanding of the documentation changes and new requirements enacted by the US Food and Drug Administration. When these regulations are not well understood, goods get stopped in Customs and add delays and cost to the buyer.

**INEFFICIENT FEEDER SERVICES**

Seventy five percent of Indonesia’s export shipments go through regional hubs in Singapore or Malaysia, where the high volumes of cargo handled attract world-class maritime service. The competition between these ports has produced benefits to shippers that include highly efficient transshipment processes, relatively low freight costs, and excellent service major export markets world-wide. However, the cost that Indonesian exporters pay to access these services is inordinately high.

Exporters pay approximately $800 per container to access Singaporean or Malaysian ports from Indonesian ports. For many commodities, this cost is a significant part of the overall cost of international export. For example, the 600 miles from Samarang to Singapore represents 10 percent of the distance but 45 percent of the total international freight costs for furniture moving to Valencia, Italy. Due to the imbalance in container traffic, importers are likely to pay twice that amount to bring a container into the country.

We estimate that 20 percent to 50 percent of international freight costs for exports are typically incurred in the first 1,000 miles, accessing the regional hubs. Indonesia can actively move to control these costs by improving the port gateways, processes and feeder network to the regional hubs. The primary cost drivers include the following factors:

- **Repeated handling**: Currently, Indonesia has over 140 operational ports. Of these, 43 ports are collector ports, which act as transshipment points to the major Indonesian gateways, such as Jakarta or Surabaya. For these reasons, it is entirely possible that containers are handled at three separate ports before they eventually arrive at the regional hub in Singapore or Malaysia. Each of these steps adds extra handling costs and time to the shipment.

- **Inefficient ports**: Many of Indonesia’s existing ports are not competitive. They have failed to attract frequent and competitive direct liner services, and because cargo is dispersed over a large number of smaller ports, volumes are not sufficient to attract increased investment. The productivity of many of these ports is below international standards and many lack the necessary equipment and facilities to reduce costs. We observed several multipurpose ports which were being used for container ships, bulk goods, passenger ships, and frozen goods. While general purpose ports serve a many constituencies and social needs, they are not efficient vehicles for international trade.

- **Labor Conditions**: In addition to these factors, ports suffer significant operational constraints from prevalent labor management practices. Port management and services
must necessarily work around ethnic divisions and syndicate style organizations. Private port operators are constrained by government negotiated labor agreements, and have little control over their own labor costs under current contractual terms.

- **Increasing Volume**: Container volume has increased over the last few years, particularly in the number of domestic shipments, and many ports are now experiencing capacity problems in key services. Container yards have grown and spread over several areas and may require trucks to travel through traffic in densely populated urban areas for access, and are not optimally laid out. Portside facilities such as warehouses and cold storage are also similarly dispersed.

- **Decentralized port development**: Indonesia’s port authorities have traditionally operated in a highly decentralized structure which has made it more difficult to develop a coherent, national port development strategy. This is now undergoing some change as the Pelindo’s are embarking on a port rationalization program under the Ministry of Transport. This will focus investment on improving the efficiency of a few ports, while the smaller less viable ports would be turned over to local authorities or privatized.

- **Vessel size**: Indonesia’s fleet of smaller older vessels carries most of the cargo between islands. It may be feasible to introduce larger, higher volume vessels between the aggregation gateways, and reduce transportation cost per container. The presidential inpres that requires domestic cargo to be handled by Indonesian shipping lines limits the investment options for larger, faster vessels.

Feeder costs can be reduced by implementing improvements along the above dimensions in the context of a longer term port development strategy that aggregates cargo into a small number of highly efficient international gateway ports.

**CARGO SECURITY CONCERNS**

Indonesian shippers pay 30-40 percent more for cargo insurance than shipments originating in Singapore. This extra premium is a result of repeated problems with

- Organized crime
- Strikes and work stoppages
- Theft and pilferage
- Piracy

Indonesian authorities can take a systematic view to reducing these costs by vigorously investigating and prosecuting each reported case of controllable risk. For instance, the Indonesian Navy has recently taken firm steps firing to sink pirate vessels in Indonesian waters. Strategies for regional cooperation on this issue, particularly with Singapore and Malaysia, will prove increasingly important. Similar steps need to be taken to improve the security of goods at ports and within key points in the logistics infrastructure.

Shippers will enjoy reduced insurance premiums, but more importantly, Indonesian trade will benefit from a renewed status and reputation of increased safety and reliability.
ROAD NETWORK

The state of the road network in Indonesia adds cost, time, and uncertainty to transportation. The size and capacity of the network is limited, at best of times, and degrades substantially in wet weather. All trade is affected by the road network, whether its destination is a regional city or ultimately international. Narrow roads do not allow the usage of trucks that can haul 40-feet containers and this results in multiple handling at different points, over capacity and frequent breakdowns in the supply chain.

Network expansion priorities should focus on the high volume corridors for import and export trade. Investments for network expansion need to support the broader strategy for transportation of international trade. If trade corridors are to regional ports, policy makers need to work cooperatively to adopt regional strategies for efficiency and improvement. Where road transport is clearly inefficient, policy makers need to pursue aggressive policies to get more from their investments.

For instance, a truck making a round-trip from Bandung to Jakarta may spend up to 75 percent of its time unproductively due to customs processes, warehouse delays and lift-on and lift-off queues. If this cost can be reduced by interventions to improve electronic data transfer, reduction in manual inspections and efficient warehouse handling processes, the savings will directly benefit Indonesian exporters.

CUSTOMS ENCUMBRANCES

As noted earlier in this report, Indonesia’s Customs Agency has a difficult job given the country’s long and porous border with numerous entry points. However, Customs processes are repeatedly cited by shippers a hindrance to trade.

- **Automation and access:** Customs has adopted widespread automation in recent years. However, what seems to have emerged are numerous separate islands of automation. Currently, shippers still need the full set of documents and paperwork to process a Customs entry. In addition, the Customs system is not linked to the Port Authority, so numerous copies of documents are still required.

There is an opportunity to improve the Customs process by linking these disparate islands of information so that (i) the end-to-end process is automated and (ii) shippers and their agents can have remote access. Remote access will give shippers early knowledge of problem shipments or documentation errors so that they can be solved before they become critical, saving them time and the requirement to be physically present for every shipment.

- **Arbitrary, independent rulings:** Where Customs has several offices in a single jurisdiction, they do not coordinate amongst themselves. Tanjung Priok has three offices, each of which is seen to be run independently. Also, rulings are often arbitrary. When shippers do not agree with the ruling, they are often able to change it by trying again or involving others in the Customs hierarchy.
- **Informal Fees:** Customs is viewed as a frequent recipient of informal fees. One commonly reported tactic was to levy an improper fine, which was returned only when some portion of the fine was paid as an informal fee. This type of breakdown in management control could be addressed by reforming the process for levying, collecting and redeeming improperly levied fines. Customs also needs internal reform to address some of the fiscal challenges being faced by the department. Budget shortfalls in recent years have resulted in overstuffed, over extended operations which are sometimes funded using whatever mechanisms seem available to them, even at a cost to the international exporter.

**LOW PROCESS TRANSPARENCY & AUTOMATION**

Although Customs has instituted EDI, it is expensive and represents only a small segment of the overall process of the chain that producers must manage. Typically, they have very low visibility into what is happening with their shipment, and must manually manage the transaction every step of the way.

Numerous suppliers worldwide are gaining greater control over their supply chain transactions by using Internet enabled technologies that manage activities across the entire supply chain. This allows all the participants in a transaction from the supplier to a buyer coordinate their activities. Through better visibility of each shipment, they are able to identify ways to improve the process and reduce costs.
This type of connectivity and transparency would give Indonesian participants more control over the international trade process and increase their confidence and trust with logistics providers in the supply chain.

As these systems proliferate, the cost of use is rapidly coming down. Recently, a large US home improvement chain has begun to pay for its Asia-based suppliers to use a system like this. In other cases, suppliers offer this service to their buyer for a nominal price, which some buyers pay in order to gain more visibility into the status of their shipments.

Automation eliminates common documentation errors, and repeated transaction failures can be quickly pinpointed and rectified. Also, since each step of the transaction is recorded, auditable and available for other participants to see, it may deter arbitrary or improper behavior on the part of officials involved.

TRADE SUPPORT SERVICES & POLICY OBJECTIVES

Issues identified with particular trade support services are identified below.

<table>
<thead>
<tr>
<th>ISSUES</th>
<th>PRIORITY</th>
<th>POLICY OBJECTIVES</th>
<th>SUGGESTED COUNTERPART FOR FOLLOW-UP</th>
</tr>
</thead>
</table>
| Large number of ports inhibit cargo aggregation, increasing transportation and port handling costs | High | • Rationalize port network  
• Coordinate across PELINDO’s to develop international gateways for efficient cargo aggregation and transshipment | • Kementerian BUMN  
• PELINDO |
| Uncompetitive ports cannot support significantly higher cargo flows | Medium | • Reassess PELINDO’s port practices, capabilities and capacity  
• Develop selective investment strategies for improved efficiency and throughput. Fund performance and productive labor.  
• Ensure efficient access to portside services such as container storage, warehousing, cold storage, inspection, etc | • Kementerian BUMN  
• PELINDO |
| Local ports need supporting infrastructure and services to be cost effective. Consolidation among many local | High | • Port development priorities for East and West Indonesia.  
• Off-port infrastructure such as access (better roads) and warehousing, and on-port infrastructure to reduce vessel dwell time and handling costs. For example, automated discharge equipment and | • Kementerian BUMN  
• PELINDO  
• Local Governments |
ports and specialization between cargo and passenger traffic. | specialized storage near the ports would circumvent the need to use a fleet of rotating trucks to deliver cargo directly to the customer’s storage facilities from the ship, reducing vessel dwell time and handling costs.

| Costly access to the regional hubs | High | • Promote higher competition in Indonesian waters. Reassess the impact of Presidential Impres on domestic shipping.

• Promote investment in larger, faster vessels to carry cargo between Indonesian Gateways and Regional hub ports |

| • Dept. of Industry and Trade
| • Kementerian BUMN
| • BAPPENAS |

### AIR CARGO

<table>
<thead>
<tr>
<th>ISSUES</th>
<th>PRIORITY</th>
<th>POLICY OBJECTIVES</th>
</tr>
</thead>
</table>
| Air cargo is in its infancy. Only 5% of cargo is moved by air. Lack of airport infrastructure to accommodate freighters outside Jakarta and Denpasar. | Medium | • Articulate air cargo development objectives: air is a critical internal transportation link for Indonesia, both domestically and internationally. Recent deregulation has driven prices down and increased competition.

• Volume is a critical determinant to the success of air cargo in Indonesia. Identify particular industries that will benefit from air cargo use and promote its adoption in those clusters.

• Encouragement of cargo services will result in larger planes that can accommodate ULD containers and land in regional airports. Also, designation of main airports that can attract regional cargo for international shipments. |

| • Kementerian BUMN
| • Garuda
| • Soekarno Hatta Airport Management |

### ROAD TRANSPORT

<table>
<thead>
<tr>
<th>ISSUES</th>
<th>PRIORITY</th>
<th>POLICY OBJECTIVES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disparate regional and local road development</td>
<td>High</td>
<td>• Establish a single agency for inter-state highway development and management. Develop a centralized managed plan for</td>
</tr>
</tbody>
</table>

| • BAPPENAS
| • Dept. of Public Works |
### Priorities

| Inadequate network; limited size and capacity of roads | Medium | • Prioritize network expansion based on trade volumes and transit costs to develop adequate feeder roads to main ports.  
• Public and private sector cooperation—policy, construction and maintenance.  
• Develop a method to evaluate and monitor road surfaces for condition, maintenance and usability. | Jasa Marga  
BAPPENAS  
Dept. of Public Works  
Jasa Marga |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Inordinate Inland costs in Eastern Indonesia</td>
<td>High</td>
<td>• Review the particular movements of goods in the Eastern part of the country to determine how logistics efficiencies can be improved without incurring large investments in new roadway.</td>
<td>Department of Industry and Trade</td>
</tr>
</tbody>
</table>

### Logistics Services

<table>
<thead>
<tr>
<th>Issues</th>
<th>Priority</th>
<th>Policy Objectives</th>
</tr>
</thead>
</table>
| Few consolidators. Goods either travel less than truckload or by full container load from origin to destination. | High | • Intra-Asia trade can benefit significantly from consolidation services. Assist logistics service providers educate and market to exporters.  
• Provide training and education for small producers who interact directly with buyers.  
• Assist large buyers establish consolidated services inbound from multiple suppliers. |
| Logistics service providers are at a disadvantage to asset based providers of services | High | • Work with Director General of Taxes to clarify and repeal the VAT laws to level the playing field for all competitors |
| The absence of adequate warehousing and specialized storage facilities requires truckers to time their deliveries to vessel arrival, causing congestion, waiting and unnecessary cost. | Medium | • Assist transportation providers and shippers gain financing for required storage and handling facilities based on the cost savings generated by improving throughput and reducing asset requirements. |
| Indonesia has limited formal education in the | Medium | • Though there is limited formal education in logistics management, emphasis needs to be in educating manufacturers/producers on the value of logistics providers, |

---

**Impact Of Transport & Logistics On Indonesia’s Trade Competitiveness**
areas of transport and logistics. thus creating a demand before supply.
• Formal seminars through the chambers of commerce and freight forwarders associations, as well as incentives and value added services provided by logistics providers can create an awareness and interest to use logistic services.
• Once there is a demand for these services, formal education can be offered to train logistics managers.

**CARGO HANDLING & STORAGE SERVICES**

<table>
<thead>
<tr>
<th>ISSUES</th>
<th>PRIORITY</th>
<th>POLICY OBJECTIVES</th>
<th>SUGGESTED COUNTERPART FOR FOLLOW-UP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Few consolidators. Goods either travel less than truckload or by full container load from origin to destination.</td>
<td>Medium</td>
<td>• Regional trade can benefit significantly from consolidation services. Provide local producers with access to regional trade leads. Provide training and education for small producers who interact directly with buyers. Assist large buyers establish consolidated services inbound from multiple suppliers.</td>
<td>• Private Sector Operators</td>
</tr>
<tr>
<td>The absence of adequate warehousing and specialized storage facilities requires truckers to time their deliveries to vessel arrival, causing congestion, waiting and unnecessary cost.</td>
<td>Medium</td>
<td>• Assist transportation providers and shippers gain financing for required storage and handling facilities based on the cost savings generated by improving throughput and reducing asset requirements.</td>
<td>• Department of Cooperatives and Small-Medium Enterprises • Chambers of Commerce</td>
</tr>
</tbody>
</table>

**BANKING & FINANCE PRACTICES**

<table>
<thead>
<tr>
<th>ISSUES</th>
<th>PRIORITY</th>
<th>POLICY OBJECTIVES</th>
<th>SUGGESTED COUNTERPART FOR FOLLOW-UP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Export incentives take a long time to recoup; incentives lose their impact if not immediate.</td>
<td>Low</td>
<td>• Provide incentives immediately, up to a certain amount, and recoup corrections later.</td>
<td>• Directorate General of Customs and Excise • Dept. of</td>
</tr>
</tbody>
</table>
| Commercial loans are more difficult to get than consumer loans, and rates are as high | Low | Finance | • Dept. of Finance  
• Banks |
| Exporters select FOB or even shorter payment terms because they want to get paid sooner, even if other terms may lead to lower total cost. | Medium | • Address development efforts through financial services, including development of new trade finance and other export instruments. |
| Many exporters send goods CIF to avoid paying insurance fees in Indonesia which are typically 30-35% higher due to higher perceived risks. | Medium | • Institute financial instruments to pay producers for their exports while allowing them to capture the additional benefits of negotiating improved contractual terms. |
| • Address insurance industry concerns to lower perception of risk by improved management, safer transportation and reduce insurance premium distortion between Indonesia and neighboring countries. | • Cargo Insurance Companies  
• BAPPENAS |
Annexes
ANNEX 1: DETAILED METHODOLOGY

The following section explains the methodology and findings of a benchmarking cost study performed to analyze the relative competitiveness of Indonesian transportation and logistics services for key export products.

METHODOLOGY

The following steps were performed:

v. The scope of analysis was defined: International trade transactions that represented the commodities, routes, and transactions were defined;
vi. Sources of data and potential interviewees were identified;

vii. Actual costs and transaction details were captured through interviews, document research, site-visits and follow-up; and
viii. Data analysis and findings recorded.

DEFINE SCOPE OF ANALYSIS

Commodities Selected:
Commodities were selected based on the following criteria:

• A history of exportation, or evidence of a growing interest in exporting that commodity. For instance, traditional exports (such as coffee, shrimp, rubber, etc.) and non-traditional exports (such as apparel, automotive products, plywood etc.) were included.

• Heavy volumes of trade.
• Coverage of the most popular modes of transport.
• Reasonable coverage of the most popular trade lanes and trading blocks.

In addition to these criteria, export volumes were examined to identify where prolonged price pressure was evident. This was expected to explain if, and how, suppliers improved profitability by driving innovation in post-production processes—such as transportation, logistics, packaging and marketing.

Scope of Supply Chain Activities Selected:
The analysis has focused on transportation and logistics costs from the producer to the first landed point, in the country of consumption. The extended supply chain was not considered beyond that point to reduce the inherent complexity of analysis and maintain consistency between the country studies. Supply chain flows across various commodities vary greatly, and make them unsuited for comparison. Even with a single commodity, product flows travel numerous paths in transit from importers to their customers with multiple value added steps, which makes comparison difficult. As is evident from the diagram showing the expanded supply chain of coffee below, following each step of every product would require extensive and time consuming research which was beyond the scope of this study.
Therefore, transportation and logistics costs upstream from the producer (e.g. costs incurred by the original supplier of packaging and fertilizer) are included in the importers’ landed cost, and are not isolated specifically for this study.

By focusing on the producer and their international customers, it is possible to adopt a framework more suited to the objectives of this study.

Within the defined area of focus, landed costs for different export commodities was examined from the view of the overseas importer. Although this method provides a convenient and common tool for measurement, commodities being delivered FOB required an additional step to identify the prevailing rates for international carriage.

**Trade Routes and Transportation Modes Selected:**
The most widely traveled trade routes were selected for analysis. As indicated in diagram labeled “Indonesia’s Export Trading Partners” in Section 1 on page 6, in terms of tonnage, approximately 40 percent of Indonesian exports are destined for ASEAN countries, 43 percent go to non-ASEAN countries in Asia and 6 percent each to Europe and Australia. The analysis reflects coverage of most of these trading patterns.

<table>
<thead>
<tr>
<th>MODE</th>
<th>DESTINATION</th>
<th>ASIA</th>
<th>NORTH AMERICA</th>
<th>EUROPEAN UNION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ocean</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multi-modal (Land + River + Ocean)</td>
<td></td>
<td></td>
<td></td>
<td><strong>◆</strong></td>
</tr>
</tbody>
</table>

In addition, coverage of the modes used for moving the goods was recognized. In most cases, a preferred route for a commodity moving to a particular destination was discovered, which defined the required modalities. For example, inland transport is necessary to move goods to several international ports. Goods moving to Europe primarily travel by sea, or a combination of inland and ocean transportation, whereas regional exports travel primarily by sea.
Wherever feasible, the costs of logistics and transportation alternatives were examined. This includes alternative routes to the same destination, or the use of alternative transportation modes or providers.

**Candidates Selected for Analysis:**
The final candidates selected reflect the route, commodity and mode considerations outlined in the selection criteria provided above.

### Manufactured Goods Traveling by Ocean
- **Ready Made Clothes**
  - Tanjung Priok – Tanjung Pelapas, Malaysia – Rotterdam, Netherlands
- **Furniture-1**
  - Tanjung Emas (Semarang), Indonesia – Valencia, Italy

### Bulk Goods Traveling by Ocean
- **Coffee-1**
  - Makassar, Indonesia – Rotterdam, Netherlands
- **Coffee-2**
  - Belawan, Indonesia – Seattle, USA
- **Cocoa-1**
  - Makassar, Indonesia – Rotterdam, Netherlands
- **Plywood**
  - Makassar, Indonesia – Tanjung Pelapas, Malaysia – Rotterdam

### Fresh Goods Traveling by Ocean
- **Shrimp-1**
  - Belawan, Indonesia – Tanjung Pelapas, Malaysia – New York City, USA
- **Shrimp-2**
  - Belawan, Indonesia – Tanjung Pelapas, Malaysia – Rotterdam
- **Shrimp-3**
  - Belawan, Indonesia – Tanjung Pelapas, Malaysia – Tokyo, Japan

### Air Cargo Exports
- **Furniture-2**
  - Jepara (Semarang), Indonesia – New York, USA

### Regional Exports
- **Rubber-1**
  - Belawan, Indonesia – Singapore
- **Rubber-2**
  - Makassar, Indonesia – Singapore
- **Coffee-3**
  - Makassar, Indonesia – Singapore
- **Shrimp-4**
  - Belawan, Indonesia – Singapore

**COST DEFINITIONS AND CATEGORIES**

A comprehensive framework of cost analysis used to capture information was developed. The expectation was that costs would not always be known, available or shared in the field, so a variety of methods to pinpoint or estimate only the most relevant information was applied. For instance, cost data was sometimes provided so that breakdown the sub-components of cost was impossible. The overall objective was to develop an accurate picture of international trade and logistics issues for Indonesia, and this was the guide for data analysis.

An activity-based approach to examining transportation and logistics costs was applied. Activities in the export process were broken down into three primary steps, which demonstrate the process of goods moving from the producer to the buyer:
These costs are discussed in greater detail below.

A) **Prepare goods for transit:** The following activities and their costs in this step were provided.

1. Package export
2. Store in producer warehouse
3. Transport to exporter
4. Warehouse producer shipments
5. Consolidate producer shipments
6. Book cargo and prepare documents

Pre-shipment activities are an important determinant of logistics cost. For instance, poor shipment planning can add numerous avoidable costs to a shipment. Similarly, packaging can be an important aspect of the freight cost in this step, and is frequently a requirement of transportation provided by the buyer. Packaging can reduce waste that would otherwise occur, especially for certain commodities in transit, such as fresh fruit. Goods can be packaged on-site, or in many cases, can be moved to an off-site packaging plant prior to entering the exporter’s warehouse for shipment. The costs of packaging may be reduced or eliminated to certain destinations (such as regional exports).

Steps 2 through 5 occur if the exporter is involved in consolidating goods from multiple producers. In the case of many of the larger producers who deal directly with the importing buyer, these steps are eliminated.

B) **Move goods to an international port:** Moving goods to an international port involves transporting the goods to the terminal where the goods will make their final transit. Costs of preparing documentation and trucking make up the bulk of the cost in this category and informal fees, though not significant, adds time and inefficiencies in Indonesia. The following activities and their costs in this step were included.

1. Load Truck
2. Inland transport to International Port
3. Cargo Inspection
4. Insurance for Inland truck
5. Customs Clearance
Impact Of Transport & Logistics On Indonesia’s Trade Competitiveness

a. Broker’s Fee
b. Certificate (Phyto- or Zoo-sanitary Certificate, Export License) Processing Fee
c. Photocopy Documents
d. Health Testing if Required
e. Corrections to BOL if Required
f. Documentation Expediting Charges
6. Fee to Enter the Port Terminal
7. Cost to Store and Retrieve Materials From the Port Container Yard

C) Transport goods to country of destination: The last step involves costs for completing a port-to-port move, including unloading and port charges. Costs associated with this move include:

1. Load cargo on carrier at origin
2. Transport cargo to destination
3. Freight Charge
4. Bunker Surcharge
5. Theft Surcharge, Security Charge
6. Chassis Usage
7. Discharge Handling Charges
8. Taxes
9. Container Cleaning
10. Freight Insurance
11. Air-Handling Fees
12. Air-Terminal Fees; Ocean-Port Dues
13. Air-Disbursement Fees (only certain carriers)
14. Air-Collection Fees (if prepaid)
15. Unload cargo at destination

These 15 steps take into account the majority of the direct costs associated with a typical international trade transaction. In addition, there may be additional costs associated with indirect factors, such as waste.

**Sources Of Data**

Data was gathered during face-to-face interviews with more than thirty entities in Indonesia. Interviews were typically 1-2 hours long and frequently involved e-mail or telephone follow-up.

The following agencies and entities formed part of the interview mix:

**Private Sector**
- Manufacturers & Producers
- Ocean Shipping Lines
- Logistics Service Providers
- Port Operators
- Trucking companies
• Insurance Provider
• Consolidator
• Freight Forwarders
• Air Courier Service Provider

Public Sector
• Ministry of SOE (BUMN)
• Customs
• PELINDO Management
• Air Cargo Operator
• Cargo Inspection Service
• Warehousing companies

Industry Experts
• Growth Through Investment & Trade Project
• Indonesia Cold Chain Project
• CastleAsia
• Moores Rowland
• USAID

Additionally, field visits were conducted in the following areas to gather data from producers and visit port facilities:
- Greater Jakarta, Merak
- West Indonesia: Medan, Jepara, Semarang
- East Indonesia: Surabaya, Makassar
ANNEX 2: DETAILED COSTS FOR SELECTED COMMODITIES

<table>
<thead>
<tr>
<th>Container size</th>
<th>Rubber 20'</th>
<th>Shrimp 40'</th>
<th>Apparel 40'</th>
<th>Plywood 40'</th>
</tr>
</thead>
<tbody>
<tr>
<td>MARKET VALUE</td>
<td>$25,000</td>
<td>$125,000</td>
<td>$110,000</td>
<td>$35,275</td>
</tr>
</tbody>
</table>

PRE-SHIPMENT COST

- Documentation Fee:
  - a. Taxes
  - b. Licenses
  - c. Inspection $6.00 $294.64 $32.94
  - d. COO $12.00 $11.90 $6.25 $8.63
  - f. Customs $17.86 $12.50
  - g. Fumigation Cost $14.00 $23.81
  - h. B/L Fee
  - i. Local Tax $9.88

- Transportation
  - Packaging $250.00
  - Handling $7.14 $825.00
  - Warehousing $100.00
  - Insurance Costs $6.25

ORIGIN INLAND

- a. Trucking Tariff $110.00 $47.62 $100.00 $77.38
- b. Container
- c. Warehousing $35.71
- d. Terminal Handling Charge $130.00 $230.00 $200.00
- e. Handling Cost $45.00 $137.50
- f. B/L Recovery Fee $30.00

INTERNATIONAL TRANSPORTATION

<table>
<thead>
<tr>
<th>Origin Port</th>
<th>Belawan</th>
<th>Belawan</th>
<th>NY, USA</th>
<th>NY, USA</th>
<th>Rotterdam, NL</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. International Freight</td>
<td>$909.50 Singapore</td>
<td>$5,500.00 NY, USA</td>
<td>$3,600.00 NY, USA</td>
<td>$3,600.00 Rotterdam, NL</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$4,000.00 Rotterdam, NL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$2,200.00 Tokyo</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$1,300.00 Singapore</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Impact Of Transport & Logistics On Indonesia’s Trade Competitiveness

### Container Size

<table>
<thead>
<tr>
<th>Container Size</th>
<th>Furniture</th>
<th>Coffee Sulawesi</th>
<th>Coffee Medan</th>
<th>Cocoa Beans</th>
<th>Cocoa Powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>40'</td>
<td>40'</td>
<td>20'</td>
<td>20'</td>
<td>20'</td>
<td>20'</td>
</tr>
<tr>
<td>MARKET VALUE</td>
<td>$34,000.00</td>
<td>$53,571.00</td>
<td>$20,000.00</td>
<td>$30,920.00</td>
<td>$28,220.00</td>
</tr>
</tbody>
</table>

### Pre-shipment Cost

- Documentation Fee: $30.00
- a. Taxes
- b. Licences
- c. Inspection: $494.05
- d. COO: $8.93
- f. Customs: $20.83
- g. Fumigation Cost: $14.88
- h. B/L Fee: $40.00
- i. Local Tax: $5.95

### Cost Breakdown

- **Transportation Costs**
  - International Origin Port: $2,250.00 (Valencia, Italy), $3,650.00 (Rotterdam, NL), $2,300.00 (Seattle, USA), $2,500.00 (Europe), $850.00 (Singapore), $3,500.00 (NJ, USA), $800.00 (China)
  - Domestic: $1,106.00 (Tanjung Emas), $178.57 (Makassar), $214.29
  - Origin Port to Domestic: $200.00

- **Warehousing Costs**
  - International: $15.26
  - Domestic: $11.86

- **Insurance Costs**
  - $9.35

- **Other Costs**
  - a. Trucking Tariff: $136.90
  - b. Container: $77.38
  - c. Warehousing: $35.71
  - d. Terminal Handling Charge: $200.00
  - e. Handling Cost: $130.00
  - f. B/L Recovery Fee

---

**Note**: The table and costs are presented to illustrate the impact of transport and logistics on Indonesia’s trade competitiveness, with specific examples provided for furniture, coffee, cocoa beans, and cocoa powder.
ANNEX 3: SAMPLE QUESTIONNAIRES

**List of Questions - Consolidator/Wholesaler**

1. Who are your clients, what are the products being transported and the destination? Where are your pick up points?
2. How predictable are your order volumes and the commitment of your container?
3. Are there penalty charges for failing to meet commitment order?
4. What is your role in the whole export chain system?
5. How many warehouses, trucks do you have?
6. How many containers do you ship per month?
7. How long does it take to respond to a customer’s need for shipment?
8. What issues do you have with the logistics infrastructure that you use? What issues do you have with warehouse, custom documents, roadway, shipping line?
9. Any problems with stolen goods, high jacked goods, or crime?
10. What services do you provide? How much does it cost?
11. What services do you pay for? How much for each service? Under what circumstances do you have to pay informal fees?
12. Do you pay VAT for logistics services? Do you pay for insurance and what does it cover?
13. What percentage of export transaction is labor cost?
14. With the new regulation (Inpres), does it affect your business?

**List of Questions - Shipping Lines**

1. Who are your clients, what are the products being shipped and where are they going?
2. What is your role in the whole international system?
3. How many ships call on Indonesia and how often? What is the number of containers per year handled by your shipping line in Indonesia?
4. How long does it take for a ship to be serviced? Do you wait at sea before entering the port?
5. What do you think about the port service at the port where your ship calls?
6. Do you have any problems with damaged/stolen/piracy goods (for refrigerator container)
7. What services do you offer? How much does it cost?
8. What services do you pay for? How much do you pay for each service? Under what circumstances do you have to pay informal fees?
9. Do you pay VAT for logistics services? Do you pay for insurance and what does it cover?
10. What percent of one transaction for export is labor cost?
11. What do you think about the new government policy (new Inpres)? Some shipping lines are changing their port from JICT. What is the reason they are doing this?
List of Questions - Producer

1. What are your products, who are your buyer, where are the destination?
2. Where do you get the input materials?
3. How many containers do you shipped per month or year?
4. (Especially for RMC Producer) What do you do if your production exceeds the quota? Do you have alternate markets?
5. Are there any penalty charges for failing the commitment order?
6. What steps do you go through to get the goods ready for shipment and how long does it take?
7. Do you use a warehouse prior to trucking the goods?
8. How long are the goods in the warehouse and do you have any problems in the warehouse?
9. How long does it take to move your product from your warehouse to buyer?
10. Any problems with stolen/damaged/spoiled/high jacked goods, or crime? What percentage of your products gets spoiled by the time they get to the buyer?
11. What is the shortest lead time to fulfill an order?
12. What is the market value ($) of your product per container?
13. How much is your pre shipment cost, the inland transportation cost, and do you pay international transportation cost?

<table>
<thead>
<tr>
<th>Pre-shipment Cost</th>
<th>Inland Transportation Cost</th>
<th>International Transportation Cost</th>
<th>Document Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Packaging</td>
<td>Trucker</td>
<td>International freight</td>
<td>Taxes</td>
</tr>
<tr>
<td>Handling</td>
<td>Container</td>
<td></td>
<td>Licenses</td>
</tr>
<tr>
<td>Warehousing</td>
<td></td>
<td>Inspection</td>
<td>COO</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Certificate of export</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Customs</td>
</tr>
</tbody>
</table>

14. What is your recommendation for improving logistics in export?
15. Do you pay any informal fees? What percentage of your transportation cost is for informal fees?
16. Have you considered moving your production to another country?
17. Where do you see the biggest inefficiency of your company?
18. What percentage of your shipment is in “perfect order” (on time, right quantity and items)